



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

January 7, 2008

SUBJECT: Various Routes
Section 2007-0381
Various Counties
Contract No. 60D22
Item No. 130, January 18, 2008 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised pages 5, 49, 50, 60, 66 – 71, 74, 75, 84, 93, 94 and 148 of the Special Provisions.
2. Added pages 94A and 94B to the Special Provisions.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

Eric E. Harm
Interim Bureau Chief
Bureau of Design and Environment

A handwritten signature in black ink, appearing to read 'Ted B. Walschleger' followed by a small 'P.E.'.

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: Diane O'Keefe, Region 1, District 1; Roger Driskell; Estimates

TBW:MS:jc

supplemental information to help determine qualification. Separate post-award submittals are required as specified elsewhere herein, and this pre-bid submittal shall not relieve the successful contractor of those requirements. With the approval of the Engineer, the Contractor may make revisions to this submittal information when submitting after award, and the Engineer reserves the right to separately review and approve the final staffing plan and other submittal information based on specified contract requirements.

The Contractor is fully responsible for submitting the information responsive to the requirements listed herein. Any misrepresentation of qualifications submitted in this process or incomplete treatment of information is the responsibility of the bidder. The Department may solicit clarifications of submitted information.

This information shall be submitted in two sealed packages, one of each addressed to the following:

Mr. Joseph S. Hill, P.E.
Engineer of Operations
Attn: Jim Schoenherr
2300 South Dirksen Parkway
Springfield, Illinois 62704

and

Diane O'Keefe, P.E.
Region I Engineer
Attn.: **Steve Travia**, P.E.
201 West Center Court
Schaumburg, Illinois 60196-1096

The submitted information will be analyzed and, if requested by the Engineer, the prospective bidder shall facilitate an inspection of its facilities and/or equipment. The Engineer shall determine the aggregate suitability and acceptability of the qualification information submitted. If it is determined that the prospective bidder is qualified to perform the work then the prospective bidder may request bidding documents.

1.3 SCHEDULE OF PRICES/SUMMARY OF PRICES

1. Each Pay Item shall have a unit price and an extended price.
2. The unit price shall govern if no total price is shown or if there is a discrepancy between the total price and the product of the unit price and the quantity.
3. If a unit price is omitted, the extended price will be divided by the quantity in order to establish a unit price.
4. A bid will be declared unacceptable if neither unit price nor an extended price is shown.
5. All bidders understand that the quantities in the schedule of prices will be used for calculating a gross sum for the comparison of bids and for determining the qualified low bidder.
6. The Contractor will be paid only for actual quantities of work performed and accepted, but not for estimated quantities in the schedule of prices.
7. Non-routine work will be authorized based on preventive maintenance reports, ongoing operational needs and system improvement needs. The Department is under no obligation to authorize any non-routine pay item work.

Revised 01/07/2008

Functions that require a dispersed workforce and rapid response (immediate corrective action) shall not be subcontracted without specific written approval by the Engineer. Wholesale subcontracting of a system's maintenance will not be allowed.

The Contractor shall submit a Request for Approval of Subcontractor, Form BC260A for each subcontractor to:

Diane O'Keefe, P.E., Region I Engineer
Illinois Department of Transportation
Attn: **Steve Travia**, P.E.
Bureau Chief of **Traffic** Operations
201 W. Center Court
Schaumburg IL 60196-1096

All requests for subcontractor approvals shall be accompanied by a written subcontract agreement which sets forth the scope of services to be subcontracted, the lump sum or unit price for such services and the signatures of the subcontracting parties. In addition, a certification from the Contractor will be required, stating that the required Federal and State provisions will be inserted in the final contract with the subcontractor. Initial submittals will be due at the Pre-Construction meeting.

4.4.2 SUBCONTRACTOR REPRESENTATIVES

Except for arrangements made in advance for subcontractors regularly engaged on a continuous basis in the contract work or as otherwise specifically agreed between the Engineer and the Contractor for special circumstances, the Contractor shall have a representative included in all interaction between his/her subcontractors and the Engineer.

Subcontractors assigned to regular, continuous work for the Contract shall have a single designated representative authorized to represent the subcontractor in dealings with the Contractor and the Engineer with respect to contract matters. This individual shall have a thorough knowledge of contract requirements and shall have the authority to commit resources for contract work.

4.4.3 SUBCONTRACTOR BILLING

For non-routine agreed price work (not pay items) performed by an approved subcontractor, as named on the authorization for work and on the contractor invoice, in accordance with Article 109.04 (b) (7) of the Standard Specifications for Road and Bridge Construction, when work is performed by an approved subcontractor, the Contractor shall be allowed administrative costs of an amount equal to five percent of the total approved costs on an individual authorization, with the minimum being \$100.00.

Specialty service work as authorized and originated by the Department (non-routine vendor authorizations for expenses incurred by the Department) shall be considered as work by the Contractor, and not subcontracted work for purposes of billing.

4.5 CONTRACT ADMINISTRATION AND CORRESPONDENCE

4.5.1 DAILY CONTRACT ADMINISTRATION

The ASMC will be administered by the IDOT District 1 Bureau of Traffic Operations. The Resident Engineer, Mr. Rao Vaitla, will be responsible for the control of the work. The Contractor

Revised 01/07/2008

Project Manager shall communicate with the IDOT Resident Engineer on all formal contract matters. Contractor Supervisors and Administrative personnel shall normally communicate with the IDOT System Engineers and Technicians.

