

2A

RETURN WITH BID

Proposal Submitted By	
Name	
Address	
City/State	9 Digit Zip Code
Telephone No.	Fax No.
Federal Employer Identification No. (FEIN)	
Email Address	

Letting April 27, 2012

BIDDERS NEED NOT RETURN THE ENTIRE PROPOSAL
(see instructions inside front cover)

NOTICE TO PROSPECTIVE BIDDERS

This proposal can be used for bidding purposes by only those companies that request and receive written **AUTHORIZATION TO BID** from IDOT's Central Bureau of Construction.
(SEE INSTRUCTIONS ON THE INSIDE OF COVER)

Notice to Bidders, Specifications, Proposal, Contract and Contract Bond



Illinois Department of Transportation
DIVISION OF AERONAUTICS

Contract No. SE004
Shelby County Airport
Shelbyville, Illinois
Shelby County
Illinois Project No. 2H0-4149
Federal Project No. 3-17-0093-B11

For engineering information, contact Kevin Lightfoot, P.E. of Hanson Professional Services, Inc. at 217-747-9433.

FAA rules prohibit the use of escalation clauses for materials. Therefore, the Division of Aeronautics cannot offer any material cost adjustment provisions for projects that utilize Federal funds.

PLEASE MARK THE APPROPRIATE BOX BELOW:

- A Bid Bond is included.
- A Cashier's Check or a Certified Check is included.

INSTRUCTIONS

ABOUT IDOT PROPOSALS: All proposals are potential bidding proposals. Each proposal contains all certifications and affidavits, a proposal signature sheet and a proposal bid bond.

PREQUALIFICATION

Any contractor who desires to become pre-qualified to bid on work advertised by IDOT must submit the properly completed pre-qualification forms to the Bureau of Construction no later than 4:30 p.m. prevailing time twenty-one days prior to the letting of interest. This pre-qualification requirement applies to first time contractors, contractors renewing expired ratings, contractors maintaining continuous pre-qualification or contractors requesting revised ratings. To be eligible to bid, existing pre-qualification ratings must be effective through the date of the letting.

WHO CAN BID?

Bids will be accepted from only those companies that request and receive written Authorization to Bid from IDOT's Central Bureau of Construction.

REQUESTS FOR AUTHORIZATION TO BID

Contractors wanting to bid on items included in a particular letting must submit the properly completed "Request for Authorization to Bid/or Not For Bid Status" (BDE 124) and the ORIGINAL "Affidavit of Availability: (BC 57) to the proper office no later than 4:30 p.m. prevailing time, three (3) days prior to the letting date.

WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?: When a prospective prime bidder submits a "Request for Authorization to Bid or Not for Bid Status" (BDE 124) he/she must indicate at that time which items are being requested For Bidding purposes. Only those items requested For Bidding will be analyzed. After the request has been analyzed, the bidder will be issued an **Authorization to Bid or Not for Bid Report**, approved by the Central Bureau of Construction that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Authorization to Bid or Not for Bid Report** will indicate the reason for denial.

ABOUT AUTHORIZATION TO BID: Firms that have not received an Authorization to Bid or Not For Bid Report within a reasonable time of complete and correct original document submittal should contact the department as to the status. Firms unsure as to authorization status should call the Prequalification Section of the Bureau of Construction at the number listed at the end of these instructions. These documents must be received three days before the letting date.

ADDENDA AND REVISIONS: It is the bidder's responsibility to determine which, if any, addenda or revisions pertain to any project they may be bidding. Failure to incorporate all relevant addenda or revisions may cause the bid to be declared unacceptable.

Each addendum or revision will be included with the Electronic Plans and Proposals. Addenda and revisions will also be placed on the Addendum/Revision Checklist and each subscription service subscriber will be notified by e-mail of each addendum and revision issued.

The Internet is the Department's primary way of doing business. The subscription server e-mails are an added courtesy the Department provides. It is suggested that bidders check IDOT's website at <http://www.dot.il.gov/desenv/delett.html> before submitting final bid information.

IDOT IS NOT RESPONSIBLE FOR ANY E-MAIL FAILURES.

Addenda questions may be directed to the Plans and Contracts Office at (217)782-7806 or D&Econtracts@dot.il.gov

Technical questions about downloading these files may be directed to Tim Garman at (217)524-1624 or Timothy.Garman@illinois.gov.

BID SUBMITTAL GUIDELINES AND CHECKLIST

In an effort to eliminate confusion and standardize the bid submission process the Contracts Office has created the following guidelines and checklist for submitting bids.

This information has been compiled from questions received from contractors and from inconsistencies noted on submitted bids. If you have additional questions please refer to the contact information listed below.

ABOUT SUBMITTING BIDS: It is recommended that bidders deliver bid proposals in person to ensure they arrive at the proper location prior to the time specified for the receipt of bids. Any proposals received at the place of letting after the time specified will not be read.

STANDARD GUIDELINES FOR SUBMITTING BIDS

- All pages should be single sided.
- Use the Cover Page that is provided in the Bid Proposal (posted on the IDOT Web Site) as the first page of your bid. This page has the Item number in the upper left-hand corner and lines provided for your company name and address in the upper right-hand corner.
- Do not use report covers, presentation folders or special bindings and do not staple multiple times on left side like a book. Use only 1 staple in the upper left hand corner. Make sure all elements of your bid are stapled together including the bid bond or guaranty check (if required).
- Do not include any certificates of eligibility, your authorization to bid, Addendum Letters or affidavit of availability.
- Do not include the Subcontractor Documentation with your bid (pages 33-41). This documentation is required only after you are awarded the contract.
- Use the envelope cover sheet (provided with the proposal) as the cover for the proposal envelope.
- Do not rely on overnight services to deliver your proposal prior to 10 AM on letting day. It will not be read if it is delivered after 10 AM.
- Do not submit you Substance Abuse Prevention Plan (SAPP) with your bid. If you are awarded the contract this form is to be submitted to the district engineer at the pre-construction conference.

Use the following checklist to ensure completeness and the correct order in assembling your bid

Cover page followed by the Pay Items. If you are using special software or CBID to generate your schedule of prices, do not include the blank schedule of prices.

Page 5 (Item 10) - Check "YES" if you will use a subcontractor(s). Include the subcontractor(s) name, address and the dollar amount (if over \$25,000). If you will use subcontractor(s) but are uncertain who or the dollar amount; check "YES" but leave the lines blank.

Page 11 (Paragraph J) - Check "YES" or "NO" whether your company has any business in Iran.

Page 12 (Paragraph K) - List the Union Local Name and number or certified training programs that you have in place. Do not include certificates with your bid. Keep the certificates in your office in case they are requested by IDOT.

Page 12 (Paragraph L) - Insert a copy of your State Board of Elections certificate of registration after Page 4 of the bid proposal. Only include the page that has the date stamp on it. Do not include any other certificates or forms showing that you are an Illinois business.

Page 14 (Paragraph C) - This is a work sheet to determine if a completed Form A is required. It is not part of the form and you do not need to make copies for each Form A that is filled out.

Pages 16-18 (Form A) - One Form A (3 pages) is required for each applicable person in your company. Copies of the Forms can be used and only need to be changed when the financial information changes. The certification signature and date must be original for each letting. Do not staple the forms together.

If you answered "NO" to all of the questions in Paragraph C (page 14), complete the first section (page 16) with your company information and then sign and date the Not Applicable statement on page 18.

Page 19 (Form B) - If you check "YES" to having other current or pending contracts it is acceptable to use the phrase, "See Affidavit of Availability on file".

Pages 21-22 (Workforce Projection) - Be sure to include the Duration of the Project. It is acceptable to use the phrase "Per Contract Specifications".

Bid Bond - Submit your bid bond using the current Bid Bond Form provided in the proposal package. The Power of Attorney page should be stapled to the Bid Bond. If you are using an electronic bond, include your bid bond number on the form and attach the Proof of Insurance printed from the Surety 2000 Web Site.

Disadvantaged Business Utilization Plan and/or Good Faith Effort - The last item in your bid should be the DBE Utilization Plan (SBE 2026), DBE Participation Statement (SBE 2025) and supporting paperwork. If you have documentation for a Good Faith Effort, it should follow the SBE Forms.

The Bid Letting is now available in streaming Audio/Video from the IDOT Web Site. A link to the stream will be placed on the main page of the current letting on the day of the Letting. The stream will not begin until 10 AM. The actual reading of the bids does not begin until approximately 10:20 AM.

Following the Letting, the As-Read Tabulation of Bids will be posted by the end of the day. You will find the link on the main page of the current letting.

QUESTIONS: pre-letting up to execution of the contract

Contractor/Subcontractor pre-qualification -----217-782-3413
Small Business, Disadvantaged Business Enterprise (DBE) -----217-785-4611
Contracts, Bids, Letting process or Internet downloads -----217-785-0230
Estimates Unit -----217-785-3483

QUESTIONS: following contract execution

Including Subcontractor documentation, payments -----217-782-3413
Railroad Insurance -----217-785-0275



PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of _____

Taxpayer Identification Number (Mandatory) _____ a

for the improvement identified and advertised for bids in the Invitation for Bids as:

**Contract No. SE004
 Shelby County Airport
 Shelbyville, Illinois
 Shelby County
 Illinois Project No. 2H0-4149
 Federal Project No. 3-17-0093-B11**

Construct Electrical Vault, Light Taxiway and Install approach aids

2. The undersigned bidder will furnish all labor, material and equipment to complete the above described project in a good workmanlike manner as provided in the contract documents provided by the Department of Transportation. This proposal will become part of the contract and the terms and conditions contained in the contract documents shall govern performance and payments.
3. **COMPLETION TIME/LIQUIDATED DAMAGES.** It being understood and agreed that the completion within the time limit is an essential part of the contract, the bidder agrees to complete the work within Base Bid - 45 calendar days; Additive Alternate 1 - 0 calendar days; Additive Alternate 2 – 2 calendar days, unless additional time is granted by the Engineer in accordance with the provisions of the specifications. In case of failure to complete the work on or before the time named herein, or within such extra time as may have been allowed by extensions, the bidder agrees that the Department of Transportation shall withhold from such sum as may be due him/her under the terms of this contract, the costs, as set forth below, which costs shall be considered and treated not as a penalty but as damages due to the State from the bidder by reason of the failure of the bidder to complete the work within the time specified in the contract.

Schedule of Deductions for Each Day of Overrun in Contract Time			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Calendar Day	Work Day
\$ 0	\$ 100,000	\$ 475	\$ 675
100,000	500,000	750	1,050
500,000	1,000,000	1,025	1,425
1,000,000	3,000,000	1,275	1,725
3,000,000	6,000,000	1,425	2,000
6,000,000	12,000,000	2,300	3,450
12,000,000	And over	5,800	8,125

A daily charge shall be made for every day shown on the calendar beyond the specified contract time in calendar days.

RETURN WITH BID

4. **ASSURANCE OF EXAMINATION AND INSPECTION/WAIVER.** The undersigned further declares that he/she has carefully examined the proposal, plans, specifications, supplemental and applicable recurring special provisions, addenda, form of contract and contract bonds, and special provisions, and that he/she has inspected in detail the site of the proposed work, and that he/she has familiarized themselves with all of the local conditions affecting the contract and the detailed requirements of construction, and understands that in making this proposal he/she waives all right to plead any misunderstanding regarding the same.

5. **EXECUTION OF CONTRACT AND CONTRACT BONDS.** The undersigned further agrees to execute a contract for this work and present the same to the department within fifteen (15) days after the contract has been mailed to him/her. The undersigned further agrees that he/she and his/her surety will execute and present within fifteen (15) days after the contract has been mailed to him/her contract bond satisfactory to and in the form prescribed by the Department of Transportation, in the penal sum of the full amount of the contract, guaranteeing the faithful performance of the work in accordance with the terms of the contract.

6. **PROPOSAL GUARANTY.** Accompanying this proposal is either a bid bond on the department form, executed by a corporate surety company satisfactory to the department, or a proposal guaranty check consisting of a bank cashier's check or a properly certified check for not less than 5 per cent of the amount bid or for the amount specified in the following schedule:

<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	
Up to	\$5,000	\$150	\$2,000,000	to	\$3,000,000	\$100,000
\$5,000	to	\$10,000	\$3,000,000	to	\$5,000,000	\$150,000
\$10,000	to	\$50,000	\$5,000,000	to	\$7,500,000	\$250,000
\$50,000	to	\$100,000	\$7,500,000	to	\$10,000,000	\$400,000
\$100,000	to	\$150,000	\$10,000,000	to	\$15,000,000	\$500,000
\$150,000	to	\$250,000	\$15,000,000	to	\$20,000,000	\$600,000
\$250,000	to	\$500,000	\$20,000,000	to	\$25,000,000	\$700,000
\$500,000	to	\$1,000,000	\$25,000,000	to	\$30,000,000	\$800,000
\$1,000,000	to	\$1,500,000	\$30,000,000	to	\$35,000,000	\$900,000
\$1,500,000	to	\$2,000,000	over		\$35,000,000	\$1,000,000

Bank cashier's checks or properly certified checks accompanying proposals shall be made payable to the Treasurer, State of Illinois, when the state is awarding authority; the county treasurer, when a county is the awarding authority; or the city, village, or town treasurer, when a city, village, or town is the awarding authority.

If a combination bid is submitted, the proposal guaranties which accompany the individual proposals making up the combination will be considered as also covering the combination bid.

The amount of the proposal guaranty check is _____ \$(_____). If this proposal is accepted and the undersigned shall fail to execute contract bonds as required herein, it is hereby agreed that the amount of the proposal guaranty shall become the property of the State of Illinois, and shall be considered as payment of damages due to delay and other causes suffered by the State because of the failure to execute said contract and contract bonds; otherwise, the bid bond shall become void or the proposal guaranty check shall be returned to the undersigned.

Attach Cashier's Check or Certified Check Here

In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual proposal. If the guaranty check is placed in another proposal, state below where it may be found.

The proposal guaranty check will be found in the proposal for: Item _____

Airport _____

Mark the proposal cover sheet as to the type of proposal guaranty submitted.

RETURN WITH BID

- 7. COMBINATION BIDS.** The undersigned further agrees that if awarded the contract for the sections contained in the following combination, he/she will perform the work in accordance with the requirements of each individual proposal comprising the combination bid specified in the schedule below, and that the combination bid shall be prorated against each section in proportion to the bid submitted for the same. If an error is found to exist in the gross sum bid for one or more of the individual sections included in a combination, the combination bid shall be corrected as provided below.

A combination bid is a total bid received on 2 or more proposals. No combination bids other than those specifically set up by the Department will be considered. Separate proposal forms will be issued for each project in the combination so bids may be submitted on the combination as well as on separate units of the combination. The Department reserves the right to make awards on combination bids or separate bids to the best advantage of the Department.

If a combination bid is submitted on 2 or more proposals, separate proposals on each individual contract shall also be submitted, and unless separate proposals are so submitted, the combination bid will not be considered. If the bidder desires to submit a combination bid, the bidder shall state, in the place provided in the proposal form, the amount of the combination bid for the entire combination.

If a combination bid is submitted on any stipulated combination, and errors are found to exist in computing the gross sum bid on any one or more of the individual proposals, corrections shall be made, by the Department and the amount of the combination bid shall be corrected so that it will be in the same proportion to the sum of the corrected gross sum bid as the combination bid submitted was to the sum of the gross sum bid submitted.

The following provisions shall govern combination bidding:

- (a) A combination bid which is submitted for 2 or more proposals and awarded on that basis shall have the bid prorated against each proposal in proportion to the bid submitted for each proposal.
- (b) Separate contracts shall be executed for each individual proposal included in the combination.
- (c) The contract time for all contracts awarded on a combination bid shall be the sum of all calendar days contained within each contract included in the combination, unless otherwise provided in the contracts.
- (d) In the event the Contractor fails to complete any or all of the contracts on the combination bid within the contract time, including any authorized extension, the liquidated damages shall be determined from the schedule of deductions shown above in paragraph 3 for each day of overrun in contract time, based on the combination bid total, and shall be computed on the combination and prorated against the 2 or more individual contracts based on the dollar value of each contract.
- (e) The plans and Special Provisions for each separate contract shall be construed separately for all requirements, except as described in paragraphs (a) through (d) listed above.

RETURN WITH BID

When a combination bid is submitted, the schedule below must be completed in each proposal comprising the combination.

If alternate bids are submitted for one or more of the sections comprising the combination, a combination bid must be submitted for each alternate.

Schedule of Combination Bids

Combination No.	Sections Included in Combination	Combination Bid	
		Dollars	Cents

8. SCHEDULE OF PRICES. The undersigned submits herewith, in accordance with the rules and instructions, a schedule of prices for the items of work for which bids are sought. The unit prices bid are in U.S. dollars and cents, and all extensions and summations have been made. The bidder understands that the quantities appearing in the bid schedule are approximate and are provided for the purpose of obtaining a gross sum for the comparison of bids. If there is an error in the extension of the unit prices, the unit prices shall govern. Payment to the contractor awarded the contract will be made only for actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as provided elsewhere in the contract.

9. AUTHORITY TO DO BUSINESS IN ILLINOIS. Section 20-43 of the Illinois Procurement Code (30 ILCS 500/20-43) provides that a person (other than an individual acting as a sole proprietor) must be a legal entity authorized to do business in the State of Illinois prior to submitting the bid.

10. The services of a subcontractor will or may be used.

Check box Yes

Check box No

For known subcontractors with subcontracts with an annual value of more than \$25,000, the contract shall include their name, address, and the dollar allocation for each subcontractor.

11. EXECUTION OF CONTRACT. The Department of Transportation will, in accordance with the rules governing Department procurements, execute the contract and shall be the sole entity having the authority to accept performance and make payments under the contract. Execution of the contract by the Chief Procurement Officer or the State Purchasing Officer is for approval of the procurement process and execution of the contract by the Department. Neither the Chief Procurement Officer nor the State Purchasing Officer shall be responsible for administration of the contract or determinations respecting the performance or payment there under except as otherwise permitted in the Illinois Procurement Code.

STATE JOB # - - - -

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - SE004

ECMS002 DTGECM03 ECMR003 PAGE 1
 RUN DATE - 03/20/12
 RUN TIME - 205729

COUNTY NAME	CODE	DIST	AIRPORT NAME	FED PROJECT	ILL PROJECT
SHELBY	173	07	SHELBY COUNTY	3-17-0093-B11	2H-0 -4149

***** BASE *****

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AR101580	REFURBISH 36" BEACON	L.S.	1.000 X		=		
AR107812	L-807 W C-12' INTERNALLY LIT	EACH	1.000 X		=		
AR108158	1/C #8 5 KV UG CABLE IN UD	L.F.	20,050.000 X		=		
AR108656	3/C #6 600 V UG CABLE IN UD	L.F.	1,300.000 X		=		
AR108658	3/C #8 600 V UG CABLE IN UD	L.F.	350.000 X		=		
AR109100	CONSTRUCT ELECTRICAL VAULT	L.S.	1.000 X		=		
AR109200	INSTALL ELECTRICAL EQUIPMENT	L.S.	1.000 X		=		
AR109902	REMOVE ELECTRICAL EQUIPMENT	L.S.	1.000 X		=		
AR110013	3" DIRECTIONAL BORE	L.F.	380.000 X		=		
AR110610	ELECTRICAL HANDHOLE	EACH	2.000 X		=		
AR125410	MITL-STAKE MOUNTED	EACH	70.000 X		=		
AR125415	MITL-BASE MOUNTED	EACH	9.000 X		=		
AR125446	TAXI GUIDANCE SIGN, 6 CHARACTER	EACH	2.000 X		=		
AR125447	TAXI GUIDANCE SIGN, 7 CHARACTER	EACH	6.000 X		=		
AR125505	MIRL, STAKE MOUNTED	EACH	32.000 X		=		

SHELBY COUNTY
SHELBY

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - SE004

ECMS002 DTGECM03 ECMR003 PAGE 2
RUN DATE - 03/20/12
RUN TIME - 205729

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AR125510	MIRL, BASE MOUNTED	EACH	8.000 X		=		
AR125540	MI THRESHOLD LIGHT STAKE MTD	EACH	14.000 X		=		
AR125620	ABBREVIATED PAPI (L-881 SYSTEM)	EACH	1.000 X		=		
AR125901	REMOVE STAKE MOUNTED LIGHT	EACH	47.000 X		=		
AR125902	REMOVE BASE MOUNTED LIGHT	EACH	9.000 X		=		
AR125904	REMOVE TAXI GUIDANCE SIGN	EACH	2.000 X		=		
AR125910	REMOVE PLASI	EACH	1.000 X		=		
AR150510	ENGINEER'S FIELD OFFICE	L.S.	1.000 X		=		
AR150520	MOBILIZATION	L.S.	1.000 X		=		
AR150540	HAUL ROUTE	L.S.	1.000 X		=		
AR620520	PAVEMENT MARKING-WATERBORNE	S.F.	691.000 X		=		
AR620525	PAVEMENT MARKING-BLACK BORDER	S.F.	1,114.000 X		=		
AR620900	PAVEMENT MARKING REMOVAL	S.F.	1,760.000 X		=		
AR800564	REMOVE REFLECTOR	EACH	40.000 X		=		
AR800591	UPGRADE AIRPORT ROTATING BEACON	L.S.	1.000 X		=		

SUBTOTAL BASE \$

***THE DEPARTMENT RESERVES THE RIGHT TO AWARD THIS CONTRACT ON THE
***BASIS OF ANY OF THE ALTERNATES OR COMBINATION THEREOF.

SHELBY COUNTY
SHELBY

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - SE004

ECMS002 DTGECM03 ECMR003 PAGE 3
RUN DATE - 03/20/12
RUN TIME - 205729

***** ALT 1 *****

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AS800592	MITL LED UPGRADE	EACH	79.000 X			=	
				SUBTOTAL ALT 1		\$	

SHELBY COUNTY
SHELBY

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - SE004

ECMS002 DTGECM03 ECMR003 PAGE 4
RUN DATE - 03/20/12
RUN TIME - 205729

***** ALT 2 *****

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AT800580	WEED CONTROL RING	EACH	133.000 X				

SUBTOTAL ALT 2 \$

CONTRACT - SE004

SUMMARY OF TOTAL ALTERNATES		
	DOLLARS	CTS
TOTAL BASE \$		
TOTAL ALT 1 \$		
TOTAL ALT 2 \$		

NOTE:

1. EACH PAY ITEM SHOULD HAVE A UNIT PRICE AND A TOTAL PRICE.
2. THE UNIT PRICE SHALL GOVERN IF NO TOTAL PRICE IS SHOWN OR IF THERE IS A DISCREPANCY BETWEEN THE PRODUCT OF THE UNIT PRICE MULTIPLIED BY THE QUANTITY.
3. IF A UNIT PRICE IS OMITTED, THE TOTAL PRICE WILL BE DIVIDED BY THE QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE.
4. A BID MAY BE DECLARED UNACCEPTABLE IF NEITHER A UNIT PRICE NOR A TOTAL PRICE IS SHOWN.

RETURN WITH BID

THE PRECEDING SCHEDULE OF PRICES MUST BE

COMPLETED AND RETURNED.

RETURN WITH BID

STATE REQUIRED ETHICAL STANDARDS GOVERNING CONTRACT PROCUREMENT: ASSURANCES, CERTIFICATIONS AND DISCLOSURES

I. GENERAL

A. Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. Except as otherwise required in subsection III, paragraphs J-M, by execution of the Proposal Signature Sheet, the bidder indicates that each of the mandated assurances has been read and understood, that each certification is made and understood, and that each disclosure requirement has been understood and completed.

C. In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for the chief procurement officer to void the contract, or subcontract, and may result in the suspension or debarment of the bidder or subcontractor.

II. ASSURANCES

The assurances hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder.

A. Conflicts of Interest

1. The Illinois Procurement Code provides in pertinent part:

Section 50-13. Conflicts of Interest.

(a) Prohibition. It is unlawful for any person holding an elective office in this State, holding a seat in the General Assembly, or appointed to or employed in any of the offices or agencies of state government and who receives compensation for such employment in excess of 60% of the salary of the Governor of the State of Illinois, or who is an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority, or who is the spouse or minor child of any such person to have or acquire any contract, or any direct pecuniary interest in any contract therein, whether for stationery, printing, paper, or any services, materials, or supplies, that will be wholly or partially satisfied by the payment of funds appropriated by the General Assembly of the State of Illinois or in any contract of the Capital Development Board or the Illinois Toll Highway authority.

(b) Interests. It is unlawful for any firm, partnership, association or corporation, in which any person listed in subsection (a) is entitled to receive (i) more than 7 1/2% of the total distributable income or (ii) an amount in excess of the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(c) Combined interests. It is unlawful for any firm, partnership, association, or corporation, in which any person listed in subsection (a) together with his or her spouse or minor children is entitled to receive (i) more than 15%, in the aggregate, of the total distributable income or (ii) an amount in excess of 2 times the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(d) Securities. Nothing in this Section invalidates the provisions of any bond or other security previously offered or to be offered for sale or sold by or for the State of Illinois.

(e) Prior interests. This Section does not affect the validity of any contract made between the State and an officer or employee of the State or member of the General Assembly, his or her spouse, minor child or any combination of those persons if that contract was in existence before his or her election or employment as an officer, member, or employee. The contract is voidable, however, if it cannot be completed within 365 days after the officer, member, or employee takes office or is employed.

The current salary of the Governor is \$177,412.00. Sixty percent of the salary is \$106,447.20.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-13, or that an effective exemption has been issued by the Board of Ethics to any individual subject to the Section 50-13 prohibitions pursuant to the provisions of Section 50-20 of the Code and Executive Order Number 3 (1998). Information concerning the exemption process is available from the Department upon request.

RETURN WITH BID

B. Negotiations

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

(a) It is unlawful for any person employed in or on a continual contractual relationship with any of the offices or agencies of State government to participate in contract negotiations on behalf of that office or agency with any firm, partnership, association, or corporation with whom that person has a contract for future employment or is negotiating concerning possible future employment.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-15, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

C. Inducements

1. The Illinois Procurement Code provides:

Section 50-25. Inducement. Any person who offers or pays any money or other valuable thing to any person to induce him or her not to bid for a State contract or as recompense for not having bid on a State contract is guilty of a Class 4 felony. Any person who accepts any money or other valuable thing for not bidding for a State contract or who withholds a bid in consideration of the promise for the payment of money or other valuable thing is guilty of a Class 4 felony.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-25, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

D. Revolving Door Prohibition

1. The Illinois Procurement Code provides:

Section 50-30. Revolving door prohibition. Chief procurement officers, State purchasing officers, procurement compliance monitors, their designees whose principal duties are directly related to State procurement, and executive officers confirmed by the Senate are expressly prohibited for a period of 2 years after terminating an affected position from engaging in any procurement activity relating to the State agency most recently employing them in an affected position for a period of at least 6 months. The prohibition includes, but is not limited to: lobbying the procurement process; specifying; bidding; proposing bid, proposal, or contract documents; on their own behalf or on behalf of any firm, partnership, association, or corporation. This Section applies only to persons who terminate an affected position on or after January 15, 1999.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-30, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

E. Reporting Anticompetitive Practices

1. The Illinois Procurement Code provides:

Section 50-40. Reporting anticompetitive practices. When, for any reason, any vendor, bidder, contractor, chief procurement officer, State purchasing officer, designee, elected official, or State employee suspects collusion or other anticompetitive practice among any bidders, offers, contractors, proposers, or employees of the State, a notice of the relevant facts shall be transmitted to the Attorney General and the chief procurement officer.

2. The bidder assures the Department that it has not failed to report any relevant facts concerning the practices addressed in Section 50-40 which may involve the contract for which the bid is submitted.

F. Confidentiality

1. The Illinois Procurement Code provides:

Section 50-45. Confidentiality. Any chief procurement officer, State purchasing officer, designee, or executive officer who willfully uses or allows the use of specifications, competitive bid documents, proprietary competitive information, proposals, contracts, or selection information to compromise the fairness or integrity of the procurement, bidding, or contract process shall be subject to immediate dismissal, regardless of the Personnel code, any contract, or any collective bargaining agreement, and may in addition be subject to criminal prosecution.

2. The bidder assures the Department that it has no knowledge of any fact relevant to the practices addressed in Section 50-45 which may involve the contract for which the bid is submitted.

G. Insider Information

1. The Illinois Procurement Act provides:

Section 50-50. Insider information. It is unlawful for any current or former elected or appointed State official or State employee to knowingly use confidential information available only by virtue of that office or employment for actual or anticipated gain for themselves or another person.

2. The bidder assures the Department that it has no knowledge of any facts relevant to the practices addressed in Section 50-50 which may involve the contract for which the bid is submitted.

RETURN WITH BID

III. CERTIFICATIONS

The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. Section 50-2 of the Illinois Procurement Code provides that every person that has entered into a multi-year contract and every subcontractor with a multi-year subcontract shall certify, by July 1 of each fiscal year covered by the contract after the initial fiscal year, to the responsible chief procurement officer whether it continues to satisfy the requirements of Article 50 pertaining to the eligibility for a contract award. If a contractor or subcontractor is not able to truthfully certify that it continues to meet all requirements, it shall provide with its certification a detailed explanation of the circumstances leading to the change in certification status. A contractor or subcontractor that makes a false statement material to any given certification required under Article 50 is, in addition to any other penalties or consequences prescribed by law, subject to liability under the Whistleblower Reward and Protection Act for submission of a false claim.

A. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

(a) Prohibition. No person or business shall be awarded a contract or subcontract under this Code who:

(1) has been convicted under the laws of Illinois or any other state of bribery or attempting to bribe an officer or employee of the State of Illinois or any other state in that officer's or employee's official capacity; or

(2) has made an admission of guilt of that conduct that is a matter of record but has not been prosecuted for that conduct.

(b) Businesses. No business shall be barred from contracting with any unit of State or local government, or subcontracting under such a contract, as a result of a conviction under this Section of any employee or agent of the business if the employee or agent is no longer employed by the business and:

(1) the business has been finally adjudicated not guilty; or

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

(c) Conduct on behalf of business. For purposes of this Section, when an official, agent, or employee of a business committed the bribery or attempted bribery on behalf of the business and in accordance with the direction or authorization of a responsible official of the business, the business shall be chargeable with the conduct.

(d) Certification. Every bid submitted to and contract executed by the State, and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the contractor or the subcontractor, respectively, that the contractor or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any certifications required by this Section are false. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

2. The contractor or subcontractor certifies that it is not barred from being awarded a contract under Section 50.5.

B. Felons

1. The Illinois Procurement Code provides:

Section 50-10. Felons. Unless otherwise provided, no person or business convicted of a felony shall do business with the State of Illinois or any State agency, or enter into a subcontract, from the date of conviction until 5 years after the date of completion of the sentence for that felony, unless no person held responsible by a prosecutorial office for the facts upon which the conviction was based continues to have any involvement with the business.

2. Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder or contractor or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any of the certifications required by this Section are false.

C. Debt Delinquency

1. The Illinois Procurement Code provides:

Section 50-11 and 50-12. Debt Delinquency. The contractor or bidder or subcontractor, respectively, certifies that it, or any affiliate, is not barred from being awarded a contract or subcontract under the Procurement Code. Section 50-11 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it knows or should know that it, or any affiliate, is delinquent in the payment of any debt to the State as defined by the Debt Collection Board. Section 50-12 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it, or any affiliate, has failed to collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with the provisions of the Illinois Use Tax Act. The bidder or contractor or subcontractor, respectively, further acknowledges that the chief procurement officer may declare the related contract void if this certification is false or if the bidder, contractor, or subcontractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

RETURN WITH BID

D. Prohibited Bidders, Contractors and Subcontractors

1. The Illinois Procurement Code provides:

Section 50-10.5 and 50-60(c). Prohibited bidders, contractors and subcontractors.

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 or if in violation of Subsection (c) for a period of five years from the date of conviction. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder, contractor, or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer shall declare the related contract void if any of the certifications completed pursuant to this Section are false.

E. Section 42 of the Environmental Protection Act

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-12 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Procurement Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the chief procurement officer may declare the contract void if this certification is false.

F. Educational Loan

1. Section 3 of the Educational Loan Default Act provides:

§ 3. No State agency shall contract with an individual for goods or services if that individual is in default, as defined in Section 2 of this Act, on an educational loan. Any contract used by any State agency shall include a statement certifying that the individual is not in default on an educational loan as provided in this Section.

2. The bidder, if an individual as opposed to a corporation, partnership or other form of business organization, certifies that the bidder is not in default on an educational loan as provided in Section 3 of the Act.

G. Bid-Rigging/Bid Rotating

1. Section 33E-11 of the Criminal Code of 1961 provides:

§ 33E-11. (a) Every bid submitted to and public contract executed pursuant to such bid by the State or a unit of local government shall contain a certification by the prime contractor that the prime contractor is not barred from contracting with any unit of State or local government as a result of a violation of either Section 33E-3 or 33E-4 of this Article. The State and units of local government shall provide the appropriate forms for such certification.

(b) A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

A violation of Section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

2. The bidder certifies that it is not barred from contracting with the Department by reason of a violation of either Section 33E-3 or Section 33E-4.

RETURN WITH BID

H. International Anti-Boycott

1. Section 5 of the International Anti-Boycott Certification Act provides:

§ 5. State contracts. Every contract entered into by the State of Illinois for the manufacture, furnishing, or purchasing of supplies, material, or equipment or for the furnishing of work, labor, or services, in an amount exceeding the threshold for small purchases according to the purchasing laws of this State or \$10,000.00, whichever is less, shall contain certification, as a material condition of the contract, by which the contractor agrees that neither the contractor nor any substantially-owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the U.S. Export Administration Act of 1979 or the regulations of the U.S. Department of Commerce promulgated under that Act.

2. The bidder makes the certification set forth in Section 5 of the Act.

I. Drug Free Workplace

1. The Illinois "Drug Free Workplace Act" applies to this contract and it is necessary to comply with the provisions of the "Act" if the contractor is a corporation, partnership, or other entity (including a sole proprietorship) which has 25 or more employees.

2. The bidder certifies that if awarded a contract in excess of \$5,000 it will provide a drug free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance, including cannabis, is prohibited in the contractor's workplace; specifying the actions that will be taken against employees for violations of such prohibition; and notifying the employee that, as a condition of employment on such contract, the employee shall abide by the terms of the statement, and notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.

(b) Establishing a drug free awareness program to inform employees about the dangers of drug abuse in the workplace; the contractor's policy of maintaining a drug free workplace; any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug violations.

(c) Providing a copy of the statement required by subparagraph (1) to each employee engaged in the performance of the contract and to post the statement in a prominent place in the workplace.

(d) Notifying the Department within ten (10) days after receiving notice from an employee or otherwise receiving actual notice of the conviction of an employee for a violation of any criminal drug statute occurring in the workplace.

(e) Imposing or requiring, within 30 days after receiving notice from an employee of a conviction or actual notice of such a conviction, an appropriate personnel action, up to and including termination, or the satisfactory participation in a drug abuse assistance or rehabilitation program approved by a federal, state or local health, law enforcement or other appropriate agency.

(f) Assisting employees in selecting a course of action in the event drug counseling, treatment, and rehabilitation is required and indicating that a trained referral team is in place.

(g) Making a good faith effort to continue to maintain a drug free workplace through implementation of the actions and efforts stated in this certification.

J. Disclosure of Business Operations in Iran

Section 50-36 of the Illinois Procurement Code, 30ILCS 50/50-36 provides that each bid, offer, or proposal submitted for a State contract shall include a disclosure of whether or not the Company acting as the bidder, offeror, or proposing entity, or any of its corporate parents or subsidiaries, within the 24 months before submission of the bid, offer, or proposal had business operations that involved contracts with or provision of supplies or services to the Government of Iran, companies in which the Government of Iran has any direct or indirect equity share, consortiums or projects commissioned by the Government of Iran, or companies involved in consortiums or projects commissioned by the Government of Iran and either of the following conditions apply:

(1) More than 10% of the Company's revenues produced in or assets located in Iran involve oil-related activities or mineral-extraction activities; less than 75% of the Company's revenues produced in or assets located in Iran involve contracts with or provision of oil-related or mineral-extraction products or services to the Government of Iran or a project or consortium created exclusively by that government; and the Company has failed to take substantial action.

