Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

September 11, 2006

SUBJECT: Various Routes
Section 2005-084 I
Various Counties
Contract No. 60A99
Item No. 57, September 22, 2006 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 1, 27, 31, 52, 54, 55, 68, 69, 135, 137, 161, 222, 224, 228, 229, 265, 272, 273, 369, 490 & 536 of the Special Provisions.
2. Added Appendix pages A-1 & A-2 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,

Michael L. Hine
Engineer of Design
and Environment

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

cc: Diane O'Keefe, Region 1, District 1; Roger Driskell; Estimates; Design & Environment File

TBW:MS:jc

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DISTRICT 1 ELECTRICAL MAINTENANCE CONTRACT

60A99

FOR YEARS 2007-2008

SCHEDULE OF PRICES

Item	Item Description	# of Locations	Units per Location	ELU**
L-1	Lighting System - On-Expressway	232	3.00	696.00
L-2	Lighting System - Off-Expressway	176	1.50	264.00
L-3	Lighting System - Combination Luminaires	82	0.25	20.50
P-1	Pump Stations > or = 4 Pumps	28	6.00	168.00
P-2	Pump Stations < 4 Pumps	20	4.00	80.00
S-1	Surveillance System - Ramp Controls	100	1.00	100.00
S-2	Surveillance System - Cabinets	652	0.25	163.00
S-3	Surveillance System - Expressway DMS	40	2.00	80.00
S-4	Surveillance System - Arterial DMS	9	1.00	9.00
T-1	Traffic Signal System - Signals	2420	1.00	2420.00
T-2	Traffic Signal System - Flashing Beacons	253	0.25	63.25
X-1	Extra Systems	88	0.50	44.00

Total Equivalent Location Units (ELUs)	**4107.75**
Bid Price per ELU per month	$
Monthly Cost of Routine Maintenance (Bid Price per ELU X Total ELU)	$
Routine Maintenance/Yr (Monthly Cost X 12)	$

****Equivalent Location Units (ELUs) = # of Location X Units per Location**

Item	Item Description	Units	Quantity	Unit Cost	Extension
GH02	Handhole, Fiber Optic	Ea	4	$	$
GH03	Handhole, Heavy-Duty	Ea	5	$	$
GH04	Handhole, Heavy-Duty, Double	Ea	10	$	$
GH05	Handhole, Heavy-Duty, Special	Ea	5	$	$
GH06	Handhole, Remove	Ea	10	$	$
GH07	Handhole, Re-build	Ea	5	$	$
GH08	Handhole, Re-build Existing to Heavy-Duty	Ea	5	$	$
~~GIC1~~	~~Inspection, Cathodic Protection System~~	~~Ea~~	~~2~~	~~$~~	~~$~~
GIG1	Inspection, Standby Generator	Ea	27	$	$
GIT1	Inspection, Thermo Graphic	Ea	10	$	$
GJ01	Junction Box, and all Appurtenances, Remove	Ea	10	$	$
GJ02	Junction Box, Inline Connectors and Termination	Ea	10	$	$
GJ03	Junction Box, Stainless Steel, up to 6" Depth	Ea	45	$	$
GJ04	Junction Box, Stainless Steel, 8" Depth	Ea	15	$	$
GMR1	Median, Remove and Replace	SF	20	$	$
GPC1	Pump, Calcium Chloride	Ea	5	$	$

Department project norms. The contractor is cautioned against unbalanced bidding and is directed to Article 102.01 of the Standard Specifications.

1.3 PRE-BID MEETING

It is the intent of this Contract that it be performed only by a contractor having the size, special expertise and organizational capabilities necessary to accomplish its wide-ranging scope of work. The prospective bidder should familiarize himself with all aspects of the Contract prior to bidding.

All bidders must be pre-approved, by the IDOT Central Bureau of Operations, prior to bidding upon the District 1 Electrical Maintenance Contract. **A Bidder's Special Qualifications submittal must be presented to the Department.** See Article 1.9, herein.

A pre-bid information meeting will be conducted to review details of the work for prospective bidders:

Wednesday, August 30, 2008
10:00 A.M.
Illinois Department of Transportation
201 West Center Court
Schaumburg, IL 60196-1096

The Pre-Bid Meeting attendance is not mandatory for all prospective bidders as it was not published in the Transportation Bulletin.

1.4 SITE INSPECTIONS

Pre-Bid Site Inspection locations, itinerary and program schedules will be finalized and distributed at the Pre-Bid Meeting. Bidders are expected to be familiar with the type and extent of systems covered under the Contract. Certain items will be made available for detailed inspection during the Pre-Bid Site Inspection. Bidders are encouraged to request inspection items prior to the Pre-Bid Meeting. The Department reserves the right to limit the inspections.

1.5 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND SITE OF WORK

The prospective bidder shall, before submitting his bid, carefully examine the proposal form, plans, specifications, special provisions and form of contract and bond. All locations to be maintained under this Contract may be inspected in order for the prospective bidder to become familiar with all the local conditions affecting the Contract and the detailed requirements of maintenance.

The prospective bidder shall be responsible for any pre-existing maintenance deficiencies that may exist at the time this contract is awarded and his bid shall reflect these deficiencies. If this bid is accepted, he will be responsible for all errors in his proposal resulting from his failure or neglect to comply with these instructions. The Department will, in no case, be responsible for any change in anticipated profits resulting from such failure or neglect.

1.6 PROPOSAL GUARANTY

Each proposal shall be accompanied by either a bid bond on the Department form, executed by a corporate surety company, satisfactory to the Department, or a bank cashier's check or a properly certified check for Three Hundred Thousand Dollars ($300,000) made payable to the Treasurer, State of Illinois. The proposal guaranty checks will be returned as prescribed in Section l03.03 of the Standard Specifications. Bid bonds will not be returned.

- The Contractor shall provide insurance coverage for all State Stock Inventory in the possession of the Contractor or in the State Stock Warehouse, for losses due to fire, theft or vandalism. Estimated value of current stock on hand is approximately $500,000.

The Contractor shall provide full insurance coverage as described in the above items until all routine and authorized non-routine work has been completed in accordance with the terms of this Contract.

The Contractor shall submit original and duplicate copies of all insurance policies when requested by the Engineer. The complete policies, with all riders, etc., shall be submitted.

1.9 BIDDERS' SPECIAL QUALIFICATIONS SUBMITTAL

All prospective bidders shall submit the following special qualification information for review and evaluation.