The Contractor shall address all matters of Contract interpretation or dispute at the lowest possible level. Issues which are not addressed to the Contractor's satisfaction at the Engineer/Technician level may be raised first to the IDOT Resident Engineer level and if not resolved may be raised to the level of Bureau Chief of Traffic Operations, Mr. Steve Travia.

4.5.2 WORK STATUS MEETINGS

Work status meetings may be requested by the Engineer or the Contractor. These meetings shall normally be held once per month, but may be held weekly if necessary. The Contractor Project Manager or other personnel, as requested by the Engineer, shall attend work status meetings, when requested by the Engineer.

4.5.3 FORMAL CORRESPONDENCE

All formal correspondence to IDOT regarding contractual matters shall only be submitted by the Principal or Project Manager and shall be addressed as follows:

Diane O'Keefe, P.E.,
Illinois Department of Transportation, District 1/Region 1
Attn: **Steve Travis**, P.E.
Bureau Chief of **Traffic** Operations
201 W. Center Court
Schaumburg, Illinois 60196-1096

cc: H. Rao Vaitla, P.E. Resident Engineer

4.5.4 INFORMAL CORRESPONDENCE

Informal correspondence, related to day-to-day maintenance matters, shall be made by means of email, and may be made directly to the parties involved. All Contractor personnel who are assigned work on the ASMC shall have an email address. The email service shall not be a service that attaches advertising to email.

4.5.5 WIRELESS FIELD COMMUNICATIONS SYSTEMS

The Contractor shall provide and maintain adequate, reliable, continuous project-wide communications among the Contractor's forces and between the Contractor and the Department's designated representatives. To assure a consistent and reliable transmit and receive coverage throughout the geographic area of District 1, the Contractor shall have a multiple-location-infrastructure based, digital wireless communications system (trunked radio system with integral cellular telephone capability) as offered by Nextel™ or an equivalent provider.

The Contractor shall provide and maintain functioning units for all Contractor supervisor or management personnel, patrol personnel, and key ASMC positions as directed by the Engineer. All Contractor and Sub-contractor personnel utilized to perform any regular day-to-day work, especially damage and trouble-call response activities shall be provided units.

Revised 01/07/2008

4.11 SAFETY PROGRAM

4.11.1 GENERAL REQUIREMENTS

The Contractor shall establish a formal Safety Program to assure overall safety of ASMC personnel, operations and the electrical systems maintained as they affect the safety of the motoring public and the public at large. The Contractor shall furnish an overall description of this program at the Pre-Construction Meeting.

As part of the Safety Program, the Contractor shall initiate a procedure that states: "When a circuit is de-energized, the Contractor shall meter the downstream circuits with an instrument to assure that they are de-energized and safe for working conditions." The Contractor shall be fully responsible for compliance with all OSHA requirements. Particular attention is directed to the lock-out/tag-out requirements to assure that systems undergoing maintenance work cannot be inadvertently energized, causing harm to maintenance personnel.

The Contractor shall assure that all personnel be trained in, and have knowledge of, approved equipment grounding and bonding methods for all work under this contract. The Contractor shall be fully responsible for compliance with all NEC requirements.

The Contractor shall keep all systems free of hazards to the work force and the public, all in conformance with Article 107 of the Standard Specifications. Special care shall be taken to assure that electrical systems are not left in an exposed or otherwise hazardous condition. All electrical boxes, cabinets, pole handholes, etc., which contain wiring, either energized or non-energized, shall be closed or shall have their covers in place and shall be locked when configured for locking, except when work is being done at the location at the moment. If the worksite is left, enclosures shall be closed and no potentially hazardous electrical situation shall be left unattended.

4.11.2 YEARLY SAFETY PRESENTATION

The Contractor shall hold a yearly safety presentation for all personnel and sub-contractor personnel working on the ASMC systems. The outline shall be approved by the Engineer.

5.0 MATERIAL REQUIREMENTS

5.1 MATERIAL SUBMITTALS FOR DEPARTMENT APPROVAL

Submittal information shall be complete and in sufficient detail to demonstrate compliance with all requirements of the contract documents. The submittals for each individual pay item shall be complete in every respect.

The Contractor shall submit a listing of all manufacturers to be used by the ASMC at the Pre-Construction Meeting. In general, due to the highly specialized nature of this system, certain equipment used on this contract must be manufactured by the original equipment manufacturer, unless written approval is given by the Engineer. Within 60 days after contract execution, the Contractor shall submit, for approval, complete, approvable manufacturer's product data (for standard products and components) and detailed shop drawings (for fabricated equipment) to the **Engineer**.

The Engineer may waive the requirements for shop drawings for certain original-manufactured fabricated equipment as long as original shop drawings on file remain valid for the equipment. It is the Contractor's responsibility to coordinate accordingly.

Revised 01/07/2008

as notified in writing by the Engineer to be non-routine work, all work required by the Contract, including immediate response, scheduled and preventive work, all maintenance activities, equipment repairs, removals, re-installs and/or replacements, and all associated work to keep the ASMC system equipment operating at peak performance, shall be incidental to the requirements of routine maintenance, and the costs of such work shall be included in the routine maintenance pay items. (Contractor shall review additional specifications in Articles 6.1.7 and 6.1.8 herein.) In addition, all work documentation as required herein, or at the request of the Engineer, shall be incidental to routine maintenance. General requirements of routine maintenance are included in, but not limited to, this article, and shall be valid across the various defined systems, as applicable.