(2) The Company has, on or after August 5, 1996, made an investment of \$20 million or more, or any combination of investments of at least \$10 million each that in the aggregate equals or exceeds \$20 million in any 12-month period, which directly or significantly contributes to the enhancement of Iran's ability to develop petroleum resources of Iran.

The terms "Business operations", "Company", "Mineral-extraction activities", "Oil-related activities", "Petroleum resources", and "Substantial action" are all defined in the Code.

Failure to make the disclosure required by the Code shall cause the bid, offer or proposal to be considered not responsive. The disclosure will be considered when evaluating the bid, offer, or proposal or awarding the contract. The name of each Company disclosed as doing business or having done business in Iran will be provided to the State Comptroller.

Check the appropriate statement:

Company has no business operations in Iran to disclose.

Company has business operations in Iran as disclosed in the attached document.

RETURN WITH BID

K. Apprenticeship and Training Certification (Does not apply to federal aid projects)

In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors submitted for approval either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract. The Department, at any time before or after award, may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors. Applicable apprenticeship and training programs are those that have been approved and registered with the United States Department of Labor. The bidder shall list in the space below, the official name of the program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's forces. Types of work or craft work that will be subcontracted shall be included and listed as subcontracted work. The list shall also indicate any type of work or craft job category that does not have an applicable apprenticeship or training program. **The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project as reported on the Construction Employee Workforce Projection (Form BC-1256) and returned with the bid is accounted for and listed.**

N/A (Federal)

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. In order to fulfill this requirement, it shall not be necessary that an applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract.

L. Political Contributions and Registration with the State Board of Elections.

Sections 20-160 and 50-37 of the Illinois Procurement Code regulate political contributions from business entities and any affiliated entities or affiliated persons bidding on or contracting with the state. Generally under Section 50-37, any business entity, and any affiliated entity or affiliated person of the business entity, whose current year contracts with all state agencies exceed an awarded value of \$50,000, are prohibited from making any contributions to any political committees established to promote the candidacy of the officeholder responsible for the awarding of the contracts or any other declared candidate for that office for the duration of the term of office of the incumbent officeholder or a period 2 years after the termination of the contract, whichever is longer. Any business entity and affiliated entities or affiliated persons whose state contracts in the current year do not exceed an awarded value of \$50,000, either alone or in combination with contracts not exceeding \$50,000, are prohibited from making any political contributions to any political committee established to promote the candidacy of the officeholder responsible for awarding the pending contract during the period beginning on the date the invitation for bids or request for proposals is issued and ending on the day after the date of award or selection if the entity was not awarded or selected. Section 20-160 requires certification of registration of affected business entities in accordance with procedures found in Section 9-35 of The Election Code

By submission of a bid, the contractor business entity acknowledges and agrees that it has read and understands Sections 20-160 and 50-37 of the Illinois Procurement Code, and that it makes the following certification:

The undersigned business entity certifies that it has registered as a business with the State Board of Elections and acknowledges a continuing duty to update the registration in accordance with the above referenced statutes. A copy of the certificate of registration shall be submitted with the bid. The bidder is cautioned that the Department will not award a contract without submission of the certificate of registration.

These requirements and compliance with the above referenced statutory sections are a material part of the contract, and any breach thereof shall be cause to void the contract under Section 50-06 of the Illinois Procurement Code. These provisions do not apply to Federal-aid contracts.

RETURN WITH BID

M. Lobbyist Disclosure

Section 50-38 of the Illinois Procurement Code requires that any bidder or offeror on a State contract that hires a person required to register under the Lobbyist Registration Act to assist in obtaining a contract shall:

- (i) Disclose all costs, fees, compensation, reimbursements, and other remunerations paid or to be paid to the lobbyist related to the contract,
- (ii) Not bill or otherwise cause the State of Illinois to pay for any of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration, and
- (iii) Sign a verification certifying that none of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration were billed to the State.

This information, along with all supporting documents, shall be filed with the agency awarding the contract and with the Secretary of State. The chief procurement officer shall post this information, together with the contract award notice, in the online Procurement Bulletin.

Pursuant to Subsection (c) of this Section, no person or entity shall retain a person or entity to attempt to influence the outcome of a procurement decision made under the Procurement Code for compensation contingent in whole or in part upon the decision or procurement. Any person who violates this subsection is guilty of a business offense and shall be fined not more than \$10,000.

Bidder acknowledges that it is required to disclose the hiring of any person required to register pursuant to the Illinois Lobbyist Registration Act (25 ILCS 170) in connection with this contract.

Bidder has not hired any person required to register pursuant to the Illinois Lobbyist Registration Act in connection with this contract.

Or

Bidder has hired the following persons required to register pursuant to the Illinois Lobbyist Registration Act in connection with the contract:

Name and address of person: _____
All costs, fees, compensation, reimbursements and other remuneration paid to said person: _____

RETURN WITH BID

IV. DISCLOSURES

- A. The disclosures hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The bidder further certifies that the Department has received the disclosure forms for each bid.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that bids of more than \$25,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the contract. Furthermore, pursuant to Section 5-5, the Procurement Policy Board may review a proposal, bid, or contract and issue a recommendation to void a contract or reject a proposal or bid based on any violation of the Procurement Code or the existence of a conflict of interest as provided in subsections (b) and (d) of Section 50-35.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

The current annual salary of the Governor is \$177,412.00

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by one form. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies. **The forms must be included with each bid.**

C. Disclosure Form Instructions

Form A Instructions for Financial Information & Potential Conflicts of Interest

If the bidder is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on Form A must be signed and dated by a person that is authorized to execute contracts for the bidding company. Note: These questions are for assistance only and are not required to be completed.

1. Does anyone in your organization have a direct or beneficial ownership share of greater than 5% of the bidding entity or parent entity? YES _____ NO _____
2. Does anyone in your organization have a direct or beneficial ownership share of less than 5%, but which has a value greater than 60% of the annual salary of the Governor? YES _____ NO _____
3. Does anyone in your organization receive more than 60% of the annual salary of the Governor of the bidding entity's or parent entity's distributive income? (Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not distributive income.) YES _____ NO _____
4. Does anyone in your organization receive greater than 5% of the bidding entity's or parent entity's total distributive income, but which is less than 60% of the annual salary of the Governor? YES _____ NO _____

(Note: Only one set of forms needs to be completed per person per bid even if a specific individual would require a yes answer to more than one question.)

A "YES" answer to any of these questions requires the completion of Form A. The bidder must determine each individual in the bidding entity or the bidding entity's parent company that would cause the questions to be answered "Yes". Each form must be signed and dated by a person that is authorized to execute contracts for your organization. **Photocopied or stamped signatures are not acceptable.** The person signing can be, but does not have to be, the person for which the form is being completed. The bidder is responsible for the accuracy of any information provided.

If the answer to each of the above questions is "NO", then the NOT APPLICABLE STATEMENT of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

RETURN WITH BID

Form B: Instructions for Identifying Other Contracts & Procurement Related Information

Disclosure Form B must be completed for each bid submitted by the bidding entity. *Note: Checking the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, checked, and dated or the bidder may be considered nonresponsive and the bid will not be accepted.*

The Bidder shall identify, by checking Yes or No on Form B, whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other (non-IDOT) State of Illinois agency. If "No" is checked, the bidder only needs to complete the check box on the bottom of Form B. If "Yes" is checked, the bidder must do one of the following:

Option I: If the bidder did not submit an Affidavit of Availability to obtain authorization to bid, the bidder must list all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. These items may be listed on Form B or on an attached sheet(s). Do not include IDOT contracts. Contracts with cities, counties, villages, etc. are not considered State of Illinois agency contracts and are not to be included. Contracts with other State of Illinois agencies such as the Department of Natural Resources or the Capital Development Board must be included. Bidders who submit Affidavits of Availability are suggested to use Option II.

Option II: If the bidder is required and has submitted an Affidavit of Availability in order to obtain authorization to bid, the bidder may write or type "See Affidavit of Availability" which indicates that the Affidavit of Availability is incorporated by reference and includes all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. For any contracts that are not covered by the Affidavit of Availability, the bidder must identify them on Form B or on an attached sheet(s). These might be such things as leases.

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**Form A
Financial Information &
Potential Conflicts of Interest
Disclosure**

Contractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Vendors desiring to enter into a contract with the State of Illinois must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for bids in excess of \$25,000, and for all open-ended contracts. **A publicly traded company may submit a 10K disclosure (or equivalent if applicable) in satisfaction of the requirements set forth in Form A. See Disclosure Form Instructions.**
The current salary of the Governor is \$177,412.00.

DISCLOSURE OF FINANCIAL INFORMATION

1. Disclosure of Financial Information. The individual named below has an interest in the BIDDER (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than 60% of the annual salary of the Governor. **(Make copies of this form as necessary and attach a separate Disclosure Form A for each individual meeting these requirements)**

FOR INDIVIDUAL (type or print information)
NAME: _____
ADDRESS _____
Type of ownership/distributable income share:
stock _____ sole proprietorship _____ partnership _____ other: (explain on separate sheet)
% or \$ value of ownership/distributable income share: _____

2. Disclosure of Potential Conflicts of Interest. Check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If the answer to any question is "Yes", please attach additional pages and describe.

(a) State employment, currently or in the previous 3 years, including contractual employment of services.
 Yes____ No____ If your answer is yes, please answer each of the following questions.

- Are you currently an officer or employee of either the Capitol Development Board or the Illinois State Toll Highway Authority? Yes____ No____
- Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, provide the name of the State agency for which you are employed and your annual salary.

RETURN WITH BID

- 3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor? Yes _____ No _____
- 4. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15 % in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor? Yes _____ No _____

(b) State employment of spouse, father, mother, son, or daughter, including contractual employment for services in the previous 2 years. Yes _____ No _____

If your answer is yes, please answer each of the following questions.

- 1. Is your spouse or any minor children currently an officer or employee of the Capital Development Board or the Illinois State Toll Highway Authority? Yes _____ No _____
- 2. Is your spouse or any minor children currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, provide the name of your spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary.

- 3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor? Yes _____ No _____
- 4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15% in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor? Yes _____ No _____

(c) Elective status; the holding of elective office of the State of Illinois, the government of the United States, any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois currently or in the previous 3 years. Yes _____ No _____

(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter Yes _____ No _____

(e) Appointive office; the holding of any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of the expenses incurred in the discharge of that office currently or in the previous 3 years. Yes _____ No _____

(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes _____ No _____

(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government. Yes _____ No _____

(h) Relationship to anyone who is or was a registered lobbyist in the previous 2 years; spouse, father, mother, son, or daughter. Yes _____ No _____

(i) Compensated employment, currently or in the previous 3 years, by any registered election or reelection committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections Yes _____ No _____

RETURN WITH BID

(j) Relationship to anyone; spouse, father, mother, son, or daughter; who was a compensated employee in the last 2 years by any registered election or re-election committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes____ No____

3. Communication Disclosure.

Disclose the name and address of each lobbyist and other agent of the bidder or offeror who is not identified in Section 2 of this form, who has communicated, is communicating, or may communicate with any State officer or employee concerning the bid or offer. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the process and throughout the term of the contract. If no person is identified, enter "None" on the line below:

Name and address of person(s): _____

4. Debarment Disclosure. For each of the persons identified under Sections 2 and 3 of this form, disclose whether any of the following has occurred within the previous 10 years: debarment from contracting with any governmental entity; professional licensure discipline; bankruptcies; adverse civil judgments and administrative findings; and criminal felony convictions. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the procurement process and term of the contract. If no person is identified, enter "None" on the line below:

Name of person(s): _____

Nature of disclosure: _____

APPLICABLE STATEMENT

This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page. Under penalty of perjury, I certify the contents of this disclosure to be true and accurate to the best of my knowledge.

Completed by: _____ Date _____
Signature of Individual or Authorized Officer

NOT APPLICABLE STATEMENT

Under penalty of perjury, I have determined that no individuals associated with this organization meet the criteria that would require the completion of this Form A.

This Disclosure Form A is submitted on behalf of the CONTRACTOR listed on the previous page.

_____ Date _____
Signature of Authorized Officer

The bidder has a continuing obligation to supplement these disclosures under Sec. 50-35 of the Procurement Code.

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**Form B
Other Contracts &
Procurement Related Information
Disclosure**

Contractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for bids in excess of \$25,000, and for all open-ended contracts.

DISCLOSURE OF OTHER CONTRACTS AND PROCUREMENT RELATED INFORMATION

1. Identifying Other Contracts & Procurement Related Information. The BIDDER shall identify whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other State of Illinois agency:

Yes _____ No _____

If **“No” is checked**, the bidder only needs to complete the signature box on the bottom of this page.

2. If “Yes” is checked. Identify each such relationship by showing State of Illinois agency name and other descriptive information such as bid or project number (attach additional pages as necessary). SEE DISCLOSURE FORM INSTRUCTIONS:

THE FOLLOWING STATEMENT MUST BE CHECKED

<input type="checkbox"/>	_____	_____
	Signature of Authorized Representative	Date

RETURN WITH BID

SPECIAL NOTICE TO CONTRACTORS

The following requirements of the Illinois Department of Human Rights' Rules and Regulations are applicable to bidders on all construction contracts advertised by the Illinois Department of Transportation:

CONSTRUCTION EMPLOYEE UTILIZATION PROJECTION

- (a) All bidders on construction contracts shall complete and submit, along with and as part of their bids, a Bidder's Employee Utilization Form (Form BC-1256) setting forth a projection and breakdown of the total workforce intended to be hired and/or allocated to such contract work by the bidder including a projection of minority and female employee utilization in all job classifications on the contract project.
- (b) The Department of Transportation shall review the Employee Utilization Form, and workforce projections contained therein, of the contract awardee to determine if such projections reflect an underutilization of minority persons and/or women in any job classification in accordance with the Equal Employment Opportunity Clause and Section 7.2 of the Illinois Department of Human Rights' Rules and Regulations for Public Contracts adopted as amended on September 17, 1980. If it is determined that the contract awardee's projections reflect an underutilization of minority persons and/or women in any job classification, it shall be advised in writing of the manner in which it is underutilizing and such awardee shall be considered to be in breach of the contract unless, prior to commencement of work on the contract project, it submits revised satisfactory projections or an acceptable written affirmative action plan to correct such underutilization including a specific timetable geared to the completion stages of the contract.
- (c) The Department of Transportation shall provide to the Department of Human Rights a copy of the contract awardee's Employee Utilization Form, a copy of any required written affirmative action plan, and any written correspondence related thereto. The Department of Human Rights may review and revise any action taken by the Department of Transportation with respect to these requirements.

RETURN WITH BID

**Contract No. SE004
Shelby County Airport
Shelbyville, Illinois
Shelby County
Illinois Project No. 2H0-4149
Federal Project No. 3-17-0093-B11**

PART II. WORKFORCE PROJECTION - continued

- B. Included in "Total Employees" under Table A is the total number of **new hires** that would be employed in the event the undersigned bidder is awarded this contract.

The undersigned bidder projects that: (number) _____ new hires would be recruited from the area in which the contract project is located; and/or (number) _____ new hires would be recruited from the area in which the bidder's principal office or base of operation is located.

- C. Included in "Total Employees" under Table A is a projection of numbers of persons to be employed directly by the undersigned bidder as well as a projection of numbers of persons to be employed by subcontractors.

The undersigned bidder estimates that (number) _____ persons will be directly employed by the prime contractor and that (number) _____ persons will be employed by subcontractors.

PART III. AFFIRMATIVE ACTION PLAN

- A. The undersigned bidder understands and agrees that in the event the foregoing minority and female employee utilization projection included under **PART II** is determined to be an underutilization of minority persons or women in any job category, and in the event that the undersigned bidder is awarded this contract, he/she will, prior to commencement of work, develop and submit a written Affirmative Action Plan including a specific timetable (geared to the completion stages of the contract) whereby deficiencies in minority and/or female employee utilization are corrected. Such Affirmative Action Plan will be subject to approval by the contracting agency and the **Department of Human Rights**.
- B. The undersigned bidder understands and agrees that the minority and female employee utilization projection submitted herein, and the goals and timetable included under an Affirmative Action Plan if required, are deemed to be part of the contract specifications.

Company _____ Telephone Number _____

Address _____

NOTICE REGARDING SIGNATURE

The Bidder's signature on the Proposal Signature Sheet will constitute the signing of this form. The following signature block needs to be completed only if revisions are required.

Signature: _____ Title: _____ Date: _____

- Instructions: All tables must include subcontractor personnel in addition to prime contractor personnel.
- Table A - Include both the number of employees that would be hired to perform the contract work and the total number currently employed (Table B) that will be allocated to contract work, and include all apprentices and on-the-job trainees. The "Total Employees" column should include all employees including all minorities, apprentices and on-the-job trainees to be employed on the contract work.
 - Table B - Include all employees currently employed that will be allocated to the contract work including any apprentices and on-the-job trainees currently employed.
 - Table C - Indicate the racial breakdown of the total apprentices and on-the-job trainees shown in Table A.

RETURN WITH BID

CERTIFICATIONS REQUIRED BY STATE AND/OR FEDERAL LAW. The bidder is required by State and/or Federal law to make the below certifications and assurances as a part of the proposal and contract upon award. It is understood by the bidder that the certifications and assurances made herein are a part of the contract.

By signing the Proposal Signature Sheet, the bidder certifies that he/she has read and completed each of the following certifications and assurances, that required responses are true and correct and that the certified signature of the Proposal Signature Sheet constitutes an endorsement and execution of each certification and assurance as though each was individually signed:

- A. By the execution of this proposal, the signing bidder certifies that the bidding entity has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid. This statement made by the undersigned bidder is true and correct under penalty of perjury under the laws of the United States.
- B. CERTIFICATION, EQUAL EMPLOYMENT OPPORTUNITY
- (a) Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause?
Yes_____ No_____
- (b) If your answer is yes, have you filed with the Joint Reporting Committee, the Director of OFCC, any Federal agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements of those organizations? Yes_____ No_____
- C. BUY AMERICAN - STEEL AND MANUFACTURED PRODUCTS FOR CONSTRUCTION CONTRACTS
- (a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program (AIP).
- (b) Any and all steel products used in the performance of this contract by the Contractor, subcontractors, producers, and suppliers are required to adhere to the Illinois Steel Products Procurement Act, which requires that all steel items be of 100 percent domestic origin and manufacture. Any products listed under the Federal Aviation Administration's (FAA) nationwide approved list of "Equipment Meeting Buy American Requirements" shall be deemed as meeting the requirements of the Illinois Steel Products Procurement Act.
- (c) The successful bidder will be required to assure that only domestic steel and domestically manufactured products will be used by the Contractor, subcontractors, producers, and suppliers in the performance of this contract. The North American Free Trade Agreement (NAFTA) specifically excluded federal grant programs such as the AIP. Therefore, NAFTA does not change the requirement to comply with the Buy American requirement in the Act. Exceptions to this are for products, other than steel, that:
- (1) the FAA has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality;
 - (2) the FAA has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest;
 - (3) the FAA has determined that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent; or
 - (4) the FAA has determined, under the Aviation Safety and Capacity Expansion Act of 1990,
 - (i) the cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components of the facility or equipment, and
 - (ii) final assembly of the facility or equipment has occurred in the United States.

The FAA must grant waivers for any items that are included in these above exceptions. Bidders can review items already approved under the FAA nationwide approved list of "Equipment Meeting Buy American Requirements" on the FAA website, which do not require a specific FAA waiver.

All waivers are the responsibility of the Contractor, must be obtained prior to the Notice to Proceed, and must be submitted to the Division of Aeronautics for review and approval before being forwarded to the FAA. Any products used on the project that cannot meet the domestic requirement, and for which a waiver prior to the Notice to Proceed was not obtained, will be rejected for use and subject to removal and replacement with no additional compensation, and the contractor deemed non-responsive.

RETURN WITH BID

D. NPDES CERTIFICATION

In accordance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter I), and the Clean Water Act, and the regulations thereunder, this certification is required for all construction contracts that will result in the disturbance of one or more acres total land area.

The undersigned bidder certifies under penalty of law that he/she understands the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR100000) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

The Airport Owner or its Agent will:

- 1) prepare, sign and submit the Notice of Intent (NOI)
- 2) conduct site inspections and complete and file the inspection reports
- 3) submit Incidence of Non-Compliance (ION) forms
- 4) submit Notice of Termination (NOT) form

Prior to the issuance of the Notice-to-Proceed, for each erosion control measure identified in the Storm Water Pollution Prevention Plan, the contractor or subcontractor responsible for the control measure(s) must sign the above certification (forms to be provided by the Department).

E. NON-APPROPRIATION CLAUSE

By submitting a bid/proposal under this solicitation the offeror certifies that he/she understands that obligations of the State will cease immediately without penalty or further payment being required in any fiscal year the Illinois General Assembly fails to appropriate or otherwise make available sufficient funds for this contract.

- F. Contractor is not delinquent in the payment of any debt to the State (or if delinquent has entered into a deferred payment plan to pay the debt), and Contractor acknowledges the contracting state agency may declare the contract void if this certification is false (30 ILCS 500/50-11, effective July 1, 2002).

RETURN WITH BID

NOTICE TO BIDDERS

1. **TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation at the Harry R. Hanley Building, 2300 South Dirksen Parkway in Springfield, Illinois until 10:00 o'clock a.m., April 27, 2012. All bids will be gathered, sorted, publicly opened and read in the auditorium at the Department of Transportation's Harry R. Hanley Building shortly after the 10:00 a.m. cut off time.
2. **DESCRIPTION OF WORK.** The proposed improvement, shown in detail on the plans issued by the Department includes, in general, the following described work:

Construct Electrical Vault, Light Taxiway and Install approach aids
3. **INSTRUCTIONS TO BIDDERS.**
 - (a) This Notice, the invitation for bids, proposal and award shall, together with all other documents in accordance with Article 10-18 of the Illinois Standard Specifications for Construction of Airports, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.
 - (b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
4. **AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the proposal and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to readvertise the proposed improvement, and to waive technicalities.
5. **PRE-BID CONFERENCE.** There will be a pre-bid conference held at N/A at the Shelby County Airport administration building. For engineering information, contact Kevin Lightfoot, P.E. of Hanson Professional Services, Inc. at 217-747-9433.
6. **DISADVANTAGED BUSINESS POLICY.** The DBE goal for this contract is 5.5%.
7. **SPECIFICATIONS AND DRAWINGS.** The work shall be done in accordance with the Illinois Standard Specifications for Construction of Airports, the Illinois Division of Aeronautics Supplemental Specifications and Recurring Special Provisions, the Special Provisions dated February 23, 2011 and the Construction Plans dated February 23, 2012 as approved by the Department of Transportation, Division of Aeronautics.
8. **TERMINATION OF CONTRACT.**
 1. The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.
 2. If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.
 3. If the termination is due to failure to fulfill the Contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the Contractor shall be liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.
 4. If, after notice of termination for failure to fulfill contract obligations, it is determined that the Contractor had not so failed, the termination shall be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price shall be made as provided in paragraph 2 of this clause.
 5. The rights and remedies of the Sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

RETURN WITH BID

9. BIDDING REQUIREMENTS AND BASIS OF AWARD. When alternates are included in the proposal, the following shall apply:

a. Additive Alternates

- (1) Bidders must submit a bid for the Base Bid and for all Additive Alternates.
- (2) Award of this contract will be made to the lowest responsible qualified bidder computed as follows:

The lowest aggregate amount of (i) the Base Bid plus (ii) any Additive Alternate(s) which the Department elects to award.

The Department may elect not to award any Additive Alternates. In that case, award will be to the lowest responsible qualified bidder of the Base Bid.

b. Optional Alternates

- (1) Bidders must submit a bid for the Base Bid and for either Alternate A or Alternate B or for both Alternate A and Alternate B.
- (2) Award of this contract will be made to the lowest responsible qualified bidder computed as follows:

The lower of the aggregate of either (i) the Base Bid plus Alternate A or (ii) the Base Bid plus Alternate B.

10. CONTRACT TIME. The Contractor shall complete all work within the specified contract time. Any calendar day extension beyond the specified contract time must be fully justified, requested by the Contractor in writing, and approved by the Engineer, or be subject to liquidated damages.

The contract time for this contract is Base Bid - 45 calendar days; Additive Alternate 1 - 0 calendar days; Additive Alternate 2 – 2 calendar days.

11. INDEPENDENT WEIGHT CHECKS. The Department reserves the right to conduct random unannounced independent weight checks on any delivery for bituminous, aggregate or other pay item for which the method of measurement for payment is based on weight. The weight checks will be accomplished by selecting, at random, a loaded truck and obtaining a loaded and empty weight on an independent scale. In addition, the department may perform random weight checks by obtaining loaded and empty truck weights on portable scales operated by department personnel.

12. GOOD FAITH COMPLIANCE. The Illinois Department of Transportation has made a good faith effort to include all statements, requirements, and other language required by federal and state law and by various offices within federal and state governments whether that language is required by law or not. If anything of this nature has been left out or if additional language etc. is later required, the bidder/contractor shall cooperate fully with the Department to modify the contract or bid documents to correct the deficiency. If the change results in increased operational costs, the Department shall reimburse the contractor for such costs as it may find to be reasonable.

RETURN WITH BID

**Contract No. SE004
Shelby County Airport
Shelbyville, Illinois
Shelby County
Illinois Project No. 2H0-4149
Federal Project No. 3-17-0093-B11**

PROPOSAL SIGNATURE SHEET

The undersigned bidder hereby makes and submits this bid on the subject Proposal, thereby assuring the Department that all requirements of the Invitation for Bids and rules of the Department have been met, that there is no misunderstanding of the requirements of paragraph 4 of this Proposal, and that the contract will be executed in accordance with the rules of the Department if an award is made on this bid.

Firm Name _____

(IF AN INDIVIDUAL) Signature of Owner _____

Business Address _____

Firm Name _____

By _____

(IF A CO-PARTNERSHIP) Business Address _____

Name and Address of All Members of the Firm:

Corporate Name _____

By _____

Signature of Authorized Representative

(IF A CORPORATION) _____

Typed or printed name and title of Authorized Representative

(IF A JOINT VENTURE, USE THIS SECTION FOR THE MANAGING PARTY AND THE SECOND PARTY SHOULD SIGN BELOW)

Attest _____

Signature

Business Address _____

Corporate Name _____

By _____

Signature of Authorized Representative

(IF A JOINT VENTURE) _____

Typed or printed name and title of Authorized Representative

Attest _____

Signature

Business Address _____

If more than two parties are in the joint venture, please attach additional signature sheet



Sponsor _____ Item No. _____

IL Proj. No. _____ AIP Proj. No. _____ Letting Date _____

KNOW ALL MEN BY THESE PRESENTS, That We _____

_____ as PRINCIPAL, and _____

_____ as SURETY, are held jointly, severally and firmly bound unto the SPONSOR identified above, in the penal sum of 5 percent of the total bid price, or for the amount specified in Section 6, Proposal Guarantee of the Proposal Document, whichever is the lesser sum, well and truly to be paid unto said SPONSOR, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH, that whereas, the PRINCIPAL has submitted a bid proposal to the SPONSOR through its AGENT, the State of Illinois, Department of Transportation, Division of Aeronautics, for the improvement designated by the Transportation Bulletin Item Number and Letting Date indicated above.

NOW, THEREFORE, if the SPONSOR through its AGENT shall accept the bid proposal of the PRINCIPAL; and if the PRINCIPAL shall, and as specified in the bidding and contract documents, submit a DBE Utilization Plan that is accepted and approved by the AGENT; and if, after the award by AGENT on behalf of SPONSOR, the PRINCIPAL shall enter into a contract in accordance with the terms of the bidding and contract documents, including evidence of the required insurance coverages and providing such bond as specified with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof; or if, in the event of the failure of the PRINCIPAL to make the required DBE submission or to enter into such contract and to give the specified bond, the PRINCIPAL pays to the SPONSOR the difference not to exceed the penalty hereof between the amount specified in the bid proposal and such larger amount for which the SPONSOR may contract with another party to perform the work covered by said bid proposal, then this obligation shall be null and void, otherwise, it shall remain in full force and effect.

IN THE EVENT the SPONSOR acting through its AGENT determines the PRINCIPAL has failed to comply with any requirement as set forth in the preceding paragraph, then SURETY shall pay the penal sum to the SPONSOR within fifteen (15) days of written demand therefor. If SURETY does not make full payment within such period of time, the AGENT may bring an action to collect the amount owed. SURETY is liable to the SPONSOR and to the AGENT for all its expenses, including attorney's fees, incurred in any litigation in which SPONSOR or AGENT prevail either in whole or in part.

In TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers _____ day of _____ A.D., _____ .

PRINCIPAL

SURETY

(Company Name)

(Company Name)

By _____
(Signature & Title)

By: _____
(Signature of Attorney-in-Fact)

Notary Certification for Principal and Surety

STATE OF ILLINOIS,
County of _____

I, _____, a Notary Public in and for said County, do hereby certify that _____ and _____
(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this _____ day of _____ A.D. _____

My commission expires _____

Notary Public

In lieu of completing the above section of the Proposal Bid Form, the Principal may file an Electronic Bid Bond. By signing the proposal and marking the check box next to the Signature and Title line below, the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the SPONSOR through its AGENT under the conditions of the bid bond as shown above.

Electronic Bid Bond ID# _____ Company / Bidder Name _____ Signature and Title _____

(1) Policy

It is public policy that disadvantageded businesses as defined in 49 CFR Part 26 and the Special Provision shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal or State funds. Consequently the requirements of 49 CFR Part 26 apply to this contract.

(2) Obligation

The contractor agrees to ensure that disadvantageded businesses as defined in 49 CFR Part 26 and the Special Provision have the maximum opportunity to participate in the performance of contracts or subcontracts financed in whole or in part with Federal or State funds. The contractor shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 and the Special Provision to ensure that said businesses have the maximum opportunity to compete for and perform under this contract. The contractor shall not discriminate on the basis of race, color, national origin or sex in the award and performance of contracts.

(3) Project and Bid Identification

Complete the following information concerning the project and bid:

Route Shelby County Airport

Section _____

Project 2H0-4149

County Shelby County

Letting Date April 27, 2012

Contract No. SE004

Letting Item No. 2A

Total Bid _____

Contract DBE Goal 5.5% _____

(Percent) (Dollar Amount)

(4) Assurance

I, acting in my capacity as an officer of the undersigned bidder (or bidders if a joint venture), hereby assure the Department that on this project my company : (check one)

Meets or exceeds contract award goals and has provided documented participation as follows:
Disadvantaged Business Participation _____ percent

Attached are the signed participation statements, forms SBE 2025, required by the Special Provision evidencing availability and use of each business participating in this plan and assuring that each business will perform a commercially useful function in the work of the contract.

Failed to meet contract award goals and has included good faith effort documentation to meet the goals and that my company has provided participation as follows:

Disadvantaged Business Participation _____ percent

The contract goals should be accordingly modified or waived. Attached is all information required by the Special Provision in support of this request including good faith effort. Also attached are the signed participation statements, forms SBE 2025, required by the Special Provision evidencing availability and use of each business participating in this plan and assuring that each business will perform a commercially useful function in the work of the contract.

Company

By _____

Title _____

Date _____

The "as read" Low Bidder is required to comply with the Special Provision.

Submit only one utilization plan for each project. The utilization plan shall be submitted in accordance with the special provision.

Bureau of Small Business Enterprises **Local Let Projects**
2300 South Dirksen Parkway Submit forms to the
Springfield, Illinois 62764 Local Agency

The Department of Transportation is requesting disclosure of information that is necessary to accomplish the purpose as outlined under State and Federal law. Disclosure of this information is **REQUIRED**. Failure to provide any information will result in the contract not being awarded. This form has been approved by the State Forms Manager Center.



PROPOSALS

for construction work advertised for bids by the
Illinois Department of Transportation

Item No.	Item No.	Item No.

Submitted By:

Name:
Address:
Phone No.

Bidders should use an IDOT proposal envelope or affix this form to the front of a 10" x 13" envelope for the submittal of bids. If proposals are mailed, they should be enclosed in a second or outer envelope addressed to:

Engineer of Design and Environment - Room 326
Illinois Department of Transportation
2300 South Dirksen Parkway
Springfield, Illinois 62764

NOTICE

Individual bids, including Bid Bond and/or supplemental information if required, should be securely stapled.

CONTRACTOR OFFICE COPY OF CONTRACT SPECIFICATIONS

NOTICE

None of the following material needs to be returned with the bid package unless the special provisions require documentation and/or other information to be submitted.

Contract No. SE004
Shelby County Airport
Shelbyville, Illinois
Shelby County
Illinois Project No. 2H0-4149
Federal Project No. 3-17-0093-B11



Illinois Department of Transportation

SUBCONTRACTOR DOCUMENTATION

Public Acts 96-0795 and 96-0920, enacted substantial changes to the provisions of the Illinois Procurement Code (30 ILCS 500). Among the changes are provisions affecting subcontractors. The Contractor awarded this contract will be required as a material condition of the contract to implement and enforce the contract requirements applicable to subcontractors approved in accordance with Section 60-01 of the Illinois Standard Specifications for Construction of Airports.

If the Contractor seeks approval of subcontractors to perform a portion of the work, and approval is granted by the Department, the Contractor shall provide a copy of the subcontract to the Chief Procurement Officer within 20 calendar days after execution of the subcontract.

The subcontract shall contain the certifications required to be made by subcontractors pursuant to Article 50 of the Illinois Procurement Code. This Notice to Bidders includes a document incorporating all required subcontractor certifications and disclosures for use by the Contractor in compliance with this mandate. The document is entitled State Required Ethical Standards Governing Subcontractors.

RETURN WITH SUBCONTRACT

STATE ETHICAL STANDARDS GOVERNING SUBCONTRACTORS

Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

The certifications hereinafter made by the subcontractor are each a material representation of fact upon which reliance is placed should the Department approve the subcontractor. The chief procurement officer may terminate or void the subcontract approval if it is later determined that the bidder or subcontractor rendered a false or erroneous certification.

Section 50-2 of the Illinois Procurement Code provides that every person that has entered into a multi-year contract and every subcontractor with a multi-year subcontract shall certify, by July 1 of each fiscal year covered by the contract after the initial fiscal year, to the responsible chief procurement officer whether it continues to satisfy the requirements of Article 50 pertaining to the eligibility for a contract award. If a contractor or subcontractor is not able to truthfully certify that it continues to meet all requirements, it shall provide with its certification a detailed explanation of the circumstances leading to the change in certification status. A contractor or subcontractor that makes a false statement material to any given certification required under Article 50 is, in addition to any other penalties or consequences prescribed by law, subject to liability under the Whistleblower Reward and Protection Act for submission of a false claim.

A. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

(a) Prohibition. No person or business shall be awarded a contract or subcontract under this Code who:

(1) has been convicted under the laws of Illinois or any other state of bribery or attempting to bribe an officer or employee of the State of Illinois or any other state in that officer's or employee's official capacity; or

(2) has made an admission of guilt of that conduct that is a matter of record but has not been prosecuted for that conduct.

(b) Businesses. No business shall be barred from contracting with any unit of State or local government, or subcontracting under such a contract, as a result of a conviction under this Section of any employee or agent of the business if the employee or agent is no longer employed by the business and:

(1) the business has been finally adjudicated not guilty; or

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract to which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

(c) Conduct on behalf of business. For purposes of this Section, when an official, agent, or employee of a business committed the bribery or attempted bribery on behalf of the business and in accordance with the direction or authorization of a responsible official of the business, the business shall be chargeable with the conduct.