1. It is understood that due to the unique skills and experience required to maintain the electrical systems in District 1, it will not be possible for prospective bidders to furnish all names of personnel who will be involved in the EMC 2007/2008, prior to the beginning of the Contract, however, it is expected that the Contractor would know the name of the prospective Project Manager and System Managers. Therefore resumes of the Principal and/or Project Manager, System Managers, and Specialists are a required submittal. The resumes of other dedicated personnel; administrative manager, dispatch supervisor, and pump station crew are requested, as are the resumes of assigned personnel; the patrolmen and repair crew. (Section 1, Article 4.0)

2. The location and description, including square footage, of the bidder's current Headquarters, the spaces which shall be utilized for the EMC Office, EMC Dispatch Center, and any shop facilities as proposed to meet the requirements for the EMC 2007/2008. (Section1, Art. 4.7)

3. A description of the plans for service work, or in-house test facilities which the bidder would use, to overhaul and benchtest all electromechanical, solid state, microprocessor and analog and digital control equipment. (Section 1, Art. 4.7)

4. A sample of a weekly staffing schedule for the EMC Dispatch Center, which shows number of personnel working each hour, 24/7. (Section 1, Art. 4.10.3)

5. A report which provides the number of vehicles in use in the bidder's current operations, and the number of new vehicles to be purchased or leased to meet the requirements of the EMC 2007/2008. (Section 1, Art. 4.14)

6. A report which summarizes the number and types of maintenance/construction equipment currently owned or leased by the bidder. (Section 1, Art. 4.15)

7. Financial information, audited and certified by an accounting firm, listing company receipts for the past year(s) and/or financial means for mobilization, to purchase equipment and vehicles, and meet payroll for start-up months of this contract.

8. Copy of statement which verifies the Contractor is pre-qualified by the Department to do Electrical Construction work of the dollar amount of this contract.

The above information shall be submitted and addressed to each of the following in sealed envelopes:

Joseph S. Hill, P.E.
Engineer of Operations
Attn.: Jim Schoenherr
2300 South Dirksen Parkway
Springfield, Illinois 62764

Ms. Diane O'Keefe, P.E.
Deputy Director of Highways,
Region One Engineer
Attn.: Mr. Martin E. Anderson,
201 West Center Court
Schaumburg, IL 60196-1096

The submitted information will be reviewed, and if requested by the Engineer, an inspection made of the prospective bidder's facilities and/or equipment. If it is determined that the prospective bidder is qualified to bid, he will be issued the "Authorization to Bid".

Upon the receipt of a notice of cancellation, the Contractor shall provide the Engineer with a list of all State Stock inventory in his possession as of that date.

4.4 SUBCONTRACTING OF WORK

4.4.1 GENERAL REQUIREMENTS

The Contractor shall obtain approval from the Engineer for employment of all subcontractors performing work on this Contract, prior to the commencement of work. Except as modified herein, subcontracting of the contract work shall be in conformance with the requirements of the Standard Specifications and Supplements and Recurring Special Provisions.

The Contractor shall submit to the Engineer, prior to the start of work, and at the Pre-Construction Meeting:

- A request for Approval of Subcontractor, form BC260A for each subcontractor to be employed for work under this Contract

- A certification stating that the required Federal and State provisions will be inserted in the final contract with the subcontractor. Inclusion of the required contract provisions will be monitored by the Bureau of Small Business Enterprises, as part of its compliance review.

- A written subcontract agreement for each proposed subcontractor 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

- A copy of the Disadvantaged Business Utilization Plan on Department forms SBE 2026, and DBE Participation Commitment Statement on Department forms SBE 2025, all as required to be submitted within seven (7) working days after the date of the letting.

4.4.2 SUBCONTRACTING LIMITATIONS

In addition to the limitations imposed by the Standard Specifications, there shall not be wholesale subcontracting of the herein defined electrical systems. The Contractor shall perform not less than 51% of the maintenance of each electrical system with his own forces. Except for subcontracting of one or two patrol routes, as may be approved by the Engineer, in the fulfillment of DBE or minority participation requirements, work that depends on a dispersed workforce and timely response activities shall not be subcontracted. Moreover, there shall be no geographically–based subcontracting of the work, e.g., by north Cook or by south Cook, etc. Furthermore, the Contractor's daily management and supervision for each system, all administrative functions and dispatching, shall be done with his own forces.

Work, which is subcontracted, shall not include work which is in turn subcontracted to an additional party. Subcontracted work shall be limited to work performed by the subcontractors' own forces.

Work suggested for subcontracting, either to achieve DBE goals or to provide specialized expertise includes, but is not limited to detector loop replacements, group washing and group re-lamping, painting, tile washing, traffic control and protection, repair crew helpers, and portions of other work as required under the terms of the EMC.

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 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 paid administrative costs of an amount that

is equal to five (5) percent of the total approved costs on an individual work authorization, with the minimum payment being $100.

Specialty service work as authorized and originated by the Department shall be considered as work by the Contractor, and not subcontracted work for purposes of billing.

4.5 CONTRACTOR TRANSITION

4.5.1 BASIC REQUIREMENTS

It is the obligation of the Contractor to make every effort to provide a smooth transition from the prior contract to this contract. This may involve adjustments in ongoing operations to adjust to revised contract provisions or it may involve a startup of operations and the assumption of maintenance responsibility if there is a change in Contractor. In either case, full professional cooperation by the Contractor is expected by the Department to assure that the District's electrical systems remain continuously monitored and maintained.

Furthermore, this obligation extends to the transition from this contract to any subsequent contract. It is the obligation of the Contractor to cooperate fully to facilitate the transition period work, providing prompt communications, timely completion of authorized work, and other transfers as noted herein. These responsibilities will be among the factors contributing to the Contractor's overall evaluation.

The Contractor shall assure the Department that at 12:01 a.m. on January 1, 2007 the maintenance transfer is complete and transparent to the public, that the District's electrical systems remain continuously monitored and maintained. It shall be recognized that the transfer and transition from one contract to the next will not be instantaneous with regard to all aspects of all systems. The Contractor remains obligated for the completion of all outstanding routine work and all authorized non-routine work.

All necessary equipment and/or services required for the transition shall be incidental to the contract routine maintenance unless otherwise noted herein as non-routine work.

4.5.2 STATE STOCK TRANSFER

After execution of the Contract, the Contractor shall prepare facility storage areas for delivery, during the last half of December 2006, of miscellaneous state stock not stored in the state stock warehouse. The Engineer shall provide the Contractor a list of the state stock prior to delivery.

The Contractor shall provide the Engineer on December 1, 2008 (or December 1, 2007 if this contract is not renewed) a list of all state stock inventory and its applicable location that is in his possession on that day. All state stock inventory and/or other equipment or materials owned by IDOT in the possession of the Contractor shall be moved to state owned locations or locations as designated by the Engineer, by a date to be specified by the Engineer (during December 2008, or December 2007 if this contract is not renewed). The Contractor shall use his own spare parts for contract work for the remaining days of the term of the Contract. The Contractor shall replace missing stock in kind due to loss, theft, burglary, or damage caused by his workforce.

4.5.3 CONTRACTOR OWNED SPARE PARTS PROCURMENT

After execution of the Contract, the Contractor shall procure the spare parts as necessary for system equipment as listed in Article 5.0 such that at the time routine maintenance activities begin, adequate spare parts, as approved by the Engineer, are on hand.

Cabinet Components:
Receipt of three (3) or more independent lighting service tickets where the problem is caused by the same component(s) during any two (2) month period indicating the existence of a recurring problem will be considered unsatisfactory service.

Clock setting:
The repeated controller malfunctions due to an incorrect time of the day setting on the controllers time clock which results in not energizing lighting at sunset and not de-energizing the lighting installation at sunrise shall be considered unsatisfactory service.