The Contractor is responsible to perform maintenance under this Contract which prevents operational problems, minimizes trouble calls, safeguards electrical safety and promotes operational safety and which prolongs the operations life of installed systems. Some of these maintenance activities will be initiated by the Engineer, some will be jointly developed between the Contractor and the Engineer, and some are expected routine maintenance obligations of the Contractor.

Scheduled maintenance completion dates as specified or agreed shall be met. Repair work as performed on system equipment shall meet all electrical codes and IDOT requirements. The Contractor is obligated to document to the Engineer that the various items of equipment at all locations perform properly, as originally installed or subsequently modified.

Malfunctioning equipment shall be repaired or replaced as part of routine maintenance unless stated otherwise herein. When materials or equipment are to be provided through routine maintenance, the Contractor is required keep sufficient quantities on hand for immediate replacement. The Contractor shall, however, submit a Contractor Advisory, per Article 6.6.6, for items which due to age have become prone to imminent failure and/or are a safety risk, and may receive non-routine payment for the material portion of the repair.

All equipment shall be maintained in accordance with manufacturer specifications and recommendations. Routine maintenance equipment service schedules and work shall be executed in accordance with equipment operations and maintenance (O & M) manuals unless otherwise stated herein.

Failure to perform proper response, meet routine maintenance requirements, or submit required documentation shall all be viewed as unsatisfactory service and shall be grounds for assessing liquidated damages and/or withholding of the monthly routine maintenance payment as prescribed herein.

Damaged equipment parts and materials shall be replaced with new equipment, previously approved by the Engineer, in equal quantities, which shall be identical to the original elements except as otherwise specified herein, or permitted by the Engineer. Materials used shall be suitable for the intended use.

If a permanent repair delay is due to parts on order, the Contractor shall furnish the corresponding material requisition and purchase order documentation for those parts or components of the system required to complete the repair. Parts on order shall be noted as a controlling item on the open EMCMS Ticket.

The Contractor shall, as specified herein:

1. Provide labor and materials, equipment, communications, and facilities to maintain the systems

Revised 01/07/2008

2. Provide continuous maintenance and repair service, including Saturdays, Sundays, and Holidays to correct any malfunction of equipment, to affect any temporary emergency repairs to missing, stolen, defective, damaged, or displaced equipment resulting from any cause whatsoever to minimize the duration of, and negative impact upon, traffic and IDOT operations
3. Clean, repair, perform preventive maintenance, overhaul specified equipment at stated intervals of time, and perform work to modify the system as directed by the Engineer
4. Provide the necessary transportation for workers
5. Patrol and inspect the respective systems and perform all activities required herein
6. Provide supervisory monitoring and administration to assure compliance with contract requirements and provide timely and accurate documentation

Quality Control

The Contractor shall establish a program to initiate and conduct quality control preventive maintenance inspections (PM programs) to guard against and prevent equipment failures due to mechanical or electrical defects and to assure that the requirements of this Contract are known and implemented by the Contractor's workforce. The quality control inspections/PM programs established by the Contractor shall be in addition to the PM programs already specified herein, but may be conducted in addition to regularly scheduled patrol inspections and/or scheduled work. Every month, the Contractor shall submit the next month's quality control/PM program schedule in the monthly routine maintenance work documentation book.

Restoration of Site

The Contractor shall also be responsible for the restoration of the affected work area, under routine maintenance, for any and all work activities. Within 24 hours following the completion of work, the Contractor shall remove all debris, and restore the site to its former or better condition. Work sites shall always be left in a safe condition. If it is not possible to continue permanent restoration work due to circumstances beyond his control, the Contractor shall immediately notify the Engineer for review and approval.

System Specific Routine Maintenance

- **REVLAC System (A-1) and RACS (A-2)**

The Contractor shall keep the REVLAC system and RACS operational on a 24/7 basis in automatic mode, or manual mode (when repairs are required). Response shall be per Articles 6.2.2 and 6.2.3 herein. For critical equipment, **where system operations must be restored, or where repairs must be made to make the system safe for traffic flow**, a one hour response (24/7) to notifications of problems and the performance of immediate equipment repairs is required. Routine maintenance also includes the response and troubleshooting of malfunctions of operations cameras for REVLAC and RACS, and the installation required for any new equipment as necessary, from State Stock.

All labor, miscellaneous parts under \$500, items listed in Article 6.1.7 herein, and the response to clear the site for safety, for damage or malfunctions of REVLAC and RACS equipment are paid through routine maintenance bid items. The gates are furnished through State Stock.

If necessary to keep the systems operational, the Contractor shall provide personnel, equipment and materials to assist IDOT personnel in the operation of the system such as manually cranking signs into position, manually cranking swing gates, manning a control building if bypassing the PLC control, manually covering prescribed malfunctioning signs,

Revised 01/07/2008

placing barrels or barricades for failed closure devices, staging contractor owned vehicles in place of the barrier net and all such similar work as needed to produce essentially normal functionality of the ASMC systems to the Department and the motoring public.

If a failure to provide a response, a delayed response, or a delayed temporary repair results in the delayed traffic change of the reversibles (REVLAC), the Contractor shall be assessed liquidated damages as specified in Failure to Open Traffic Lanes to Traffic as contained elsewhere herein.