(d) Certification. Every bid submitted to and contract executed by the State, and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the contractor or the subcontractor, respectively, that the contractor or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any certifications required by this Section are false. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

2. The contractor or subcontractor certifies that it is not barred from being awarded a contract under Section 50.5.

B. Felons

1. The Illinois Procurement Code provides:

Section 50-10. Felons. Unless otherwise provided, no person or business convicted of a felony shall do business with the State of Illinois or any State agency, or enter into a subcontract, from the date of conviction until 5 years after the date of completion of the sentence for that felony, unless no person held responsible by a prosecutorial office for the facts upon which the conviction was based continues to have any involvement with the business.

2. Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder or contractor or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any of the certifications required by this Section are false.

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C. Debt Delinquency

1. The Illinois Procurement Code provides:

Section 50-11 and 50-12. Debt Delinquency.

The contractor or bidder or subcontractor, respectively, certifies that it, or any affiliate, is not barred from being awarded a contract or subcontract under the Procurement Code. Section 50-11 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it knows or should know that it, or any affiliate, is delinquent in the payment of any debt to the State as defined by the Debt Collection Board. Section 50-12 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it, or any affiliate, has failed to collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with the provisions of the Illinois Use Tax Act. The bidder or contractor or subcontractor, respectively, further acknowledges that the chief procurement officer may declare the related contract void if this certification is false or if the bidder, contractor, or subcontractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

D. Prohibited Bidders, Contractors and Subcontractors

1. The Illinois Procurement Code provides:

Section 50-10.5 and 50-60(c). Prohibited bidders, contractors and subcontractors.

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 or if in violation of Subsection (c) for a period of five years from the date of conviction.. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder, contractor, or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer shall declare the related contract void if any of the certifications completed pursuant to this Section are false.

E. Section 42 of the Environmental Protection Act

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-12 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Procurement Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the chief procurement officer may declare the contract void if this certification is false.

The undersigned, on behalf of the subcontracting company, has read and understands the above certifications and makes the certifications as required by law.

_____ Name of Subcontracting Company		
_____ Authorized Officer		_____ Date

RETURN WITH SUBCONTRACT

SUBCONTRACTOR DISCLOSURES

I. DISCLOSURES

- A. The disclosures hereinafter made by the subcontractor are each a material representation of fact upon which reliance is placed. The subcontractor further certifies that the Department has received the disclosure forms for each subcontract.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract or subcontract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all subcontracts with a total value of \$25,000 or more from subcontractors identified in Section 20-120 of the Illinois Procurement Code shall be accompanied by disclosure of the financial interests of the subcontractor. This disclosed information for the subcontractor, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the Prime Contractor's contract. Furthermore, pursuant to this Section, the Procurement Policy Board may recommend to allow or void a contract or subcontract based on a potential conflict of interest.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the subcontracting entity or its parent entity, whichever is less, unless the subcontractor is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

The current annual salary of the Governor is \$177,412.00.

In addition, all disclosures shall indicate any other current or pending contracts, subcontracts, proposals, leases, or other ongoing procurement relationships the subcontracting entity has with any other unit of state government and shall clearly identify the unit and the contract, subcontract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by one form. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies.

C. Disclosure Form Instructions

Form A Instructions for Financial Information & Potential Conflicts of Interest

If the subcontractor is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a subcontractor is not subject to Federal 10K reporting, the subcontractor must determine if any individuals are required by law to complete a financial disclosure form. To do this, the subcontractor should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the **NOT APPLICABLE STATEMENT** on the second page of Form A must be signed and dated by a person that is authorized to execute contracts for the subcontracting company. Note: These questions are for assistance only and are not required to be completed.

1. Does anyone in your organization have a direct or beneficial ownership share of greater than 5% of the bidding entity or parent entity?
YES _____ NO _____
2. Does anyone in your organization have a direct or beneficial ownership share of less than 5%, but which has a value greater than 60% of the annual salary of the Governor? YES _____ NO _____
3. Does anyone in your organization receive more than 60% of the annual salary of the Governor of the subcontracting entity's or parent entity's distributive income? (Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not distributive income.) YES _____ NO _____
4. Does anyone in your organization receive greater than 5% of the subcontracting entity's or parent entity's total distributive income, but which is less than 60% of the annual salary of the Governor? YES _____ NO _____

(Note: Only one set of forms needs to be completed per person per subcontract even if a specific individual would require a yes answer to more than one question.)

A "YES" answer to any of these questions requires the completion of Form A. The subcontractor must determine each individual in the subcontracting entity or the subcontracting entity's parent company that would cause the questions to be answered "Yes". Each form must be signed and dated by a person that is authorized to execute contracts for your organization. **Photocopied or stamped signatures are not acceptable.** The person signing can be, but does not have to be, the person for which the form is being completed. The subcontractor is responsible for the accuracy of any information provided.

If the answer to each of the above questions is "NO", then the **NOT APPLICABLE STATEMENT** on page 2 of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

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Form B: Instructions for Identifying Other Contracts & Procurement Related Information

Disclosure Form B must be completed for each subcontract submitted by the subcontracting entity. *Note: Checking the NOT APPLICABLE STATEMENT on Form A does not allow the subcontractor to ignore Form B. Form B must be completed, checked, and dated or the subcontract will not be approved.*

The Subcontractor shall identify, by checking Yes or No on Form B, whether it has any pending contracts, subcontracts, leases, bids, proposals, or other ongoing procurement relationship with any other (non-IDOT) State of Illinois agency. If "No" is checked, the subcontractor only needs to complete the check box on the bottom of Form B. If "Yes" is checked, the subcontractor must list all non-IDOT State of Illinois agency pending contracts, subcontracts, leases, bids, proposals, and other ongoing procurement relationships. These items may be listed on Form B or on an attached sheet(s). Contracts with cities, counties, villages, etc. are not considered State of Illinois agency contracts and are not to be included. Contracts or subcontracts with other State of Illinois agencies such as the Department of Natural Resources or the Capital Development Board must be included.

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**Form A
Subcontractor: Financial
Information & Potential Conflicts
of Interest Disclosure**

Subcontractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Subcontractors desiring to enter into a subcontract of a State of Illinois contract must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for subcontracts with a total value of \$25,000 or more, from subcontractors identified in Section 20-120 of the Illinois Procurement Code, and for all open-ended contracts. **A publicly traded company may submit a 10K disclosure (or equivalent if applicable) in satisfaction of the requirements set forth in Form A. See Disclosure Form Instructions.**

The current annual salary of the Governor is \$177,412.00.

DISCLOSURE OF FINANCIAL INFORMATION

1. Disclosure of Financial Information. The individual named below has an interest in the SUBCONTRACTOR (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than 60% of the annual salary of the Governor. **(Make copies of this form as necessary and attach a separate Disclosure Form A for each individual meeting these requirements)**

FOR INDIVIDUAL (type or print information)	
NAME:	_____
ADDRESS	_____
Type of ownership/distributable income share:	
stock _____	sole proprietorship _____ Partnership _____ other: (explain on separate sheet):
% or \$ value of ownership/distributable income share: _____	

2. Disclosure of Potential Conflicts of Interest. Check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If the answer to any question is "Yes", please attach additional pages and describe.

(a) State employment, currently or in the previous 3 years, including contractual employment of services. Yes _____ No _____

If your answer is yes, please answer each of the following questions.

1. Are you currently an officer or employee of either the Capitol Development Board or the Illinois State Toll Highway Authority? Yes _____ No _____

RETURN WITH SUBCONTRACT

2. Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, provide the name the State agency for which you are employed and your annual salary _____

3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor? Yes _____ No _____

4. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15 % in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor? Yes _____ No _____

(b) State employment of spouse, father, mother, son, or daughter, including contractual employment services in the previous 2 years. Yes _____ No _____

If your answer is yes, please answer each of the following questions.

1. Is your spouse or any minor children currently an officer or employee of the Capitol Development Board or the Illinois State Toll Highway Authority? Yes _____ No _____

2. Is your spouse or any minor children currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, provide the name of your spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary. _____

3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of the salary of the Governor? Yes _____ No _____

4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15 % in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 2 times the salary of the Governor? Yes _____ No _____

(c) Elective status; the holding of elective office of the State of Illinois, the government of the United States, any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois currently or in the previous 3 years. Yes _____ No _____

(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes _____ No _____

(e) Appointive office; the holding of any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of the expenses incurred in the discharge of that office currently or in the previous 3 years. Yes _____ No _____

(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes _____ No _____

RETURN WITH SUBCONTRACT

(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government.
Yes _____ No _____

(h) Relationship to anyone who is or was a registered lobbyist in the previous 2 years; spouse, father, mother, son, or daughter.
Yes _____ No _____

(i) Compensated employment, currently or in the previous 3 years, by any registered election or reelection committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections.
Yes _____ No _____

(j) Relationship to anyone; spouse, father, mother, son, or daughter; who was a compensated employee in the last 2 years by any registered election or re-election committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections.
Yes _____ No _____

3. Communication Disclosure.

Disclose the name and address of each lobbyist and other agent of the bidder or offeror who is not identified in Section 2 of this form, who has communicated, is communicating, or may communicate with any State officer or employee concerning the bid or offer. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the process and throughout the term of the contract. If no person is identified, enter "None" on the line below:

Name and address of person(s): _____

4. Debarment Disclosure. For each of the persons identified under Sections 2 and 3 of this form, disclose whether any of the following has occurred within the previous 10 years: debarment from contracting with any governmental entity; professional licensure discipline; bankruptcies; adverse civil judgments and administrative findings; and criminal felony convictions. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the procurement process and term of the contract. If no person is identified, enter "None" on the line below:

Name of person(s): _____
Nature of disclosure: _____

APPLICABLE STATEMENT

This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page. Under penalty of perjury, I certify the contents of this disclosure to be true and accurate to the best of my knowledge.

Completed by: _____
Signature of Individual or Authorized Officer Date

NOT APPLICABLE STATEMENT

Under penalty of perjury, I have determined that no individuals associated with this organization meet the criteria that would require the completion of this Form A.

This Disclosure Form A is submitted on behalf of the SUBCONTRACTOR listed on the previous page.

Signature of Authorized Officer Date

RETURN WITH SUBCONTRACT

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B
Subcontractor: Other Contracts & Procurement Related Information Disclosure

Subcontractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for subcontracts with a total value of \$25,000 or more, from subcontractors identified in Section 20-120 of the Illinois Procurement Code,, and for all open-ended contracts.

DISCLOSURE OF OTHER CONTRACTS, SUBCONTRACTS, AND PROCUREMENT RELATED INFORMATION

1. Identifying Other Contracts & Procurement Related Information. The SUBCONTRACTOR shall identify whether it has any pending contracts, subcontracts, including leases, bids, proposals, or other ongoing procurement relationship with any other State of Illinois agency: Yes _____ No _____
If “No” is checked, the subcontractor only needs to complete the signature box on the bottom of this page.

2. If “Yes” is checked. Identify each such relationship by showing State of Illinois agency name and other descriptive information such as bid or project number (attach additional pages as necessary). SEE DISCLOSURE FORM INSTRUCTIONS:

THE FOLLOWING STATEMENT MUST BE CHECKED

<input type="checkbox"/>	_____	_____
	Signature of Authorized Officer	Date

DIVISION OF AERONAUTICS

FEDERAL CONTRACT PROVISIONS

The work in this contract is included in the federal FAA Airport Improvement Program and is being undertaken and accomplished by the Illinois Department of Transportation, Division of Aeronautics and the Municipality, hereinafter called the Co-Sponsors, in accordance with the terms and conditions of a Grant Agreement between the Co-Sponsors and the United States, under the Airport and Airway Improvement Act of 1982 (Public Law 97-248; Title V, Section 501 et seq., September 3, 1982; 96 Stat. 671; codified at 49 U.S.C Section 2201 et seq.) and Part 152 of the Federal Aviation Regulations (14 CFR Part 152), pursuant to which the United States has agreed to pay a certain percentage of the costs of the Project that are determined to be allowable Project costs under the Act. The United States is not a party to this contract and no reference in this contract to FAA or representative thereof, or to any rights granted to the FAA or any representative thereof, or the United States, by the contract, makes the United States a party to this contract.

Consent of Assignment. The Contractor shall obtain the prior written consent of the Co-Sponsors to any proposed assignment of any interest in or part of this contract.

AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, SECTION 520 - GENERAL CIVIL RIGHTS PROVISIONS

The contractor assures that it will comply with pertinent statutes, Executive orders and such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance. This provision obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport a program, except where Federal assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon. In these cases the provision obligates the party or any transferee for the longer of the following periods: (a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits or (b) the period during which the airport sponsor or any transferee retains ownership or possession of the property. In the case of contractors, this provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

The undersigned bidder certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have paid or will be paid, by or behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an Officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

TRADE RESTRICTION CLAUSE

The Contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

- a. is not owned or controlled by one or more citizens or nationals of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
- b. has not knowingly entered into any contract or subcontract for this project with a Contractor that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list.
- c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a Contractor or subcontractor who is unable to certify to the above. If the Contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on the said list for use on the project, the Federal Aviation Administration may direct, through the sponsor, cancellation of the contract at no cost to the Government.

Further, the Contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The Contractor may rely upon the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The Contractor shall provide immediate written notice to the sponsor if the Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide immediate written notice to the Contractor, if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct, through this sponsor, cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a Contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

CERTIFICATION OF NONSEGREGATED FACILITIES - 41 CFR PART 60-1.8

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

VETERAN'S PREFERENCE

In the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Veterans of the Vietnam era and disabled veterans as defined in Section 515(c)(1) and (2) of the Airport and Airway Improvement Act of 1982. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

ACCESS TO RECORDS AND REPORTS

The Contractor shall maintain an acceptable cost accounting system. The Sponsor, the FAA, and the Comptroller General of the United States shall have access to any books, documents, paper, and records of the Contractor which are directly pertinent to the specific contract for the purposes of making an audit, examination, excerpts, and transcriptions. The Contractor shall maintain all required records for three years after the Sponsor makes final payment and all other pending matters are closed.

RIGHTS TO INVENTIONS

All rights to inventions and materials generated under this contract are subject to Illinois law and to regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed.

ENERGY CONSERVATION REQUIREMENTS

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163)

CLEAN AIR AND WATER POLLUTION CONTROL

In connection with the administration of the Clean Air Act and the Water Pollution Control Act with respect to Federal Grants, specific requirements have been imposed of any contract which is not exempt under the provisions of 40 CFR 15.5.

(1) Any facility listed on the EPA List of Violating Facilities pursuant to Paragraph 15.20 of 40 CFR as of the date of the contract award will not be utilized in the performance of any non-exempt contract or subcontract.

(2) The Contractor shall comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 USC 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq. relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in Section 114 and Section 308 of the Air Act and Water Act, respectively, and all regulations and guidelines issued thereunder after the award of the contract.

(3) Prompt notification shall be required prior to contract award to the awarding official by the Contractor who will receive the award of the receipt of any communication from the Director, Office of Federal Activities, U.S. Environmental Protection Agency, indicating that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

(4) The Contractor shall include or cause to be included the criteria and requirements in paragraphs 1 through 4 in any non-exempt subcontract and will take such action as the Government may direct as a means of enforcing such provisions.

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

APPENDIX A

The following goal for female utilization in each construction craft and trade shall apply to all Contractors holding Federal and federally assisted construction contracts and subcontracts in excess of \$10,000. The goal is applicable to the Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or nonfederally related construction contract or subcontract.

AREA COVERED (STATEWIDE)

Goals for Women apply nationwide.

GOAL

	Goal (percent)
Female Utilization.....	6.9

APPENDIX B

Until further notice, the following goals for minority utilization in each construction craft and trade shall apply to all Contractors holding Federal and federally-assisted construction contracts and subcontracts in excess of \$10,000. to be performed in the respective geographical areas. The goals are applicable to the Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally-assisted or nonfederally related construction contract or subcontract.

<u>Economic Area</u>	<u>Goal (percent)</u>
056 Paducah, KY: Non-SMSA Counties - IL - Hardin, Massac, Pope KY - Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall	5.2
080 Evansville, IN: Non-SMSA Counties - IL - Edwards, Gallatin, Hamilton, Lawrence, Saline, Wabash, White IN - Dubois, Knox, Perry, Pike, Spencer KY - Hancock, Hopkins, McLean, Mublenberg, Ohio, Union, Webster	3.5
081 Terre Haute, IN: Non-SMSA Counties - IL - Clark, Crawford IN - Parke	2.5
083 Chicago, IL: SMSA Counties: 1600 Chicago, IL - IL - Cook, DuPage, Kane, Lake, McHenry, Will	19.6
3740 Kankakee, IL - IL - Kankakee	9.1
Non-SMSA Counties IL - Bureau, DeKalb, Grundy, Iroquois, Kendall, LaSalle, Livingston, Putnam IN - Jasper, Laporte, Newton, Pulaski, Starke	18.4

APPENDIX B (CONTINUED)

<u>Economic Area</u>	<u>Goal (percent)</u>
084 Champaign - Urbana, IL:	
SMSA Counties:	
1400 Champaign - Urbana - Rantoul, IL - IL - Champaign	7.8
Non-SMSA Counties - IL - Coles, Cumberland, Douglas, Edgar, Ford, Piatt, Vermilion	4.8
085 Springfield - Decatur, IL:	
SMSA Counties:	
2040 Decatur, IL - IL - Macon	7.6
7880 Springfield, IL - IL - Mendard, Sangamon	4.5
Non-SMSA Counties IL - Cass, Christian, Dewitt, Logan, Morgan, Moultrie, Scott, Shelby	4.0
086 Quincy, IL:	
Non-SMSA Counties	3.1
IL - Adams, Brown, Pike MO - Lewis, Marion, Pike, Ralls	
087 Peoria, IL:	
SMSA Counties:	
1040 Bloomington - Normal, IL - IL - McLean	2.5
6120 Peoria, IL - IL - Peoria, Tazewell, Woodford	4.4
Non-SMSA Counties - IL - Fulton, Knox, McDonough, Marshall, Mason, Schuyler, Stark, Warren	3.3
088 Rockford, IL:	
SMSA Counties:	
6880 Rockford, IL - IL - Boone, Winnebago	6.3
Non-SMSA Counties - IL - Lee, Ogle, Stephenson	4.6
098 Dubuque, IA:	
Non-SMSA Counties - IL - JoDaviess IA - Atlamakee, Clayton, Delaware, Jackson, Winnesheik WI - Crawford, Grant, Lafayette	0.5
099 Davenport, Rock Island, Moline, IA - IL:	
SMSA Counties:	
1960 Davenport, Rock Island, Moline, IA - IL - IL - Henry, Rock Island IA - Scott	4.6
Non-SMSA Counties - IL - Carroll, Hancock, Henderson, Mercer, Whiteside IA - Clinton, DesMoines, Henry, Lee, Louisa, Muscatine MO - Clark	3.4

APPENDIX B (CONTINUED)

<u>Economic Area</u>	<u>Goal (percent)</u>
107 St. Louis, MO:	
SMSA Counties:	
7040 St. Louis, MO - IL -	14.7
IL - Clinton, Madison, Monroe, St. Clair	
MO - Franklin, Jefferson, St. Charles, St. Louis, St. Louis City	
Non-SMSA Counties -	11.4
IL - Alexander, Bond, Calhoun, Clay, Effingham, Fayette, Franklin, Greene, Jackson, Jasper, Jefferson, Jersey, Johnson, Macoupin, Marion, Montgomery, Perry, Pulaski, Randolph, Richland, Union, Washington, Wayne, Williamson	
MO - Bollinger, Butler, Cape Girardeau, Carter, Crawford, Dent, Gasconade, Iron, Lincoln, Madison, Maries, Mississippi, Montgomery, Perry, Phelps, Reynolds, Ripley, St. Francois, St. Genevieve, Scott, Stoddard, Warren, Washington, Wayne	

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the provisions and specifications set forth in its federally assisted contracts, and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Illinois Division of Aeronautics will provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction contract and/or subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. This notification will list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the entire State of Illinois for the goal set forth in APPENDIX A and the county or counties in which the work is located for the goals set forth in APPENDIX B.

DISADVANTAGED BUSINESS POLICY

NOTICE: This proposal contains the special provision entitled "Disadvantaged Business Participation." Inclusion of this Special Provision in this contract satisfies the obligations of the Department of Transportation under federal law as implemented by 49 CFR 23 and under the Illinois "Minority and Female Business Enterprise Act."

POLICY: It is public policy that the businesses defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with State or Federal funds. Consequently, the requirements of 49 CFR Part 23 apply to this contract.

OBLIGATION: The Contractor agrees to ensure that the businesses defined in 49 CFR Part 23 have the maximum opportunity to participate in the performance of this contract. In this regard, the Contractor shall take all necessary and reasonable steps, in accordance with 49 CFR Part 23, to ensure that the said businesses have the maximum opportunity to compete for and perform portions of this contract. The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

The Contractor shall include the above Policy and Obligation statements of this Special Provision in every subcontract, including procurement of materials and leases of equipment.

DBE/WBE CONTRACTOR FINANCE PROGRAM: On contracts where a loan has been obtained through the DBE/WBE Contractor Finance Program, the Contractor shall cooperate with the Department by making all payments due to the DBE/WBE Contractor by means of a two-payee check payable to the Lender (Bank) and the Borrower (DBE/WBE Contractor).

BREACH OF CONTRACT: Failure to carry out the requirements set forth above and in the Special Provision shall constitute a breach of contract and may result in termination of the contract or liquidated damages as provided in the special provision.

DISADVANTAGED BUSINESS ENTERPRISES

Contract Assurance (§26.13) - The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

CIVIL RIGHTS ACT OF 1964, TITLE VI – CONTRACTOR CONTRACTUAL REQUIREMENTS

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1.1 Compliance with Regulations. The contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

1.2 Nondiscrimination. The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

1.3 Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

1.4 Information and Reports. The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration (FAA) to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the sponsor or the FAA, as appropriate, and shall set forth what efforts it has made to obtain the information.

1.5 Sanctions for Noncompliance. In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the sponsor shall impose such contract sanctions as it or the FAA may determine to be appropriate, including, but not limited to:

- a. Withholding of payments to the contractor under the contract until the contractor complies, and/or
- b. Cancellation, termination, or suspension of the contract, in whole or in part.

1.6 Incorporation of Provisions. The contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the sponsor or the FAA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Sponsor to enter into such litigation to protect the interests of the sponsor and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

(1) Overtime requirements:

No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen or guards (including apprentices and trainees described in paragraphs 5 and 6 above) shall require or permit any laborer, mechanic, watchman or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman or guard receives compensation at a rate not less than one and one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violations: Liability for Unpaid Wages; Liquidated Damages:

In the event of any violation of the clause set forth in paragraph (1) above, the Contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) above, in the sum of \$10.00 for each calendar day on which such employee was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in paragraph (1) above.

(3) Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) above.

(4) Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

(5) Working Conditions.

No Contractor or subcontractor may require any laborer or mechanic employed in the performance of any contract to work in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to his health or safety as determined under construction safety and health standards (29 CFR 1926) issued by Department of Labor.

EQUAL EMPLOYMENT OPPORTUNITY - 41 CFR PART 60-1.4(b)

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

3. The contractor will send to each labor union or representative of workers with which s/he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedure authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
7. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provision, including sanctions for noncompliance: *Provided, however*, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

EQUAL EMPLOYMENT OPPORTUNITY SPECIFICATION

1. As used in these specifications:
 - a) "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
 - d) "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000. the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction Contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal

procurement contracting officers. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working as such sites or in such facilities.
 - b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractors may have taken.
 - d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreements; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

- i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
 - k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractors and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.
 - p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a Contractor association, joint Contractor-union, Contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specified minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy his requirement, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

ANNUAL EEO-1 REPORT TO JOINT REPORTING COMMITTEE AS REQUIRED AT 41 CFR 60-1.7(a)

Any Contractor having a Federal contract of \$50,000 or more and 50 or more employees is required to file annual compliance reports on Standard Form 100 (EEO-1) with the Joint Reporting Committee in accordance with the instructions provided with the form. The Contractor will provide a copy of such a report to the contracting agency within 30 days after the award of a contract.

The Contractor shall require its subcontractors to file an SF 100 within 30 days after award of the subcontract if (1) it is not exempt from the provisions of these regulations in accordance with 60-1.5, (2) has 50 or more employees, (3) first tier subcontractor, and (4) has a subcontract amounting to \$50,000 or more.

Subcontractors below the first tier which perform construction work at the site of construction shall be required to file such a report if (1) it is not exempt from the provisions of these regulations in accordance with 60-1.5, (2) has 50 or more employees and has a subcontract amounting to \$50,000 or more.

The SF 100 is available at the following address:

Joint Reports Committee
EEOC - Survey Division
1801 "L" Street N.W.
Washington, D.C. 20750

Phone (202) 663-4968

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION - Title 49 CFR Part 29

Instructions for Certification

1. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction" "debarred" "suspended" "ineligible" "lower tier covered transaction" "participant" "person" "primary covered transaction" "principal" "proposal" and "voluntarily excluded" as used in this clause have the meaning set out in the Definitions and Coverage sections of the rules implementing Executive Order 12540. You may

contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective primary participant agrees by submitting this proposal that should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction unless authorized by the department or agency entering into this transaction.
7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Transaction", provided by the department or agency entering into this covered transaction without modification in all lower covered transactions and in all solicitations for lower covered transactions.
8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to check the Nonprocurement List (Tel. #).
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 8 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by an Federal department or agency;
 - b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State or Local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction or destruction of records, making false statements, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - d. Have not within a three-period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

EACH PRIME CONTRACTOR SHALL INSERT IN EACH SUBCONTRACT THE CERTIFICATION IN APPENDIX B, AND FURTHER, SHALL REQUIRE ITS INCLUSION IN ANY LOWER TIER SUBCONTRACT, PURCHASE ORDER, OR TRANSACTION THAT MAY IN TURN BE MADE.

Appendix B of 49 CFR Part 29

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions

This certification applies to subcontractors, material suppliers, vendors and other lower tier participants.

Instructions for Certification

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
Lower Tier Covered Transactions**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

TERMINATION OF CONTRACT

1. The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.
2. If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.
3. If the termination is due to failure to fulfill the Contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the Contractor shall be liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.

4. If, after notice of termination for failure to fulfill contract obligations, it is determined that the Contractor had not so failed, the termination shall be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price shall be made as provided in paragraph 2 of this clause.
5. The rights and remedies of the Sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

DAVIS BACON LABOR PROVISIONS

(1) Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provision of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraph 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1)The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2)The classification is utilized in the area by the construction industry; and
- (3)The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding.

The Federal Aviation Administration shall upon its own action or written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such work, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph 5.5(a)(3)(i) of Regulations, 29 CFR Part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor, or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under paragraph (3)(i) above and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the (write the name of the agency) or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and Trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as a apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ration permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contract will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(5) Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

(6) Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a

clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by a subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

(7) Contract Termination: Debarment.

A breach of these contract clauses paragraphs (1) through (10) of this section may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR Part 5.12.

(8) Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by referenced in this contract.

(9) Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of Eligibility.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

MINIMUM WAGES FOR FEDERAL AND FEDERALLY ASSISTED CONSTRUCTION CONTRACTS

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.

NOTICE

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at <http://www.dot.state.il.us/desenv/delett.html>.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at <http://www.dot.state.il.us/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.

ILLINOIS DEPARTMENT OF TRANSPORTATION - DIVISION OF AERONAUTICS

STATE REQUIRED CONTRACT PROVISIONS

The following provisions are in addition to the Federal requirements contained in the FAA Airport Improvement Program.

SPECIAL PROVISION FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

Revised: August 2, 2011

FEDERAL OBLIGATION: The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE: The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor:

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

OVERALL GOAL SET FOR THE DEPARTMENT: As a requirement of compliance with 49 CFR part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR: This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform **5.5%** of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set forth in this Special Provision:

- (a) The bidder documents that enough DBE participation has been obtained to meet the goal; or
- (b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES: Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's web site at www.dot.il.gov.

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement. The failure of the bidder to comply will render the bid not responsive.

- (a) The bidder shall submit a Disadvantaged Business Utilization Plan on Department forms SBE 2025 and 2026 with the bid.
- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:
 - (1) The name and address of DBE firms that will participate in the contract;
 - (2) A description, including pay item numbers, of the work each DBE will perform;
 - (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
 - (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
 - (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
 - (6) If the contract goal is not met, evidence of good faith efforts.

GOOD FAITH EFFORT PROCEDURE. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document that enough DBE participation has been obtained or document the good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan commits sufficient commercially useful DBE work performance to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR part 26, Appendix A.

The Utilization Plan will not be approved by the Department if the Utilization Plan does not commit sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts, in other words, efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.
 - (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
 - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.

- (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable.

Also, the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable.

- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
 - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
 - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision and that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons why good faith efforts have not been found.
- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217)785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR part 26.55(c) on

questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the prime Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
 - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
 - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement.
- (e) DBE as a material supplier:
 - (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
 - (2) 100 percent goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
 - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation Statement.

- (a) **NO AMENDMENT.** No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.
- (b) **TERMINATION OR REPLACEMENT.** The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in the Special Provision.
- (c) **CHANGES TO WORK.** Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, then a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) That the replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
 - (2) That the DBE is aware that its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
 - (3) That the DBE is not capable of performing the replacement work or has declined to perform the work at a reasonably competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.
- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the prime Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to CFR Parts 180, 215 and 1200 or applicable state law;
- (6) You have determined that the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform the work for which the DBE contractor was engaged or so that the prime Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated, or fails to complete its work on the contract for any reason the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established contract goal.

- (f) PAYMENT RECORDS. The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the Department for inspection upon request. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than thirty calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Regional Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 50-17 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department.

SPECIAL PROVISION FOR SUBCONTRACTOR MOBILIZATION PAYMENTS

Revised: April 1, 2011

To account for the preparatory work and the operations necessary for the movement of subcontractor personnel, equipment, supplies, and incidentals to the project site and for all other work or operations that must be performed or costs incurred when beginning work approved for subcontracting according to Section 60-01 of the Standard Specifications, the Contractor shall make a mobilization payment to each subcontractor.

This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be equal to 3 percent of the amount of the subcontract reported on form AER 260A submitted for the approval of the subcontractor's work.

The mobilization payment to the subcontractor is an advance payment of the reported amount of the subcontract and is not a payment in addition to the amount of the subcontract; therefore, the amount of the advance payment will be deducted from future progress payments.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department

SPECIAL PROVISION FOR PAYMENTS TO SUBCONTRACTORS

Revised: January 1, 2006

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts and to set the time for such payments.

State law also addresses the timing of payments to be made to subcontractors and material suppliers. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, requires that when a Contractor receives any payment from the Department, the Contractor shall make corresponding, proportional payments to each subcontractor and material supplier performing work or supplying material within 15 calendar days after receipt of the Department payment. Section 7 of the Act further provides that interest in the amount of two percent per month, in addition to the payment due, shall be paid to any subcontractor or material supplier by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors and material suppliers throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the State Prompt Payment Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

When progress payments are made to the Contractor according to Article 90-07 of the Standard Specifications, the Contractor shall make a corresponding payment to each subcontractor and material supplier in proportion to the work satisfactorily completed by each subcontractor and for the material supplied to perform any work of the contract. The proportionate amount

of partial payment due to each subcontractor and material supplier throughout the contracting chain shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors and material suppliers shall be paid by the Contractor within 15 calendar days after the receipt of payment from the Department. The Contractor shall not hold retainage from the subcontractors. These obligations shall also apply to any payments made by subcontractors and material suppliers to their subcontractors and material suppliers; and to all payments made to lower tier subcontractors and material suppliers throughout the contracting chain. Any payment or portion of a payment subject to this provision may only be withheld from the subcontractor or material supplier to whom it is due for reasonable cause.

This Special Provision does not create any rights in favor of any subcontractor or material supplier against the State or authorize any cause of action against the State on account of any payment, nonpayment, delayed payment, or interest claimed by application of the State Prompt Payment Act. The Department will not approve any delay or postponement of the 15 day requirement except for reasonable cause shown after notice and hearing pursuant to Section 7(b) of the State Prompt Payment Act. State law creates other and additional remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor's payment bond according to the Public Construction Bond Act, 30 ILCS 550.

EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with any provisions of this Equal Employment Opportunity Clause, the Illinois Fair Employment Practices Act or the Fair Employment Practices Commission's Rules and Regulations for Public Contracts, the Contractor may be declared nonresponsible and therefore ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be canceled or avoided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation.

During the performance of this contract, the Contractor agrees as follows:

- (1) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or ancestry; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
- (2) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability (in accordance with the Commission's Rules and Regulations for Public Contracts) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
- (3) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, national origin or ancestry.
- (4) That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Fair Employment Practices Act and the Commission's Rules and Regulations for Public Contracts. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Fair Employment Practices Commission and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
- (5) That it will submit reports as required by the Illinois Fair Employment Practices Commission's Rules and Regulations for Public Contracts, furnish all relevant information as may from time to time be requested by the Commission or the contracting agency, and in all respects comply with the Illinois Fair Employment Practices Act and the Commission's Rules and Regulations for Public Contracts.
- (6) That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Illinois Fair Employment Practices Commission for purposes of investigation to ascertain compliance with the Illinois Fair Employment Practices Act and the Commission's Rules and Regulations for Public Contracts.
- (7) That it will include verbatim or by reference the provisions of paragraphs 1 through 7 of this clause in every performance subcontract as defined in Section 2.10(b) of the Commission's Rules and Regulations for Public Contracts so that such provisions will be binding upon every subcontractor; and that it will also so include the provisions or paragraphs 1, 5, 6 and 7 in every supply subcontract as defined in Section 2.10(a) of the Commission's Rules and Regulations for Public Contracts so that such provisions will be binding upon every such subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by all its subcontractors; and further it will promptly notify the contracting agency and the Illinois Fair Employment Practices Commission in the event any subcontractor fails or refuses to comply therewith. In addition, no Contractor will utilize any subcontractor declared by the Commission to be nonresponsible and therefore ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

CONSTRUCTION CONTRACT PROCUREMENT POLICIES

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SECTION 1

PROPOSAL REQUIREMENTS AND CONDITIONS

1-01 ADVERTISEMENT (Notice to Bidders). The State of Illinois shall publish the advertisement at such places and at such times as are required by local law or ordinances. The published advertisement shall state the time and place for submitting sealed proposals; a description of the proposed work; instructions to bidders as to obtaining proposal forms, plans, and specifications; proposal guaranty required; and the Owner's right to reject any and all bids.

For Federally assisted contracts the advertisement shall conform to the requirements of local laws and ordinances pertaining to letting of contracts and, in addition, shall conform to the requirements of the appropriate parts of the Federal Aviation Regulations applicable to the particular contract being advertised.

1-02 PREQUALIFICATION OF BIDDERS

- (a) When the awarding authority is the State of Illinois, each prospective bidder, prior to being considered for issuance of any proposal forms will be required to file, on forms furnished by the Department, an experience questionnaire and a confidential financial statement in accordance with the Department's Instructions for Prequalification of Contractors. The Statement shall include a complete report of the prospective bidder's financial resources and liabilities, equipment, past record and personnel, and must be submitted at least thirty (30) days prior to the scheduled opening of bids in which the Contractor is interested.

After the Department has analyzed the submitted "Contractor's Statement of Experience and Financial Condition" and related information and has determined appropriate ratings, the Department will issue to the Contractor a "Certificate of Eligibility". The Certificate will permit the Contractor to obtain proposal forms and plans for any Department of Transportation letting on work which is within the limits of the Contractor's potential as indicated on his "Certificate of Eligibility", subject to any limitations due to present work under contract or pending award as determined from the Contractor's submitted "Affidavit of Availability". Bidders intending to consistently submit proposals shall submit a "Contractor's Statement of Experience and Financial Condition" at least once a year. However, prequalification may be changed during that period upon the submission of additional favorable reports or upon reports of unsatisfactory performance.

Before a proposal is issued, the prospective bidder will be required to furnish an "Affidavit of Availability" indicating the location and amount of all uncompleted work under contract, or pending award, either as principal or subcontractor, as well as a listing of all subcontractors and value of work sublet to others. The prospective bidder may be requested to file a statement showing the amount and condition of equipment which will be available.