Cabinet:
The Contractor shall repair lighting cabinet doors, hinges, etc., to keep the cabinet functioning effectively.

Log Sheets:
All inspections shall be logged and recorded with action taken. The Contractor shall maintain service log sheets in each lighting cabinet. New log sheets shall be placed in the cabinet (in protective plastic) in January 2007. The removed (completed) log sheets shall be submitted to the Engineer by January 31st in the monthly routine maintenance work documentation book.

Foundation:
Minor repairs to concrete foundations shall be completed within seven (7) calendar days from the date of discovery and issuance of a ticket, or within twenty one (21) days if the rebuilding or complete replacement of a concrete foundation is required.

Pad and bumper post:
If the cabinet pad and/or bumper post are found to be missing, damaged or have shifted due to the ground condition, then Contractor shall repair or replace to the original condition.

Warning sign:
The Contractor shall affix a "voltage warning" decal/sign (as approved by the Engineer) to all cabinets.

Radio:
When the Contractor removes a lighting cabinet radio for repair, it must immediately be replaced with a spare radio from the Contractor's spare parts inventory. The Contractor is required to have two (2) working, full MOSCAD-L radios available in his spare parts inventory at all times. The Contractor shall repair the defective radio within seven (7) calendar days, or shall replace with a new radio. The ticket shall document this exchange/repair.

Utility Service Voltage:
The Contractor shall dispatch a patrolman to check if there has been a notification of low voltage and/or utility problems within one (1) hour of notification. If the service voltage is not restored before sunset, then the Contractor shall provide a generator to power the lights.

Vegetation:
The Contractor shall clear all vegetation within the 10-ft. areas surrounding the controller.

Light Pole Unit

Pole:
Standard (non-davit) round-tapered, conventional aluminum light poles of different manufacture than the originally-installed pole may be used, but shall otherwise be in conformance with approved submittal requirements. Standard light pole mast arms shall be replaced with the same length, diameter, and shape as the original installation or as modified

Tower Reset:
The Contractor shall be paid through a non-routine work authorization for the permanent replacement of a light tower due to motorist caused damage. Following the approval of the catalog cuts, and receipt of a non-routine authorization, the Contractor shall order the material and complete the reinstallation of the light tower within a three (3) month period.

Block Retaining Wall and Pad:
If a light tower block retaining wall and adjacent concrete pad are found to be damaged, they shall be promptly repaired.

Site Maintenance:
The Contractor shall clear all vegetation within the 10 ft area surrounding a light tower.

Rust:
The Contractor shall inspect rust on outside of the shaft during the wash/relamp and tower inspection programs. The location and magnitude of the rust spots shall be described in detail on the inspection report. Contractor shall note if immediate corrective action is necessary by submitting a Contractor Advisory Report. Any rust spots, found within 20 feet from ground, shall be cleaned and touched up at the time of the wash/relamp or tower inspection program through routine maintenance. If the Engineer determines the need to paint the whole tower, the Contractor shall be paid through Non-Routine maintenance pay items.

Analysis Report:
The Contractor shall subcontract to conduct an analysis and inspection for rust at tower slip joints on twenty (20) light towers per year. The Contractor shall use a program equal to Utilivations Mast Check (www.utilivations.com) which records a complete 360 degree digital video record of the entire tower exterior (pole surface, slip joints, and foundation) while performing data collection. A summary report shall be provided with photo analysis. This program is similar to other Department of Transportation (DOT) agencies programs which use CCTV to test for safety.

External Portable Drive:
The Contractor shall maintain, in proper working order, all external portable drive units in state stock, which are used to lower the towers which are without an internal drive.

Luminaires

Replacement:
Certain requirements apply when lighting units are replaced or repaired in place under routine maintenance. Unless otherwise authorized by the Engineer, luminaire ballasts shall match the system voltage and be of the same type and characteristic as the original design and installation being replaced. In addition, except as otherwise indicated or authorized by the Engineer, the luminaires installed as replacements at an installation location, installed within six (6) years of the current year, shall be of the same manufacturer, and have the same photometric performance specification as the originally installed luminaire.

When a replacement luminaire is installed, it shall be equipped with a new lamp. Ballasts in luminaires, employed on other than the District's standard voltage of 240 volts single phase, may be of a multi-tap type, as approved by the Engineer. Luminaires replacing drop-lens (reflector-type) may be replaced with flat-glass cut-off type units of a distribution type and photometric performance approved by the Engineer. The Contractor shall submit proposed variant replacements to the Engineer for approval.

Tower:
The Contractor shall wash all the luminaires on the ring during an outage repair and record on the tower safety inspection log.

Upon observing Water on the Pavement (WOP) or extremely high water levels at the station, the Patrolman shall immediately notify the EMC Dispatch Center, who shall in turn notify the IDOT ComCenter.

Immediately after entering the station, the dispatched patrolman shall report the following information:

1. Pumps Running -- Yes or No.
2. Water Depth in Wet Well
3. Depth of Water on Pavement
4. Street Inlet Clogged -- Yes or No

The patrolman shall obtain a ticket number from the EMC Dispatch Center and complete the station log book, Chart W. All ticket information and WOP report information shall be relayed to the EMC Dispatch Center within one (1) hour of receipt of information from the field. All WOP report tickets shall be marked for follow-up until the pump station system is back to normal operation and there is no water on the pavement. All incidents shall be reported to the Engineer via a W.O.P. report and ticket summary report by 8 a.m. the next day (within 24 hours on Holidays). The Contractor shall retrieve the archived data from the pump station PLC and email to IDOT Engineer. When there is water on the pavement, the Contractor shall submit the archived data on a CD to the IDOT Engineer on the next business day, prior to the close of business, unless otherwise directed by the Engineer.

During high water level or WOP conditions, the patrolman shall remain at the station unless approved otherwise by the PS System Manager.

8.4.6 STATION POST STORM CONDITION CHECK

After each major rainstorm, the pump station crew shall:

- Clean the trash rack bin, bar screen, and the area between the automatic trash rack/bar screen and the inlet sewer to the bare concrete floor.
- Check WOP float and probe sensor for proper operation, and remove debris, and
- Check the inlet/catch basins. If clogged, notify IDOT ComCenter.

8.4.7 TEMPORARY PUMPING REQUIREMENTS

The Contractor shall provide and install temporary portable standby pumps to maintain adequate total station outflow capacity as described in Table P-1.

The Contractor shall submit a detailed temporary pumping operating plan, to the Engineer for approval, at the Pre-Construction meeting, for all maintenance activities which will directly affect normal inflow and outflow pumping operations. The Temporary Operating Plan submittal shall include a list of suppliers that, on an immediate on-call basis, can provide the Contractor with temporary pumps, or generators, to maintain the outflow capacity.

A back-up generator(s) shall be immediately mobilized to each pump station when the Contractor is notified of a high water level or alarm, or water on the pavement due to a power failure. Upon approval of the Engineer, the Contractor may utilize the two 200KW generators which are normally kept in state stock. These generators may not be considered in the Contractor's temporary pumping operations plan.