Daytime Patrol:

The Contractor shall conduct, at minimum, one daytime patrol inspection of the REVLAC and RACS system locations (all equipment, process cameras, monitors, fiber optics, and buildings) per month, on the same week of the month for the duration of the Contract. Specific Items to be checked include, but are not limited to, the following:

- Allen Bradley PLC processors and all input and output cards; check for alarms
- Building rodent infiltration; seal any openings found
- Building site maintenance; empty trash cans
- Building HVAC operations and temperature control
- Camera focus and image
- Electrical service
- Check operation of generator
- Check generator diesel fuel level. If fuel level is less than one half of full level, a ticket shall be created to schedule the refill of the tank
- Check generator air filter, change if necessary
- Indicator lamps; replace as required
- Modem communications
- Phone lines

Monthly Night-time Patrol:

On approximately the same day per month, for each month of the Contract, during the daytime reversible change (approximately 11:30 a.m.) and for the night-time reversible change (approximately 11:30 p.m.), a Contractor representative shall follow an IDOT ETP (Emergency Traffic Patrol) foreman through the complete operation at each REVLAC location in both for inbound and outbound directions, to check equipment for proper operations.

Any deficiencies found on daytime or nighttime patrols shall be relayed to the Contractor dispatch center, and a ticket created. Repairs shall be conducted as required, per immediate correction action (Article 6.2.2) or normal corrective action (Articles 6.2.3).

- **Message Sign Monitoring**

Under the first year of Routine Maintenance, the contractor shall implement the addition of CCTV images of changeable message signs into the viewed sequence and the recorded record of ramp transitions. In accomplishing this, although it is most desirable to have individual camera views and steps throughout the sequence, however, in order to minimize or eliminate system programming changes it will be permissible to develop a scheme that combines up to three of the signs closest to the ramp entry (one ramp has 4 signs) in a quad view with one of the existing camera views (probably the end inside gates), as long as the final viewed and recorded image is a full view. Some re-positioning of existing cameras may be necessary to provide full-size inclusion of gates that are included in the quad view. The revisions shall be developed with and approved

Revised 01/07/2008

by the Engineer prior to implementation, and the revisions shall have an appropriate testing plan. Cameras, their supports and connection to the respective control buildings will be performed under non-routine work authorizations. All other work to accommodate the revision shall be considered routine maintenance.

- **CCTV System (A-3)**

Routine work of the system includes field response to trouble calls, **under normal corrective action**, the investigation of the failures of cameras, monitors, encoders, switches, transceivers, or other CCTV system equipment, and replacement of the failed equipment with new equipment from State Stock. Removals and reinstallations or Engineer directed alternate equipment reinstallations are incidental to routine maintenance. In some cases failed equipment under warranty will need to be shipped back to the manufacturer, **through routine maintenance**. It is emphasized that the ComCenter and the Department's personnel increasingly rely on the CCTV system for incident and traffic management and for real-time reporting of traffic conditions on the GCM website. Lack of personnel or lack of equipment shall not be grounds for request for extensions.

The Contractor shall verify that all cameras have the correct decals and camera is labeled internally through the camera or the video matrix switch for correct location name for viewing. System numbers for decals or identifiers for labels shall be provided to the Contractor by the Engineer. The Contractor shall furnish and install decals and labels where missing, or for new installs. Decals shall be similar to those for lighting units as specified in Article 1069.06 of the Standard Specifications.

The domes of the cameras, mounted 25' or lower, **or cameras on lowering devices**, shall be cleaned periodically, and when the images are not clear, or when requested by the ComCenter or ETP staff, under normal corrective action.

The Contractor shall check the GCM website daily and troubleshoot any problems found.

- **District Operations Network (A-4)**

The Contractor shall keep the Sonet system and other distribution systems, (at the District 1 Headquarters Schaumburg, REVLAC Building E and the Gig-E equipment to be added under construction contracts) operational. Repairs, as necessary, shall be conducted per response requirements of Articles 6.2.2 and 6.2.3 herein.

- **Automatic Vehicle Location (AVL) (A-5)**

The Contractor shall respond to trouble calls regarding the AVL equipment from the IDOT ComCenter and Department personnel, per Article 6.2.3. This may require travel to the vehicle in question for the equipment repair, or travel to the ComCenter for supervisory control repairs. The Contractor shall contact the IDOT ETP Manager to obtain time which the vehicle would be available for repair. Materials for AVL repairs shall be available in State Stock **or shall be provided by the Department**.

- **Emergency Traffic Operation System (ETOS) (A-5):**

The Contractor may be required to respond to trouble calls for in district malfunctions of the Emergency Traffic Operations System (ETOS) per Article 6.2.3, however, any troubleshooting work shall be performed under non-routine agreed price work. This system is repaired under separate contract.

Revised 01/07/2008

- **Other Systems (A-6)**

Expressway Ramp Gates:

The Contractor shall keep the Expressway Ramp Gates operating as designed, and repairs, as necessary, shall be conducted per response requirements of Articles 6.2.2 and 6.2.3 herein.

All labor, miscellaneous parts under \$500, items listed in Article 6.1.7 herein, and the response to clear the site for safety, for damage or malfunctions of ramp gate equipment are paid through routine maintenance bid items. The gates are furnished through State Stock.

Within the first three months of the Contract, the Contractor shall furnish and install vertical ramp gate decals similar to lighting units specified in Article 1069.06 of the Standard Specifications.

In order to assist the Contractor personnel in the proper response, the Contractor shall develop an inventory spreadsheet report for the EMCMS, with the following minimum information, per ramp gate, for each expressway:

- Ramp expressway location
- Ramp identification number
- Ramp specifications
- Lock and key number
- Detailed explanation of any unique configurations, of this location or equipment

GCM Gateway Network:

The Contractor is required maintain the GCM Gateway Network connections to the extended fiber network (IDOT fiber and connections to Tollway fiber) that support its IDOT distribution extensions to out-of-state connections, including the associated Gig-E equipment. Normal response requirements shall be met per Article 6.2.3 herein.