Before an award is made, the bidder may be required to furnish an outline of his plans for conducting the work.

- (b) When the awarding authority for contract construction work is the County Board of a county; the Council, the City Council, or the President and Board of Trustees of a city, village or town, each prospective bidder, in evidence of his competence, shall furnish the awarding authority as a prerequisite to the release of proposal forms by the awarding authority, a certified or photostatic copy of a "Certificate of Eligibility" issued by the Department of Transportation, in accordance with Section 1-02(a).

The two low bidders must file within 24 hours after the letting a sworn affidavit, in triplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work, using the blank form made available for this affidavit. One copy shall be filed with the awarding authority and two copies with the District Highway Office.

1-03 CONTENTS OF PROPOSAL FORMS. Upon request, the Department will furnish the prequalified bidders a proposal form. This form will state the location and description of the contemplated construction and will show the estimate of the various quantities and kinds of work to be performed or materials to be furnished, and will have a schedule of items for which unit bid prices are invited. The proposal form will state the time in which work must be completed, the amount of the proposal guaranty, labor requirements, and date, time and place of the opening of proposals. The form will also include any special provisions or requirements which vary from or are not contained in these specifications.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. Any addenda officially issued by the Department, will be considered a part of the proposal whether attached or not.

For Federally assisted contracts, the proposal shall conform to the requirements of local laws and ordinances pertaining to letting of contracts and, in addition, shall conform to the requirements of the appropriate parts of the Federal Aviation Regulations pertaining to the particular contract being let.

1-04 ISSUANCE OF PROPOSAL FORMS. The Department shall refuse to issue a proposal form for any of the following reasons:

- (a) Lack of competency and adequate machinery, plant and other equipment, as revealed by the financial statement and experience questionnaires required under Section 1-02(a).
- (b) Uncompleted work which, in the judgment of the Department, might hinder or prevent the prompt completion of additional work if awarded.
- (c) False information provided on a bidder's "Affidavit of Availability".
- (d) Failure to pay, or satisfactorily settle, all bills due for labor and material on former contracts in force at the time of issuance of proposal forms.
- (e) Failure to comply with any prequalification regulations of the Department.
- (f) Default under previous contracts.
- (g) Unsatisfactory performance record as shown by past work for the Department, judged from the standpoint of workmanship and progress.
- (h) When the Contractor is suspended from eligibility to bid at a public letting where the contract is awarded by, or require approval of, the Department.
- (i) When any agent, servant, or employee of the prospective bidder currently serves as a member, employee, or agent of a governmental body that is financially involved in the proposed work.
- (j) When any agent, servant, or employee of the prospective bidder has participated in the preparation of plans or specifications for the proposed work.

1-05 INTERPRETATION OF QUANTITIES IN BID SCHEDULE. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 20 of the Illinois Standard Specifications for Construction of Airports without in any way invalidating the unit bid prices.

1-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

Boring logs, underground utilities and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

1-07 PREPARATION OF THE PROPOSAL. The bidder shall submit his proposal on the form furnished by the Department. The proposal shall be executed properly, and bids shall be made for all items indicated in the proposal form, except that when alternate bids are asked, a bid on more than one alternate for each item is not required, unless otherwise provided. The bidder shall indicate, in figures, a unit price for each of the separate items called for in the proposal; he shall show the products of the respective quantities and unit prices in the column provided for that purpose, and the gross sum shown in the place indicated in the proposal shall be the summation of said products. All writing shall be with ink or typewriter, except the signature of the bidder which shall be written with ink.

If the proposal is made by an individual, his name and business address shall be shown. If made by a firm or partnership, the name and business address of each member of the firm or partnership shall be shown. If made by a corporation, the proposal shall show the names, titles, and business address of the president, secretary, and treasurer, and the seal of the corporation shall be affixed and attested by the secretary.

The proposal shall be issued to a prequalified bidder in the same name and style as the financial statement used for prequalification and shall be submitted in like manner.

1-08 REJECTION OF PROPOSALS. The Department reserves the right to reject proposals for any of the conditions in Article 1-04 or for any of the following reasons:

- (a) More than one proposal for the same work from an individual, firm, partnership, or corporation under the same or different names.
- (b) Evidence of collusion among bidders.

- (c) Unbalanced proposals in which the prices for some items are obviously out of proportion to the prices for other items.
- (d) If the proposal does not contain a unit price for each pay item listed except in the case of authorized alternate pay items or lump sum pay items.
- (e) If the proposal is other than that furnished by the Department; or if the form is altered or any part thereof is detached.
- (f) If there are omissions, erasures, alterations, unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning.
- (g) If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
- (h) If the proposal is not accompanied by the proper proposal guaranty.
- (i) If the proposal is prepared with other than ink or typewriter.
- (j) If the proposal is submitted in any other name other than that to whom it was issued by the Department.

1-09 PROPOSAL GUARANTY. Each Proposal shall be accompanied by either a bid bond on the Department of Transportation, Division of Aeronautics form contained in the proposal, executed by a corporate surety company satisfactory to the Department or by a bank cashier's check or a properly certified check for not less than 5 percent of the amount bid.

Bank cashier's checks, or properly certified checks accompanying proposals shall be made payable to the Treasurer, State of Illinois.

1-10 DELIVERY OF PROPOSALS. Each proposal should be submitted in a special envelope furnished by the Department. The blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Department is used, it shall be of the same general size and shape and be similarly marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Department at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and place specified in the Notice to Bidders. Proposals received after the time for opening of bids will be returned to the bidder unopened.

1-11 WITHDRAWAL OF PROPOSALS. Permission will be given a bidder to withdraw a proposal if he makes his request in writing or by telegram before the time for opening proposals. If a proposal is withdrawn, the bidder will not be permitted to resubmit this proposal at the same letting. With the approval of the Engineer, a bidder may withdraw a proposal and substitute a new proposal prior to the time of opening bids.

1-12 PUBLIC OPENING OF PROPOSALS. Proposals will be opened and read publicly at the time and place specified in the Notice to Bidders. Bidders, their authorized agents, and other interested parties are invited to be present.

1-13 DISQUALIFICATION OF BIDDERS. A bidder shall be considered disqualified for any of the following reasons:

- (a) Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- (b) Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner.
- (c) If the bidder is considered to be in "default" for any reason specified in the Subsection 1-04 titled ISSUANCE OF PROPOSAL FORMS of this section.

1-14 WORKER'S COMPENSATION INSURANCE. Prior to the approval of his contract by the Division, the Contractor shall furnish to the Division certificates of insurance covering Worker's Compensation, or satisfactory evidence that this liability is otherwise taken care of in accordance with Section 4.(a) of the "Worker's Compensation Act of the State of Illinois" as amended.

Such insurance, or other means of protection as herein provided, shall be kept in force until all work to be performed under the terms of the contract has been completed and accepted in accordance with the specifications, and it is hereby understood and agreed that the maintenance of such insurance or other protection, until acceptance of the work by the Division is a part of the contract. Failure to maintain such insurance, cancellation by the Industrial Commission of its approval of such other means of protection as might have been elected, or any other act which results in lack of protection under the said "Workers' Compensation Act" may be considered as a breach of the contract.

SECTION 2

AWARD AND EXECUTION OF CONTRACT

2-01 CONSIDERATION OF PROPOSALS. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. In the event of a discrepancy between unit bid prices and extensions, the unit bid price shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

- (a) If the proposal is irregular as specified in the subsection titled REJECTION OF PROPOSALS of Section 1.
- (b) If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section 1.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals; waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable State and Local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise.

2-02 AWARD OF CONTRACT. The award of contract will be made within 60 calendar days after the opening of proposals to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified by letter, that his bid has been accepted, and that he has been awarded the contract.

If a contract is not awarded within 60 days after the opening of proposals, a bidder may file a written request with the Division for the withdrawal of his bid and the Division will permit such withdrawal.

For Federally assisted contracts, unless otherwise specified in this subsection, no award shall be made until the Division has concurred in the Owner's recommendation to make such award and has approved the Owner's proposal contract to the extent that such concurrence and approval are required by Federal Regulations.

2-03 CANCELLATION OF AWARD. The Division reserves the right to cancel the award without liability to the bidder at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled APPROVAL OF CONTRACT of this section. The Division at the time of cancellation will return the proposal guaranty.

2-04 RETURN OF PROPOSAL GUARANTY. The proposal guaranties of all except the two lowest bidders will be returned promptly after the proposals have been checked, tabulated, and the relation of the proposals established. Proposal guaranties of the two lowest bidders will be returned as soon as the Construction Contract, Performance Bonds, and Payment Bonds of the successful bidder have been properly executed and approved.

If any other form of proposal guaranty is used, other than a bid bond, a bid bond may be substituted at the Contractor's option.

2-05 REQUIREMENT OF PERFORMANCE AND PAYMENT BONDS. The successful bidder for a contract, at the time of the execution of the contract, shall deposit with the Division separate performance and payment bonds each for the full amount of the contract. The form of the bonds shall be that furnished by the Division, and the sureties shall be acceptable to the Division.

2-06 EXECUTION OF CONTRACT. The successful bidder shall sign (execute) the Contract and shall return the signed Contract to the Owner (Sponsor) for signature (execution) and subsequently return all copies to the Division. The fully executed surety bonds specified in the subsection title REQUIREMENTS OF PERFORMANCE AND PAYMENT BONDS of this section will be forwarded to the Division within 15 days of the date mailed or otherwise delivered to the successful bidder. If the Contract and Bonds are mailed, special handling is recommended.

If the bidder to whom award is to be made is a corporation organized under the laws of a State other than Illinois, the bidder shall furnish the Division a copy of the corporation's certificate of authority to do business in the State of Illinois, or provide evidence of the same, with the return of the executed contract and bond. Failure to furnish such evidence of a certificate of authority within the time required will be considered as just cause for the annulment of the award and the forfeiture of the proposal guaranty to the State, not as a penalty, but in payment of liquidated damages sustained as a result of such failure.

2-07 APPROVAL OF CONTRACT. Upon receipt of the contract and bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the contract to the Division for approval and execution by the Division. Delivery of the fully executed contract to the Contractor shall constitute the Department's approval to be bound by the successful bidder's proposal and the terms of the contract.

2-08 FAILURE TO EXECUTE CONTRACT. If the contract is not executed by the Division within 15 days following receipt from the bidder of the properly executed contracts and bonds, the bidder shall have the right to withdraw his bid without penalty.

Failure of the successful bidder to execute the contract and file acceptable bonds within 15 days after the contract has been mailed to him shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the State, not as a penalty, but as liquidation of damages sustained.

SECTION III

**SHELBY COUNTY AIRPORT
SHELBYVILLE, ILLINOIS**

**CONSTRUCT ELECTRICAL VAULT, LIGHT
TAXIWAY, AND INSTALL APPROACH NAVAIDS**

ILLINOIS PROJECT NO.: 2H0-4149

A.I.P. PROJECT NO.: 3-17-0093-B11

Prepared By:



Hanson Professional Services Inc.

February 23, 2011

Revised March 23, 2012
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FOREWORD

These Special Provisions, together with applicable Standard Specifications, Rules and Regulations, Contract Requirements for Airport Improvement Projects, Payroll Requirements and Minimum Wage Rates, which are hereto attached or which by reference are herein incorporated, cover the requirements of the State of Illinois, Department of Transportation (IDOT), Division of Aeronautics (Division) for the following improvement project at the Shelby County Airport, Shelbyville, Illinois including:

SCOPE OF WORK

This project shall consist of removal of the existing electrical vault equipment located in the Terminal Building, constructing a new airport electrical vault in the existing Snow Removal Equipment Building, replacing the medium intensity runway lighting system on runway 18-36, installation of a medium intensity taxiway lighting system on the taxiways, and installing a PAPI on Runway 36 with associated cabling and duct work. Providing mandatory hold signs at the runway/taxiway intersections will be included with this project. Also associated with this project will be the installation of a lighted L-807 primary wind cone, replacement of the airport rotating beacon, and addition of obstruction lighting and lightning protection to the beacon tower.

ADDITIVE ALTERNATE NUMBER 1; Upgrade Medium Intensity Taxiway Lights to Type L-861T(L) with LED (Light Emitting Diode) illumination.

ADDITIVE ALTERNATE NUMBER 2; Provide weed control rings for airfield light fixtures.

GOVERNING SPECIFICATIONS AND RULES AND REGULATIONS

The Standard Specifications for Construction of Airport, Illinois Department of Transportation, Division of Aeronautics, adopted November 2, 2009, shall govern the project, except as otherwise revised or noted in these Special Provisions. All references to IDOT Specifications refer to Standard Specifications for Road and Bridge Construction, Illinois Department of Transportation, adopted January 1, 2012, as revised. In the event of inconsistencies between the Standard Specifications and the Special Provisions, the Special Provisions shall govern.

REFERENCES

The following Federal Aviation Administration Advisory Circulars are referenced on the Plans and/or Special Provision Specifications in regard to safety on airports. These Advisory Circulars are available on the FAA web site at http://www.faa.gov/regulations_policies/advisory_circulars

A. FAA AC No. 70/7460-1K “Obstruction Marking and Lighting.”

- B. FAA AC No. 150/5210-5D “Painting, Marking, and Lighting of Vehicles Used on an Airport.”
- C. FAA AC No. 150/5300-13 “AIRPORT DESIGN.”
- D. FAA AC No. 150/5370-2F (or most current issue) “Operational Safety on Airports During Construction.”

DIVISION I

SECTION 50

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

50-10 Barricades, Warning Signs, and Hazard Markings. Add the following paragraphs to this section:

“The Shelby County Airport consists of one (1) paved runway, Runway 18-36 (4,099 ft x 75 ft), two (2) turf runways, Runways 4-22 and 14-32 (currently published as 2,101 ft x 200 ft and 2,600 ft x 200 ft, respectively), a connector taxiway, Taxiway A with a width of 40 ft, and a partial parallel taxiway, Taxiway B with a width of 35 ft.

This project will necessitate the closure of Runway 18-36, Runway 4-22 and Runway 14-32. The Contractor will be allowed to close only one (1) runway at a time except as specified herein.

When Runway 18-36 is closed it will be closed only for the duration of the construction week. The Contractor will be allowed to close the Runway at the start of the construction week and must re-open it at the end of the construction week. All holes and trenches will have to be backfilled and all equipment placed in the equipment parking area. A representative of the Airport, the Resident Engineer and a representative of the Contractor will inspect the runway prior to re-opening. Any deficiencies noticed will be corrected before the Contractor will be allowed to re-open the runway. This runway will be open for “day time operations only”.

When Runway 14-32 is closed it will be closed only for the week or the duration of the construction activities. The Contractor will be allowed to close the Runway at the start of the construction week and must re-open it at the end of the construction week. All holes and trenches will have to be backfilled, all equipment placed in the equipment parking area. A representative of the Airport, the Resident Engineer and a representative of the Contractor will inspect the runway prior to re-opening. Any deficiencies noticed will be corrected before the Contractor will be allowed to re-open the runway.

When Runway 4-22 is closed it will be closed only for the week or the duration of the construction activities. The Contractor will be allowed to close the Runway at the start of the construction week and must re-open it at the end of the construction week. All holes

and trenches will have to be backfilled, all equipment placed in the equipment parking area. A representative of the Airport, the Resident Engineer and a representative of the Contractor will inspect the runway prior to re-opening. Any deficiencies noticed will be corrected before the Contractor will be allowed to re-open the runway.

When the Contractor is working within 45 ft of a taxiway centerline the taxiway shall be closed. No work shall occur within 45 ft of an active taxiway centerline.

The Contractor will notify the Airport Manager seven (7) days in advance of the commencement of work, which would necessitate the closing of a runway. It will be the responsibility of the Contractor to properly mark the closed runway, and when the runway is re-opened, to remove the marking. The appropriate marking for a closed runway is a cross at both ends of the runway. The legs of the cross will be 60 ft in length and 10 ft in width. The crosses will be constructed of any suitable, locally available materials, such as fabric, plywood, or other similar material. They will be held in place in a manner locally determined to be suitable. The Contractor will be responsible for placing and removing the crosses as the runways are closed and opened. The Contractor will provide the Engineer with a proposed schedule of when and length of time for all closures. The Project Engineer must review and approve this schedule before any construction begins. The placement, maintenance and removal of the crosses will be considered as an incidental item to the contract and no additional compensation will be allowed.

When the Contractor's vehicles are on Airport property, they shall be properly marked. The markings shall consist of a 3-ft sq. flag consisting of a checkered pattern of international orange and white squares of not less than 1 ft on each side displayed in full view above the vehicle. Contractor vehicles engaged in continuous hauling operations will not be required to display a flag.

The Contractor will be responsible for placing barricades and/or traffic cones at the locations shown on the Construction Plans, or as directed by the Airport Manager. It will be the Contractor's responsibility to furnish and maintain the barricades equipped with red flashing or red, steady-burn lights and 20-in. sq. orange flags throughout the duration of this project.

The barricades and their maintenance will be considered as an incidental item to the contract, and no additional compensation will be allowed. Any cost of labor and equipment, which is necessary to insure safety at the Airport during the duration of the project, will be considered incidental to the contract, and no additional reimbursement for these items of work will be received.”

SCHEDULING OF OPERATIONS

The Contractor shall coordinate all work on this project with the Resident Engineer and the Airport Manager to insure that the construction will cause the least amount of inconvenience

possible to normal Airport activity. The Resident Engineer shall coordinate all Notices to Airmen (NOTAMs) with the Airport Manager.

The Contractor will be required to submit a work schedule to the Division and to the Resident Engineer showing proposed sequences of work.

In the event that other construction projects are in progress at the Airport at the same time as this project, the Contractor will be required to cooperate with all other Contractors and the Airport Manager in the coordination of the work.

The Airport Manager will, at all times, have jurisdiction over the safety of air traffic during construction. Whenever the safety of air traffic during construction is concerned, his decision as to methods, procedures, and measures used shall be final, and any and all Contractors performing work must be governed by such decisions.

The Contractor shall not be entitled to any extra compensation due to delays or inconveniences caused by said necessary methods, procedures, and measures to protect air traffic.

PROPOSED HAUL ROUTE

The Contractor will use the existing apron access road as his access to the construction site. The Contractor's employees shall park their personal vehicles in the proposed equipment parking area. Only Contractor vehicles will be allowed on to the Airfield. The Contractor will be allowed a proposed equipment parking and material storage area that will be approximately 50 ft by 50 ft. The Contractor will be required to maintain the proposed equipment parking and material storage area throughout the course of the project. Any areas damaged outside of this area will be repaired by the Contractor and at the Contractor's own expense. At the conclusion of the project the Contractor shall grade, fertilize, seed, and mulch the equipment parking and material storage area as needed to restore it to its original state. Restoration of the equipment parking and material storage area will be considered incidental to the Project and no additional compensation will be allowed.

EMPLOYEE PARKING

The Contractor's employees shall park their personal vehicles in the proposed equipment parking area. The Contractor will transport his employees from this area to the proposed construction area. No employee vehicle will be allowed onto the proposed construction site.

EQUIPMENT PARKING AND MATERIAL STORAGE

The Contractor will construct the proposed equipment parking and material storage area as shown on Sheet No. 3 of the Construction Plans. If the Contractor desires to have a material storage area within the fenced portion of the airport, then one (1) will be assigned at the time of

the pre-construction meeting. The Contractor will maintain these areas throughout the duration of the project and restore them to their original condition upon completion of the project.

CONTRACTOR IDENTIFICATION

The Contractor shall be responsible for providing the workers with some type of tag or garment to identify the person as being part of the construction crew.

AIRPORT SECURITY NOTES

Airport security will be maintained at all times. The Contractor will access the proposed job site through an existing gate. The Contractor will be required to close and secure this gate after he has gone through it. The gate will remain closed during the construction day unless the Contractor is in a continuous hauling operation. During periods of continuous hauling the Contractor will monitor the gate to insure no one will enter the access gate that is not authorized to be on the construction site or on the air side of the airport.

STAGING/COORDINATION NOTES

This project will be constructed in two (2) stages. The first stage will close runway 18-36 while leaving both sod strips open with only temporary closures when construction activities are within 60 ft of the sod strip centerline. Taxiways A and B will be barricaded at the locations shown on the Proposed Safety Plan and will remain in place until the end of the construction week. At that time all runways and taxiways will be opened for the weekend.

The Contractor will install the proposed home run cable from runway 18-36 to the proposed handhole located outside the existing snow removal equipment building. At the time of the installation of these cables if the proposed electrical vault is not electrically ready to energize the runway lighting circuit, then the Contractor will lay the home run cable across the ground to the existing splice can that houses the existing home run cables. The Contractor will place barricades over this cable at a distance of 10 ft apart. This will protect the cable and warn person to stay clear. The Contractor will splice the proposed home run cables to the existing home run cables inside the existing splice can. In this manner the proposed runway lighting circuit will operate off the existing constant current regulator until the proposed electrical vault is complete and ready to accept the runway lighting circuit. The existing constant current regulator will be placed on the lowest setting because the proposed electrical circuit is too large (electrically) for the regulator to feed at the higher settings.

All construction activities on runway 18-36 will be completed before the Contractor will be allowed to start work on Taxiway "A."

The Contractor will complete all work on Taxiway "A" prior to starting work on taxiway "B." In this manner Taxiway "B" will be open to provide aircraft access between runway 18-36 and the

aircraft parking apron while Taxiway "A" is being worked on. Once Taxiway "A" is completed it will be opened to aircraft movement and Taxiway "B" will be closed to complete the work on it. The lighting circuits will not be activated until the proposed electrical vault has been completed and ready to accept the taxiway lighting circuit.

The sod strips will be closed whenever construction activities on the taxiways are within 60 ft of their centerlines. The Contractor will expedite all construction activities when a Runway is closed to minimize the length of time that Runway is closed.

The Contractor shall coordinate with the Airport and the Resident Engineer to turn off the runway lighting circuit as well as the Nav aids. When the runway is re-opened these circuits must be re-activated. All existing Nav aids associated with the respective runway that is closed, will be inactive during runway closure.

The Airport Manager shall be notified a minimum of forty-eight (48) hours in advance of any work that would require the closure of the runway, and a minimum of twenty-four (24) hours notice before the closure of any taxiway.

RUNWAY CLOSURES

All runway closures will be coordinated with the Airport Manager. The runway will be closed in accordance with the procedures set forth on the Proposed Safety Plan. Prior to re-opening the runway the Contractor will insure the following:

1. All open holes/trenches have been backfilled.
2. All equipment has been moved to the Equipment Parking Area.
3. All trucks have their beds lowered and all cranes have their booms lowered.
4. There is no material stockpiled within the Runway Object Free Area.
5. All active pavements have been swept of foreign material.
6. All lighting circuits associated with the pavement being re-opened are active and functioning correctly (Runway 18-36 only and only when it is the final re-opening).
7. Representatives of the Contractor, Airport and Resident Engineer shall inspect the pavement prior to re-opening. Anything noted will be corrected prior to re-opening.

MAINTAINING OPERATION OF AIRFIELD LIGHTING AND NAV AIDS

Shut down of the lighting circuit and/or Nav aids on Runway 18-36 shall occur when construction activities are within 60 ft of the centerline of the runway or when the respective taxiway is closed and prevents access to Runway 18-36. The Contractor shall provide temporary connections and any manual operations of airfield lighting to keep them in operation over night when the Runway is open for night time operation. The contractor shall secure, identify, and place temporary exposed wiring in conduit, duct, or unit duct to prevent electrocution and fire ignition sources in conformance with the requirements of FAA AC 150/5370-2F "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION."

SITE INSPECTION

The Contractor shall be responsible for an on-site inspection prior to submitting a bid on this project. Upon receipt of a bid, it shall be assumed that the Contractor is fully familiar with the construction site.

ITEM AR101580
REFURBISH 36 IN. BEACON

The Illinois Department of Transportation, Division of Aeronautics, Standard Specifications for Construction of Airports, adopted November 2, 2009, shall govern the furnishing and installation of the refurbished airport rotating beacon on this project, except as otherwise revised or noted in these Special Provisions and/or the Project Specifications. In the event of inconsistencies between the Standard Specifications and these Special Provisions, the Special Provisions shall govern. The Contractor will maintain a minimum of one (1) printed copy of the relevant sections of the SSCA on the project site at all times. The SSCA is available on line at the following address link:

<http://www.dot.il.gov/aero/airspecs.html>

DESCRIPTION

101-1.1. Revise this section as follows:

“This Item of work shall consist of replacing the existing airport rotating beacon with an L-802A, 36-in. refurbished airport rotating beacon furnished and installed in accordance with this Specification. The Contractor shall field-verify existing conditions to determine the extent of the work. The Contractor shall furnish a crane and all associated hoisting and rigging equipment to remove the existing 36-in. rotating beacon and install the proposed 36-in., refurbished airport rotating beacon. This Work shall include the mounting, leveling, painting, servicing, and testing of the beacon, electrical equipment, conduit, wiring, grounding, site preparation, and all materials and incidentals necessary to place the airport rotating beacon in operating condition as a completed unit to the satisfaction of the Airport Representative and the Engineer.”

101-1.2 REFERENCES

- A. ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- C. ASTM Specification B3 – Standard Specification for Soft or Annealed Copper Wire.
- D. ASTM Specification B8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
- E. NFPA 70 – National Electrical Code (most current issue in force).
- F. NFPA 70E – Standard for Electrical Safety in the Workplace

G. UL Standard 6 – Rigid Metal Conduit.

H. UL Standard 83 – Thermoplastic-Insulated Wires and Cables.

101-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- A. **Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects. See the FAA website at: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls for a list of equipment on the FAA Buy American Conformance List.**
- B. In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- C. Cut sheets with part number and specifications for the refurbished airport rotating beacon.

EQUIPMENT AND MATERIALS

101-2.2 BEACON. Add the following:

“The airport rotating beacon shall be a refurbished/retrofitted 36-in., double-end L-802A high intensity airport beacon, DCB36 tri-base, Class 1, with a new beacon warranty, clear-green beam, 120-Volt, 60-Hertz, 400-Watt, metal halide lamp. The rotating beacon shall include a tell-tale relay for interface and control of obstruction lights. The obstruction lights shall illuminate when the beacon is off or when the beacon lamp fails. The refurbished, airport rotating beacon shall be a Hali-Brite, Part Number

L802A1116BTE, with L802 T/T DCB 36 tell-tale relay, or approved equal. **Note that this airport rotating beacon will have an existing unit for exchange. The existing beacon appears to be a Tri-Base. Contractor shall confirm part numbers and coordinate ordering of this airport rotating beacon (with the exchange) with the respective manufacturer.**”

101-2.3 PANELBOARDS AND BREAKERS. Add the following:

“A new load center will be furnished and installed at the beacon tower platform under Item AR800591 Upgrade Airport Rotating Beacon.”

101-2.5 WIRE. Revise this section as follows:

“Wiring from the vault to the new load center at the top of the airport rotating beacon tower shall be replaced under Item 108. New wiring from the load center to the airport rotating beacon shall be furnished and installed as detailed on the Plans and Specified herein. Wire for power and control circuits shall be THWN Copper conductors. Cable shall be 1/C sized in accordance with National Electrical Code (NEC) 75°C ampacity tables and/or as detailed herein. Cable shall comply with Underwriters’ Laboratories Standard UL-83, and shall be UL-listed as VW-1. Conductor shall be soft-annealed, uncoated Copper, and shall comply with ASTM B3 and B8. Insulation shall be rated for 600-Volt. Insulation shall be polyvinyl-chloride conforming to Underwriters’ Laboratories requirements for Type THW. The outer covering shall be nylon conforming to Underwriters’ Laboratories for type THHN or THWN-2. Cable shall be UL-listed and marked THWN-2.”

101-2.6 CONDUIT. Add the following:

“Liquid-Tight, Flexible Metal Conduit. Liquid-tight, flexible metal conduit shall consist of polyvinyl jacket over flexible hot-dip, galvanized steel tubing. The flexible conduit shall be completely sealed from liquids, dust, dirt, and fumes and be resistant to oil, gasoline, grease, and abrasion. Jacket shall also be sunlight-resistant. Liquid-tight, flexible metal conduit shall be UL-listed, suitable for use as a grounding conductor, and comply with Article 350 of the NEC. **Liquid-tight, flexible metal conduit and associated fittings shall be UL-listed to meet the requirements of NEC 350.6.** Liquid-tight, flexible metal conduit shall be Anaconda Sealtite Type UA, as manufactured by Anamet Electrical Inc., 1000 Broadway Avenue East, Mattoon, Illinois 61938-0039, Phone: 217-234-8844, Liguatite Type LA, as manufactured by Electri-Flex Company, 222 W. Central Ave., Roselle, Illinois 60172, Phone: 630-529-2920 or 1-800-323-6174, or approved equal. Do not install liquid-tight, flexible metal conduit that is not UL listed. Confirm liquid-tight, flexible metal conduit bears the UL label prior to installation.”

CONSTRUCTION METHODS

101-3.1 PLACING THE BEACON. Revise this section as follows:

“The refurbished beacon shall be mounted on the existing beacon tower in accordance with the beacon manufacturer’s recommendations and instructions.”

101-3.6 BEACON MOUNTING PLATFORM. Revise this section as follows:

“The proposed refurbished beacon shall be mounted to the beacon plate-mounting on top of the existing beacon tower. The Contractor shall make any necessary modifications to the beacon plate in order to bolt the proposed refurbished beacon to the beacon plate.”

101-3.7 WIRING. Add the following:

“The Contractor shall furnish and install all electrical materials necessary for complete and operational installation, as stipulated in this respective Item. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of the NFPA 70 – National Electrical Code (NEC), most current issue in force. Equipment shall be installed, in conformance with the respective manufacturer’s directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer’s warranty of a device will not be permitted.

Contractor shall furnish and install 1- #12 THWN, 1- #12 Neutral, and 1- #12 Ground in 3/4“(minimum), galvanized rigid steel conduit (GRSC) and/or 3/4” (minimum), liquid-tight, flexible metal conduit from the disconnecting means/load center to the airport rotating beacon.”

101-3.12 OBSTRUCTION LIGHTS. Revise this section as follows:

“Obstruction lights shall be furnished and installed under Item AR800591 Upgrade Airport Rotating Beacon.”

101-3.13 PAINTING. Add the following:

“The refurbished beacon, except glass surfaces, shall be factory-painted aviation orange.”

101-3.15 SAFETY. It is recommended that the beacon work and access to the beacon tower platform be performed with the use of a high-lift bucket truck. Under no circumstances should the beacon tower be climbed without standard climbing safety equipment.

Contractor shall coordinate work and any power outages with the Airport Manager and/or respective Airport personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be

labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

Contractor shall comply with the applicable requirements of NFPA 70E – Standard for Electrical Safety in the Workplace.

101-3.16 LOCATE EXISTING UNDERGROUND UTILITIES AND CABLES. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor's responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain from the respective utility companies detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract.

All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

METHOD OF MEASUREMENT

101-4.1. The quantity to be paid for shall be the number of beacons installed as completed units in place, accepted, and ready for operation. This item shall be measured for payment as a unit price per lump sum and shall consist of removal of the existing 36" airport rotating beacon and the installation of the 36" refurbished airport rotating beacon on top of the existing beacon tower and all labor, materials, equipment, conduit, wiring, grounding, site preparation, electrical work, tools, operational instructions, coordination, mounting, mounting hardware and platform for the beacon, leveling, painting, servicing, testing, and all incidentals necessary to place the respective installation into proper working order to the satisfaction of the Airport Representative and the

Engineer. The cables and conduits from the load center at the beacon tower platform to the beacon shall be incidental to this item.

BASIS OF PAYMENT

101-5.1. Revise this section as follows:

“The removal of the existing 36” airport rotating beacon and the installation of the 36” refurbished airport rotating beacon on top of the existing beacon tower, as specified herein complete and accepted by the Airport Representative, will be paid for at the contract unit bid price per lump sum. This price shall be full compensation for removing the existing beacon, furnishing and installing the refurbished beacon, furnishing all materials, and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, adjusting, testing, and incidentals necessary to complete this Item.”

Payment will be made under:

Item AR101580 Refurbish 36” Beacon - per lump sum.

END OF ITEM 101

**ITEM 107 INSTALLATION OF AIRPORT 8-FT
AND 12-FT WIND CONES**

DESCRIPTION

107-1.1. Revise this section to read as follows:

“Item AR107812 L-807 WC-12’ Internally Lit shall consist of furnishing and installing a 12-ft lighted wind cone with obstruction light at the location shown on the Plans, and in accordance with the details and notes on the Plans and these Special Provisions. The work shall include the furnishing and installation of a support for mounting the wind cone and a concrete foundation. This item shall include wind cone manufacturer’s cable, connections, splice cans, series circuit transformer, conduit and conduit fittings, lamps, ground rod and ground connection, and all associated equipment, materials, labor, tools, testing, and all incidentals necessary to place each wind cone in operation as a completed unit to the satisfaction of the Engineer.

Per FAA AC No. 150/5340-30F “Design and Installation Details for Airport Visual Aids” Part 6.6 Wind Cones, Paragraph b, a primary wind cone is needed at any airport without a 24-hour ATCT (Air Traffic Control Tower). Airport Certification Information Bulletin Number 08-10 and FAA AC 150/5370-10F Standards for Specifying Construction of Airports both state the following:

“The illuminated wind cone must present a constant brightness to the pilot. As a result, the source of power for the wind cone circuit must be identified. Where a constant voltage is available, the wind cone may be connected directly to the constant voltage circuit. Where the series lighting circuit is used as a power source to the wind cone, a power adapter that converts current to constant voltage must be specified. An additional requirement for the power adapter is the output voltage must remain constant regardless of the input current. The manufacturer of the power adapter must be consulted to verify the additional load imposed on the series circuit by the power adapter.

The engineer should specify the wind cone and power adapter combination recommended by the manufacturer when the power source for the wind cone circuit will be the constant current series lighting circuit.”

107-1.2 REFERENCES

- A. ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- C. FAA AC No. 150/5340-30F “DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS,” (or most current issue in force).

- D. FAA AC No. 150/5345-27D “SPECIFICATION FOR WIND CONE ASSEMBLIES” (or most current issue in force).
- E. FAA AC No. 150/5345-43F “SPECIFICATION FOR OBSTRUCTION LIGHTING EQUIPMENT” (or most current issue in force).
- F. FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- G. UL Standard 6 – Rigid Metal Conduit.
- H. UL Standard 514B – Conduit, Tubing and Cable Fittings.

107-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for wind cones and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- A. **Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America from Domestic materials in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects. See the FAA website at: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls for a list of equipment on the FAA Buy American Conformance List.**
- B. In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- C. Cut sheets with part number and specifications for each wind cone.

- D. Concrete mix design.
- E. Provide cut sheets with manufacturer's name, catalog number, dimensions, material and UL listing for each type and size ground rod. Include certification of 100 percent domestic steel for ground rods.
- F. Provide cut sheets for all types of conduit used with the wind cones (for example galvanized rigid steel conduit). Include certification that steel conduits are made with 100 percent domestic steel.