8.5 SERVICE COMPANIES

8.5.1 SUBMITTALS OF SERVICE COMPANY NAMES

The Contractor shall submit the following, for Engineer approval, at the Pre-Construction meeting:

- Names, addresses, and qualifications of at least six potential vertical/submersible services repair companies within the tri-state area of Illinois/Indiana/Wisconsin.

11.4.1 BASE STATION

The equipment under maintenance at the locations include: back-up generator, transfer switch, electrical service feeder cable, distribution panels, gas detector systems, doors, buildings, roofs, fencing, gates, windows, locks, flashing beacons, PS SCADA system repeater radio, AEGIS alarm systems, antenna, antenna line, back-up battery, diagnostic board, and all other equipment and appurtenances owned by the State of Illinois and under the jurisdiction of the Department.

Monthly Beacon Inspection

The lighting night-rider shall inspect the beacon lights on the monthly patrol. Refer to patrol procedures as found in Article 7.0. Outage repairs for the tower beacon lights shall be restored within 24 hours of notification at all base stations. The replacement of lamp outage shall be paid through non-routine maintenance pay item. The Contractor shall carry spare parts inventory on hand to restore the lighting.

Quarterly Radio Tower Inspection

The Contractor shall inspect the radio tower for any visual defects on tower structure, guying system (where applicable), lighting and monitoring system (where applicable), antenna, co-axial lines and wave guides, grounding system, site appearance and general condition, fencing and gate as per the FCC Title 47 Sec. 17.47. Tickets shall be created for any problems found. The date of the inspection shall be listed on the daily agenda. The Contractor shall submit the inspection report using Log-2 to Engineer in the monthly routine submittal book.

11.4.2 BRIDGE MONITORING

The equipment under maintenance at the locations include: highway lighting on the bridge and navigation lighting, closed circuit television cameras, monitors, generators and transfer switches, alarm panel and appurtenances, interconnecting coaxial cables, conduit wiring, circuit breakers, incoming electrical service feeder cable and all appurtenances located on various moveable bridges in the Illinois waterway in or near to Joliet, Illinois.

The routine maintenance for CCTV equipment includes response and investigation of trouble calls, deficiencies and abnormalities of monitor and or other miscellaneous items less than $250 each in value.

Monthly CCTV/Lighting Inspection

A certified closed circuit video service technician shall perform a monthly inspection of the Bridge Monitoring CCTV and associated equipment at all locations and list problems found, or no problems found. The IDOT Moveable Bridge Office Engineer shall receive the original copy of the technician's monthly inspection, and the Contractor shall submit a copy to the Engineer in the monthly routine submittal book. The lighting night-rider shall inspect the bridge and navigation lighting on the monthly patrol. Refer to patrol procedure as found in Article 7.0

11.4.3 EMC DISPATCH CENTER LOCATION

The equipment under maintenance at the location include:

- Lighting SCADA System (equipment owned by IDOT):
  One (1) server and monitor, all software including OS, GUI software, FIU cabinet, MOSCAD CPU's, dedicated line and dial-up modems, radio power supplies and back-up batteries, rocket port, printers, radio concentrators, four VHF/UHF radios, portable UPS, batteries, and all other equipment and appurtenances

- PS SCADA System (equipment owned by IDOT):
  AB RSview server computer (hardware & software), dedicated lines and dial-up modems, computer monitor, printer, radio base station equipment, rocketport muti-serial board and cables, batteries and all other equipment and appurtenances

- Traffic System Conflict Monitor Alarm System

- Full ANSI/TIA/EIA 606A Compliance
- Documentation Wizards
- Spreadsheet import/export tools
- Multi-view and multi-task capability
- Import data from cable testers
- User and Date Stamping on all Notes
- Customizable Fields
- Attachment Capabilities
- Track Horizontal and Backbone Cabling, Termination Hardware,
- Assets, Contacts, Fire Stopping, Pathways, Cable Splices.
- A Graphical User Interface (GUI).

Equipment.
The Cable Management System shall be provided on a dedicated server with additional software as required by the Cable Management System to operate. The server shall comply with the Cable Management System manufacturer recommended server requirements. As a minimum, the hardware shall be a 3GHz processor with 2 GB of RAM, a dedicated 120 GB hard drive for the OS and 3 hot swappable 300 GB hard drives implemented in a RAID 5 configuration for data storage. The server shall also have an 8x rewritable DVD drive. The server shall be connected to the existing EMCMS through an Ethernet switch included in this item. Client software shall be provided for eight (8) existing EMCMS client workstations.

Installation.
The installation of the Cable Management System shall be performed under the supervision of the Cable Management System manufacturer.

Support.
Technical support for the software and the server from a manufacturer authorized and approved vendor, at no additional cost to the state, shall be provided for the entire duration of this contract and any subsequent contract extensions or renewals. The support shall include product upgrades, phone and email support. Technical Support representatives shall be available between the hours of 7:00AM and 5:00PM CDT.

Initial data entry.
The EMC shall perform the initial data entry of existing fiber optic cable system in accordance with the D1 Standard Cable Designation Scheme available for review upon request at the Bureau of Electrical Operations. All existing fiber optic trunk, distribution cables and any extensions at locations XF0430, XF0480, XF0830, XF0880, XF0923, XF0950, XF1330, XF1380, XF1750, XF1770, XG0002, and XG0003, with an average of 288 fibers per location, (excluding traffic signal interconnect cables), their use, distribution, length, and attenuations shall be entered into the system. A representative sample of data shall be entered into the system which shall then be reviewed for approval by the Engineer for acceptability prior to large-scale data entry.

Repairs
For transmission troubles found in the "live fiber" (fiber in use) during normal operation, the Contractor shall test the affected fiber, as necessary, to determine the source of the problem. In such cases, the Engineer may direct spot checking or complete checking of all fibers in the affected run, if the problem is suspected to be systemic to the run. Before testing of any live fibers, the patrolman shall coordinate with the users of the fiber run. After the completion of testing, but before leaving, the patrolman shall verify with the users that all video and telemetry data transmission is still working. The patrolmen shall not leave the nodal building until all user groups have checked the accuracy of data being received and video picture quality.

During any of the testing, if any fibers are found to have significantly degraded from original or most recent OTDR readings, the patrolman shall initiate a ticket to prompt further troubleshooting of the fiber. The Contractor shall check all optical connectors, all patch cords, fusion splices, and

1 56 K Modem
1 24 port interface patch panel

- Pump Station SCADA Equipment
  1 Dell 2000 client computer
  1 Monitor
  4 Engineering processors
  Windows Operating systems
  Software as applicable
  UPS all other equipment and appurtenances

- AEGIS
  1 Silent Knight digital alarm receiver Model 9000
  1 Printer

Repair to EMCMS (Electrical Maintenance Management System)
Refer to Article 4.6.3
District 1 Headquarters/ComCenter
The equipment under maintenance at the location include:

- The Lighting SCADA Central System
  One server and one client computers, monitors, OS, GUI software, MOSCAD Application tool box (software), FIU cabinet, MOSCAD CPU's, lighting monitor (night-lite),dedicated lines and dial-up modems, Comtegras, radio power supplies and back-up batteries, rocket port, printers, radio concentrators, portable UPS and all other equipment and appurtenances

- Pump Station SCADA Central System
  AB RSview (Development) server computer (hardware & software), dedicated lines and dial-up modems, computer monitor, printer, radio base station equipment, rocketport, muti-serialdigi-8 board and cables, 3Com 16 port switch, Windows Operating systems, all other equipment and appurtenances

- Dynamic Message Remote System:
  One (1) remote status terminal, monitor, video controller including firmware (software), one (1) remote terminal with 486 CPU, modems, utilities services (including all taps, terminations, conduits, and cabling interconnect), and all other equipment and appurtenances

- ATMS Workstations in ComCenter, in Expressway Engineer office and in Oper. Eng. office.