The ASMC Dispatch Center personnel will check the GCM Gateway Network website hourly, in a prescribed method, during hours of 8:00pm through 7:00am and report any apparent site outage to the District 1 ComCenter.

The ComCenter will create an incident report for the site outage and communicate this information to the Gateway contracting team; University of Illinois Chicago (UIC). If the Gateway contracting team cannot resolve the outage remotely, they will notify the IDOT ComCenter.

If directed by ComCenter personnel, the Contractor may be dispatched to the Traffic Systems Center to reset the Gateway system server, or post a prepared outage message to the website. A one hour response is required per Article 6.2.2, however, the Contractor shall be paid for his work time through non-routine maintenance.

The Gateway contracting team, not the ASMC Contractor, will be responsible for communicating with the ComCenter to keep abreast of current progress with the attempted corrective action. Any additional work applied to the Gateway System will be performed via Non-Routine work authorizations.

Revised 01/07/2008

CCTV Connectivity:

When CCTV connectivity (ethernet, fiber, or telephone/lease line connection) is made to the IDOT Central Office and State Emergency Operations Center (SEOC), (expected in 2009 at the earliest) the Contractor shall provide a daily check of the connections to Springfield to assure proper operation of the system. Training will be provided for the Contractor. Maintaining the connection is not part of the Contractor's responsibility.

6.1.2 NIGHT-TIME LIGHTING INSPECTION

The Contractor shall provide for a night-time patrol inspection of the lighting of the ASMC systems once per month, to be scheduled the same week of each month. It is expected that only one (1) or two (2) nights of driving per month will be required.

Lighting at the following locations and other facilities with lighted ASMC equipment as transferred to state maintenance:

- RACS Buildings at Hillside and Roosevelt ramp
- REVLAC Auxiliary signs
- REVLAC Buildings A, C, D and E
- REVLAC Chevron signs
- Tower obstruction lights (red) at Schaumburg HQ, Foster on Edens, and Nordic on I-290
- Video and Communication Huts at Schaumburg HQ; Foster on Edens; Nordic at I-290; Parnell on I-57, I-57 @ I-80, and Hillside Hub on Roosevelt Road.

Any operational deficiency and/or outages shall be immediately relayed to the Contractor dispatch center to create a ticket. The Engineer also shall be immediately notified of any tower obstruction (red) light outages. Normal outage repairs shall be completed within 48 hours.

6.1.3 SPECIALTY SERVICES

Software Maintenance Support

For the duration of this Contract, the Contractor shall secure a commitment for software maintenance support specialty services with the original software developer, Engineered Software Products of Lawrenceville, GA (or an approved alternate) for the ASMC systems for emergency trouble shooting expertise and for the modification of the existing system as may be necessary.

The principal for Engineered Software Products is Mr. D. Grib Murphy, 770-682-8259. A letter of intent to provide these services is required from Engineered Software Products (or an approved alternate) to comply with Article 2.7, Item 10, of the Bidder's Special Qualifications. These services shall be incidental to routine maintenance.

The following chart indicates software which shall be maintained and licenses renewed under this Contract , as incidental to routine maintenance.

Revised 01/07/2008

Monthly Inspections

The Contractor shall perform a monthly inspection of the exteriors of buildings and huts:

- Check roof
- Check heaters
- Check door operation
- Check duct seal or sealing bushing

Tickets shall be created for all deficiencies found. Repair work shall be paid through routine maintenance per requirements herein per Articles 6.1.1, 6.1.7, and 6.1.8.

Spring/Summer/Fall Maintenance

Grass cutting, weed control, tree/branch removal, and debris disposal work shall be performed for all sidewalks, paths, and driveways, and around the outdoor electrical and communication equipment, a minimum of twice per month in the months, April through October, and as needed for the remaining months, within fenced areas at the following locations:

- Buildings A, B, C, D, and E
- Hillside, Foster, Nordic, and Schaumburg Tower buildings
- Hillside RACS Ramp Building
- Hillside Media hut, and any future media huts as accepted for maintenance by the Department, during the Contract

Winter Maintenance

General snowfall maintenance shall begin within 48 hours following a 1 inch snowfall or more. The Contractor shall provide reasonable access to Buildings A, B, C, D, E, and the Hillside, Foster, Nordic and Schaumburg Tower Buildings, and the Hillside RACS Ramp Building, by shoveling and plowing as necessary, and salting, all sidewalks, paths, driveways and parking areas.

- **Monthly Interior Maintenance:**

The Contractor shall provide monthly general interior site maintenance for ASMC equipment in ASMC building locations, hut locations, the ComCenter (equipment room and ASMC/EMCMS terminals and keyboards), the TSC (equipment area), and the ISP/CMS facility (IDOT/ISP equipment) in Des Plaines, through routine maintenance, to keep the equipment free of dust build up to reduce heat build up and prolong the life of the systems. Following manufacturers recommendations, compressed air or soft cloths shall be used to remove the dust build up. The work can be performed in conjunction with other patrols and inspections (and may be performed at night where feasible), but should be scheduled for the same week of the month for the duration of the Contract. The Contractor daily agenda shall note the time of the expected maintenance of each location.

FIRE EXTINGUISHERS

The Contractor shall furnish and install fire extinguishers, equal or better than Badger Fire Protection extra carbon dioxide self-expelling model B20V for any new facilities placed on maintenance during the term of this Contract.