EQUIPMENT AND MATERIALS

107-2.2 WIND CONES. Add the following:

“L-807 or L-807(L) wind cone and assemblies shall be manufactured to Federal Aviation Administration (FAA) Specification AC 150/5345-27D (or current edition in force) and shall be FAA-approved (ETL-Certified). Wind cone shall be a Type L-807 or L-807(L), Style I-B (internally lighted), Size 2 – (36-in. diameter by 12-ft long for use with Type L-807 or L-807(L) assemblies), 6.6 Amp series circuit power. Color of wind sock shall be orange. Wind cone shall be mounted on a 16-ft center hinged steel pole complying with the requirements of FAA AC 150/5345-27. Pole shall include a positive locking anti-slip brake winch for ease of lowering the basket, changing the windsock, and changing the lamps. Wind cone shall be equipped with an FAA approved L-810 obstruction light on the top of the mast. Wind cone lighting shall provide constant-brightness series circuit power adapter suitable for operation on a 3-step (4.8 Amp, 5.5 Amp, and 6.6 Amp) series circuit. Include a series circuit isolation transformer rated for the respective wind cone and compatible with the respective series circuit power. Note: The constant current regulator powering the series circuit for the wind cones has been sized for the respective runway lighting loads and wind cones that have a load of less than 200 VA and do not require a series isolation transformer larger than a 300 Watt rating. In the event that a wind cone is proposed that exceeds this rating, the Contractor shall be responsible to ensure that the respective constant current regulator is properly sized for the total series circuit load. Where a wind cone is proposed that requires loads that exceed the rating of the respective constant current regulator, the Contractor shall be responsible for all adjustments including providing a larger constant current regulator and all associated circuit breakers, conduits, wiring and vault work as applicable to accommodate the respective series circuit load with the wind cone. Contractor shall confirm part number and special options with the respective manufacturer for compliance with these Special Provisions. Include sufficient slack cable with the wind cone to allow connection to the respective series transformer in an adjacent transformer base can. Include manufacturer's specified anchor bolts.”

107-2.3 WIRE. Revise this section to read as follows:

“Cable and wiring associated with the wind cone installations shall be as detailed on the Plans, as specified herein, and shall also comply with Item 108.

Cable in unit duct from the point of connection to the respective power source to the point of connection to the respective wind cone installation is not included with this item, and shall be paid for separately under Item 108.”

107-2.4 CONDUIT. Revise this section at follows:

“Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, and produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded, galvanized steel or galvanized, malleable iron, specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 – Fittings Rigid Metal Conduit and EMT and UL 514B – Conduit, Tubing, and Cable Fittings. Set screw type fittings are not acceptable. Steel used to manufacture conduits shall be 100 percent domestic steel. Contractor shall provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.

Conduit for grounding electrode conductors shall be Schedule 40 PVC conduit, and shall comply with Item 110 and the following: Conduit shall be Schedule 40 PVC, 90°C, UL-rated, or approved equal. Material shall comply with NEMA Specification TC-2 (Conduit), (Fittings UL-514), and UL-651 (Standard for rigid, non-metallic conduit).”

107-2.5 CONCRETE. Add the following:

“Foundation for the L-807 or L-807(L) wind cone shall be 24 in. diameter by 84 in. deep (minimum). Coordinate the installation of a 2-in., galvanized, rigid steel conduit (GRSC)/elbow into the foundation for the power wiring. Coordinate the installation of a 3/4-in. Schedule 40 PVC conduit/elbow into the foundation for the grounding electrode conductor. Include reinforcing steel, as detailed on the Plans. Steel used to manufacture rebar shall be 100 percent domestic steel. Coordinate installation of the wind cone foundation with the concrete pad that surrounds the foundation and associated L-867 transformer can.”

107-2.7 SPLICE CANS. Splice cans shall conform to the requirements of FAA AC 150/5345-42D for Type L-867, Class IA, Size B (12-in. nominal diameter), 24 in. deep. Splice cans shall have galvanized steel covers, 3/8-in. minimum thick, with stainless steel bolts. Splice cans shall include internal and external ground lugs. A splice can shall be provided to house the series circuit isolation transformer and cable connections, and shall be located adjacent to the wind cone foundation. Larger size splice cans shall be provided, where necessary, to accommodate the respective series circuit isolation transformer(s) and cable connections. This splice can shall be bonded to the respective ground rod located at the wind cone foundation with a #6 AWG bare Copper conductor. **Splice cans shall not be used as a base for the wind cone.**

107-2.8 SERIES CIRCUIT TRANSFORMER. Series circuit isolation transformers for the wind cones shall be manufactured to FAA Specification AC 150/5345-47B (or current edition in force), and shall be FAA-approved (ETL-Certified). Series circuit transformer shall be properly sized for the respective wind cone lighting loads, and shall be as recommended by the respective wind cone manufacturer. Confirm proper transformer selection and sizing with the respective wind cone manufacturer.

107-2.9 GROUND RODS. Ground rods shall be 3/4-in. diameter, 10 ft long, UL-listed, Copper-clad with 10-mil. minimum Copper coating. Steel used to manufacture ground rods shall be 100 percent domestic steel.

CONSTRUCTION METHODS

107-3.1 INSTALLATION. Add the following:

“The support pole shall be installed on a concrete foundation, as detailed on the Plans. The Contractor shall furnish and install all electrical materials necessary for complete and operational installation of each wind cone, as detailed herein and in accordance with the manufacturer’s instructions. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of NFPA 70 - National Electrical Code (NEC), most current issue in force. Wind cones shall be installed in conformance with the respective manufacturer’s directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer’s warranty of a device will not be permitted.

The Contractor shall keep a copy of the latest NEC in force on site at all times during construction for use as a reference.

The Contractor should examine the proposed site to evaluate the complexity of the work.

Contractor shall coordinate work and any power outages to airfield lighting systems, buildings or facilities located on the Airport with the Airport Manager. Where FAA facilities are affected, the Contractor shall coordinate work and any power outages with the Airport Manager and the respective FAA personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

The Contractor shall be responsible for furnishing and setting all anchor bolts required to install his equipment.

Where concrete mounting pads, foundations, or piers are required for equipment mounting, the Contractor shall furnish all concreting and form work necessary to complete the installation. Concrete shall conform to Item 610 Structural Portland Cement Concrete of the Standard Specifications.”

107-3.2. COUNTERWEIGHT. Delete this section.

107-3.3 ELECTRICAL CONNECTION. Add the following:

“Splices in conductors will be allowed only within the specified junction boxes, splice cans, or electrical handholes. Circuit conductors for power wiring shall be continuous from source of power to connected device, unless otherwise approved by the Resident Engineer. Spliced connections of the wind cone conductors to the cable in unit duct feeder conductors shall be installed at the handhole access at the base of the wind cone pole or in an L-867 base/splice can.”

107-3.5 GROUND CONNECTION AND GROUND ROD. Revise this section as follows:

“The Contractor shall furnish and install a ground rod, grounding electrode conductor cable, ground clamps/connectors, and exothermic weld connections for grounding the wind cone pole support near the base. The ground rod shall be 3/4- in. diameter by 10 ft long, UL-listed, Copper-clad with 10-mil. minimum Copper coating. The ground rod shall be driven into the ground adjacent to the concrete foundation so that the top of the rod is at least 30-in. below grade. Buried or concealed ground systems shall be observed by the Resident Engineer before backfilling or covering. The grounding electrode conductor shall consist of No. 6 AWG bare-stranded Copper wire or larger. All connections to ground rods and/or buried grounding electrode conductors shall be made with exothermic weld-type connectors, Cadweld by Erico Products, Inc., Solon, Ohio, (Phone: 800-248-9353), Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone: 918-663-1440) or Ultraweld by Harger, Grayslake, Illinois (Phone: 800-842-7437), or approved equal. Exothermic weld connections shall be installed in conformance with the respective manufacturer’s directions using molds as required for each respective application. Bolted connections will not be permitted at ground rods. The other end of the grounding electrode conductor shall be securely attached to the base of the wind cone pipe support with a UL-listed grounding connector or pipe clamp suitable for the respective application. Metallic surfaces to be joined shall be prepared by the removal of all non-conductive material (including paint) per 2011 NEC, Article 250-12. All bolted or mechanical connections shall be coated with a corrosion preventative compound before joining, Sanchem Inc. “NO-OX-ID “A-Special” compound, Burndy Penetrox E, or approved equal. Coordinate the installation of a 3/4-in. Schedule 40 PVC conduit into the wind cone foundation to accommodate the grounding electrode conductor. The resistance to ground shall not exceed 25 Ohms. Contractor shall test the made electrode ground rod installation with an instrument specifically designed for testing ground field systems. If ground resistance exceeds 25 Ohms, contact the Resident Engineer for further direction. Copies of ground rod test results shall be furnished to the Resident Engineer.”

107-3.6 PAINTING. Add the following:

“The pole, and any support structure and the exposed, non-stainless components of the wind cone shall be **factory painted – aviation orange.**”

107-3.7 LAMPS. Revise this section as follows:

“The Contractor shall furnish and install all lamps required as per manufacturer's recommendation.”

107-3.8 CHAIN AND PADLOCK. Delete this section.

107-3.9 RESTORATION. All turf areas disturbed by the installation of the wind cone and associated work shall be restored, graded, and seeded to establish a stand of grass to the satisfaction of the Engineer and will be considered as incidental to the installation of each wind cone.

107-3.10 INSTRUCTION OF AIRPORT STAFF. Contractor shall provide instruction to airport staff in regard to the operation and maintenance of the wind cones and associated equipment. Contractor shall demonstrate operating procedures, lamp changing procedures, and items requiring maintenance. Contractor shall furnish operation and maintenance manuals for wind cones and associated equipment.

METHOD OF MEASUREMENT

107-4.1. Add the following:

“L-867 splice cans associated with the wind cone installations shall be incidental to the respective wind cone pay item and no additional compensation will be made.”

BASIS OF PAYMENT

107-5.1. Payment will be made at the contract unit price per each unit installed and accepted by the Engineer. This price shall be full compensation for furnishing all materials, preparation, assembly, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete this Item. The quantity of cable in unit duct from the respective power source, to the respective wind cone shall be paid for separately under Item 108.

Payment will be made under:

Item AR107812 L-807 WC-12' Internally Lit - per each

END OF ITEM 107

**ITEM 108 INSTALLATION OF UNDERGROUND CABLE
FOR AIRPORTS**

DESCRIPTION

108-1.1. Add the following to this section:

“This Item of work shall consist of the installation (plowing, trenching, directional-boring, or installing in ducts or raceways) of cable for airfield lighting circuits and/or navaid circuits on the runways, taxiways, aprons, and the associated homeruns at the locations shown on the Plans and in accordance with these Specifications. This Item shall include cable in unit duct where noted on the Plans and specified herein.

In areas where there is a congestion of buried cable or where the proposed cable crosses an existing cable, the Contractor will be required to trench the proposed cable into place. In all other areas, the Contractor has the option to either trench or plow the proposed cable in unit duct into place.

When crossing existing circuits, the Contractor will be required to hand dig the trenches for the proposed cable.”

108-1.2 REFERENCES.

- A. ASTM Specification B3 – Standard Specification for Soft or Annealed Copper Wire.
- B. ASTM Specification B8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
- C. FAA Advisory Circular 150/5345-7E, (or latest edition) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS.
- D. FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- E. FAA AC No. 150/5370-2F (or most current issue) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
- F. Federal Specification A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation).
- G. NFPA 70 – National Electrical Code (most current issue in force).
- H. NFPA 70E – Standard for Electrical Safety in the Workplace.

- I. OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures.
- J. UL Standard 44 – Thermoset-Insulated Wires and Cables.
- K. UL Standard 83 – Thermoplastic-Insulated Wires and Cables.
- L. UL Standard 854 – Service Entrance Cables.

108-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for each wire, conductor, and/or cable type to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- A. **Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America from Domestic materials in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects. See the FAA website at: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls for a list of equipment on the FAA Buy American Conformance List.**
- B. In order to expedite the shop drawing review, inspection and/or testing of materials, the Contractor shall furnish complete statements to the Project Engineer as to the origin, composition, and manufacturer of all material to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.
- C. Indicate the pay item number for each respective cable and/or cable in unit duct.
- D. Shop drawings shall include wire/conductor/cable cut sheets with type, size, specifications, ETL or UL listing, manufacturer, and catalog or part number.

- E. Shop drawings for cable in unit duct items shall include cut sheets with type, size, specifications, ETL or UL listing, manufacturer, and catalog or part number for the respective unit duct.
- F. Where cable is required to have colored coded insulation, provide information on the color coding for the respective conductors.

EQUIPMENT AND MATERIALS

108-2.1 GENERAL. Add the following.

“All cable shall be FAA approved or UL-listed as suitable for installed application. Cable furnished on this project shall comply with the requirements of the “Airport Improvement Program Buy American Preference” requirements. All conductors shall be Copper.

108-2.2 CABLE. Revise this section to read as follows:

“L-824 Cable – L-824 cable shall be FAA L-824, Type C and shall conform to the requirements of FAA Advisory Circular 150/5345-7E, (or latest edition) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS". L-824 cable shall be FAA approved and listed in the current AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum. Circuits for use with constant current regulator outputs (runway or taxiway lighting circuits) shall use 5000-Volt rated cable.

Cable for use with airfield lighting series circuits (including runway lighting, taxiway lighting and taxi guidance signs) shall be one (1) conductor No. 8, 5,000-Volt, FAA L-824, Type C, stranded.

Item AR108158, 1/C #8 5KV UG Cable in UD shall be one (1) conductor No. 8, 5,000-Volt, FAA L-824, Type C, stranded, in unit duct (3/4-in.).

XLP-USE Wire. Cable shall comply with UL Standard 44, UL Standard 854, and Federal Specification A-A-59544. Conductor shall be concentric-strand, soft Copper, conforming to ASTM B8 and Underwriters’ Laboratories Standard UL44 for Rubber Insulated Wires. Insulation shall be rated for 600-Volt. Insulation shall be cross-linked polyethylene conforming to Underwriter’s Laboratories Requirements for Type USE-2 insulation. Cable shall be UL-listed and marked USE-2.

Item AR108656, 3/C #6 600 V UG Cable In UD shall consist of 3-1/C #6 AWG, XLP-USE, 600-Volt cable in unit duct (1.25-in. or sized larger as required per NEC). **Conductor insulation for 240 VAC, 1-phase, 2-wire with ground circuits shall be color-coded: Phase A – Black, Phase B – Red, and Ground – Green.**

Item AR108658, 3/C #8 600 V UG Cable In UD shall consist of 3-1/C #8 AWG, XLP-USE, 600-Volt cable in unit duct (1-in. or sized larger as required per NEC). **Conductor insulation for 120 VAC, 1-phase, 2-wire with ground circuits shall be color-coded: Phase A – Black, (Note for Phase B – Cable insulation shall be Red or Black with red tape at points of access), Neutral - White, and Ground – Green.**

Color-coding: Color-code phase and neutral conductor insulation for No. 6 AWG or smaller. Provide colored marking tape or colored insulation for phase and neutral conductors for No. 4 AWG and larger. **Insulated ground conductors shall have green colored insulation for all conductor sizes (AWG and/or KCMIL) to comply with NEC 250.119. Neutral conductors shall have white colored insulation for No. 6 AWG and smaller to meet the requirements of NEC 200.6.** Standard colors for power wiring and branch circuits for 120/240 VAC, 1-Phase, 3-Wire system shall be Phase A – Black, Phase B – Red, Neutral – White, and Ground – Green.

108-2.3 BARE COPPER WIRE (COUNTERPOISE). Revise this section to read:

“Bare Copper counterpoise wire will not be required on this project under Item 108.”

108-2.4 CABLE CONNECTIONS. Add the following to this section:

“The Contractor will use a cable stripper/penciller whenever cable connections are made.

All breaks in the unit duct shall be sealed by shrink kits.

All below grade splices shall be installed in splice cans, handholes, or manholes. Splice cans shall be L-867, Class IA, Size B (12 in. diameter), 24 in. deep, with 1/2-in. thick, galvanized steel cover and stainless steel bolts. Larger size splice cans shall be provided, as applicable, for specific equipment applications or manufacturer’s recommendations, and/or where detailed on the Plans. Splice cans located in areas subject to heavy aircraft or vehicle loading shall be L-868 type. The Engineer shall approve all splice locations before work commences. The furnishing and installing of splice cans for new homerun cables shall be incidental to the respective cable pay item, and no additional compensation will be allowed.”

108-2.12 LINE MARKING TAPE. Delete this section.

108-2.13 UNIT DUCT. Add the following:

“Standard sizes of smooth wall polyethylene duct shall conform to the dimensional requirements specified below:

Nominal Duct Size	Nominal Inside Diameter	Nominal Standard Wall	Nominal Outside Diameter*
3/4 in.	0.910 in.	0.070 in.	1.050 in.
1 in.	1.145 in.	0.085 in.	1.315 in.
1-1/4 in.	1.440 in.	0.110 in.	1.660 in.
1-1/2 in.	1.650 in.	0.125 in.	1.900 in.
2 in.	2.065 in.	0.155 in.	2.375 in.
2-1/2 in.	2.449 in.	0.213 in.	2.875 in.
3 in.	3.048 in.	0.226 in.	3.500 in.
4 in.	4.000 in.	0.250 in.	4.500 in.

* Dimensions include allowance for duct eccentricity.”

CONSTRUCTION METHODS

108-3.1 GENERAL. Add the following to this section:

“The cable quantities as shown on the Construction plans are based on straight-line measurement. All other cable lengths, such as slack or waste, will not be measured for payment.

If the Contractor wishes to lay cable on a line other than that shown on the Plans, he shall obtain approval of the Resident Engineer before doing so. Any additional cable needed because of such change will be at the Contractor's expense.

Only cable in unit duct may be plowed or directional-bored.

The Contractor shall identify all existing underground utilities located within the area where the proposed cables are being installed, and will take all precautions to protect these utilities from damage. Care shall be taken so as not to damage any existing circuits. Any existing circuits damaged shall be immediately repaired to the satisfaction of the Engineer and/or the respective utility or owner where applicable. Any underground utility damaged will be repaired or replaced at the Contractor's own expense. Any repairs of existing cables will be considered incidental to the contract, and no additional compensation will be allowed.

Contractor shall coordinate work and any power outages with the Airport Manager and/or respective Airport personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

Contractor shall comply with the requirements of FAA AC No. 150/5370-2F (or most current issue) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".

Contractor shall comply with the applicable requirements of NFPA 70E – Standard for Electrical Safety in the Workplace.

All temporary installations shall comply with National Electrical Code Article 590 – "Temporary Installations." The contractor shall secure, identify, and place temporary exposed wiring in conduit, duct, or unit duct to prevent electrocution and fire ignition sources in conformance with the requirements of FAA AC 150/5370-2F, Part 218, Paragraph c.

All cables installed by the Contractor shall be properly labeled and tagged at all points of access (handholes, manholes, terminal panels, control panels, and the respective wireway in the vault).

All changes to the airfield lighting system shall be documented by the Contractor and provided to the Airport Representative."

108-3.2 INSTALLATION IN DUCT OR CONDUIT. Add the following to this section:

"The unit duct will be run continuous through all ducts and conduits.

Where cable in unit duct enters a handhole with a continuous duct bank system to the termination point (such as from a handhole to the vault or between handholes) the unit duct will not be required for the respective cable."

108-3.3 TRENCHING. Add the following to this section:

"F. Cable installed in cultivated fields shall be installed a minimum of 42 in. below grade.

G. Any and all trenches will be backfilled to a smooth grade to the satisfaction of the Engineer. All trench settlement shall be corrected for a period of one (1) year. Restoration, grading, and seeding of areas disturbed during the installation of the proposed cable will be incidental to the respective 108 Pay Item."

108-3.5 SPLICING. Add the following:

"In-line connections for existing cables cut during construction shall be repaired with a cast splice kit. The Contractor shall have a minimum of two (2) splice kits on the job site at all times for emergency repairs. Cast splice kits shall be specified in paragraph (a) of Item 108-2.4. **Splice cans shall be provided for existing cables cut and repaired for each splice in cables not to be abandoned. Where a splice can is not readily available at the time of the cable damage, splice markers shall be temporarily**

installed over each splice in cables not to be abandoned, then these splices shall later be replaced with new splices in an L-867 splice can.

There shall be no splices between series lighting circuit isolation transformers. In the event that a series lighting circuit cable is cut between isolation transformers, the entire length of cable between these isolation transformers shall be replaced.”

108-3.6 BARE COUNTERPOISE WIRE INSTALLATION AND GROUNDING FOR LIGHTNING PROTECTION. Revise this section to read as follows:

“Bare Copper counterpoise wire will not be required on this project under Item 108.”

108-3.8 TESTING. Add the following.

“K. Prior to beginning cable installation all existing series circuit cables shall be Megger tested and recorded at the vault. All existing series circuit cable loops shall have the resistance tested and recorded for each circuit at the vault.”

108-3.12 LOCATING EXISTING UNDERGROUND UTILITIES AND CABLES. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor’s responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain, from the respective utility companies, detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner’s Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract.

All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

Payment for locating and marking underground utilities and cables will not be paid for separately, but shall be considered incidental to the plowing/trenching/boring of cable and cable in unit duct.

108-3.13 SEPARATION OF HIGH-VOLTAGE AND LOW-VOLTAGE WIRING. Low-voltage wiring shall maintain separation from high-voltage wiring. Low-voltage wiring and high-voltage wiring shall not be installed in the same raceway, handhole, or junction box. Where necessary provide split flexible duct around low voltage cables located in a handhole with high voltage cables, to isolate the cables from possible contact with each other.

METHOD OF MEASUREMENT

108-4.2. Revise this section to read as follows:

“The footage of cable installed in duct, conduit, or raceway to be paid for shall be the number of linear feet of cable installed in duct, conduit, or raceway measured in place by direct measurement, completed, ready for operation and accepted as satisfactory with no allowance being made for overrun due to slack, turns, splices, etc. Slack cable required to perform cable splices outside of the respective splice cans, handholes, or manholes, shall be incidental to the respective cable pay item and no additional measurement for payment will be made. Cable will be measured for payment from the respective termination or splice point in the field up to the respective electrical handhole located near the vault.

- A. The wiring associated with the airport electrical vault work will be paid for under Item AR109200 Install Electrical Equipment - per lump sum. Cable or cable in unit duct installed inside or below the vault shall be incidental to Item AR109200 and no additional measurement for payment will be made.
- B. Wiring between the vault and high voltage handhole located in the area near the proposed vault will be considered incidental to Item AR109200, and no additional compensation will be allowed.
- C. Wiring between the vault and low voltage handhole located in the area near the proposed vault will be considered incidental to Item AR109200, and no additional compensation will be allowed.
- D. The cable in duct, unit duct, and/or conduit between the vault and the terminal building for the remote photocell bypass control will be considered incidental to Item AR109200, and no additional compensation will be allowed.
- E. The cable in duct, unit duct, and/or conduit between the vault and the load center at the Airport Rotating Beacon will be considered incidental to Item AR800591 Upgrade Airport Rotating Beacon, and no additional compensation will be allowed.”

BASIS OF PAYMENT

108-5.1. Payment will be made at the contract unit price per lin. ft of cable completed and accepted by the Engineer. This price shall be full compensation for furnishing all materials, and for all preparation, assembly, and installation of these materials; for all plowing, trenching, directional-boring, coring of manholes or handholes, installation in ducts, raceways, conduits, splice cans, handholes, or manholes, and for all excavation and backfilling; for all site restoration (topsoiling, grading, seeding, mulching) and pavement restoration; and for all labor, equipment, tools, and incidentals necessary to complete this Item.

Payment will be made under:

Item AR108158, 1/C #8 5KV UG Cable in UD - per linear foot
Item AR108656, 3/C #6 600 V UG Cable in UD - per linear foot
Item AR108658, 3/C #6 600 V UG Cable in UD - per linear foot

END OF ITEM 108

**ITEM 109 INSTALLATION OF AIRPORT
TRANSFORMER VAULT AND VAULT EQUIPMENT**

DESCRIPTION

109-1.1. Revise this section to read as follows:

“Item AR109100 “Construct Electrical Vault” shall consist of modifying a space in the existing SRE (Snow Removal Equipment) Facility Building to provide a dedicated space for the Airport Electrical Vault. 6 ft chain link fence shall be installed with access gates to isolate the vault from the remainder of the SRE Facility. 4 in. housekeeping pads shall be provided to keep the constant current regulators above the floor. 3/4 in. weather proof/treated plywood with two (2) coats of enamel paint (white or gray), weatherproof treated studs, floor flanges, strut support, and associated hardware shall be furnished and installed to mount equipment on the walls. Vault construction shall be in accordance with this Specification at the location, design, and dimensions shown on the Construction Plans. This item shall include all labor, equipment, materials, coordination, installation, testing, and the furnishing and installation of all incidentals necessary to produce a completed vault and place it in operating condition.”

109-1.2. Item AR109200 “Install Electrical Equipment” shall consist of furnishing and installing electrical equipment inside the new vault as detailed on the Plans and specified herein. This item shall also include furnishing and installing electric unit heaters, exhaust/ventilation fans, louvers, dampers, and associated controls for the mechanical system. This item shall also include the relocation of existing airfield lighting equipment as shown in the Plans. This item shall include all labor, materials, transportation, equipment, wiring, raceways, grounding, warranties, tools, utility coordination, relocations, operational instructions, labeling, testing, and all incidentals required to place the vault and associated equipment into proper working order as a completed unit to the satisfaction of the Owner and Engineer.

Included under this item shall be the following:

- A. Field verification of existing site conditions to determine complexity of the proposed work.
- B. Coordinating all work with the Airport Manager, the designated Airport Maintenance Staff, and the Resident Engineer.
- C. Furnishing and installing all associated electrical equipment, support hardware, raceways, conduits, cable, wiring, grounding, and accessories as detailed on the Plans and specified herein.
- D. Repairing the existing exhaust fan ventilation system and adding the associated temperature controls for the new vault.

- E. Furnishing and installing all raceways, conduits, and ducts in, beneath, and adjacent to the vault.
- F. Furnishing and installing all necessary cable and wiring within the vault and to the respective handholes located outside of the vault, as detailed on the Plans and specified herein. The galvanized rigid steel conduits from the vault to the respective high-voltage handhole as detailed on the Plans and specified herein, shall also be included under this item. The galvanized rigid steel conduits from the vault to the respective low voltage handhole as detailed on the Plans and specified herein, shall also be included under this item.
- G. Furnishing and installing new electric service to the SRE Facility. This work shall include service conductors and conduit from the respective utility transformer to the meter base and existing service panel, and providing a grounding system as detailed on the Plans and specified herein. This item shall include all labor, equipment, wiring, raceways, grounding, materials, tools, utility coordination, labeling, testing and all incidentals required to remove and replace the respective electric service installation to the satisfaction of the serving electric utility, Owner and Engineer. Included under with this work shall be the following:
 - a. Coordinating all work with the Airport Manager, the Airport maintenance staff, and the Resident Engineer.
 - b. Coordinating with the serving electric utility the installation of new electric service.
 - c. Furnishing and installing a new meter base with conduit, and cable as detailed on the Plans and Specified herein.
 - d. Furnishing and installing a new ground rod, grounding electrode conductor, and Schedule 40 PVC conduit as detailed on the Plans and Specified herein.
- H. Relocating existing constant current regulator(s) located in the existing vault to the new vault.
- I. Furnishing and installing all grounding and surge protection, as detailed on the Plans and specified herein.
- J. Locating, identifying, relocating, and/or replacing all existing airfield lighting cables and existing airfield equipment cables (including existing cables associated with the runway lighting, PLASI, airport rotating beacon, wind tee, parking lot lighting, entrance road lighting, flag pole lighting, and any other airfield electrical systems), as necessary to disconnect these respective cables from the existing vault and reconnect, replace and/or interface these respective cables to the new vault as applicable. This shall include all splices, cable, interfacing work to handholes (including rerouting cables, duct entrances, sleeves, patching, etc.), splice cans, identification, and labeling cables at each respective handhole and at the respective vault, maintaining separation of low-voltage cables from high-voltage cables, any temporary connections to maintain operation of the respective airfield systems, and any other work required to restore proper operation of the existing airfield systems when

reconnected to the new vault. All work shall be coordinated with the Airport Manager and shall be coordinated to minimize down time to the respective airfield systems.

- K. Furnishing and installing a lighting contactor control panel and radio control interface/relay control interface panel at the Vault.
- L. Furnishing shop drawings for all new equipment. Shop drawings for lighting contactor control panel, and radio control interface/relay control interface panel shall include panel layout, terminal block arrangement, and wiring diagrams for each panel.
- M. Identifying and labeling all control wiring associated with the control circuit upgrades.
- N. Testing, adjusting, and retesting (where applicable) all new equipment and modifications to existing systems for proper operation.
- O. Labeling all mechanical and electrical equipment and incidentals necessary to place all of the equipment in operation as a complete unit acceptable to the Owner and Engineer.
- P. Furnishing operation, maintenance, and installation manuals for all new equipment.
- Q. Electrical handholes associated with cable relocations and interfacing to duct systems shall be paid for separately under Item AR110610 Electrical Handhole.

109-1.3. Item AR109902 “Remove Electrical Equipment” shall consist of removal of existing equipment located in the existing Terminal Building as indicated on the Plans. The existing runway 18-36 constant current regulator shall be relocated to the new vault for use as a spare/backup unit. All other equipment to be removed shall be turned over to the Owner. In the event that the Owner does not want the respective equipment, the Contractor shall dispose of that respective equipment in a legal manner off of the airport property. Removal of existing lighting contactors, L-854 Radio Receiver, and interface/relay control panels at the existing Vault, including associated wiring shall be included with this item of work. Removal of vault equipment shall include the removal of the associated wiring and raceway for the respective equipment that is to be removed and all associated equipment made obsolete by the proposed work. This item shall also include removal of the exiting feeder cable from the Main Hangar to the Snow Removal Equipment Building. Cable shall be turned over to the Airport.

109-1.4 REFERENCES

- E. ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- F. ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- G. ANSI Z535.4-2002 - American National Standard for Product Safety Signs and Labels.
- H. ASTM Specification B3 – Standard Specification for Soft or Annealed Copper Wire.

- I. ASTM Specification B8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
- J. Federal Specification A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation).
- K. FAA AC No. 150/5340-26B “MAINTENANCE OF AIRPORT VISUAL AID FACILITIES.”
- L. FAA AC No. 150/5340-30F “DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS.”
- M. FAA AC No. 150/5345-7E, (or latest edition) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS.
- N. FAA AC No. 150/5345-10G “SPECIFICATION FOR CONSTANT CURRENT REGULATORS AND REGULATOR MONITORS.”
- O. FAA AC No. 150/5345-49C “SPECIFICATION L-854 RADIO CONTROL EQUIPMENT.”
- P. FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- Q. FAA AC No. 150/5370-2F (or most current issue) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.”
- R. FAA-STD-019d dated August 9, 2002, Department of Transportation, Federal Aviation Administration Standard, LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING, AND SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT.
- S. FAA-STD-019e, December 22, 2005, Department of Transportation, Federal Aviation Administration Standard, LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING AND SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT.
- T. NFPA 70 – National Electrical Code (most current issue in force).
- U. NFPA 70E – Standard for Electrical Safety in the Workplace.
- V. OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures.
- W. UL Standard 6 – Rigid Metal Conduit.
- X. UL Standard 44 – Thermoset-Insulated Wires and Cables.

Y. UL Standard 83 – Thermoplastic-Insulated Wires and Cables.

Z. UL Standard 467 – Grounding and Bonding Equipment.

AA. UL Standard 486A-486B Wire Connectors.

BB. UL Standard 514B – Conduit, Tubing and Cable Fittings.

109-1.5 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for vault equipment and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop Drawings shall clearly indicate proposed items, capacities, characteristics, and details in conformance with the Plans and Specifications. The respective manufacturer shall certify capacities, dimensions, special features, etc. When a submittal is marked “Revise and Resubmit”, “Rejected”, and/or “Not Approved”, do not proceed with that part of the work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations, resubmit, and repeat if necessary to obtain a different action mark such as “No Exceptions Taken” or “Furnish as Corrected.” Contractor is responsible for compliance with the specified characteristics. Contractor’s responsibility for error and omissions in submittals is not relieved by the Engineer’s review of submittals. Accompany each submittal with a transmittal letter that includes the date, project title and number, Contractor’s name and address, the number of Shop Drawings, product data and/or samples submitted, notification of any deviations from the Contract, and any other pertinent information. Shop drawings shall include the following information:

A. Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects. See the FAA website at: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls for a list of equipment on the FAA Buy American Conformance List.

- B. In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- C. Provide shop drawings for the fencing with certification of 100 percent domestic steel used in the manufacture of the fencing and materials.
- D. Concrete mix design.
- E. Submittals for panelboards shall include manufacturer, catalog numbers, panel schedule, voltage and amperage ratings, bus material, integrated short circuit ampere rating, circuit breaker arrangement and sizes and respective enclosure.
- F. Cut sheets with part number and specifications for the surge protective device.
- G. Cut sheets with part number and specifications for the constant current regulators. Include list of spare parts.
- H. Cut sheets with part number and specifications for the S-1 cutouts and enclosures.
- I. Furnish shop drawings for the L-854 radio receiver.
- J. Furnish shop drawings for the radio control interface/relay control interface panel at the Vault. Shop drawings shall include panel layout, terminal block arrangement, and wiring diagram for the panel.
- K. Furnish shop drawings for the lighting contactor control panel for the Airport Nav aids, and Vault Exhaust Fan. Shop drawings shall include panel layout, terminal block arrangement, and wiring diagram for the panel.
- L. Furnish shop drawings for the double throw fusible safety switches to be used with the Runway constant current regulators and other safety switches as detailed on the Plans.
- M. Provide cut sheets for all types of conduit used in the vault (for example galvanized rigid steel conduit and UL listed liquid tight flexible metal conduit). Include certification that steel conduits are made with 100 percent domestic steel.
- N. Provide cut sheets for 6-in. by 6-in. wireway to be used in the vault.
- O. Provide cut sheets for the power and control circuit conductors.
- P. Provide cut sheets with manufacturer's name, catalog number, dimensions, material and UL listing for each type and size ground rod. Include certification of 100 percent domestic steel

for ground rods. Include cut sheets for exothermic weld connections, ground lugs, and ground wire.

- Q. Provide shop drawings for the ground bus bar. Include manufacturer, dimensions, part numbers, and information on standoffs, insulators, splices, bonding jumpers, and mounting hardware.
- R. Cut sheets with part number and specifications for each fire extinguisher.

EQUIPMENT AND MATERIALS

109-2.1 GENERAL. Add the following to this section:

- “C. FAA approval of airport lighting equipment and subsequent inclusion in Advisory Circular 150/5345-1 "Approved Airport Equipment," and/or Advisory Circular 150/5345-53 "Airport Lighting Equipment Certification Program" only means that the test data satisfied the applicable Specification requirements. This does not insure that the approved equipment will satisfactorily operate when connected power-wise and/or control-wise to other approved airport lighting equipment or "off the shelf" equipment not requiring FAA approval.
- D. The Contractor shall ascertain that all lighting system components furnished by him (including FAA-approved equipment) are compatible in all respects with each other and the remainder of the new system. Any non-compatible components furnished by the Contractor shall be replaced by him, at no additional cost to the Airport Sponsor, with a similar unit approved by the Engineer (different model or different manufacturer) that is compatible with the remainder of the airport lighting system.
- E. Except as specified otherwise, all new equipment shall be provided by the Contractor and shall be tested for Specification conformance as part of the Aviation Lighting Equipment Certification Program. Certification of conformance, as tested by the respective testing laboratory, shall be provided by the manufacturer for all items submitted for approval.

109-2.4 BRICK. Delete this section.

109-2.5 RIGID STEEL CONDUIT. Add the following:

“GRSC shall be heavy wall, hot-dipped, galvanized steel pipe bearing the UL label and conforming to UL-6 and ANSI Specification C80.1. Couplings, connectors, and fittings for rigid steel conduit shall be threaded, galvanized steel, or galvanized malleable iron specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 and UL-514B. Set screw type fittings are not acceptable. Steel used to manufacture conduits shall be 100 percent domestic steel. Contractor shall provide

certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.