- ComCenter Equipment:
  13 – Flat Panel Displays and appurtenances

  Christie Video Wall Controller and Displays (and for the Christie display system at TSC in Section 9.1.4) – In addition to providing response and investigation of trouble calls/deficiencies/abnormalities, perform the following periodical maintenance, under routine maintenance, by a factory certified technician, contact Mr. Kevin C. Barlow, Christie Digital Systems, (678) 594-6711, in January and September of the first year of the contract and again in May of the second year of the contract, if renewed:
  - Clean lens, cube screens, cube enclosure and events
  - Replace lamps in all displays
  - Realign (6 axis adjustment) after lamps are replaced
  - Check and adjust color

- Check white balance and black level
- Reset lamp timers
- Check horizontal and vertical position
- Check brightness, contract, and dither

In addition, the contractor shall replace lamps, as needed, between the scheduled group relamping dates, perform repairs and replace other items less than $300 each in value.
7 - Dispatcher Work Stations
7 - EMCMS Work Stations

- EMCMS System Equipment
  1 Sun OS
  2 Compaq Server
  1 Compaq Development Work Station
  1 Cisco Router
  4 Cisco Switch
  1 56 K Modem

- EMCMS Equipment:
  10 Compaq Desk Pro work stations
  3 HP JetDirect 500x print server
  2 HP Laser Jet Printer
  3 Epson LQ-2550 Dot Matrix Printer

- Generator and its transfer switches, alarm panels and appurtenances

- UPS 40 KVA, Liebert Model no. NPOWER, Part no. 37SA040CCC6HD63, Serial no. 37-6172, its transfer switch, and C&D Calcium Station Battery, 4XTLC13, 240 Cells, 15 Min Rating 1076A, Nominal cell Voltage = 2.12 Volts.

- HVAC for ComCenter room:
  Trane Air Conditioning model SWUA-2006-MAV, Type 671-0530-40A, and Serial no. L85B26255, Compressor motor, fan motor and wall thermostat

Monthly Battery and UPS Inspection
The Contractor shall inspect the batteries of the UPS Systems, and RF transmitter once per month. Water levels shall be checked, add if necessary. Connections shall be cleaned and tightened if necessary. The date of the inspection shall be listed on the daily agenda. Tickets shall be created for any problems found.

Monthly Battery and UPS Inspection
The maintenance of the ComCenter HVAC equipment includes response and investigation of trouble calls and repairs/replacement of items les than $300 in value. Repairs in excess of $300 in value shall be paid under Article 6.1.3, upon Engineer's approval.

The service technician shall provide a list of problems found, or no problems found. The IDOT ComCenter Supervisor shall receive the original copy of the technician's monthly inspection, and the Contractor shall submit a copy to the Engineer in the monthly routine submittal book.

Monthly Transfer Switch Inspection
The Contractor shall inspect transfer switches, located at various locations on a monthly basis as described in Article 8.

Yearly Lighting SCADA Inspection

History of EMC Routine Maintenance Location Quantities

	L-1	L-2	P-1	P-2	S-1	S-2	S-3	T-1	T-2	X-1	TOTAL
Jan-06	220	245	26	21	97	602	19	2313	241	88	3872
Feb-06	220	245	26	21	96	596	19	2314	240	88	3865
Mar-06	220	247	27	21	96	587	19	2319	242	88	3866
Apr-06	219	247	27	21	96	587	19	2315	238	88	3857
May-06	219	247	27	21	96	587	20	2335	242	88	3882
Jun-06	219	247	27	21	96	602	22	2347	248	88	3917
Jul-06	219	247	27	21	96	602	22	2352	249	88	3923
Jan-05	224	228	26	20	109	625	21	2306	222	84	3865
Feb-05	225	227	26	20	107	603	21	2306	226	84	3845
Mar-05	224	228	26	20	107	603	21	2313	225	84	3851
Apr-05	224	230	26	20	107	597	20	2311	228	84	3847
May-05	222	229	26	20	107	597	20	2315	233	84	3853
Jun-05	221	229	26	20	107	597	20	2313	232	84	3849
Jul-05	214	236	26	20	93	548	18	2311	237	84	3787
Aug-05	221	235	26	20	98	603	18	2311	236	86	3854
Sep-05	221	239	26	21	98	603	18	2299	238	86	3849
Oct-05	221	240	26	21	98	603	18	2296	238	86	3847
Nov-05	221	240	26	21	97	602	19	2294	238	86	3844
Dec-05	220	240	26	21	97	602	19	2299	237	88	3849
Avg-05	**222**	**233**	**26**	**20**	**102**	**599**	**19**	**2306**	**233**	**85**	**3845**
Jan-04	445		26	20	110	639	22	2232	220	93	3807
Feb-04	446		26	20	110	639	22	2240	223	93	3819
Mar-04	443		26	20	110	639	22	2231	226	93	3810
Apr-04	444		26	20	109	639	22	2235	226	93	3814
May-04	445		26	20	109	639	22	2235	226	93	3815
Jun-04	448		27	20	109	639	22	2251	226	94	3836
Jul-04	446		27	20	109	639	22	2247	219	94	3823
Aug-04	442		26	19	109	639	22	2245	219	95	3816
Sep-04	444		26	19	109	625	22	2255	220	94	3814
Oct-04	446		26	20	109	625	22	2276	220	94	3838
Nov-04	445		26	20	109	625	22	2294	221	94	3856
Dec-04	451		26	20	109	625	22	2306	221	95	3875
Avg-04	**445**		**26**	**20**	**109**	**634**	**22**	**2254**	**222**	**94**	**3827**
Jan-03	452		27	20	113	700	22	2203	212	97	3846
Feb-03	453		27	20	113	700	22	2205	212	96	3848
Mar-03	446		27	20	113	700	22	2177	208	96	3809
Apr-03	444		26	20	113	700	22	2189	208	96	3818
May-03	441		26	20	113	639	22	2179	208	96	3744
Jun-03	442		26	20	113	639	22	2174	208	97	3741
Jul-03	443		26	20	113	639	22	2169	209	96	3737
Aug-03	442		26	20	113	639	22	2161	209	95	3727
Sep-03	443		26	20	110	639	22	2157	212	93	3722
Oct-03	443		26	20	110	639	22	2161	218	93	3732
Nov-03	443		26	20	110	639	22	2181	218	93	3752
Dec03	444		26	20	110	639	22	2200	220	93	3774
Avg-03	**445**		**26**	**20**	**112**	**659**	**22**	**2180**	**212**	**95**	**3771**