Revised 01/07/2008

The Contractor shall have all fire extinguishers checked for proper service and re-filled as necessary, through a fire inspection service as approved by the Engineer, at a minimum of once per year, in April. It will be necessary for the Contractor to travel with the fire inspection service personnel to unlock facilities. The Engineer shall be provided a schedule of the yearly testing, prior to the start of the work.

6.1.7 CONTRACTOR FURNISHED MATERIALS, EQUIPMENT AND LABOR

The following materials and the equipment/labor necessary for the removal/install are covered under routine maintenance. These materials shall not be drawn from State Stock.

- Building lighting and lamps, inside and outside
- Cattron batteries
- Circuit breakers less than 50A
- Contactors less than 50A
- Cleaning materials and solution, power washing equipment
- Decals, including those for gate numbering, cameras, poles, aux signs, and chevrons
- Fuses and switches
- Fire extinguishers
- Gate tips and reflective tapes
- Indicator lights and lamps
- Miscellaneous items \$500 or less each in value
- Mounting plates (aluminum) for number/name decals on system equipment
- Padlocks and keys
- Photo cells
- Phone modems
- Relays
- Shear pins and bushings
- Snow removal supplies, salt
- Wire terminations

6.1.8 DEPARTMENT FURNISHED MATERIALS

The following items shall be furnished by the Department. The labor and equipment necessary for removal, installation or re-installation is covered under routine maintenance.

- Allen Bradley cards for chassis
- Allen Bradley PLC components
- Auxiliary signs
- AVL units
- Barrier crash detector
- Barrier tape cartridges
- Cameras
- Chevron signs
- Changeable Message Sign Contactors
- Decoders and Encoders for Video
- Gate arm capstan and mounting brackets
- Gate arm heater

Revised 01/07/2008

- Replace batteries in the surge arresters, building clocks, and other equipment, per manufacturers' specifications
- PLC batteries to be replaced in April of each year
- Wet mop floors with water and biodegradable cleaner, in Buildings A, C, D and E

6.4.6 REVLAC CATTRON PM

The Contractor shall conduct a PM program twice per year, in April and October, for all Cattron remote controllers and their chargers at the Emergency Traffic Patrol (ETP) building. Since the units are needed daily by ETP for REVLAC operations, the PM shall be performed on a maximum of six units at any one time and with maximum turn-around time of one business day, returning the units the same evening. The units shall be tested for battery voltage; transmitting and receiving ability; power; modulation; and RX sensibility. The batteries shall be replaced, as needed.

If any unit is found to be defective, the unit shall be replaced with a spare unit until the repairs are completed. Tickets shall be issued for all defective units.

6.4.7 MICROWAVE PM

The Contractor shall perform a microwave preventive maintenance inspection at REVLAC buildings A, D, and E, ISP/CMS facility, and Hillside, Nordic Schaumburg buildings once per year, on a date as approved by the Engineer. The Contractor shall address any outstanding alarms and perform repairs as needed. The PM shall include the measurement and check, as applicable, of the following parameters by factory authorized and trained personnel:

- TX Crystal Frequency
- RX Crystal Frequency
- TX Output Power
- Gunn Current
- Input Voltage
- Video Input
- Audio Input
- AGC Level
- Receiver Frequency
- RX Carrier

6.4.8 GENERATOR PM

The Contractor shall perform generator preventive maintenance once per year, in October, **for the Hillside and Nordic facilities.**

- Check control panel and transfer switch operation
- Check engine oil and coolant levels
- Check that block heater is working
- Check battery charging system
- Check for holes or leaks and loose connections in the air cleaner
- Check fuel level and fuel transfer pump operation
- Check for exhaust system leaks or restrictions
- Drain the condensation trap
- Check all meters, gauges, and indicator lamps
- Check generator fuel and note level
- Check for fluid/fuel leaks
- Check oil reservoir and battery acid level and maintain proper operating levels
- Check air filter and change if necessary
- Exercise generator at full load for one (1) hour
- Diesel fuel shall be filled to the proper level after testing

Revised 01/07/2008

In accordance with Article 109.04 (b)(7) of the Standard Specifications for Road and Bridge Construction, as hereby modified, when work is performed by an approved subcontractor, the Contractor shall be paid administrative costs of an amount equal to five (5) percent of the **total approved costs of such work with the minimum payment being \$100.00.**

7.5.3 FORCE ACCOUNT AUTHORIZATIONS

Force Account Work shall consist of work for which an agreed price cannot be established between the Engineer and the Contractor. The Engineer may direct the Contractor to perform any non-routine work as force account work which shall be measured and paid as described in Article 109.04(b) of the Standard Specifications for Road and Bridge Construction. A signed daily time/work accounting shall be kept on the daily general billing log, which shall be submitted to the Engineer within seven (7) working days following the completion of work. A general foreman's time will not be billable on force account work unless there are more than five (5) additional crew workers employed at any one time, place and job and then only with the prior approval of the Engineer. A mark-up of fifteen (15) percent is allowed for material costs, which shall include any shipping and handling fees. The Contractor shall not be allowed overtime and/or prime time billing unless prior approval is received from the Engineer.

7.5.4 EXPENSES INCURRED BY THE DEPARTMENT

In accordance with Article 109.05 of the Standard Specifications for Road and Bridge Construction, upon written request of the Engineer, the Contractor shall pay the bills for specialty service work and/or expenses incurred by the Department. The Contractor shall be paid administrative costs of an amount equal to five (5) percent of the first \$10,000, with a minimum of \$ 100.00, and the Department shall allow an additional one (1) percent of any amount over \$10,000 of the total approved costs, for an individual work authorization.