Where noted on the Plans Polyvinylchloride (PVC) coated, galvanized rigid steel conduit shall be furnished and installed for additional corrosion protection. PVC coated, galvanized rigid steel conduit and fittings shall be as manufactured by Robroy Industries, Inc., Conduit Division, 1100 US Highway 271 South, Gilmer, Texas 75644, Phone 903-843-5591, Sales Department Fax: 903-843-2516, or approved equivalent. The conduit and fittings, prior to coating, shall be new, unused material, and shall conform to UL 6, Standard for Safety for Rigid Metal Conduit and UL 514B Standard for Safety, Fittings for Conduit and Outlet Boxes. An exterior PVC coating of a nominal 40 mils (.040 in.) shall be applied to the conduit and conduit couplings. The PVC coating shall conform to all applicable requirements of NEMA RN-1, Standard for PVC Coated Conduit. A red urethane coating of 2 mils (.002 in.) shall be uniformly and consistently applied to the interior of conduit and conduit couplings. Conduit or fittings having areas of thin or no interior coating shall be unacceptable. The PVC exterior and urethane interior coatings applied to conduit shall have sufficient flexibility to permit field bending without cracking or flaking at temperatures above 30°F, (-1°C). All male threads on conduit, elbows, and nipples, and all female threads on conduit couplings and fitting shall be protected by application of urethane coating.”

109-2.7 OUTLETS. Add the following:

- “A. General Purpose Receptacles. General purpose receptacles for all wall-type convenience outlets in non-hazardous areas shall be of the 20-Amp, 125-volt, 3-wire grounding type, NEMA 5-20R, heavy-duty specification-grade, **ivory** in color, Arrow Hart Part Number 5362, Bryant Part Number 5362, Hubbell Part Number HBL5362, Pass & Seymour Part Number 5362, or approved equal. Cover plates for flush-mounted, general purpose receptacles shall be of the stainless steel type as manufactured by Arrow Hart, Bryant, Hubbell, Pass & Seymour, or approved equal.
- B. GFCI Receptacles. Receptacles with ground-fault circuit interrupters shall be provided and installed where noted on the Plans. Ground-fault circuit interrupter receptacles shall be rated 120-VAC, 60 HZ, 20-Amps, **ivory** in color, specification-grade with NEMA 5-20R receptacle configuration and a trip threshold of 5 ± 1 milliamps. Ground fault circuit interrupter receptacles shall be UL Class “A” ground-fault interrupter receptacle units complying with and tested in accordance with UL Standard No. 943. Ground fault circuit interrupter receptacles shall be Arrow Hart Part Number GF5342, Bryant Part Number GFR53FT, Hubbell Part Number GF5362, Pass & Seymour Part Number 2091-S, or approved equal.
- C. Device Boxes. Device boxes for flush-mounted, non-hazardous receptacles and switches shall be sheet steel construction. Cover plates shall be stainless steel, as manufactured by Arrow Hart, Bryant, Hubbell, Pass & Seymour, or equal.

Surface-mount device boxes shall be of cast aluminum or malleable iron FS design with cover plates of surface-mount FS design, as manufactured by Appleton, Crouse Hinds, or approved equal. Weatherproof covers shall be industrial grade, rain-tight NEMA 3R (while outlet is in use, as well as when not in use), UL-listed, FS box-mountable, weatherproof covers, TayMac Corporation Catalog No. 20550, or approved equal.”

109-2.13 GROUND BUS. Revise to read as follows:

“Ground bus for the vault interior shall be 1/4 in. thick by 2 in. wide copper bus bar, as manufactured by Harger Lightning Protection Inc., Gus Berthold Electric Company, or approved equivalent. Ground bus shall include standoffs, insulators, splices, bonding jumpers, mounting hardware, etc., as required for the respective application. Splices for 1/4 in. thick by 2 in. wide bus bar shall be with manufacturers splice plates and stainless nuts, bolts, and washers. Exothermic weld connections are also acceptable splices for the ground bus. Splice plates shall be bolt through type copper with minimum dimensions 1/4 in. thick by 2 in. wide by 6 in. length with four (4) bolts. Include an engraved phenolic or plastic legend plate 1/2-in. high white letters on a green background labeled “VAULT GROUND BUS”. All cable connections to the ground bus shall be with 2-hole tongue, long barrel compression lugs bolted to the bus bar, as detailed on the Plans.”

109-2.14 SQUARE DUCT. Revise the last sentence to read:

“Square duct shall be sized, as detailed on the Plans.”

Add the following:

“Wireway shall be installed, as indicated on the Plans, including, but not limited to, straight lengths, elbows, tees, offsets, panel adaptors, closing plates, wire retainers, and supports, as required for a complete installation. Wireways shall be constructed of 16-gauge steel before finishes are applied. All straight lengths of wireway shall have hinged or bolt-on covers. Lengths shall be provided with cover latches, a minimum of every 3 ft, which shall hold the cover securely in-place when closed. Sealing ears shall be provided on both the wireway lengths and connector covers so that the entire run can be sealed.

Wireways shall be 6 in. by 6 in., as detailed on the Plans. Wireways shall be furnished without knockouts. Connectors shall be slip-in type with self-retained mounting screws. They shall also have the feature to allow “lay-in” of all conductors. Wireways shall be provided with a gray epoxy-painted finish applied over a corrosion-resistant phosphate primer. All wireway lengths and accessories shall be Underwriters Laboratories listed and labeled in conformance with UL 870 Standards for Wireways, Auxiliary Gutters, and Associated Fittings and conform to NEMA 1 enclosure rating.”

109-2.15 GROUND RODS. Revise to read as follows:

“Ground rods shall be 3/4-in. diameter, 20 ft long, UL-listed, copper-clad (two 3/4-in. diameter by 10 ft long ground rods coupled together to form a 20 ft long ground rod) Ground rods shall have 10 mil. minimum Copper coating. Steel used to manufacture ground rods shall be 100 percent domestic steel.”

109-2.16 POTHEADS. Delete this section.

109-2.17 PRE-FABRICATED METAL HOUSING. Delete this section.

109-2.18 FAA-APPROVED EQUIPMENT. Add the following:

“FAA approved equipment shall also comply with the requirements of the Airport Improvement Program Buy American Requirement. FAA approved equipment shall include the following:

A. Constant Current Regulator for Runway 18-36. Constant Current Regulator (CCR) for Runway 18-36 shall be a Type L-828 constant current regulator, Class 1 - 6.6 Amps output current, Style 1 - three (3) brightness steps (4.8, 5.5, and 6.6-Amps), 7.5 KW (minimum), 240 VAC, single-phase, 60 Hertz input. Constant current regulator shall comply with FAA AC 150/5345-10G for Type L-828 regulator and shall be FAA Approved. Constant current regulator shall properly operate the respective airfield lighting system it is powering. Constant current regulator shall be capable of properly operating one (1) set (a pair) of Type L-849I REILS with the runway lighting system. **The steady burning light load for the runway lighting system has been calculated to be approximately 5340 Watts.** Constant current regulator must cause the minimum possible radiated or conducted electromagnetic interference (EMI) to airport and FAA Equipment (example; computers, radars, instrument landing systems, radio receivers, VHF Omni-directional Range, etc.) that may be located on or near an airport. Constant current regulator shall include open circuit protection, over current protection, output current ammeter, output voltmeter, and arresters of the proper rating to protect the CCR from lightning induced voltage and current surges installed at both the input and output terminals of the CCR. Constant current regulators shall also include a remote/local control feature with selections for “Remote, Off, 10 percent Brightness, 30 percent Brightness, and 100 percent Brightness”. Control voltage shall be 120 VAC (internal/external). Constant current regulators shall be ADB Airfield Solution dry-type ferro-resonant regulator, Manairco, Inc. dry-type ferromagnetic reactor regulator, Flight Light Inc./Hevi-Duty dry-type saturable reactor type regulator, or approved equal. Include the following spare components:

1. One spare control circuit board for each type in the constant current regulator
2. Primary switch contactor
3. Lightning arresters (input and two (2) output)
4. Control circuit fuses or breaker

Note the requirement for the constant current regulator to be capable of properly operating one (1) set (a pair) of Type L-849I REILS with the runway lighting system, is based on a future application per review of the respective Airport Layout Plan. FAA AC 150/5340-30F, Chapter 7 ECONOMY APPROACH AIDS, Part 7.5 DESIGN, b. REIL, Paragraph (1) (b) notes *“If using a CCR (constant current regulator) for REIL primary power, ensure that the regulator will accommodate a pulsing load that may have reactive components. Consult the manufacturers of both the CCR and REIL before making a final decision.”*

B. Constant Current Regulator for Taxiway. Constant Current Regulator (CCR) for Taxiway shall be a Type L-828 constant current regulator, Class 1 - 6.6 Amps output current, Style 1 - three (3) brightness steps (4.8, 5.5, and 6.6-Amps), 7.5 KW (minimum), 240 VAC, single-phase, 60 Hertz input. Constant current regulator shall comply with FAA AC 150/5345-10G for Type L-828 regulator and shall be FAA Approved. Constant current regulator shall properly operate the respective airfield lighting system it is powering. **The steady burning light load for the taxiway lighting system has been calculated to be approximately 5494 Watts.** Constant current regulator must cause the minimum possible radiated or conducted electromagnetic interference (EMI) to airport and FAA Equipment (example; computers, radars, instrument landing systems, radio receivers, VHF Omni-directional Range, etc.) that may be located on or near an airport. Constant current regulator shall include open circuit protection, over current protection, output current ammeter, output voltmeter, and arresters of the proper rating to protect the CCR from lightning induced voltage and current surges installed at both the input and output terminals of the CCR. Constant current regulators shall also include a remote/local control feature with selections for “Remote, Off, 10 percent Brightness, 30 percent Brightness, and 100 percent Brightness.” Control voltage shall be 120 VAC (internal/external). Constant current regulators shall be ADB Airfield Solution dry-type ferro-resonant regulator, Manairco, Inc. dry-type ferromagnetic reactor regulator, Flight Light Inc./Hevi-Duty dry-type saturable reactor type regulator, or approved equal. Include the following spare components:

1. One (1) spare control circuit board for each type in the constant current regulator.
2. Primary switch contactor.
3. Lightning arresters (input and two (2) output).
4. Control circuit fuses or breaker.

C. L-854 Radio Controller. L-854 radio controller shall be FAA-approved and comply with FAA AC 150/5345-49 (latest issue), and FCC Rules and Regulations: Part 15. The radio controller shall be a Type I classification (air-to-ground) unit consisting of an AM receiver and Type A decoder mounted in a metal weatherproof enclosure, painted international orange per FAA Standard 595A. Input voltage shall be 120 VAC, 60 Hz. Frequency range shall be 118 to 136 MHz. Unit shall have solid-state circuitry other than the relays. Include a remote antenna with sufficient length of coaxial cable to mount above the vault building roof for proper operation. Frequency

shall be 122.8 MHz or as selected by the Airport Manager. **Confirm frequency with the Airport Manager, prior to ordering.**”

109-2.19 OTHER ELECTRICAL EQUIPMENT. Add the following:

“Switches, cutouts, relays, lighting contactors, terminal blocks, circuit breakers, and all other regularly used commercial items of electrical equipment not covered by FAA equipment specifications shall conform to the applicable rulings and standards of the institute of Electrical and Electronic Engineers or the National Electrical Manufacturer’s Association. When specified, test reports from a testing laboratory indicating that the equipment meets the specifications shall be supplied. In all cases, equipment shall be new and a first-grade product. This equipment shall be supplied in the quantities required for the specific project and shall incorporate the electrical and mechanical characteristics specified in the Plans or in the proposal. Contractor shall confirm quantity for all electrical equipment with the Plans. Equipment and Materials shall be manufactured in the United States to comply with the Airport Improvement Program Buy American Preference requirements. Proposed electrical equipment for the vault shall be as follows:

- A. Circuit Breakers. **Branch circuit breakers, to be installed in the existing snow removal equipment facility panelboard, shall be compatible with the existing panelboard.** Circuit breakers shall be bolt-on type with an amp interrupting capacity of 22,000 Amps minimum at 120/240 VAC. Circuit breaker amperage trip settings and number of poles shall be as detailed on the Plans.
- B. Relay Interface Panel. A relay interface panel shall be provided for the constant current regulators to interface the L-854 radio controller to each respective constant current regulator and each respective navaid lighting contactor. Relay interface panel shall be as detailed on the Plans. Terminal blocks shall be NEMA rated terminals. IEC rated terminal blocks are not acceptable. Relay interface panel shall be manufactured in the United States to comply with the Airport Improvement Program Buy American Preference requirements.
- C. Lighting Contactor Panel for Airport NAVAIDS. The lighting contactor panel for use with the airfield NAVAIDS (including the Airport Rotating Beacon, Wind-Tee, and Runway 18-36 PAPI units) and shall be as detailed on the Plans. Terminal blocks shall be NEMA rated terminals. IEC rated terminal blocks are not acceptable. The lighting contactor panel shall be manufactured by an FAA approved L-821 control panel manufacturer or a UL 508 industrial control panel builder and shall be manufactured in the United States to comply with the Airport Improvement Program Buy American Preference requirements.
- D. Type S-1 Series Plug Cutouts. Provide series plug cutouts for each constant current regulator as detailed on the Plans. Series plug cutouts shall be Type S-1, rated 5KV, 20-Amp, and shall comply with FAA AC 150/5340-4C. Cutouts shall be certified in writing by the manufacturer as suitable for the respective

application. Cutouts for the runway series circuit will be wired for manual transfer operation (one series circuit loop with the capability of being powered from either of two (2) constant current regulator power sources). Series plug cutouts shall be Crouse-Hinds, Type S-1, Model 2, Catalog Number 30775, or an approved equal. Series cutouts where the manufacturer has noted their cutouts are not recommended to operate with the handle pulled/removed are not acceptable. Other cutouts, that do not function as detailed on the Plans or that are not suitable for the respective application, are not acceptable. Install the series plug cutouts in a NEMA 1 or NEMA 12 painted steel enclosure adequately sized to house the cutout(s), with a hinged cover and back panel to mount the cutouts. All enclosures shall be pad lockable.

- E. Circuit Breaker Panelboards. Circuit breaker panelboard shall be rated 120/240 VAC, 1-phase, 3-wire and shall have copper bus structure braced for 10,000 RMS Amperes fault current minimum at 120/240 VAC. All copper parts shall be plated to prevent corrosion. Panelboards shall bear the UL label. Panelboards for service entrance applications shall be UL-listed suitable for service entrance. All panelboards shall be dead-front safety-type, equipped with thermal magnetic-molded case breakers and solid neutral bus. Bus bar connections to the branch circuit breakers shall be the "Distributed Phase" or "Phase Sequence" type. Bussing shall be such that adjacent single-pole breakers will be on different phases or polarities, and that two (2) pole breakers can be installed at any location. Panelboard numbering shall be such that starting at the top, odd numbers shall be used in sequence down the left hand side, and even numbers shall be used in sequence down the right hand side. Cabinets shall be fabricated of code-gauge, galvanized steel with gutters per the NEC. Fronts shall have doors with matching one-piece trim, be code-gauge, and be finished with rust-inhibiting primer and baked enamel. Fronts shall have adjustable indicating trim clamps completely concealed when door is closed. Provide a circuit directory frame and card with a clear plastic covering on the inside of the doors. Fronts shall have flush locks, and be furnished with two (2) keys per lock. Provide circuit breakers, quick-make, quick-break, thermal-magnetic, trip indicating, and common trip on all multi-pole breakers. Handles shall have "ON", "OFF" and "TRIPPED" positions. Circuit breakers shall be UL-listed in accordance with UL Standard 489. Breakers shall have bolt-on connections to the bus. Amperage trip ratings, voltage ratings, interrupting current ratings, and number of poles shall be as shown on the panelboard schedules. Contractor shall confirm and adjust circuit breaker sizes, as required for the respective equipment or device being fed, in accordance with the respective equipment manufacturer's recommendation and the NEC. Panelboards shall be furnished with copper-ground bus and separate insulated neutral bus.
- F. Surge Protective Device for Vault Main Distribution Panelboard. AC power surge protective device shall be UL-listed per UL 1449, third Edition, and shall conform to the applicable requirements of FAA-STD-019d dated August 9, 2002, "LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING, AND

SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT.” AC power surge protective device for the main distribution panel shall be suitable for a 120/240 VAC, 1-phase, 3-wire, plus ground system with a surge current rating of 240,000-Amps, 8 x 20 microsecond wave per mode (L-L, L-N, L-G, N-G), and status indication lights in a NEMA 12-rated enclosure, Lightning Protection Corporation Model LPC 2020-8U-G, or approved equal. Include six (6) spare indicator lamps with each AC power surge protective device.

- G. Photocells. Photocells for use with the airfield lighting controls shall be rated 2000-Watts at 120 VAC, with off delay, -40°C to 60°C operating temperature range, Tork Model No. 2101, or approved equal. Photocell shall include an adjustable feature. Contractor shall confirm the selected photocell is suitable for the respective application.
- H. Double Throw Fusible Safety Switch. Double throw fusible safety switch for use as a manual transfer switch shall be UL listed, heavy duty, 60 Amp, 240 VAC, 2-pole with equipment ground kit in a NEMA 1 enclosure, Cutler-Hammer Catalog Number DT322FGK with ground kit or approved equal. Switch must be suitable to connect a single power source to either of two (2) different loads. The switch will be used to connect power to either of two (2) different constant current regulators. Switches that void the UL listing for this application are not acceptable. Confirm Amperage rating or the switch meets, or exceeds, the rating of the respective overcurrent device feeding the switch and adjust switch size where applicable.
- I. Junction and Pull Boxes. Junction and pull boxes shall be sized, as required for conductors and splices and per 2011 NEC Article 314. Boxes shall be UL-listed. Special boxes made to suit conditions shall be used to accommodate the respective application, or where required by the NEC, even though they might not be indicated on the Drawings. Surface-mounted exterior junction and pull boxes located in non-hazardous, non-classified areas shall be NEMA 4X stainless steel or aluminum, Crouse-Hinds, Killark, Hoffman, Hennessy, or equal. All junction and pull boxes installed in classified hazardous areas (Class 1, Division 1 or 2, Group D) shall be NEMA 7 and NEMA 4 and shall comply with applicable provisions of the NEC, including, but not limited to, Articles 500 and 501.
- J. Schedule 40 PVC Conduit. Schedule 40 PVC conduit shall comply with Item 110 and the following: Conduit shall be Schedule 40 PVC, UL-listed, rated for 90°C cable-conforming to NEMA Standard TC-2 and UL 651. Fittings shall conform to NEMA Standard TC-3 and UL 514B. Conduits shall be suitable for underground applications encased in concrete or direct burial, and suitable for exposed applications aboveground.
- K. Liquid-Tight Flexible Metal Conduit. Liquid-tight, flexible metal conduit shall consist of polyvinyl jacket over flexible hot dip galvanized steel tubing. The flexible conduit shall be completely sealed from liquids, dust, dirt, and fumes and

be resistant to oil, gasoline, grease, and abrasion. Jacket shall also be sunlight-resistant. Liquid-tight flexible metal conduit shall be UL-listed, suitable for use as a grounding conductor, and comply with Article 350 of the NEC. **Liquid-tight flexible metal conduit and associated fittings shall be UL-listed to meet the requirements of NEC 350.6.** Liquid-tight flexible metal conduit shall be Anaconda Sealite Type UA as manufactured by Anamet Electrical Inc., 1000 Broadway Avenue East, Mattoon, Illinois 61938-0039, (Phone: 217-234-8844), Liguatite Type LA as manufactured by Electri-Flex Company, 222 W. Central Ave., Roselle, Illinois 60172, (Phone: 630-529-2920 or 1-800-323-6174), or approved equal. Do not install liquid-tight, flexible metal conduit that is not UL listed. Confirm liquid-tight, flexible metal conduit bears the UL label prior to installation.”

109-2.20 WIRE. Add the following to Section A. Control Circuits:

“THWN Wire. Cable shall comply with Underwriters’ Laboratories Standard UL-83 and Federal Specification A-A-59544. Conductor shall be soft-annealed, uncoated Copper and shall comply with ASTM B3 and B8. Insulation shall be rated for 600-Volt. Insulation shall be polyvinyl-chloride conforming to Underwriters’ Laboratories requirements for Type THW. The outer covering shall be nylon-conforming to Underwriters’ Laboratories for type THHN or THWN. Cable shall be UL-listed and marked THWN.”

Delete paragraphs 1, 2, and 3 under Section B. Power Circuits.

Add the following:

“Power Cable (600-Volt and Below). All power wiring, 600-Volt and below, shall be the type, size, and number of conductors as noted on the Plans.

THWN Wire. Cable shall comply with Underwriters’ Laboratories Standard UL-83 and Federal Specification A-A-59544. Conductor shall be soft-annealed, uncoated Copper and shall comply with ASTM B3 and B8. Insulation shall be rated for 600-Volt. Insulation shall be polyvinyl-chloride conforming to Underwriters’ Laboratories requirements for Type THW. The outer covering shall be nylon-conforming to Underwriters’ Laboratories for type THHN or THWN. Cable shall be UL-listed and marked THWN-2. Power and control wiring shall be Type THWN-2, or approved equal. **Note where THWN wiring is referenced on the Plans, it shall be THWN-2.**

XHHW Wire. Cable shall be UL-listed as Type XHHW-2 per UL Standard 44. Cable shall also conform to ICEA S-95-658/NEMA WC70 and Federal Specification A-A-59544. Conductors shall be Class B stranded, annealed, uncoated Copper per UL Standard 44. Insulation shall be rated for 600-Volt. Insulation shall be cross-linked polyethylene complying with the physical and electrical requirements of UL Standard 44 for Type XHHW-2. XHHW wire may be used in place of THWN wire for all applications.

XLP-USE Wire. Cable shall comply with UL Standard 44, UL Standard 854, and Federal Specification A-A-59544. Conductor shall be concentric-strand, soft Copper, conforming to ASTM B8 and Underwriters' Laboratories Standard UL44 for Rubber-Insulated Wires. Insulation shall be rated for 600-Volts. Insulation shall be cross-linked polyethylene conforming to Underwriter's Laboratories Requirements for Type USE-2 insulation. Cable shall be UL-listed and marked USE-2.

Series Circuit 5,000-Volt Cable. Cable for use with series circuit airfield lighting shall be FAA-L-824, Type C cable complying with Item 108. L-824 cable shall be FAA approved and listed in the current AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum. Cable furnished on this project shall comply with the requirements of the Airport Improvement Program Buy American Preference requirements. Circuits for use with constant current regulator outputs (runway or taxiway lighting circuits) shall use 5,000-Volt rated cable.

Grounding electrode conductors and/or bonding jumpers shall be the size and type, as detailed on the Plans. Ground wire for bonding constant current regulator housings, cutout enclosures, and other vault equipment frames to the vault ground bus shall be #6 AWG stranded Copper."

109-2.21 FLOOR DRAINS. Delete this section.

109-2.22 FIRE EXTINGUISHERS. Furnish and install a UL rated, 10 pound Carbon Dioxide fire extinguisher suitable for use on Class C Fires and a 10 pound Class 4A:80B:C dry chemical ABC fire extinguisher suitable for use on Class A,B,C Fires, in the vault. Per NFPA 10 "Portable Fire Extinguishers" Class C are for fires that involve energized electrical equipment. Fire extinguishers shall be made in the United States of America to comply with the Buy American Requirement. Fire extinguisher type CO2 shall be Amerex Model 330, Kidde Model PRO10CDM or approved equal. Fire extinguisher dry chemical type ABC shall be Amerex Model B456, or approved equal. Provide wall mounting bracket for each fire extinguisher. Confirm model numbers with the respective fire extinguisher manufacturer.

109-2.23 CHAIN LINK FENCING. Chain link fencing for the vault area shall conform to the requirements of Item 162 Chain Link Fences (Class E) and as detailed on the Plans.

INSTALLATION OF EQUIPMENT IN VAULT OR PREFABRICATED METAL HOUSING

109-3.1 GENERAL. Add the following:

"The Contractor shall coordinate the installation of mechanical and electrical equipment with the building manufacturer and the foundation and floor. Contractor shall comply with the requirements of FAA AC No. 150/5370-2F (or most current issue) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".

109-3.9 LIGHTS AND SWITCHES. Add the following:

“Furnish and install receptacles, toggle switches, and control stations, as detailed on the Plans. Receptacles, toggle switches, and control stations shall be located at 4 ft–0 in. above finished floor elevation or finished grade at all structures. Adjust locations and/or mounting heights, where necessary, to avoid interferences. All receptacles shall be grounded with an equipment ground wire connected to the grounding terminal or screw on the receptacle. All toggle switches shall be grounded with an equipment ground wire connected to the grounding terminal or screw on the switch. Test all GFCI receptacles and receptacles protected by GFCI’s for proper operation. Verify all receptacles and switches are wired for the correct voltage.”

109-3.10 GENERAL. Add the following to this section:

“The Contractor shall furnish and install all materials necessary for complete and operational installation of the vault equipment, as specified herein and as shown on the Plans. The equipment and materials furnished must be compatible with and capable of properly operating the respective airfield lighting systems. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of the NFPA 70 – National Electrical Code (NEC) most current issue in force, and all other applicable local codes, laws, ordinances, and requirements in force. Electrical equipment shall be installed in conformance with the respective manufacturer’s directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer’s warranty of a device will not be permitted.

- A. Contractor shall keep a copy of the latest NEC in force on site at all times during construction for use as a reference.
- B. Contractor shall keep a copy of the Plans, Special Provision Specifications including any addenda, and copies of any change orders on site at all times during construction.
- C. Contractor shall coordinate work and any power outages with the Airport Manager and the Resident Engineer. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures including, but not limited to, 29 CFR section 1910.147 The Control of Hazardous Energy (lockout/tagout).
- D. Contractor shall comply with the applicable requirements of NFPA 70E – Standard for Electrical Safety in the Workplace.

- E. All electrical equipment installed by the Contractor shall be properly labeled, and all cables must be tagged.
- F. All changes to the airfield lighting system control wiring will be documented by the Contractor and provided to the Resident Engineer.
- G. Locate Existing Underground Utilities and Cables. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor's responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain, from the respective utility companies, detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract. All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.
- H. Contractor shall comply with the requirements of FAA AC No. 150/5370-2F (or most current issue) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION."
- I. Secure, identify, and place any temporary exposed wiring in conduit to prevent electrocution and fire ignition sources."

109-3.11 POWER SUPPLY EQUIPMENT. Add the following to this section:

"Electric Service Entrance for Snow Removal Equipment Facility and Vault. Contractor shall furnish and install electric service entrance for the Snow Removal Equipment Facility and Vault, as detailed on the Plans and specified herein. As part of the service entrance work, the Contractor shall coordinate with the serving utility, **(Shelby County Electric Cooperative, North Route 128 and Sixth Street, P. O. box 560, Shelbyville,**

Illinois 62565, Attn Mr. Jim Matlock, Vice President of Engineering, Phone (217) 774-3986, Fax: (217) 774-3330 the installation of a 120/240 VAC, 1-phase, 3-wire service sufficient to handle a 225-Amp service for the new airport vault and associated equipment. **The respective Airport Authority/IDOT Division of Aeronautics shall pay for all associated electric utility company charges required to provide electric service to the Snow Removal Equipment Facility and new vault. The Contractor is not responsible for electric utility company charges associated with the proposed electric service to the new vault.** The Contractor shall coordinate the new electric service with the serving electric utility company and the Airport Manager. The service entrance shall include, but not be limited to, all service entrance equipment, labor, and materials, as detailed on the Plans and specified herein, in order to provide a complete and operational electrical system.

- A. Electric Utility Company: Major work items to be performed by the serving electric utility company will be as follows:
1. Furnishing and installing primary electric to the utility transformer.
 2. The furnishing of power for a 120/240 VAC, 1-phase, 3-wire secondary service sufficient to handle the loads for a 225-Amp service.
 3. Furnishing and installing the meter.
 4. Making final connections to the utility transformer.
 5. The serving electric utility company will retain the right to review and approve Drawings prior to installation.
- B. Contractor: Major work items to be performed by the Contractor shall be as follows: all work, labor, equipment, and materials shall be as detailed on the Plans specified herein and per the serving electric utility's requirements, where applicable.
1. Furnishing and installing service entrance equipment support hardware as detailed on the Plans.
 2. Furnishing and installing a meter base in accordance with the serving electric utility company requirements. Contact the serving electric utility company for meter base requirements.
 3. Furnishing and installing service entrance cables and conduit from the utility transformer to the service disconnect.
 4. Furnishing and installing ground conductors, ground rods, and grounding electrode conductor conduit.
 5. Coordinating work with the Airport Manager.
 6. Coordinating work and verifying all requirements with serving electric utility.
 7. Additional work as required by the serving electric utility and as required to provide a complete and operational electric service entrance system.

Constant Current Regulators. Install constant current regulators in conformance with the manufacturer's recommendations, as detailed on the Plans and as specified herein.

Maintain working clearances in front of constant current regulators per the requirements of NEC 110.26 and 110.34. Maintain clearance around constant current regulators for air flow and cooling per the respective manufacturer's recommendations. Confirm circuit breaker sizes for constant current regulators are sized in conformance with the respective manufacturer's recommendations and/or requirements and NEC. Where necessary to accommodate the respective constant current regulator input amperage requirements, circuit breakers, conductors, and conduits shall be adjusted (increased in size) to meet the manufacturer's recommendations and/or requirements and the NEC. Conduit connections to constant current regulators shall be with UL-listed, liquid-tight, flexible metal conduit. Include an external bonding jumper or internal equipment ground wire with each piece of liquid-tight, flexible metal conduit that is connected to a constant current regulator to comply with NEC 350.60. High-voltage wiring shall enter each respective regulator at the high-voltage/series circuit output section of the regulator. 240 VAC input power wiring shall enter each respective regulator at the low-voltage/input power section of the regulator. Furnish and install control wiring, as detailed on the Plans. Control wiring shall enter each respective regulator at the control section of the regulator. Bond each constant current regulator enclosure frame, to the vault ground bus with a #6 AWG (minimum), bare-stranded, copper-bonding jumper."

109-3.12 SWITCHGEAR AND PANELS. Add the following to this section:

- A. Installation of Safety Switches and Enclosed Circuit Breakers. All safety switches and enclosed circuit breakers shall be provided with appropriate mounting hardware and strut support. Strut support shall be hot-dipped, galvanized steel strut support; Unistrut P-1000-HG, stainless steel strut support; Unistrut P-1000-SS, or approved equal. Provide zinc rich paint applied to field cuts of galvanized steel strut support to minimum the potential for corrosion per the respective strut support manufacturer's recommendation. All hardware shall be corrosion-resistant. Mount safety switches and circuit breakers securely in accordance with the manufacturer's recommendations/instructions for the respective application. Inspect all safety switches and circuit breakers for proper operation, tight and secure connections, and correctness. All safety switch and circuit breaker enclosures shall be bonded to ground with a ground lug or bar and ground wire. Field cut holes in safety switch enclosures to accommodate conduit entrances. Where safety switches and/or circuit breaker enclosures are provided with concentric knockouts, and the respective conduit does not use the largest knockout, install a grounding bushing with ground wire connections between the bushing and the ground bus. Do not use safety switch or circuit breaker enclosures for a splice box or for a pull box. Do not route control wires or other circuit wiring through a safety switch or circuit breaker enclosure. Provide weather-proof, abrasion-resistant, engraved legend plates for each safety switch and enclosed circuit breaker noting the device served, the power source, and the voltage system.
- B. Installation of Circuit Breakers in Panelboards. Install circuit breakers in panelboards in conformance with the respective manufacturer's directions. Connect only one (1)

wire/cable to each breaker terminal. Update circuit directory to identify the respective device fed by each new circuit breaker.

- C. Installation of Panelboards. Panelboards shall be thoroughly inspected for physical damage, proper alignment, anchorage, and grounding. The exterior finish shall be inspected for blemishes, nicks, and bare spots and touched up, as required, using matching touch-up paint. Inspections shall be made for proper installation and tightness of connections for circuit breakers. Install panelboards, as shown on the Plans and in accordance with NEMA PB1.1. Maximum distance from floor to highest breaker shall not exceed 6 ft-6 in. Install panelboards plumb. Install circuit breakers in panelboards in conformance with the respective manufacturer's directions. Connect only one (1) wire/cable to each breaker terminal. Provide filler plates for unused spaces in panelboards. Provide typed circuit directory for each branch circuit panelboard to identify the respective device fed by each circuit breaker. Revise directory to reflect circuiting changes, as required. Provide legend plates for all panelboards to identify the panelboard designation, the power source, and the voltage system. Legend plates shall be weather-proof and abrasion-resistant, phenolic material. Lettering shall be black on white background. Panelboards shall be thoroughly tested after installation and connection to respective loads.
- D. Surge Protector Device Installation. Install Surge Protector Devices (SPD) in conformance with of FAA-STD-019d, dated August 9, 2002, "LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING AND SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT" and the respective manufacturer's directions and recommendations. Contractor shall confirm all connections to the surge arrester (phases, neutral, and ground) are completed and secure. Connection leads to the surge arrester shall be sized per the respective manufacturer's recommendation and as detailed herein, and shall be maintained as short as possible, maximum 2 ft in length, and laced together for mutual coupling. The conduit or conduit nipple connecting the SPD enclosure to the panel enclosure shall be sealed with duct seal or other nonflammable medium to prevent soot from entering the enclosure in the event of a SPD failure.
- E. Installation of Control Panels. Install control panels, as detailed on the Plans and in conformance with the respective panel manufacturer's requirements and/or recommendations.
- F. Installation of S-1-Type Cutouts. Install plug cutouts in conformance with the manufacturer's recommendations, as detailed on the Plans and as specified herein. Provide NEMA 1 or NEMA 12 painted steel enclosures adequately sized for the cutouts and cables with hinged cover and back panel to mount the plug cutouts."

109-3.13 DUCT AND CONDUIT. Add the following to this section:

- "A. Conduit shall be installed in accordance with the following:

1. All service, feeder, branch circuit, and control circuit conduits associated with the vault shall be galvanized rigid steel conduit as detailed on the Plans.
2. Schedule 40 PVC conduits shall be used for individual grounding electrode conductors and/or bonding jumpers.
3. Liquid-tight, flexible metal conduit shall be used as specified herein.

B. Conduit Runs:

1. All conduits shall be sized, as indicated on the Drawings, or if conduit sizes not shown shall be in accordance with the NEC. All conduit systems shall be mechanically and electrically continuous from source of current to all outlets and grounded in accordance with the NEC.
2. Run all exposed conduit parallel to building walls using right angle bends. Exposed diagonal runs of conduit will not be permitted. Do not install conduit on roof surfaces unless specifically indicated on the Drawings.
3. Ream conduit after threads are cut. Cut ends square and butt solidly into couplings.
4. Prevent the accumulation of water, foreign matter, or concrete in the conduits during the execution of the work. Temporarily plug conduit, blowout, and swab before wires are pulled.
5. Fasten conduits to all sheet metal boxes and cabinets with two (2) locknuts in accord with the NEC where insulated bushings are used and where bushings cannot be brought into firm contact with the metal enclosures; otherwise, use at least a single locknut and bushing.
6. Seal each underground joint and make water-tight.
7. Where building construction or other conditions make it impossible to use standard threaded couplings, install water-tight, threaded unions.
8. Make changes in direction of runs with symmetrical bends or cast-metal fittings. Make field-made bends and offsets with conduit bending machine to avoid changing the internal diameter of the conduit and not damage its protective coating either inside or outside. Individual bends shall not exceed 90 degrees, and not more than 270 degrees total bends will be allowed in any one (1) conduit run. Where more bends are necessary, and conduit runs exceed 150 lin. ft, install a suitable pull box or junction box.