History of ELU Quantities on Maintenance (Location Quantities X ELU Unit Value)

2006	L-1	L-2	P-1	P-2	S-1	S-2	S-3	T-1	T-2	X-1	ELU
Jan-06	660	245	104	63	24.25	150.5	38	2316	60.25	22	3683
Feb-06	660	245	104	63	24	149	38	2314	60	22	3679
Mar-06	660	247	108	63	24	146.75	38	2319	60.5	22	3688
Apr-06	657	247	108	63	24	146.75	38	2315	59.5	22	3680
May-06	657	247	108	63	24	146.75	40	2335	60.5	22	3703
Jun-06	657	247	108	63	24	150.5	44	2347	62	22	3725
Jul-06	657	247	108	63	24	150.5	44	2352	62.25	22	3730
Jan-05	672	228	104	60	27.25	156.25	42	2306	55.5	21	3672
Feb-05	675	227	104	60	26.75	150.75	42	2306	56.5	21	3669
Mar-05	672	228	104	60	26.75	150.75	42	2313	56.25	21	3674
Apr-05	672	230	104	60	26.75	149.25	40	2311	57	21	3671
May-05	666	229	104	60	26.75	149.25	40	2315	58.25	21	3669
Jun-05	663	229	104	60	26.75	149.25	40	2313	58	21	3664
Jul-05	642	236	104	60	23.25	137	36	2311	59.25	21	3630
Aug-05	663	235	104	60	24.5	150.75	36	2311	59	21.5	3665
Sep-05	663	239	104	63	24.5	150.75	36	2299	59.5	21.5	3660
Oct-05	663	240	104	63	24.5	150.75	36	2296	59.5	21.5	3658
Nov-05	663	240	104	63	24.25	150.5	39	2294	59.5	21.5	3659
Dec-05	660	240	104	63	24.25	150.5	38	2299	59.25	22	3660
Avg-05	**665**	**233**	**104**	**61**	**26**	**150**	**39**	**2306**	**58**	**21**	**3663**
Jan-04	890		104	60	27.5	159.75	22	2232	55	23.25	3574
Feb-04	892		104	60	27.5	159.75	22	2240	55.75	23.25	3584
Mar-04	886		104	60	27.5	159.75	22	2231	56.5	23.25	3570
Apr-04	888		104	60	27.25	159.75	22	2235	56.5	23.25	3576
May-04	890		104	60	27.25	159.75	22	2235	56.5	23.25	3578
Jun-04	896		108	60	27.25	159.75	22	2251	56.5	23.5	3604
Jul-04	892		108	60	27.25	159.75	22	2247	54.75	23.5	3594
Aug-04	884		104	57	27.25	159.75	22	2245	54.75	23.75	3578
Sep-04	888		104	57	27.25	156.25	22	2255	55	23.5	3588
Oct-04	892		104	60	27.25	156.25	22	2276	55	23.5	3616
Nov-04	890		104	60	27.25	156.25	22	2294	55.25	23.5	3632
Dec-04	902		104	60	27.25	156.25	22	2306	55.25	23.75	3657
Avg-04	**891**		**105**	**60**	**27**	**159**	**22**	**2254**	**56**	**23**	**3596**
Jan-03	904		108	60	28.25	175	22	2203	53	24.25	3578
Feb-03	906		108	60	28.25	175	22	2205	53	24	3581
Mar-03	892		108	60	28.25	175	22	2177	52	24	3538
Apr-03	888		104	60	28.25	175	22	2189	52	24	3542
May-03	882		104	60	28.25	159.75	22	2179	52	24	3511
Jun-03	884		104	60	28.25	159.75	22	2174	52	24.25	3508
Jul-03	886		104	60	28.25	159.75	22	2169	52.25	24	3505
Aug-03	884		104	60	28.25	159.75	22	2161	52.25	23.75	3495
Sep-03	886		104	60	27.5	159.75	22	2157	53	23.25	3493
Oct-03	886		104	60	27.5	159.75	22	2161	54.5	23.25	3498
Nov-03	886		104	60	27.5	159.75	22	2181	54.5	23.25	3518
Dec-03	888		104	60	27.5	159.75	22	2200	55	23.25	3540
Avg-03	**889**		**105**	**60**	**28**	**165**	**22**	**2180**	**53**	**24**	**3526**

Method of Measurement. Each existing handhole, which is partially removed and reconstructed to a heavy-duty handhole, complete, shall be counted as a unit payment.

Basis of Payment. This work will be paid for at the contract unit price each for HANDHOLE, REBUILD EXISTING HANDHOLE TO HEAVY-DUTY TYPE, which price shall be payment in full for all labor, materials, and equipment necessary to complete the work described above and as indicated on the drawings.

~~**GIC1 INSPECTION, CATHODIC PROTECTION SYSTEM**~~

~~**Description.** This work shall consist of furnishing equipment, materials and labor for an annual inspection of the cathodic protection system, at the maintenance yards and other facilities in District 1, as specified by the Engineer. The testing must be performed by a factory certified and authorized company, which shall be approved by the Engineer. An inspection report, including deficiencies noted and recommendations to correct the deficiencies shall be furnished, for the inspection to be complete.~~

~~**Method of Measurement.** Each inspection that is completed, and report submitted and approved by the Engineer, shall be counted as unit for payment.~~

~~**Basis of Payment.** This work shall be paid at the Contract unit price each, for INSPECTION, CATHODIC PROTECTION SYSTEM, of the facility specified, which shall be payment in full for the work as described herein.~~

GIG1 INSPECTION, STANDBY GENERATOR

Description. The Contractor shall furnish a factory trained service representative to complete a comprehensive generator inspection, as specified herein, at designated locations.

Locations. This work shall apply to generators at the Pump Stations, Base Stations, Traffic Systems Center (TSC) Moveable Bridges (Extra Systems) and two (2) in state stock.

Work Description. The inspection shall consist of, but not limited to the following items, which are described on form GIG1.

1) Cooling System
2) Fuel System
3) Air Induction and Exhaust System
4) Lube Oil System
5) Starting System
6) Engine Monitors and Safety Controls
7) Generator Accessories
8) Control Panel
9) Gas Engine
10) Megometer Test
11) Load Bank Test
12) Switch Gear Inspection

Method of Measurement. Each inspection that is completed according to form GIG1 and the inspection report submitted and approved by the Engineer shall be counted as unit for payment.

Basis of Payment. This item shall be paid at the contract unit price, each, for INSPECTION, STANDBY GENERATOR, which shall be payment in full for the work described herein.

GRT1 RADIO TOWER

Description. This work shall consist of the supply and installation of a 300 foot self-supporting antenna structure, specifically designed for the support of the communications antennas. The structure shall be capable of safely supporting up to three 8 foot diameter microwave dishes at the 290 foot level, 3 folded dipole communications antennas, model no. DB224 (located between 250 feet and 280 feet, with a total 5.0 square feet of antenna wind loading surface, on 6 foot stand-off arms) and the load capacity for three CCTV housings at approximately the 150 foot level.