7.6 EMCMS NON-ROUTINE WORK PROCESSING

7.6.1 ESTIMATED AUTHORIZATIONS

EMCMS estimated quantity authorizations are issued by the Engineer and transmitted to the Contractor, prior to the beginning of a job, when quantities are estimated.

Within five (5) working days of an Engineer request, the Contractor shall enter price quotes for agreed price or force account non-routine work in the EMCMS and email or fax copies to the Engineer for review. One quote shall be necessary for each non-routine authorization letter. If additional explanation is necessary the Engineer may request submittal of additional paperwork to explain details or provide justification of the work or price, before issuing the estimated agreed price or force account authorization letter.

It is the Contractor's responsibility to review daily, on the EMCMS, the list of new authorizations which have been transmitted to the Contractor, and subsequently view and print the non-routine work authorization letters. The Contractor shall communicate with the Engineer regarding any questions about the work assignment. Any non-routine authorization letters which have been transmitted, but not entered as received by the Contractor on the EMCMS within seven (7) working days shall be subject to the assessment of liquidated damages.

7.6.2 FINAL AUTHORIZATIONS

When the work is complete the Contractor shall enter the work completion date in the EMCMS authorization letter, print an EMCMS copy of the authorization letter, note any quantity changes, (revise agreed price quote if necessary) and fax to the Engineer.

Revised 01/07/2008

Following the field inspection of the work, if the proper documentation of work has been received, i.e., daily general billing logs (with field supervisor's acceptance/approval of completed work and proper documentation of time and materials used, or other required billing documents as specified herein), the Engineer shall enter an approval in the EMCMS, issue the final authorization letter, and re-transmit to the Contractor. After these procedures are completed, the Contractor may create an EMCMS invoice for payment of the work.

7.6.3 CORRECTIVE WORK LIST

In cases where deficiencies are found at the IDOT inspection of the Contractor's work, the Engineer will issue a corrective work list (CWL) on the EMCMS. The Contractor shall view the EMCMS corrective work list summary report on a regular basis and promptly address any work deficiencies. When the Contractor has completed the work deficiencies, the Contractor shall notify the Engineer that the work is ready to re-inspect.

7.6.4 NON-ROUTINE INVOICE PAYMENT

The Contractor shall prepare an EMCMS invoice for each Final Authorization letter. Each EMCMS invoice shall carry the same number as the authorization letter and shall be signed by a Principal of the Company, attesting that the work, as invoiced, has been completed and inspected in accordance with the provisions of the Contract and all applicable specifications. The invoice shall also show a notarized certification by an officer of the Company. The invoice paper and header style must conform to the specifications required for printing on the EMCMS.

All work billed for payment shall be complete, no billing for partially-completed work will be allowed. All invoices shall be submitted to the Department no later than 30 days following work completion approval by the Engineer.

For proper payment of completed work, the Contractor shall submit to the Engineer an original signed invoice with two copies, and an original signed final authorization letter with two copies. (If an estimated authorization letter, rather than the final authorization letter is attached to the invoice it will be promptly returned to the Contractor.) The Engineer will sign the invoice and authorization and will forward to the Region's Financial Services office personnel for scheduling of payment. Normal processing time for non-routine work payment to the Contractor is 6 to 8 weeks.

7.6.5 VENDOR OR SPECIALTY SERVICE PAYMENT

The Contractor shall pay the expense incurred by the Department within seven (7) calendar days of the Engineer scheduling the Contractor's invoice for payment in the EMCMS. A fax or email confirmation of the payment, with check number, shall be sent to the Engineer.

7.7 SPECIAL NON-ROUTINE PROJECTS

7.7.1 REVLAC MESSAGE SIGN MONITORING

Under Agreed Price work the contractor shall implement the addition of CCTV images of changeable message signs into the viewed sequence and the record of ramp transitions. It is the intent of this specification that the images be added in combination with other existing images (anticipated to be the final sequence view) such that control programming will have little or no change.

The message sign images will be merged with existing images in the respective ramp control sequences using an advanced video quad combiner having control of scale, crop, position and overlay of 1-4 images, such as Ovation Systems "FourSight" device or an approved equal.

One camera shall be added, mounted on an individual pole, powered and connected to a video patch panel at the respective ramp control building, for each changeable message sign in the REVLAC system. Locations of poles shall be proposed by the contractor and approved by the Engineer. When ground-mounted wiring shall be underground and when mounted on structures such as barrier wall, wiring may be attached to structure in PVC-coated rigid conduit and raceway systems. Not all cameras are expected to be used in the revised control displays, but the Engineer will determine the exact number and configuration of images based on test viewing in conjunction with the contractor to determine adequate position, size, etc. to optimize the resolution of images as necessary for the function.

It is anticipated that the sign images will be combined with the final sequence view of gate operation. A minor programming timer change to extend the duration of the final view shall be performed, to a duration determined by the Engineer. A minor programming timer change may be requested to extend the delay time for flashing chevrons, etc. before gate operation is initiated, at the discretion of the Engineer.

Video loss detection shall be provided in a manner similar to that for existing cameras, however the Engineer will entertain combining sign camera video loss alarm functions with existing alarm outputs as long as alarm tags are re-designated or the addition of I/O and the associated alarm designations, depending on operational practicality and ease of installation.