9. Provide empty conduits installed with a pull wire. Pull wire shall be No. 14 AWG, zinc-coated steel or of plastic having not less than 200 lb. tensile strength. Leave not less than 12 in. of slack at each end of the pull wire.
10. Use liquid-tight, flexible metal conduit for final connection to motors, constant current regulators, transformers, portable equipment, and for equipment subject to vibration and noise transmission. For each conduit size up to 1-in. trade size, flexible conduit shall be minimum length of 12 in. and a maximum length of 36 in. and for conduit sizes above 1-in. trade size, flexible conduit shall be minimum length of 20 in. and maximum length of 48 in. Liquid-tight flexible metal conduit and associated fitting shall be UL listed to meet the requirements of NEC 350.6. Liquid-tight flexible metal conduit that is used for flexibility (including connections to motors, constant current regulators, and transformers) shall require an external bonding jumper or internal equipment grounding conductor per NEC 350.60. Do not install liquid-tight flexible metal conduit that is not UL listed.
11. Provide duct seal at conduit terminations inside enclosures where the respective conduit is from below grade.
12. All enclosures rated NEMA 4, 4X shall have watertight hubs at conduit entrances UL listed NEMA 4, 4X for the respective enclosure to maintain the NEMA 4, 4X rating. Provide NEMA 4 hubs at conduit entrances for equipment rated NEMA 3R to maintain a watertight seal.

C. Raceway Support and Hangers:

1. Securely fasten raceways in-place and support from ceiling or walls at spacing not exceeding:

<u>Material</u>	<u>Maximum Spacing of Supports</u>
a. 1/2-in. through 1-in. trade size conduit	6 ft
b. 1-1/4-in. through 1-1/2-in. trade size conduit	8 ft
c. 2-in. to 4-in. trade size conduit	10 ft
d. Liquid-tight, flexible metal conduit	4-1/2 ft
e. Metal wireway	10 ft

2. Support rigid conduits within 3 ft of every outlet box, junction box, pull box, cabinet, or termination. Support flexible conduit within 12 in. on each side of every outlet box or fitting.

3. Support conduits by pipe straps, wall brackets, hangers, or ceiling trapeze. The use of perforated iron or wire for supporting conduits is prohibited. Fasten with wood screws or screw nails to wood; by toggle bolts on hollow masonry units, by concrete inserts, or expansion bolts on concrete or spring-tension or threaded C-clamps for rigid steel conduits on steel. Do not weld conduits or pipe straps to steel structures unless specifically indicated.
4. The load applied to fasteners shall not exceed one-third the proof test load of the fasteners.
5. Fasteners attached to concrete shall be vibration and shock-resistant.
6. All screws, bolts, washers, and miscellaneous hardware used for conduit supports shall be fabricated from rust-resisting metal. Trapeze hangers shall have hanger assemblies protected with galvanized finish.”

109-3.15 WIRING AND CONNECTIONS. Add the following to this section.

“Low-voltage wiring shall maintain separation from high-voltage wiring. Low-voltage and high-voltage wiring shall not be installed in the same raceway. Low-voltage and high-voltage wiring shall not be installed in the same handhole or junction box.”

109-3.16 MARKING AND LABELING. Add the following to this section:

- “C. Legend plates shall be provided for all equipment. Legend plates shall be provided to identify the equipment controlled, the power source, and the function of each device. Legend plates shall be weatherproof and abrasion-resistant phenolic/plastic engraved material and fastened with contact type permanent adhesive, screws, or rivets. Installation shall not break, crack, or deform the legend plate. Lettering shall be 1/4 in. high, black on a white background, unless noted otherwise.
- D. All mechanical equipment shall be labeled to identify the respective equipment designation.
- E. Each panelboard shall be furnished with a phenolic engraved legend plate that identifies the panel designation, the power source, and the respective voltage, phase, and wire.
- F. Each constant current regulator shall be furnished with a phenolic-engraved legend plate that identifies the regulator number designation, the runway or taxiway served, and the power source and circuit number.

- G. Each plug cutout cabinet shall be furnished with a phenolic-engraved legend plate that identifies the respective circuit or regulator and the voltage system (5000-Volts).
- H. Each individual circuit breaker, control panel, terminal panel, safety switch, etc. shall be furnished with a phenolic-engraved legend plate that identifies the respective device, the power source, and the respective voltage, phase, and wire. Furnish additional phenolic-engraved legend plates as detailed on the Plans and/or where required by code.
- I. Identify control wiring at each termination point and in junction/terminal boxes with wire number corresponding to the respective control wiring diagram or respective terminal numbering arrangement. Each individual control wire shall have unique identification and shall maintain that same identification from its point of origin to its final termination point. Wire markers shall be permanent pressure sensitive label with suitable numbers or letters for easy recognition. Where new control wiring is interfaced to existing control wiring it shall also match the color coding of the existing control wiring.
- J. At electrical handholes, identify each cable originating in the vault with respect to the system or device served.
- K. Color-code phase and neutral conductor insulation for No. 6 AWG or smaller. Provide colored marking tape for phase and neutral conductors for No. 4 AWG and larger. **Insulated ground conductors shall have green colored insulation for all conductor sizes (AWG and/or KCMIL) to comply with NEC 250.119. Neutral conductors shall have white colored insulation for No. 6 AWG and smaller to meet the requirements of NEC 200.6.** Standard colors for power wiring and branch circuits shall be as follows:

<u>120/240 VAC, 1-Phase, 3-Wire system</u>	
Phase A	Black
Phase B	Red
Neutral	White
Ground	Green

- L. Furnish and install weatherproof warning label for each meter socket, enclosed circuit breaker, disconnect switch, switchboard, cutout, panelboard, load center, motor control center, and control panel to warn persons of potential electric arc flash hazards, per the requirements of NEC 110.16 "Flash Protection." Labels shall also conform to ANSI Z535.4-2002 "American National Standard for Product Safety Signs and Labels." NEC 110.16 requires that switchboards,

panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized shall be field marked to warn qualified persons of potential arc flash hazards. The markings shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment. This new requirement is intended to help reduce the occurrence of serious injury or death due to arcing faults to those working on or near energized electrical equipment. The warning labels are to indicate to a qualified worker who intends to open the equipment for analysis of work that a serious hazard exists and that the worker should follow appropriate work practices and wear appropriate personal protective equipment (PPE) for the specific hazard. Labels shall be as detailed on the Plans or shall include at least the following information: "Warning - Potential Arc-Flash Hazards exist while working on this energized equipment. Appropriate PPE Required.

- M. Furnish and install "DANGER – HIGH VOLTAGE" signs or labels on all fixed electrical equipment where potentials of 500-Volts or more terminal-to-ground are exposed (including, but not limited to, constant current regulators, series circuit cutout enclosures, high voltage junction boxes, and high voltage wireways) in accordance with FAA AC No. 150/5340-26B "MAINTENANCE OF AIRPORT VISUAL AID FACILITIES." Place signs in a conspicuous location, usually on the outside of equipment."

109-3.18 ELECTRICAL TESTING. The installation shall be tested in operation and as a completed unit prior to acceptance. Contractor shall furnish all equipment, meters, instruments, cable connections, tools, manpower, and labor to perform the respective tests. Test all new equipment and all existing equipment where modifications take place and confirm proper operation. Coordinate tests with the respective airport personnel and the Resident Engineer. Tests shall include resistance, voltage, and current reading, as applicable for the respective equipment. When tests disclose any unsatisfactory workmanship or equipment furnished under this contract, correct defects and retest. Repeat tests until satisfactory results are obtained. When any wiring or equipment is damaged by tests, the wiring or equipment shall be repaired or replaced at no additional cost to the contract. Test repaired or replaced items to ensure satisfactory operation. Submit three (3) copies of all test reports to the Engineer. All test reports shall be assembled and bound in a folder or binder. Each test report shall include the following information:

- Project number.
- Project title and location.
- Device or system tested.
- Test performed.
- Date performed.
- Test equipment used.
- Respective Contractor's name, address, and telephone number.
- Testing firm's name, address, and telephone number if other than the Contractor.
- Names of individuals performing tests.

- Names of individuals observing tests.
- Statement verifying each test.
- Nameplate data from respective equipment tested.
- Test results.
- Retest results after correction of defective components or systems (where applicable).

Test the airfield lighting controls to confirm proper operation. Perform the following tests:

- (a) Test the transfer system for the normal constant current regulator for Runway 18-36 and the backup constant current regulator for Runway 18-36. Confirm each constant current regulator operates properly for all modes of operation.
- (b) Test the L-854 radio receiver. Confirm Runway 18-36 lighting system operates as follows:
 - Photocell or Photocell Bypass Switch activates L-854 Radio control and – 10 percent Brightness.
 - Five (5) clicks – 30 percent Brightness.
 - Seven (7) clicks – 100 percent Brightness.
- (c) Test the L-854 radio receiver. Confirm Taxiway lighting system operates as follows:
 - Photocell or Photocell Bypass Switch activates L-854 Radio control.
 - Three (3) clicks – 10 percent Brightness.
 - Five (5) clicks – 30 percent Brightness.
 - Seven (7) clicks – 100 percent Brightness.
- (d) Test the L-854 radio receiver. Confirm PAPI systems operate as follows:
 - Three (3) clicks – On.
 - Five (5) clicks – Remain on.
 - Seven (7) clicks – Remain on.
- (e) Test the Photocell. Confirm the following systems are activated:
 - Runway 18-36 on at 10 percent Brightness.
 - L-854 Radio control is activated.
 - Airport Rotating Beacon is on.
 - Wind Tee is on.
- (f) Test the Photocell Bypass Switch. Confirm the following systems are activated:
 - Runway 18-36 on at 10 percent Brightness.
 - L-854 Radio control is activated.
 - Airport Rotating Beacon is on.
 - Wind Tee is on.

- (g) Test the Remote Photocell Bypass Switch located in the Terminal Building. Confirm the following systems are activated:
- Runway 18-36 on at 10 percent Brightness.
 - L-854 Radio control is activated.
 - Airport Rotating Beacon is on.
 - Wind Tee is on

109-3.19 GROUNDING REQUIREMENTS. Grounding shall conform to the following as applicable: The Contractor shall furnish and install all grounding shown on the Plans and/or as may be necessary or required to make a complete grounding system, as required by the latest NEC (NFPA 70) in force. The reliability of the grounding system is dependent on careful, proper installation, and choice of materials. Improper preparation of surfaces to be joined to make an electrical path, loose joints, or corrosion can introduce impedance that will seriously impair the ability of the ground path to protect personnel and equipment and to absorb transients that can cause noise in communications circuits. The following functions are particularly important to ensure a reliable ground system:

- A. All products associated with the grounding system shall be UL-listed and labeled.
- B. All bolted or mechanical connections shall be coated with a corrosion preventative/conductive grease and lubricant suitable for electrical connections and grounding connections, before joining, Sanchem Inc. "NO-OX-ID "A-Special" compound, Burndy Penetrox E, or approved equal
- C. Metallic surfaces to be joined shall be prepared by the removal of all non-conductive material, per 2011 NEC Article 250.12. All Copper bus bars must be cleaned prior to making connections to remove surface oxidation.
- D. Metallic raceway fittings shall be made up tight to provide a permanent low impedance path for all circuits. Metal conduit terminations in enclosures shall be bonded to the enclosure with UL-listed fittings suitable for grounding. Provide grounding bushings with bonding jumpers for all metal conduits entering service equipment (meter base, CT cabinet, main service breaker enclosure, etc.), generator breaker enclosures, and automatic transfer switch enclosures. Provide grounding bushings with bonding jumpers for all metal conduits entering an enclosure through concentric or eccentric knockouts that are punched or otherwise formed so as to impair the electrical connection to ground. Standard locknuts or bushings shall not be the sole means for bonding where a conduit enters an enclosure through a concentric or eccentric knockout.
- E. Furnish and install ground rods at all locations where shown on the Plans or specified herein. Ground rods shall be 3/4-in. diameter, 10 ft long, UL-listed, copper-clad. Longer ground rods shall be provided where detailed on the Plans or specified herein. Ground rods shall have 10 mils minimum copper coating. Top of ground rods shall be a minimum of 30 in. below finish grade unless otherwise noted on the Plans. Ground rods shall be spaced, as detailed on the Plans, and in no case spaced less than one-rod length apart. All connections to ground rods and/or ground rings shall be made with exothermic weld type connectors,

Cadweld by Erico Products, Inc., Solon, Ohio, (Phone 1-800-248-9353), Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone 918-663-1440) or Ultraweld by Harger, Grayslake, Illinois (Phone 1-800-842-7437), or approved equal. Exothermic weld connections shall be installed in conformance with the respective manufacturer's directions using molds as required for each respective application. Bolted connections will not be permitted at ground rods or at buried grounding electrode conductors. Grounding electrode conductors shall be bare copper (stranded or solid) sized, as detailed on the Plans. In addition to the grounding work described herein and shown on the Plans, the Contractor shall test the made electrode ground system with an instrument specifically designed for testing ground systems. If ground resistance exceeds **10 Ohms**, contact the Resident Engineer for further direction. Copies of ground system test results shall be furnished to the Resident Engineer, upon request, for review and record purposes.

- F. All connections, located above grade, between the different types of grounding conductors shall be made using UL-listed, double-compression, crimp-type connectors or UL-listed, bolted ground connectors. For ground connections to enclosures, cases, and frames of electrical equipment not supplied with ground lugs, the Contractor shall drill required holes for mounting a bolted, ground connector. All bolted, ground connectors shall be Burndy, Thomas and Betts, or equal. Tighten connections to comply with tightening torques in UL Standard 486A to assure permanent and effective grounding.
- G. All metal equipment enclosures, conduits, cabinets, boxes, receptacles, etc. shall be bonded to the respective grounding system. Provide grounding bushings at all conduits entering service entrance equipment (meter bases, service disconnects, service panelboards, etc.) and distribution panels or load centers and ground wire from bushing to ground bus in the respective service entrance equipment or distribution panel.
- H. Each feeder circuit and/or branch circuit shall include an equipment ground wire. Metal raceway or conduit shall not meet this requirement. The equipment ground wire from equipment shall not be smaller than allowed by 2011 NEC Table 250.122 "Minimum Size Conductors or Grounding Raceway and Equipment." When conductors are adjusted in size to compensate for voltage drop, equipment-grounding conductors shall be adjusted proportionately according to circular mil area. All equipment ground wires shall be Copper, either bare or insulated green in color. Where the equipment grounding conductors are insulated, they shall be identified by the color green, and shall be the same insulation type as the phase conductors.
- I. Bond the main electrical service neutral to ground at the main service disconnect. Bond the service neutral to ground at one (1) location only per the NEC. A grounding connection shall not be made to any neutral circuit conductor on the load side of the service disconnecting means, except as permitted by 2011 NEC 250.24.
- J. The secondary neutral of all transformers (separately derived system transformers) shall be grounded in accordance with the NEC. The respective grounding electrode conductor shall be connected to the neutral point of the transformer between the transformer and the output disconnecting means. Size of the grounding electrode conductor shall be in accordance with

2011 NEC Article 250.66 and Table 250.66 unless shown larger on the Drawings. A bond shall be provided between the neutral and transformer case, or other metal that is part of the AC equipment grounding system, so as to complete a circuit for fault current to the transformer winding from the AC equipment grounding system. Size of the neutral bonding conductor shall be in accordance with 2011 NEC Article 250.102.

- K. All exterior metal conduits, where not electrically continuous because of manholes, handholes, non-metallic junction boxes, etc., shall be bonded to all other metal conduit in the respective duct run, and at each end, with a Copper-bonding jumper sized in conformance with 2011 NEC 250.102. Where metal conduits terminate in an enclosure (such as a motor control center, switchboard, etc) where there is not electrical continuity with the conduit and the respective enclosure, provide a bonding jumper from the respective enclosure ground bus to the conduit sized per 2011 NEC 250.102.
- L. Install grounding electrode conductors and/or individual ground conductors in Schedule 40 or Schedule 80 PVC conduit. Where grounding electrode conductors or individual ground conductors are run in PVC conduit, do not completely encircle conduit with ferrous and/or magnetic materials. Use non-metallic, reinforced fiberglass strut support. Where metal conduit clamps are installed, use nylon bolts, nuts, washers, and spacers to interrupt a complete metallic path from encircling the conduit.
- M. Individual ground conductors and/or grounding electrode conductors shall not be run in metallic conduit and shall not be encircled by metallic clamps. If local codes dictate that grounding conductors must be run in metal conduit or raceway, then the conduit or raceway must be bonded to the grounding conductor at both ends with a bonding jumper sized in accordance with the NEC 250.64(E). All such installations requiring individual grounding conduits to be run in metal conduit or raceway shall be verified and reviewed with the Resident Engineer. This does not apply to AC equipment ground wires run with AC circuits.

109-3.20 RESTORATION. Any and all trenches and disturbed areas will be backfilled and restored to a smooth grade and seeded to the satisfaction of the Engineer. All trench settlement or disturbed areas shall be corrected for a period of one (1) year. Restoration, grading, and seeding of areas disturbed during the installation of the proposed vault work and/or vault removal work will be incidental to the respective 109 Pay Item.

METHOD OF MEASUREMENT

109-4.1. Delete this section.

109-4.2. Revise this section to read as follows:

“The quantity of vaults to be paid for under Item AR109100 “Construct Electrical Vault” shall consist of modifying an area in the existing SRE (Snow Removal Equipment) Facility Building to provide a dedicated space for the Airport Electrical Vault as detailed on the Plans and as specified herein and will be paid for as a lump sum item. All fencing

and gates used to construct the vault will be included with this item and no additional compensation will be allowed.

109-4.3. Add the following to this section:

“The quantity of vault equipment to be paid for under Item AR109200 Install Electrical Equipment shall consist of furnishing and installing all mechanical and electrical equipment at the vault, as detailed on the Plans and specified herein. This item shall include all labor, equipment, surge protection, grounding, materials, tools, operational instructions, coordination, and testing required to place the vault and associated electrical equipment into proper working order. Cables, conduits, equipment, support hardware, and grounding associated with the new electric service to the vault shall be considered incidental to this item, and no additional compensation will be allowed. Cables inside or at the Airport Electrical Vault Building shall be considered incidental to this item, and no additional compensation will be allowed. Conduit entries, elbows, and fittings located at, adjacent to, or beneath the vault shall be considered incidental to this item, and no additional compensation will be allowed. Relocation of the existing constant current regulators from the existing vault to the new vault shall be considered incidental to this item, and no additional compensation will be allowed.

- A. Conduits, ducts, and cabling between the vault and high voltage handhole located in the area around the vault will be considered incidental to this item, and no additional compensation will be allowed.
- B. Conduits, ducts, and cabling between the vault and low voltage handhole located in the area around the vault will be considered incidental to this item, and no additional compensation will be allowed.
- C. Furnishing and installing the radio receiver antenna cable and conduit from the vault to the antenna to be located on the respective building or structure will be considered incidental to this item, and no additional compensation will be allowed.
- D. Furnishing and installing new electric service to Snow Removal Equipment Facility and Vault will be considered incidental to this item, and no additional compensation will be allowed.
- E. The cable in duct, unit duct, and/or conduit between the vault and the terminal building for the remote photocell bypass control will be considered incidental to this item, and no additional compensation will be allowed.
- F. Electrical Handholes will be paid for separately under item AR110610 Electrical Handhole – per each.

109-4.4. The quantity of Remove Electrical Equipment to be paid for under Item AR109902 “Remove Electrical Equipment” shall consist of removal of existing equipment located in the existing vault (located in the terminal building) as indicated on the Plans. The existing Runway

18-36 constant current regulator shall be relocated to the new vault for use as spare/backup unit. All other equipment to be removed shall be turned over to the Owner. In the event that the Owner does not want the respective equipment, the Contractor shall dispose of that respective equipment in a legal manner off of the airport property. Removal of vault equipment shall include the removal of the associated wiring and raceway for the respective equipment that is to be removed. This item shall include all labor, equipment, tools, excavating, disposal, utility coordination, and incidentals required to complete this item of work.

BASIS OF PAYMENT

Payment will be made under:

- Item AR109100 Construct Electrical Vault - per lump sum
- Item AR109200 Install Electrical Equipment - per lump sum
- Item AR109902 Remove Electrical Equipment - per lump sum

END OF ITEM 109

**ITEM 110 INSTALLATION OF AIRPORT
UNDERGROUND ELECTRICAL DUCT**

DESCRIPTION

110-1.1 Add the following:

“This item of work shall consist of the installation of all proposed conduits and ducts as shown on the Construction Plans.”

110-1.2 REFERENCES

- A. ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- C. ASTM D3350 – Specification of Polyethylene Plastics Pipe and Fittings Materials.
- D. ASTM F2160 – Standard Specification for Solid Wall, High-Density Polyethylene Conduit Based on Controlled Outside Diameter.
- E. NEMA TC-2 – Electrical Plastic Tubing and Conduit.
- F. NEMA TC-3 – Fittings Rigid PVC Conduit and Tubing.
- G. NEMA Specification TC-7 – Smooth-Wall Coilable Polyethylene Electrical Plastic Conduit.
- H. NFPA 70 – National Electrical Code (NEC), most current issue in force.
- I. UL Standard 6 – Rigid Metal Conduit.
- J. UL Standard 514B – Conduit, Tubing and Cable Fittings.
- K. UL Standard 651 – Schedule 40 and 80 Rigid PVC Conduit.
- L. UL Standard 651B – Standard for Continuous Length High-Density Polyethylene (HDPE) Conduit.

110-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for each type of conduit or duct to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- A. **Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America from Domestic materials in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements.**
- B. In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- C. Indicate the pay item number for each respective conduit or duct.
- D. Shop drawings shall include conduit and/or duct cut sheets with type, size, specifications, UL listing, manufacturer, and catalog or part number.
- E. Provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.

EQUIPMENT AND MATERIALS

110-2.1 GENERAL. Add the following:

“All materials for these items shall be in accordance with the FAA Standard Specification 110 Equipment and Materials, as detailed on the Plans, and as specified herein.

- A. Conduit for concrete encased duct shall be 4 in. Schedule 40 Polyvinyl Chloride (PVC).
- B. The duct to be directional-bored shall be Schedule 40 PVC Conduit, Schedule 80 PVC Conduit or High-Density Polyethylene (HDPE) duct, (Schedule 40, Schedule 80, SDR 9, or SDR 11).

110-2.2 STEEL CONDUIT. Replace this section with the following:

“Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, and produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded, galvanized steel or galvanized, malleable iron, specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 –

Fittings Rigid Metal Conduit and EMT and UL 514B – Conduit, Tubing, and Cable Fittings. Set screw type fittings are not acceptable. Steel used to manufacture conduits shall be 100 percent domestic steel. Contractor shall provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.

Miscellaneous Fittings. Fittings shall be suitable for use with conduits and ducts supplied. All fittings for use with rigid metal conduit shall be threaded. Set screw-type fittings are not acceptable. All conduit bodies, fittings, and boxes installed in classified hazardous locations (Class I, Division 1 or 2, Group D) shall be suitable for use in Class I, Division 1, and Group D locations. Fittings shall be as manufactured by Appleton, Crouse-Hinds, Hubbell-Killark, O-Z/Gedney, or approved equal.”

110-2.3 PLASTIC CONDUIT. Add to this section:

“Conduits for concrete encasement shall be Schedule 40 PVC, UL-listed, rated for 90°C cable-conforming to NEMA Standard TC-2 and UL 651, listed suitable for concrete encasement. Conduits for directional boring shall be Schedule 40 PVC or Schedule 80 PVC conduit, UL-listed, rated for 90°C cable-conforming to NEMA Standard TC-2 and UL 651 and suitable for directional boring installation, Schedule 40 HDPE or Schedule 80 HDPE conduit, UL-listed, conforming to NEMA Standard TC-7 and UL 651B and suitable for directional boring installation, or Wall Type SDR 9 or SDR 11 HDPE conduit manufactured in accordance with ASTM D-3350 (Specification of Polyethylene Plastics Pipe and Fittings Materials) and ASTM F2160 (Standard Specification for Solid Wall, High-Density Polyethylene Conduit Based on Controlled Outside Diameter), and suitable for directional boring installation. **Per NEC 300.5 (K), raceways installed using directional boring equipment shall be approved for the purpose. Provide manufacturer’s literature confirming the respective duct is suitable for directional boring with the respective Shop Drawing submittal.** Conduits shall be suitable for underground applications encased in concrete or direct burial, and suitable for exposed applications aboveground.”

110-2.9 DUCT SPACERS. Provide duct spacers to provide proper separation of conduits installed in concrete encased duct. Duct spacers shall be designed to provide 3 in. separation of conduits. Duct spacers shall be Underground Devices Incorporated Wunpeece Series suitable for the respective size and quantity of ducts, or approved equal. Contact information for Underground Devices Incorporated is address: 3304 Commercial Avenue, Northbrook, Illinois 60062, Phone: (847) 205-9000, Fax: (847) 205-9004. Confirm catalog numbers with the manufacturer for the respective application.

CONSTRUCTION METHODS

110-3.1 GENERAL. Add to this section:

“The proposed conduits and ducts shall be constructed at the locations and in accordance with the details shown on the Construction Plans. Ducts shall be installed 18 in. minimum below grade. Ducts located in area subject to farming shall be 42 in minimum below grade. Where detailed on the Plans or where required to avoid obstructions, ducts shall be buried deeper. Where concrete-encased duct interfaces to directional-bored duct at a pavement crossing, the concrete encasement shall be installed up to the respective pavement edge. Where concrete-encased duct interfaces to an electrical handhole or manhole, the concrete encasement shall be installed up to the respective handhole or manhole. Provide bushings or bells at conduit terminations in electrical handholes or manholes.

Underground ducts installed by directional-boring method shall be installed in a manner that will not damage any existing underground utilities, and shall not disturb or damage the respective pavement or roadway surface. Ducts shall be directional-bored at the locations shown on the Construction Plans. The ducts will be bored at a minimum depth of 24 in. below the bottom of the pavement it is being bored under. Ducts installed under paved areas and roadways shall extend a minimum of 10 ft beyond the respective pavement or roadway surface. A pull wire will be left in the conduit if it is to be left vacant. The ends of the conduit will be sealed with approved plugs.

The Contractor will determine if there is a conflict between the installation of the proposed electrical ducts and any existing utilities. He will make all necessary adjustments in depth of installation to avoid any and all proposed underground improvements.”

110-3.7 RESTORATION. Add to this section:

“Any and all trenches and disturbed areas will be backfilled and restored to a smooth grade and seeded to the satisfaction of the Engineer. All trench settlement shall be corrected for a period of one (1) year. Restoration, grading, and seeding of areas disturbed during the installation of the proposed ducts will be incidental to the respective pay item for which the duct is installed. The fertilizing and seeding will be completed in accordance with Items 901 and 908, but will be incidental to the respective pay item for which the duct is installed.”

110-3.8 LOCATING EXISTING UNDERGROUND UTILITIES AND CABLES. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor’s responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain from the respective utility companies detailed information and assistance relative to the location of their facilities and the working schedule of

the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract.

All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

Contractor shall locate and mark all existing cables within 10 ft of proposed excavating/trenching area. Any cables found interfering with proposed excavation or cable/trenching shall be hand dug and exposed. Any damaged cables shall be immediately repaired to the satisfaction of the Resident Engineer at the Contractor's expense. The Resident Engineer and Owner shall be notified immediately if any cables are damaged.

Payment for locating and marking underground utilities and cables will not be paid for separately, but shall be considered incidental to the respective duct installation.

METHOD OF MEASUREMENT

110-4.1. The quantity of conduit to be paid for shall be the number of lin. ft of ducts of the particular type installed and measured in-place, complete, and accepted by the Resident Engineer.

BASIS OF PAYMENT

110-5.1. Payment will be made at the contract unit price per each type and size of conduit, completed and accepted. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials; for all sawing and pavement removal; for all duct interface work to handholes/manholes including coring of handholes/manholes; for all excavation and backfilling with aggregate backfill, earth backfill, and concrete; and for all labor, coordination, equipment, tools, and incidentals necessary to complete this Item.

Payment will be made under:

Item AR110013 3" Directional Bore - per linear foot

END OF ITEM 110

ITEM AR110610
ELECTRICAL HANDHOLE

DESCRIPTION

110610-1.1. This item of work shall consist of the construction of electrical handholes with lids complete, in accordance with this Specification and as detailed on the Construction Plans.

110610-1.2 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for each type of conduit or duct to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- A. **Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America from Domestic materials in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements.**
- B. In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- C. Concrete mix design for handholes to be cast in place.
- D. Precast concrete handholes and manholes must be on IDOT (Illinois Department of Transportation) List of Certified Precast Concrete Producers. Provide information on respective precast concrete producer for precast handholes and drawings for respective handholes.
- E. Provide cut sheets with part number and specification for handhole frame and lid.
- F. Provide certification that the respective pre-cast handholes are manufactured in the United States of America.

MATERIALS

110610-2.1. The electrical handhole shall be constructed in accordance with the details as shown on the Construction Plans. The concrete shall conform to Item 610. The handholes shall be provided with heavy duty square slab type manhole frames and solid lids suitable for H-20 loading, NEENAH R-6662-PP frame and lid, or an approved equal. Lids for the handholes containing high voltage cables shall include lettering labeled "HIGH VOLTAGE." Lids for the handholes containing low voltage cables shall include lettering labeled "LOW VOLTAGE."

CONSTRUCTION METHODS

110610-3.1. The electrical handholes shall be constructed in accordance with the details as shown on the Construction Plans.

METHOD OF MEASUREMENT

110610-4.1. The number of electrical handholes to be paid for shall be the number of structures constructed in place and accepted by the Resident Engineer.

BASIS OF PAYMENT

110610-5.1. Payment will be made at the contract unit price bid for each electrical handhole completed and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling, and placing of the materials; for all coring and labor associated with conduit, duct, cable in unit duct, and/or cable entries; and for all labor, equipment, tools, and incidentals necessary to complete the structure.

Payment will be made under:

Item AR110610 Electrical Handhole - per each

END OF ITEM AR110610

**ITEM 125 INSTALLATION OF AIRPORT
LIGHTING SYSTEMS**

DESCRIPTION

125-1.1. Revise this paragraph to read as follows:

“This Item of work shall consist of furnishing and installing base-and stake-mounted runway lights, threshold lights, taxiway lights, taxi guidance signs, and splice cans at the locations shown on the Construction Plans and in accordance with the details shown on the Plans. This Item of work shall also include the removal of base-and stake-mounted runway and/or taxiway lights. Also included in this Item will be the testing of the installation and all incidentals necessary to place the lighting systems into operation, completed, and to the satisfaction of the Engineer.

Upgrade of Medium Intensity Taxiway Lights from Type L-861T with quartz lamps to Type L-861T(L) with LED (Light Emitting Diode) illumination will be included with this Item as an Additive Alternate (AS800592 MITL LED Upgrade).

Weed Control Rings will be included with this Item as an Additive Alternate (AT800580 Weed Control Ring).”

125-1.9 REFERENCES

- A. ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- C. FAA AC No. 150/5340-30F “DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS.”
- D. FAA AC No. 150/5345-42F “SPECIFICATION FOR AIRPORT LIGHT BASES, TRANSFORMER HOUSINGS, JUNCTION BOXES, AND ACCESSORIES.”
- E. FAA AC No. 150/5345-44J “SPECIFICATION FOR RUNWAY AND TAXIWAY SIGNS.”
- F. FAA AC No. 150/5345-46C “SPECIFICATION FOR RUNWAY AND TAXIWAY LIGHT FIXTURES.”
- G. FAA AC No. 150/5345-47B “SPECIFICATION FOR SERIES TO SERIES ISOLATION TRANSFORMERS FOR AIRPORT LIGHTING SYSTEMS” (or most current issue in effect).
- H. FAA AC No. 150/5345-47C “SPECIFICATION FOR SERIES TO SERIES ISOLATION TRANSFORMERS FOR AIRPORT LIGHTING SYSTEMS” (or most current issue in effect).

- I. FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- J. FAA AC No. 150/5370-2F (or most current issue) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.”
- K. FAA Engineering Brief No. 67D Light Sources Other Than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures.
- L. NFPA 70 – National Electrical Code (most current issue in force).
- M. NFPA 70E – Standard for Electrical Safety in the Workplace.
- N. OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures.
- O. UL Standard 6 – Rigid Metal Conduit.
- P. UL Standard 514B – Conduit, Tubing and Cable Fittings.

125-1.10 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for airfield lighting equipment and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- A. **Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America from Domestic materials in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects. See the FAA website at: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls for a list of equipment on the FAA Buy American Conformance List.**

- B. In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- C. Cut sheets with part number and specifications for each airfield light fixture. Include cut sheets with part numbers and dimensions for mounting stakes, base cans, cover plates, transformers, and associated components for each light airfield fixture.
- D. Cut sheets with part number and specifications each taxi guidance sign.
- E. Concrete mix design.
- F. Provide cut sheets with manufacturer's name, catalog number, dimensions, material and UL listing for each type and size ground rod. **Include certification of 100 percent domestic steel for ground rods.** Include cut sheets for exothermic weld connections, ground lugs, and ground wire.
- G. Provide cut sheets for all types of conduit used with the airfield light fixtures (for example galvanized rigid steel conduit). **Include certification that steel conduits are made with 100 percent domestic steel.**
- H. Cut sheets with description and specifications for weed control rings.

EQUIPMENT AND MATERIALS

125-2.1 GENERAL. Add the following to this section:

- “D. The proposed runway edge lights shall be Type L-861, with 30-Watt quartz lamps. Lens colors for runway lights shall be as detailed on the Plans. **The proposed threshold lights shall be Type L-861SE, with 115 Watt or 120-Watt quartz lamps.** Lens colors for threshold lights shall be bi-color Red/Green. The proposed taxiway lights shall be Type L-861T, with 30-Watt quartz lamps and blue lenses. All lights shall have an overall height of 24 in. All of the above lights shall be manufactured in accordance to FAA Specification AC No. 150/5345-46C, or latest edition in force and shall be FAA approved and in compliance with the Airport Improvement Program Buy American Requirements.

The concrete used in the construction of these Items shall be in accordance with Item 610.

- E. Additive Alternate Item AS800592 MITL LED Upgrade shall be the per each unit equipment cost difference to provide a Type L-861T(L) Medium Intensity Taxiway Light with LED (Light Emitting Diode) illumination in place of a Medium Intensity Taxiway Light with a quartz lamp. Item AS800592 MITL LED Upgrade shall be the additional equipment cost to provide a Type L-861T(L) Medium Intensity Taxiway Light with LED (Light Emitting Diode) illumination for Item AR125410 MITL – Stake Mounted and/or Item AR125415 MITL – Base Mounted. The price to provide a stake mounted Type L-861T(L) Medium Intensity Taxiway Light with LED illumination will be the base bid unit price for Item AR125410 MITL – Stake Mounted plus the additive alternate unit price for Item AS800592 MITL LED Upgrade. The price to provide a base mounted Type L-861T(L) Medium Intensity Taxiway Light with LED illumination will be the base bid unit price for Item AR125415 MITL – Base Mounted plus the additive alternate unit price for Item AS800592 MITL LED Upgrade. Medium Intensity Taxiway Lights with LED (Light Emitting Diode) illumination shall conform to the applicable requirements of FAA Engineering Brief No. 67D Light Sources Other Than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures.
- F. Where non-metallic light fixtures or plastic couplings are proposed the Contractor will be responsible to furnish all grounding connectors, bonding jumpers, pipe grounding clamps, and accessories to maintain continuity of the ground path for the required light base ground in accordance with FAA AC 150/5340-30F DESIGN AND INSTALLTION DETAILS FOR AIRPORT VISUAL AIDS, Chapter 12, Parts 12.6 and 12.7.”

125-2.4 CONDUIT. Add the following to this section:

“Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded galvanized steel or galvanized malleable iron specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 – Fittings Rigid Metal Conduit and EMT. Set screw type fittings are not acceptable. Galvanized rigid steel conduit shall be manufactured in the United States of America produced from 100 percent domestic steel.”

125-2.7 ISOLATION TRANSFORMERS. Add the following to this section:

“Series circuit isolation transformers for the runway or taxiway edge lights and taxi guidance signs shall be manufactured to FAA Specification AC 150/5345-47B (or current edition in force), and shall be FAA-approved (ETL-Certified). Series circuit transformer shall be properly sized for the respective runway or taxiway edge lights or taxi guidance signs and shall be as recommended by the respective runway or taxiway edge lights manufacturer or respective taxi guidance sign manufacturer. Confirm proper transformer

selection and sizing with the respective runway or taxiway edge lights manufacturer, and the respective taxi guidance sign manufacturer.”