Materials. The class III structure shall be self-supporting with a normal overall structure height of 300 feet above ground level. The tower shall be designed as defined by ANSI/TIA-222-G, exposure category B or C, Topographic category 1 or 5 with wind gusts up to 90 MPH 3 – second gust with 0 inch ice, and 40 mph 3 – second gust with 1.0 inch radial ice loading included in the calculations. The supplier must take the wind, ice, and antenna loading into consideration, as well as soil boring results, when specifying the tower foundation and bolt pattern. These recommendations shall be closely followed in the installation of the structure to assure compliance with the stamped design criteria.

The overall design shall allow for 360 degree adjustment of the microwave dish mount azimuth orientation (barring conflict with other dishes mounted at the same level). Access handholes for cables and/or waveguides shall be provided on three faces of the pole, oriented 120 degrees, and located each 10 feet on the upper 100 feet of the structure. The following additional materials shall be provided with the structure, and be included in the load calculations:

1. Climbing pegs spaced 12 inches for maintenance and installation
2. Safety climbing device in accordance with OSHA
3. Transmission line supports or brackets (internal to the structure)
4. Obstruction warning lights and/or paint as required by FAA permit
5. Antenna and microwave dish mounts
6. Ground field in accordance with grounding practices specified elsewhere in this spec

The tower vendor shall be a manufacturer, primarily and continuously involved with the design and fabrication of communications towers for a period of at least 10 years. The vendor shall have in house design and fabrication staff for total control of the finished product.

The tower legs shall be tubular type design, hot dip galvanized post welding and fabrication per ASTM standard A123 to assure even coating inside and out. Other methods of zinc coating will be reason for rejection of the proposal. All other components, including brackets, mounting arms, and assembly hardware shall also be hot dip galvanized per ASTM A153 and B695. The Contractor shall prepare the entire assembly for coating in accordance with the manufacturer's approved finish, and use no less than two coats of alkyd enamel. The Contractor shall paint the tower with permanent finish per FAA requirements for aviation hazard.

Beacon and side lighting in accordance with the Federal Communications Commission's Form 715 requirements under paragraph 3 and 11. Light controller shall be manufactured by Crouse Hinds, model type TLC70002A with photoelectric control model type PEC520101 or engineer approve equivalent. All site wiring, breakers, cable trays, and all workmanship and materials necessary to connect the tower lighting system to the adjacent building's power source, as directed by the engineer, is also included.

Steel reinforced foundation in conformance to the tower manufacturer's recommendations for the tower, load requirements, and associated soil conditions.

1. Concrete shall be Class SI complying with the Standard Specifications
2. Reinforcement bars shall comply with the Standard Specifications (not epoxy coated).
3. Unless otherwise indicated, anchor bolts shall comply with the requirements of ASTM Designation A 687. Also, unless otherwise indicated, nuts shall be hexagon nuts in conformance with STM A563, Grade A, and washers shall be in conformance with STM F436. Pal nuts shall be used in accordance with the tower manufacturer's recommendations.

Anchor bolts as well as the nuts and washers shall be hot dip galvanized in accordance with the requirements of ASTM Designation A 153.

Three copper-clad steel ground rod, not less than ¾ inch in diameter and 10 feet long shall be installed and connected as approved by the Engineer. Cylindrical ground well box made of composite polyester resin/fiberglass or PVC with associated cover and a minimum size of 18 inches long and 8 inches in diameter. One ground well box per ground rod. All grounding connections shall be exothermically welded, and all grounding shall be thoroughly tested, including earth ground resistance testing.

No. 4 AWG bare copper grounding conductor shall encircle the foundation and bonded to each of the three ground rods. All ground rods shall be bonded using no smaller than #4 wire. A bonding jumper shall be used from the tower ground system to service ground system as per NEC code.

Installation. Installation shall be made within District 1, at a location to be determined by the Engineer and in accordance with the tower manufacturer's recommendations for site soil conditions. The tower will be erected on State property, with permits and license filed by the Engineer. If the tower height is limited by a permit, the Contractor must still furnish entire 300 foot tower and shall erect the tower only to the height allowed by the permit. The foundation shall be designed for the full height of the tower so that the top sections can be installed later when allowed by the permit. The Contractor shall crate and store the remaining top sections in State stock.

The Contractor shall be responsible for determination of proper foundation installation based on soil boring, nature of existing compaction and manufacturer's recommendations. The Contractor shall be responsible for conducting soil tests at the designated site utilizing a certified geotechnical service organization. Results of the soil tests shall be submitted to the tower manufacturer and to the Engineer to facilitate tower foundation design. A separate soil test shall be performed at each tower leg foundation location. Any excavation in rock or additional depth required due to soft clay or poor soil conditions shall be paid under General Billing. The concrete shall be cast-in-place and allowed to cure for twenty-eight (28) days minimum before the tower is erected. The Contractor shall furnish test cylinders to IDOT Materials lab for testing. As a minimum, the concrete shall develop a minimum compressive strength of 4000 psi in 28 days. If access road to the site is needed, it shall be provided by the Department.

The tower shall be grounded to three (3) driven ground rods located no more than 2 feet away from the tower foundations. Ground rods shall be driven so that the tops of the rods are below finished grade. The ground well shall be installed so as to allow access to the ground rod connection and shall be installed flush with finished grade.

Ground rod connection to the grounding conductor shall be made by exothermic welds. The grounding conductor shall enter the ground well through the bottom of the well. Ground rod connection to the tower leg shall be rigid and in accordance with the tower manufacturer's recommendations. The grounding well shall be filled with clay or crushed rock from the bottom of the well to 3 inches below the rod connection.

The conduit (2) through the foundation for the antenna lines and power shall be included as part of the pay item. When the installation is complete, it shall be certified by the manufacturer of proper installation.

Method of Measurement. Each microwave radio tower up to 300 feet, as specified by the Engineer, in height as measured above ground level, furnished, installed in accordance with the manufacturers recommendations and certified by the manufacturer, including concrete foundations depth as per the medium clay soil condition (>=0.75 tons/sf), lighting fixtures, conduit, and wiring to the nearby building, inspected as secure, plumb, restoration of location and approved by the Engineer shall be counted as a unit of payment.

Basis of Payment. This work shall be paid at the Contract unit price for each RADIO TOWER, which shall be payment in full for the work as described herein.

Slide gate shall be painted in accordance with manufacturer recommendation color will be designated by the engineer.

Concrete work for sluice gate is included in this pay item. Cutting and patching shall be performed in a neat and workmanlike manner, consistent with the best trade practices.

The contractor shall not use IDOT pumps for dewatering during the installation.

All equipment furnished, installed or mounted for this pay item shall conform to the applicable specifications for Basic Materials and Methods, elsewhere herein. The Contractor shall submit catalog cuts design drawings and product data for the Engineers approval prior to installation. Three complete sets of record drawings, catalog cuts and O&M manuals shall be provided upon completion for Engineers approval.

Method of Measurement. Each pump station sluice gate installed and approved by the Engineer shall be counted as a unit for payment.