As part of this work, the REVLAC System shall be equipped with a redundant N.O. and N.C. common REVLAC alarm (for any REVLAC alarm) output extended to the ComCenter wall-mounted Alarm Panel via the connection panel in the ComCenter Equipment Room, with an appropriate engraved window. Any new alarm added to the REVLAC alarm list shall initiate the alarm flashing sequence at the Alarm Panel.

Some re-positioning of some existing cameras may be necessary to retain optimum gate coverage throughout the camera views, but it is anticipated that this will not be extensive if required at all.

Traffic control for the work shall be within established requirements for the expressway and shall be included at no extra cost.

The contractor shall submit a proposed scheme for accomplishing the proposed work, including a testing plan, complete with block diagrams and product data sheets for equipment and materials to be utilized. Upon approval, the contractor shall prepare modified connection diagrams (or diagram mark-ups) based on Record Drawings furnished by the Engineer. After completion of the revisions, the contractor shall provide Record Drawings of the revised system, incorporating all modifications made in the course of installation, for review, approval and electronic storage by the Engineer.

7.7.2 COMCENTER EQUIPMENT ROOM MODIFICATIONS

Under Agreed Price Work, the current ComCenter equipment room carpet tiles shall be replaced with proper computer flooring equal or better to Access Floor Systems, Concore (concrete core) 1500, ESD (electric static discharge), meeting ANSI/NEMA Publication LD3-1991 requirements, light grey in color (to be approved by the Engineer), to aid in dust reduction and equipment maintenance. Approximately 610 square feet will be necessary, of which 153 square feet is concrete with the remainder being raised floor.

If equipment not maintained by the Contractor needs to be relocated, the work will be paid through other contracts.

Added 01/07/2008

Much wiring and fiber for systems in the Equipment room has been routed on overhead cable tray, but wiring within the raised floor remains. The contractor shall be responsible for providing appropriate floor penetration openings, in accordance with the best practices as recommended by the flooring manufacturer, to allow for existing cabling and an equal amount of future floor-entry cabling.

A plan for the conversion, complete with methods to address the essentially uninterrupted operation of equipment in the equipment room, shall be submitted to the Engineer for approval.

8.0 NON-ROUTINE PAY ITEMS

ACB1 MULTICONDUCTOR POWER CABLE, INSTALL ONLY

DESCRIPTION

This work shall consist of transporting from state stock storage facility and installing a multiconductor power cable in accordance with Section 817 of the Standard Specifications.

METHOD OF MEASUREMENT:

Electric cable in conduit, pulled and installed, shall be counted, per foot.

BASIS OF PAYMENT

This work will be paid for at the contract unit price for **MULTICONDUCTOR POWER CABLE, INSTALL ONLY** per foot, which price shall be payment in full for installing the electric cable complete. If two or more cables in a conduit are to be removed and reinstalled, each cable will be measured for payment separately.

INSTALLATION

The installation shall include all work to install, the unit at a location designated by the Engineer, so as to provide a completely operational package. All hardware, wiring, including fiber patch cords and mounting brackets shall be included in this item and not paid separately.

BASIS OF PAYMENT:

This work will be paid for at the contract unit price each for, **VIDEO CONTROL WORKSTATION, FURNISH AND INSTALL**, of the type indicated, which price shall be payment in full for furnishing and installing the unit as specified herein and as directed by the Engineer.

AV05 VIDEO COMMUNICATION LINK, FURNISH AND INSTALL

DESCRIPTION

This item shall consist of furnishing and installing a video communication links, 5.8 GHz, unlicensed microwave radios, consisting of two radios with integrated antennas, two 50m long outdoor rated Ethernet cables, two sets of mounting hardware, two power injectors to transmit one full motion video and PTZ control channels over Ethernet link. The unit shall be Tsunami QuickBridge.11 Model 5054-R or approved equal.

INSTALLATION

The installation shall include all work to install, wire, configure and test the complete system at a location designated by the Engineer, so as to provide a completely operational package. All hardware, wiring and mounting brackets shall be included in this item and not paid separately.

BASIS OF PAYMENT:

This work will be paid for at the contract unit price each for, **VIDEO COMMUNICATION LINK, FURNISH AND INSTALL**, of the type indicated, which price shall be payment in full for furnishing and installing the unit as specified herein and as directed by the Engineer.

AV06 VIDEO COMMUNICATION MUX, FURNISH AND INSTALL

DESCRIPTION

This item shall consist of furnishing and installing a video communication sonet mux, and configuring and mapping into the existing sonet network. The unit shall one Timing Communications Control Plus module, one 576 STS X-Connect module, one OC48 fiber media module, one chassis, two AIC controllers, and power supply and fan unit. The unit shall be CISCO, Model 15454, or approved equal.

INSTALLATION

The installation shall include all work to install, wire, configure and test the complete system at a location designated by the Engineer, so as to provide a completely operational package. All hardware, wiring, fiber patch cords and mounting brackets shall be included in this item and not paid separately.

BASIS OF PAYMENT:

This work will be paid for at the contract unit price each for, **VIDEO COMMUNICATION MUX, FURNISH AND INSTALL**, of the type indicated, which price shall be payment in full for furnishing and installing the unit as specified herein and as directed by the Engineer.

AV07 VIDEO COMMUNICATION POLE, FURNISH AND INSTALL

DESCRIPTION

This item shall consist of furnishing and installing a video communication pole, steel, galvanized, 75' tall, suitable for a 4' dish with a projected area of 13 ft² with a wind loading of **90 MPH, 3-second gust wind speed, in accordance with the 2001 AASHTO specifications.**

Revised 01/07/2008