Basis of Payment. This work shall be paid at the contract unit price each for PUMP, SLUICE GATE, UP TO 36 in. DIAMETER which shall be payment in full for the work described herein.

PS04 PUMP, TIDE FLEX VALVES

Description. This work shall consist of furnishing labor, equipment and material to install the tide flex valves and associated devices as specified herein and indicated by the Engineer, at Pump Station 9.

Materials. The contractor shall furnish four (4) 25 PSI Tide Flex valves Series TF-35's flanged with carbon steel, epoxy coated saddle supports and four (4) (18"X25") flanged 150# schedule 40 spool pipe with gaskets and bolts. The Contractor shall furnish one (1) TF-1 carbon steel saddle support. The Contractor will be provided with one (1) 12" TF-1 tide flex from IDOT State Stock to be installed on the low flow 12" discharge pipe.

Work Description. The contractor shall provide all necessary scaffolding and hoisting to install the four tide flex valves TF-35 flanged with interior saddle support system. Remove four existing check valves and replace with 18" x 25" schedule 40 flanged 150#spool pipe. Clean and tap existing holes in the wall pipes in discharge chamber. Prep, prime and paint all piping with submerged paint system. The Contactor shall also install a TR-1 with carbon steel saddle support.

All equipment furnished, installed or mounted for this pay item shall conform to the applicable specifications for Basic Materials and Methods, elsewhere herein. The Contractor shall provide submittals for the above specified work in the pay item including catalog cuts and design drawings for the Engineers approval prior to installation. Four complete sets of record drawings, catalog cuts and O & M manuals shall be provided upon completion for Engineer approval.

Method of Measurement. The work specified herein will be measured, Lump Sum for Pump, Tide Flex Vales that is inspected and approved by the engineer shall be counted as a unit for payment.

Basis of Payment. This work will be paid at the contract unit price lump sum for PUMP, TIDE FLEX VALVES, which will be payment in full for the work described herein.

PS05 PUMP, VIBRATION TESTING AND ANALYSIS

Description. The Contractor shall provide a Vibration and Analysis Testing Consultant who is a data analyst with a minimum of two years experience in vibration data collection and spectrum analysis, and shall have a Level II certification by a vibration institute or equivalent.

The controller shall be one of the approved District 1 Closed Loop brands and the display shall be menu driven. The controller and its associated equipment shall be housed in an aluminum traffic signal controller cabinet Type IV and mounted on an enclosed wood stand with a three feet by four feet by 5 inches thick and a concrete pad in front of the cabinet door. The cabinet shall contain all harnesses, load switches, flasher, conflict monitor, detector harnesses and related components required to provide the sequence of operations on the plans or as directed by the Signal Engineer.

LED traffic signal heads furnished for the installation shall have twelve inch lenses and be painted federal yellow with flat black faces and tunnel visors. Each approach to a signalized intersection must have a minimum or three (3) signal heads spaced a minimum of eight feet apart.

Pedestrian signal heads and push-button detectors, if required, will be paid separately. All vehicle detection, when required, as part of a temporary signal installation, will be paid separately. When possible, the Department will provide the detector amplifiers for the intersection from state stock. If necessary the Department shall authorize the installation of new amplifiers through a non routine work order.

All equipment furnished and installed shall become the property of the Illinois Department of Transportation.

Basis of Payment. This work shall be paid at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, as described above, which price shall be payment in full for all work as described herein and as directed by the Signal Engineer. Maintenance of the temporary traffic signal installation will be paid separately after the temporary signal is approved for operation by the Department.

TTM1 THERMOPLASTIC PAVEMENT MARKING LINE 24 INCH

Description. This item shall conform with sections 700 and 1000 of the Standard Specifications for Road and Bridge Construction as directed by the Signal Engineer.

Basis of Payment. This work will be paid at the contract unit price per foot of applied line for THERMOPLASTIC PAVEMENT MARKING LINE 24 inch.

TTP1 TRAFFIC SIGNAL POST, 10 FT TO 18 FT

Description. This item shall conform with sections 832 of the Standard Specifications for Road and Bridge Construction, the District 1 Traffic Signal Specifications and District 1 Traffic Signal Design Details except as revised herein.

When the new post is being installed on an existing foundation to replace an existing post, the removal of the existing post shall be incidental to this item.

Basis of Payment. This work shall be paid at the contract unit price each for TRAFFIC SIGNAL POST, 10 FT TO 18 FT as described above, which price shall be payment in full for all work as described herein and as directed by the Signal Engineer.

TTP2 REMOVE TRAFFIC SIGNAL POST
TTP3 REMOVE MAST ARM ASSEMBLY AND POLE

Description. These items consist of removing an existing traffic signal post or mast arm assembly and pole at a location shown on the plans or as directed by the Signal Engineer. The existing traffic signal post or existing mast arm assembly shall become the Contractor's property and the salvage value of the item shall be reflected in the unit price.

SECTION 4 – LIST OF LOCATIONS

Count	Location #	Main Route / Address	Nearest Cross Street / City	County	Cabinet	Sign Label	Dir.	Cross Street / City / Type of Equipment	RM Pay Item
1	L0103	I-55	Martin Luther King Dr	Cook	A	A1	OB	E of Martin Luther King Dr	L-1
						A2	IB	E of Michigan Ave	
						A3	OB	Martin Luther King Dr	
						A4	IB	E of Martin Luther King Dr	
2	L0105	I-55	Michigan Ave	Cook	B	B1	OB	Michigan Ave	L-1
						B2	IB	State St	
						B3	OB	State St Bridge	
						B4	IB	Michigan Ave Bridge	
						B5	OB	State St Bridge	
						B6	IB	Martin Luther King Dr	
3	L0110	I-55	Wentworth Ave	Cook	C	C1	OB	22nd St Feeder	L-1
						C2	IB	Wentworth Ave Bridge	
						C3	OB	SB 22nd St Feeder at I-55	
4	L0115	I-55	Stewart Ave	Cook	D				L-1
5	L0120	I-55	Loomis St [Incl Nav]	Cook	E	E1	OB	W of Throop St	L-1
						E2	IB	W of Throop St	
						E4	IB	W of Halsted St	
6	L0123	I-55	Ashland Ave	Cook	E1	E1/1	OB	W of Lock St	L-1
						E1/2	IB	W of Lock St	
						E1/3	OB	Damen Ave Exit	
7	L0125	I-55	Damen Ave	Cook	F	F1	OB	W of Western Ave	L-1
						F2	IB	1/2 Mi E of California Ave	
						F4	IB	Damen Ave Exit	
						F6	IB	Ramp to Damen Ave	
8	L0130	I-55	California Ave	Cook	G	G1	OB	California Ave	L-1
						G4	IB	Damen Ave Exit	
9	L0133	I-55	Kedzie Ave	Cook	G1	G1/1	OB	W of California Ave	L-1
						G1/2	IB	California Ave Exit	
						G1/4	IB	1/4 Mi E of Kedzie Ave	
10	L0135	I-55	Pulaski Rd	Cook	H	H1	OB	Pulaski Rd	L-1