125-2.8 LIGHT CANS. Add the following to this section:

“Each light base can and/or splice can shall include internal and external ground lugs. Cans shall be the size and depth as detailed on the Plans. L-867 splice cans shall have galvanized steel covers, 3/8 in. thick, with stainless steel bolts.”

125-2.11 AIRFIELD SIGNS. Add the following to this section:

“The proposed taxi guidance signs shall conform to Advisory Circular 150/5345-44J (or latest issue in force) and be FAA-approved for Type L-858 Taxiway and Runway Signs. The signs shall be Size 1, 18-in. sign face with a 12-in. legend; Style 2, powered from a 4.8 to 6.6 amp series lighting circuit; Class 2, for operation from -40°F to 131°F; Mode 2, to withstand wind loads of 200 M.P.H., base-mounted, double-sided, as specified on the Plans.

The signs shall read as described on the Construction Plans. The proposed taxi guidance signs will be Type L-858-Y direction, destination, and boundary signs (black legend on yellow background); Type L-858-R mandatory instruction sign (black outline on outside edge of white legend on red background); and Type L-858-L location sign (yellow legend and border on black background).

The concrete used in the construction of these Items shall be in accordance with Item 610.”

125-2.14 IDENTIFICATION TAGS. Identification tags shall be attached to each new fixture and sign. Where shown on the Plans provide new identification tags for existing fixtures. The tag shall be of the type and with the lettering shown on the Plans. The cost of furnishing and installing these tags shall be included in the unit price for the fixtures or signs and no additional compensation will be allowed.

125-2.15 ANTI-SEIZE COMPOUND. Prior to installing the proposed taxi guidance signs, the Contractor will apply an oxide-inhibiting, anti-seizing compound to all screws, nuts, breakable coupling, and all places where metal comes into contact with metal. The anti-seize compound will be as manufactured by I.T.T. brand name "Contax", or approved equal.

125-2.16 STAINLESS STEEL BOLTS. All base plate-mounting bolts and stake-mounting bolts shall be stainless steel.

125-2.17 GROUND RODS. Furnish and install a ground rod at each L-867 transformer base/light can and at each stake-mounted light fixture. **Ground rods shall be 5/8-in. diameter by 8-ft long UL listed Copper clad with 10 mil. (minimum) Copper coating.** Ground rods shall be manufactured in the United States of America. Steel used to manufacture ground rods shall be 100 percent domestic steel.

125-2.18 WEED CONTROL RINGS. Item AT800580 Weed Control Ring shall conform to the following: Weed control rings shall be compatible with the respective airfield light fixtures. Weed control rings have a minimum diameter of 26 in. Weed control rings shall be manufactured in the United States from rubber (recycled and/or virgin rubber). Weed control rings shall be Evaring by Fitzwater Enterprises or approved equal.

CONSTRUCTION METHODS

125-3.1 GENERAL. Add the following to this section:

“The proposed Runway/Taxiway lights, taxi guidance signs, and other airfield lighting devices shall be installed in accordance with the details shown on the Construction Plans.

The existing airfield lights designated for removal shall be removed in their entirety. The Contractor shall remove the existing lights including mounting stakes, bases, foundations, and transformers. The electrical wire will be disconnected from each light and placed underground at a minimum depth of 18-in. If the Contractor elects to salvage the cable within the circuit of the lights to be removed, shown in the Construction Plans as cable to be abandoned, any cost associated with removal of the cable shall be considered incidental to the Contract and no additional compensation will be allowed. The existing lights, transformers, and mounting stakes shall be turned over to the Airport Manager. Any materials not salvaged by the Airport, shall be disposed of off the airport site, in a legal manner, at the Contractor's own expense. The concrete base mounted lights shall be removed and earth material will be placed in the hole made from the base removal. The disturbed area shall be seeded and mulched in accordance with Item 901 and 908. The seeding and mulching will be considered as an incidental item to the sign removal and/or light removal and no additional compensation will be allowed.

Obtaining the required borrow material from an offsite borrow, placing the borrow material, grading, seeding, and mulching the disturbed areas will be considered as an Incidental Item to the proposed taxi guidance signs, lights and/or removal work, and no additional compensation will be allowed.

The proposed splice cans shall be constructed at the locations shown on the Construction Plans and in accordance with the details shown on the Construction Plans. Provide sufficient slack cable at each splice can to perform cable splices outside of the can.

Contractor shall coordinate work and any power outages with the Airport Manager and the Resident Engineer. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for

electrical safety and lockout/tagout procedures including, but not limited to, 29 CFR section 1910.147 The Control of Hazardous Energy (lockout/tagout).

The Contractor shall furnish and install all electrical materials necessary for complete and operational installation of the airfield lighting systems as shown on the Plans and detailed herein. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of the NFPA 70 - National Electrical Code (NEC) most current issue in force and the applicable Federal Aviation Administration standards, orders, and advisory circulars. Equipment shall be installed in conformance with the respective manufacturer's directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing, (or other third party listing), and/or the manufacturer's warranty of a device will not be permitted.

Contractor shall comply with the requirements of FAA AC No. 150/5370-2F (or most current issue) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION."

Contractor shall comply with the applicable requirements of NFPA 70E – Standard for Electrical Safety in the Workplace.

All temporary installations shall comply with National Electrical Code Article 590 – "Temporary Installations". The contractor shall secure, identify, and place temporary exposed wiring in conduit, duct, or unit duct to prevent electrocution and fire ignition sources in conformance with the requirements of FAA AC 150/5370-2F, Part 218, Paragraph c.

125-3.4 IDENTIFICATION NUMBERS. The Contractor will place light identification number tags on ALL of the proposed airfield lights and taxi guidance signs as detailed on the Plans. The Contractor will place NEW light identification number tags on ALL of the relocated taxiway lights. The correct light identification numbers are shown on the Construction Plans.

125-3.5 GROUNDING FOR AIRFIELD LIGHTS AND TAXI GUIDANCE SIGNS. Grounding for Runway Lights, Taxiway Lights, and Lighted Taxi Guidance Signs shall be as detailed on the Plans and as specified herein. Per FAA AC 150/5340-30F DESIGN AND INSTALLTION DETAILS FOR AIRPORT VISUAL AIDS, Chapter 12, Part 12.6; a ground must be installed at each light fixture. The purpose of the light base ground is to provide a degree of protection for maintenance personnel from possible contact with an energized light base or mounting stake that may result from a shorted power cable or isolation transformer. A light base ground shall be installed at each transformer base/light can associated with runway lights, taxiway lights, and lighted taxi guidance signs. A light base ground shall also be installed at each stake-mounted light fixture. A light base ground shall be installed and connected to the metal frame of each taxi guidance sign as detailed on the Plans and in accordance with the respective taxi guidance sign manufacturer recommendations. The light base ground shall be a #6 AWG bare Copper conductor bonded to the ground lug on the respective L-867 transformer base/light can or mounting stake and a **5/8-in. diameter by 8-ft long (minimum)**, UL-listed,

Copper-clad ground rod. Connections to ground lugs on the L-867 transformer base/light can or mounting stake shall be with a UL-listed grounding connector. Connections to ground rods shall be made with exothermic-weld type connectors, Cadweld by Erico Products, Inc., Solon, Ohio (Phone: 800-248-9353), Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone: 918-663-1440), or Ultraweld by Harger, Grayslake, Illinois (Phone: 800-842-7437), or approved equal. Exothermic-weld connections shall be installed in conformance with the respective manufacturer's directions using molds, as required for each respective application. Bolted connections will not be permitted at ground rods. Top of ground rods shall be buried 12 in. minimum below grade, unless noted deeper on the Plans.

For base mounted light fixtures the light fixtures must be bonded to the light base internal ground lug via a #6 AWG stranded Copper wire rated for 600-Volts with Green XHHW or USE insulation. The ground wire length must be sufficient to allow the removal of the light fixture from the light base for routine maintenance. See the light fixture manufacturer's instructions for proper methods of attaching a bonding wire.

125-3.6 WEED CONTROL LIGHT RINGS. Weed control rings shall be installed in accordance with the manufacturer's recommendations and instructions.

METHOD OF MEASUREMENT

Add the following:

125-4.2 The quantity of weed control rings to be paid for under this item shall be the number of rings installed as completed units in place, and accepted by the Engineer.

BASIS OF PAYMENT

Add the following:

“If upon delivery and incorporation of any materials, the Contractor has failed to provide the necessary submittals as required by Sections 30-19, 40-01, and 40-03, of the Standard Specifications the pay item will not be included on the Contractor Progress Payment report until such submittals have been furnished.

Payment will be made under:

- Item AR125410 MITL – Stake Mounted – per each
- Item AR125415 MITL – Base Mounted – per each
- Item AR125446 Taxi Guidance Sign, 6 Character – per each
- Item AR125447 Taxi Guidance Sign, 7 Character – per each
- Item AR125505 MIRL – Stake Mounted – per each
- Item AR125510 MIRL – Base Mounted – per each
- Item AR125540 MI Threshold Light Stake Mtd – per each

Item AR125901 Remove Stake Mounted Light – per each
Item AR125902 Remove Base Mounted Light – per each
Item AR125904 Remove Taxi Guidance Sign – per each
Item AS800592 MITL LED Upgrade – per each
Item AT800580 Weed Control Ring – per each

END OF ITEM 125

ITEM AR125620
ABBREVIATED PAPI (L-881 SYSTEM)

DESCRIPTION

125620-1.1. This item of work shall consist of furnishing and installing Precision Approach Path Indicators (PAPI's) at the locations shown on the Construction Plans. Each installation will be in accordance with the details on the Plans and these Special Provisions. Also included in this item will be the testing of the installation and all incidentals necessary to place the respective PAPI system into proper operation and to the satisfaction of the Engineer.

125620-1.2 REFERENCES.

- A. ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- C. FAA AC No. 150/5340-30F “DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS.”
- D. FAA AC No. 150/5345-28G (or most current issue in effect) “PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEMS.”
- E. FAA AC 150/5345-42F “SPECIFICATION FOR AIRPORT LIGHT BASES, TRANSFORMER HOUSINGS, JUNCTION BOXES, AND ACCESSORIES.”
- F. FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- G. FAA AC No. 150/5370-2F (or most current issue) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
- H. NFPA 70 – National Electrical Code (most current issue in force).
- I. NFPA 70E – Standard for Electrical Safety in the Workplace
- J. OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures
- K. UL Standard 6 – Rigid Metal Conduit.
- L. UL Standard 467 – Grounding and Bonding Equipment.

M. UL Standard 486A-486B Wire Connectors.

N. UL Standard 514B – Conduit, Tubing and Cable Fittings.

125620-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for PAPI units and associated equipment and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- A. **Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America from Domestic materials in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects. See the FAA website at: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_a_american_waiver.xls for a list of equipment on the FAA Buy American Conformance List.**
- B. In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- C. Cut sheets with part number and specifications for PAPI System.
- D. Include cut sheets with part numbers and dimensions for base cans, cover plates, and associated components.
- E. Concrete mix design.
- F. Provide cut sheets with manufacturer's name, catalog number, dimensions, material and UL listing for each type and size ground rod. Include certification of 100 percent domestic steel for ground rods. Include cut sheets for exothermic weld connections, ground lugs, and ground wire.

- G. Provide cut sheets for all types of conduit used with the PAPI system (for example galvanized rigid steel conduit). Include certification that steel conduits are made with 100 percent domestic steel.

MATERIALS

125620-2.1 PAPI UNITS. The proposed PAPI units shall be a Type L-881 system consisting of two (2) light housing assembly units (each containing either two (2) light channels and two (2) lamps or three (3) light channels and three (3) lamps), Style "A" (240 VAC \pm 10 percent, 60 Hz input power), Class I qualified to -35° C, a power and control unit (PCU), and all accessories as per FAA AC 150/5345-28F and approved by the FAA AC 150/5345-53B, or latest revision. The PCU shall include a main breaker to provide overcurrent protection and to serve as a maintenance safety switch to disconnect all power to the PAPI installation when in the "off" or "tripped" position. Note where the respective PAPI system requires a voltage system other than 240 VAC, 1-phase, 2-wire with ground, the Contractor shall be responsible to furnish and install the respective transformers and/or additional feeder cable conductors to accommodate the required voltage system.

125620-2.2 AIMING AND CALIBRATION EQUIPMENT. Furnish one (1) clinometer (aiming and calibration device) with the PAPI units for each respective runway. Aiming and calibration equipment will be incidental to the PAPI units.

125620-2.3 POWER AND CONTROL CABLE. Power cables from the respective power source to the respective PAPI installation shall be sized as detailed on the Plans and in conformance with Item 108. Control cable shall be as recommended by the respective PAPI manufacturer and per FAA AC 150/5345-28F. Power feeds from the PAPI Power and Control Unit to the PAPI lighting units shall be per manufacturer's recommendations and/or instructions. Contractor shall confirm the correct cable sizes with the respective PAPI manufacturer. Note there have been some PAPI manufacturer's installation manuals that incorrectly recommend under-sized cables. It is important that the Contractor confirm the correct cable sizes with the respective PAPI manufacturer and the Project Engineer.

125620-2.4 CONDUIT AND DUCTS. Conduit and ducts for the PAPI systems shall conform to Item 110, per manufacturer's recommendations, as detailed on the Plans, and as specified herein. Conduit for power and control cables from the PAPI Power and Control Unit to the PAPI lighting units and between the PAPI lighting units shall be 2-in. Galvanized Rigid Steel Conduit, or larger where required by NEC and/or manufacturer's recommendations for the respective cables. GRSC shall be heavy wall, hot-dipped, galvanized steel pipe bearing the UL label and conforming to UL-6 and ANSI Specification C80.1. Couplings, connectors, and fittings for rigid steel conduit shall be threaded galvanized steel or galvanized malleable iron specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 and UL-514B. Galvanized rigid steel conduit shall be produced from 100 percent domestic steel.

125620-2.5 SPLICE CANS. Splice cans shall conform to the requirements of FAA AC 150/5345-42F for Type L-867, Class IA, Size B (12-in. nominal diameter), 24-in. deep. Splice cans shall have galvanized steel or aviation yellow powder coat painted steel covers, 3/8 in. thick, or as recommended by the respective PAPI manufacturer where the splice can is installed at the PAPI installation. **Include internal and external ground lugs on each L-867 splice can.**

125620-2.6 ANTI-SEIZE COMPOUND. The Contractor will apply an oxide-inhibiting, anti-seizing compound to all screws, nuts, breakable coupling, and all places where metal comes into contact with metal. The anti-seize compound will be as manufactured by I.T.T. brand name "Contax," or an approved equal.

125620-2.7 STAINLESS STEEL BOLTS. All base plate-mounting bolts shall be stainless steel.

125620-2.8 GROUND RODS. Ground rods shall be 3/4-in. diameter by 20-ft long UL listed Copper clad, (two (2) 3/4-in. diameter by 10 ft long, UL-listed, Copper-clad ground rods coupled together). Ground rods shall have 10 mil. minimum Copper coating. Ground rods shall be manufactured in the United States of America. Steel used to manufacture ground rods shall be 100 percent domestic steel.

125620-2.9 CONCRETE. Concrete associated with the each PAPI foundation piers/pad and/or splice can shall conform to Item 610 Portland Cement Concrete of the Standard Specifications for Construction of Airports.

125620-2.10 BOOST TRANSFORMERS. Provide a boost transformer at the vault where the voltage drop from the vault to the respective PAPI Power and Control Unit exceeds 5 percent (12-Volts for a 240 VAC nominal supply). Boost transformer is not required where the PAPI Power and Control Unit has an input power transformer tap adjustments suitable for the respective input voltage and cable losses. Boost transformers shall be rated to handle the respective equipment loads, suitable for connection as 240 VAC, 60 Hz, 1-phase, 2-wire input and provide the proper output voltage at the respective PAPI Power and Control Unit with the PAPI system in operation. Boost transformer shall be UL listed and designed, manufactured, and tested in accordance with ANSI Standard Z535.3 and NEMA ST20 where applicable. Transformer shall be suitable for indoor/outdoor installation with a NEMA 3R weatherproof enclosure. Boost transformers for PAPI circuits shall be manufactured in the United States to comply with the Airport Improvement Program Buy American Preference requirements. Confirm proper output voltage for the respective application.

125620-2.11 LEGEND PLATES. Legend plates shall be required for all PAPI power control units, safety switches, circuit breakers, disconnects, etc. Legend plates shall be provided to identify the equipment controlled, the power source and voltage, and the function of each device. Legend plates shall be weatherproof and abrasion resistant phenolic material. Lettering shall be black letters on a white background, unless otherwise noted.

CONSTRUCTION METHODS

125620-3.1 INSTALLATION OF PAPI SYSTEMS. Installation of PAPI systems shall conform to FAA AC No. 150/5345-28F titled "PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEMS" and the respective manufacturer's instructions, as detailed on the Plans, and as specified herein. The Contractor shall construct concrete bases for the PAPI system units per manufacturer's instructions and recommendations and/or as shown on the Construction Plans. All bolt placements will be as per manufacturer's recommendations. The structural legs shall have breakable couplings not more than 2 in. from the top of the respective base/foundation. Coordinate conduit installations into the bases as applicable for power, control, and/or grounding cable conduits. The power control unit shall be installed in the location shown on the Plans. The poles/support posts installed to support the unit will be anchored in concrete typical to the PAPI base, and each pole/support post shall have a breakable coupling not more than 2 in. from the top of the concrete base/foundation.

The PAPI units shall be installed and aimed in accordance with manufacturer's specifications and instructions. The aiming angles shall comply with those shown on the Plans.

The Contractor shall install all the required electrical equipment in the electrical vault to place the proposed PAPI units into operation. The furnishing and installing of this electrical equipment will be paid for under Item 109200 Install Electrical Equipment per lump sum.

125620-3.2 ELECTRICAL. The Contractor shall furnish and install all electrical materials necessary for complete and operational installation of the PAPI systems as shown on the plans and detailed herein. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of the NFPA 70 - National Electrical Code (NEC) most current issue in force. Electrical equipment shall be installed in conformance with the respective manufacturer's directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing, (or other third party listing), and/or the manufacturer's warranty of a device will not be permitted.

- A. Contractor shall keep a copy of the latest NEC in force on site at all times during construction for use as a reference.
- B. Contractor shall keep a copy of the Plans, Special Provision Specifications including any addenda, and copies of any change orders on site at all times during construction.
- C. Contractor shall coordinate work and any power outages with the Airport Manager, the respective Airport personnel, and the Resident Engineer. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

- D. Contractor shall comply with the applicable requirements of NFPA 70E – Standard for Electrical Safety in the Workplace.
- E. All electrical equipment installed by the Contractor shall be properly labeled, and all cables must be tagged.
- F. All changes to the airfield lighting system control wiring will be documented by the Contractor and provided to the Resident Engineer.
- G. Locate Existing Underground Utilities and Cables. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor's responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain, from the respective utility companies, detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract. All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.
- H. Contractor shall comply with the requirements of FAA AC No. 150/5370-2F (or most current issue) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION."
- I. Secure, identify, and place any temporary exposed wiring in conduit to prevent electrocution and fire ignition sources."

125620-3.3 CABLE INSTALLATION FOR PAPI'S. Installation of cables shall conform to Item 108, the applicable sections of FAA AC 150/5345-28F, per the respective equipment manufacturer's recommendations, and as detailed on the Plans. Power and control cables from the PAPI Power and Control Unit to the PAPI lighting units and between the PAPI lighting units shall be installed in 2-in. galvanized rigid steel conduit, or larger where required by NEC and/or manufacturer's recommendations for the respective cables.

125620-3.4 CONDUIT INSTALLATION FOR PAPI'S. Installation of conduit shall conform to Item 110, the respective PAPI manufacturer's installation instructions and/or recommendations, as detailed on the Plans and as specified herein. Coordinate conduit installations into the PAPI foundations and/or L-867 splice cans. Provide duct seal at conduit terminations inside the PAPI Power and Control Unit enclosure.

125620-3.5 GROUNDING FOR PAPI'S. Grounding for PAPI's shall conform to the respective PAPI manufacturer's installation instructions, as detailed on the Plans, and as specified herein. The power circuit to each PAPI unit, including the PAPI PCU (Power and Control Unit), shall include an equipment ground wire of the same size and type as the phase conductors. Furnish and install a 3/4-in. diameter by 10-ft long Copper clad ground rod at the PAPI PCU and at each PAPI lighting unit. Bond each PAPI unit (PCU and lighting units) and the respective L-867 splice can to the respective ground rod with a #6 AWG stranded Copper grounding electrode conductor. Top of ground rods shall be buried approximately 24 in. below grade. All connections to ground rods shall be made with exothermic, weld-type connectors, Cadweld by Erico Products, Inc., Solon, Ohio, (Phone: 800-248-9353), Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone: 918-663-1440), Ultraweld by Harger Lightning Protection Grounding Equipment, Grayslake, Illinois (Phone: 800-842-7437), or approved equal. Connections to L-867 splice cans shall be with UL listed grounding connectors suitable for use in direct burial or concrete encasement applications. Connections to PAPI unit frame shall be as recommended by the manufacturer or with a UL listed grounding connector. All ground rods associated with the complete PAPI installation shall be bonded to together with a #6 AWG solid Copper counterpoise conductor. This counterpoise conductor shall be installed in the same trench located 10 in. above the power and control conductors, between each respective PAPI unit (PCU and/or lighting unit).

125620-3.6 GROUNDING REQUIREMENTS. Grounding shall conform to the following as applicable: The Contractor shall furnish and install all grounding shown on the Plans and/or as may be necessary or required to make a complete grounding system, as required by the latest NFPA 70 – National Electrical Code in force. The reliability of the grounding system is dependent on careful, proper installation, and choice of materials. Improper preparation of surfaces to be joined to make an electrical path, loose joints, or corrosion can introduce impedance that will seriously impair the ability of the ground path to protect personnel and equipment and to absorb transients that can cause noise in communications circuits. The following functions are particularly important to ensure a reliable ground system:

- A. All products associated with the grounding system shall be UL-listed and labeled.
- B. All bolted or mechanical connections shall be coated with a corrosion-preventative compound before joining, Sanchem Inc. "NO-OX-ID "A-Special" compound, Burndy Penetrox E, or approved equal.
- C. Metallic surfaces to be joined shall be prepared by the removal of all non-conductive material, per 2011 NEC Article 250-12. All Copper bus bars must be cleaned prior to making connections to remove surface oxidation.

- D. Metallic raceway fittings shall be made up tight to provide a permanent low impedance path for all circuits. Metal conduit terminations in enclosures shall be bonded to the enclosure with UL-listed fittings suitable for grounding. Provide grounding bushings with bonding jumpers for all metal conduits entering service equipment (meter base, CT cabinet, main service breaker enclosure, etc.), generator breaker enclosures, and automatic transfer switch enclosures. Provide grounding bushings with bonding jumpers for all metal conduits entering an enclosure through concentric or eccentric knockouts that are punched or otherwise formed so as to impair the electrical connection to ground. Standard locknuts or bushings shall not be the sole means for bonding where a conduit enters an enclosure through a concentric or eccentric knockout.
- E. Furnish and install ground rods at all locations where shown on the Plans or specified herein. Ground rods shall be spaced, as detailed on the Plans, and in no case spaced less than one (1) rod length apart. All connections to ground rods and/or buried grounding electrode conductors shall be made with exothermic, weld-type connectors, Cadweld by Erico Products, Inc., Solon, Ohio, (Phone: 1-800-248-9353), Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone: 918-663-1440), Ultraweld by Harger Lightning Protection Grounding Equipment, Grayslake, Illinois (Phone: 800-842-7437), or approved equal. Exothermic-weld connections shall be installed in conformance with the respective manufacturer's directions using molds, as required for each respective application. Bolted connections will not be permitted at ground rods or at buried grounding electrode conductors.
- F. All connections, located above grade, between the different types of grounding conductors shall be made using UL-listed, double-compression, crimp-type connectors or UL-listed, bolted ground connectors. For ground connections to enclosures, cases, and frames of electrical equipment not supplied with ground lugs, the Contractor shall drill required holes for mounting a bolted, ground connector. All bolted, ground connectors shall be Burndy, Thomas and Betts, or equal. Tighten connections to comply with tightening torques in UL Standard 486A to assure permanent and effective grounding.
- G. All metal equipment enclosures, conduits, cabinets, boxes, receptacles, etc. shall be bonded to the respective grounding system.
- H. Each new feeder circuit and/or branch circuit shall include an equipment ground wire. Metal raceway or conduit shall not meet this requirement. The equipment ground wire from equipment shall not be smaller than allowed by 2011 NEC Table 250-122 "Minimum Size Conductors or Grounding Raceway and Equipment." When conductors are adjusted in size to compensate for voltage drop, equipment-grounding conductors shall be adjusted proportionately according to circular mil. area. All equipment ground wires shall be Copper, either bare or insulated, green in color. Where the equipment grounding conductors are insulated, they shall be identified by the color green, and shall be the same insulation type as the phase conductors.
- I. Install grounding electrode conductors and/or individual ground conductors in Schedule 40 or Schedule 80 PVC conduit. Coordinate the installation of PVC conduit sleeves into the

PAPI foundations to accommodate grounding electrode conductor installations from the respective PAPI unit to the respective ground rod.

125620-3.7 PAPI OPERATION. Control of the PAPI units shall be with the L-854 radio receiver and lighting contactors located in the vault. The lighting contactor panel shall include an "ON-OFF-AUTO" 3-position selector switch for each PAPI system. In the manual mode of operation the PAPI units shall be activated by the respective "ON-OFF-AUTO" selector switch on the lighting contactor panel. In the "ON" position the PAPI units will be on. In the "AUTO" mode of operation the PAPI units shall be activated by L-854 radio receiver control as follows:

Three (3) clicks – On.

Five (5) clicks – Remain on.

Seven (7) clicks – Remain on.

125620-3.8 RESTORATION. All turf areas disturbed by the installation of the PAPI system and associated work shall be restored, graded, and seeded to establish a stand of grass to the satisfaction of the Engineer and will be considered as incidental to the installation of the PAPI.

125620-3.9 INSTRUCTION OF AIRPORT STAFF. Contractor shall provide instruction to airport staff in regard to the operation and maintenance of the PAPI system. Contractor shall demonstrate operating procedures, lamp changing procedures, and items requiring maintenance. Contractor shall furnish operation and maintenance manuals for PAPI and associated equipment.

125620-3.10 GROUND CHECK. Prior to final acceptance and activation, each completed PAPI system will be ground checked by the Federal Aviation Administration and/or Illinois Division of Aeronautics, and it shall be the Contractor's responsibility to have a representative present to make any necessary adjustments and/or corrections of the respective PAPI system installation. Ground check will be scheduled after the PAPI is installed and ready for check out by the FAA. The ground check often includes confirmation and measurement of aiming angle of the PAPI, testing the PAPI, measurement of input voltage, and other tests as requested by the respective FAA personnel. The Contractor shall be responsible to provide PAPI systems that pass the ground check by Federal Aviation Administration and/or Illinois Division of Aeronautics.

125620-3.11 FLIGHT CHECK. Prior to final acceptance and activation, each completed PAPI system will be flight checked by Federal Aviation Administration and/or Illinois Division of Aeronautics, and it shall be the Contractor's responsibility to have a representative present to make any necessary adjustments in the aiming of the PAPI units. The flight check will be scheduled after the PAPI has passed the ground check. The Contractor shall be responsible to provide a PAPI system that passes the respective flight check by Federal Aviation Administration and/or Illinois Division of Aeronautics.

METHOD OF MEASUREMENT

125620-4.1 The PAPI systems to be furnished and installed shall be measured for payment as a unit price per each and shall include a Type L-881 system consisting of two (2) light units, a

power and control unit (PCU), all concrete and materials as required for foundations, all cable and conduit between and/or at the PAPI lighting units and PCU, grounding, splice cans, equipment, excavating, labor, tools, aiming and calibration equipment, testing, and incidentals necessary to furnish a complete and operational PAPI system as approved by the Resident Engineer.

BASIS OF PAYMENT

125620-5.1. Payment shall be made at the contract unit price per each. This price and payment shall be full compensation for furnishing and installing all materials, for all excavating, labor, tools, equipment, and incidentals necessary to complete this item of work. Cable in unit duct from the respective power source to the respective PAPI installation shall be paid for under item 108.

Payment will be made under:

Item AR125620 Abbreviated PAPI (L-881 System) - per each

END OF ITEM AR125620

ITEM AR125910
REMOVE PLASI

DESCRIPTION

125910-1.1. This item of work shall consist of the removal of the existing PLASI (Pulsing Light Approach Slope Indicator) units in accordance with the details in the Contraction Plans and in accordance with these Special Provisions.

125910-1.2 REFERENCES.

- A. FAA AC No. 150/5370-2E (or most current issue) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
- B. NFPA 70E – Standard for Electrical Safety in the Workplace
- C. OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures

CONSTRUCTION

125910-2.1 REMOVAL OF PLASI.

- A. Contractor shall examine the site to determine the extent of the work.
- B. Contractor shall coordinate work and any power outages with the Airport Manager, the respective Airport personnel, and the Resident Engineer. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).
- C. Contractor shall comply with the requirements of FAA AC No. 150/5370-2F (or most current issue) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION”.
- D. Contractor shall comply with the applicable requirements of NFPA 70E – Standard for Electrical Safety in the Workplace.
- E. Power for each respective PLASI system shall be disconnected at the respective power source prior to removing the respective PLASI system. Power for the existing PLASI system located on the Runway is understood to be powered from the Airport Electrical Vault. Contractor shall field verify to confirm the respective power source for the respective PLASI system.

- F. The Contractor shall remove each PLASI unit when the runway is closed. The Contractor shall turn each PLASI unit over to the Airport. The Contractor shall coordinate with and notify the Airport Manager and the Resident Engineer and provide a schedule for PLASI removal and the new VADI installation. The Contractor shall remove the existing PLASI bases and dispose of them off the airport site in a legal manner. The existing electrical cables from the vault shall be disconnected and abandoned in place or removed to accommodate new construction. The holes left from the removal of the concrete bases will be filled with earth material. The earth material will be compacted to prevent any future settlement. The earth material will be obtained from off the Airport site. The disturbed area will be restored, graded, and seeded to the satisfaction of the Engineer, and will be considered as an incidental item to the removal of each PLASI unit.
- G. Existing airfield lighting cables associated with airfield lighting to be removed shall be abandoned in place unless it conflicts with new work and then it shall be removed at no additional cost to the Contract. If the Contractor elects to salvage the cable within the circuit to be removed, shown in the Construction Plans as cable to be abandoned, any cost associated with removal of the cable shall be considered incidental to the Contract and no additional compensation will be allowed.

BASIS OF PAYMENT

125910-3.1. This work will be paid for at the contract unit bid price per each for PLASI Removal. Said price and payment shall constitute full compensation for removing the existing PLASI units; for all excavating and backfilling, for furnishing all earth material, materials, labor, tools, equipment, and incidentals necessary to complete this item of work.

Payment will be made under:

Item AR125910 Remove PLASI - per each

END OF ITEM AR125910

ITEM 162 CHAIN LINK FENCES
(Class E)

MATERIALS

Add the following:

“All steel used in the manufacturer of fencing and fencing materials shall be 100 percent domestic steel. Contractor shall provide certification that the respective steel used in the manufacture of fencing materials on this project is manufactured from 100 percent domestic steel.”

CONSTRUCTION METHODS

162-3.6 ELECTRICAL GROUNDS. Add the following:

“The fence used to house the airport electrical vault shall be grounded to the vault ground bus. The fence shall be grounded at each side of a gate. The ground wire connections to the fencing shall be with UL listed grounding connectors of cast bronze body and bronze or stainless steel bolts, nuts, and washers. Grounding connectors shall be sized and suitable for the respective application. Connections to the vault ground bus shall be with two-hole tongue long barrel compression lugs with 3/8-in. stainless steel nut, bolts, and washers. The ground wire used to bond the fencing to the ground bus or respective grounding electrode shall be #6 AWG bare Copper conductor.

162-3.13 LOCATE EXISTING UTILITIES: The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor’s responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans and shall obtain from the respective utility companies detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner’s Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract. All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-**

892-0123. Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

METHOD OF MEASUREMENT

162.4.6 All fencing and gates used to construct the vault will be included with item AR109100 Construct Electrical Vault and no additional compensation will be allowed.

BASIS OF PAYMENT

162.5.6 All fencing and gates used to construct the vault will be incidental to the lump sum item AR109100 Construct Electrical Vault and no additional compensation will be allowed.

END OF ITEM 162

ITEM 620 PAVEMENT MARKING

BASIS OF PAYMENT

Add the following:

“Payment will be made under:

- Item AR620520 Pavement Marking-Waterborne – per Square Foot.
- Item AR620525 Pavement Marking-Black Border – per Square Foot.
- Item AR620900 Pavement Marking Removal – per Square Foot.

END OF ITEM 620

ITEM AR800564
REMOVE REFLECTOR

DESCRIPTION

This item of work shall consist of the removal of the existing taxiway reflectors as noted on the Construction Plans. All removed reflectors will be turned over to the Airport Manager.

CONSTRUCTION METHODS

The Contractor will remove the existing reflectors, including mounting stakes. The reflectors and mounting stakes will be turned over to the Airport Manager. The hole left from the reflector removal will be filled with earth material and compacted to prevent future settlement. The earth material will be furnished by the Contractor from an off-site location. The disturbed areas will be seeded and mulched in accordance with items 901 and 908. The earth material, seeding and mulching will be considered as an incidental item to the reflector removal and no additional compensation will be allowed.

METHOD OF MEASUREMENT

The number of existing reflectors that are removed and accepted by the Resident Engineer shall be paid for per each.

BASIS OF PAYMENT

This work will be paid for at the contract unit price bid per each for reflector removal. This price shall constitute full compensation for removing the reflectors and for furnishing all materials, labor, equipment, and other incidentals necessary to complete this item of work.

Payment will be made under:

Item AR800564 Remove Reflector - per each

END OF ITEM AR800564

ITEM AR800591
UPGRADE AIRPORT ROTATING BEACON

DESCRIPTION

800591-1.1. This Item of work shall include furnishing and installing a new load center at the top of the existing airport rotating beacon tower, furnishing and installing obstruction lighting with a tell-tale relay, and furnishing and installing a lightning protection system as detailed on the Plans and specified herein. This item shall also include the installation of conduit, ducts, and wiring from the vault to the new load center at the top of the existing airport rotating beacon tower. This Item of work shall include all labor, tools, coordination, equipment, conduit, wiring, controls, obstruction lighting, lightning protection, grounding, site preparation, testing, and all materials and incidentals necessary to perform the upgrades to the satisfaction of the Airport Representative.

800591-1.2 REFERENCES

- A. ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- C. ASTM Specification B3 – Standard Specification for Soft or Annealed Copper Wire.
- D. ASTM Specification B8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
- E. FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- F. FAA AC No. 150/5345-43F “SPECIFICATION FOR OBSTRUCTION LIGHTING EQUIPMENT.”
- G. FAA AC No. 150/5370-10F “STANDARDS FOR SPECIFYING CONSTRUCTION OF AIRPORTS.”
- H. Federal Specification A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation).
- I. NFPA 70 – National Electrical Code (most current issue in force).
- J. NFPA 70E – Standard for Electrical Safety in the Workplace
- K. NFPA 780 – Installation of Lightning Protection Systems.

- L. OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures.
- M. UL Standard 6 – Rigid Metal Conduit.
- N. UL Standard 44 – Thermoset-Insulated Wires and Cables.
- O. UL Standard 83 – Thermoplastic-Insulated Wires and Cables.
- P. UL Standard 467 – Grounding and Bonding Equipment.
- Q. UL Standard 486A-486B Wire Connectors.
- R. UL Standard 514B – Conduit, Tubing and Cable Fittings.

800591-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for equipment and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- A. **Certification of compliance with the AIP (Airport Improvement Program) Buy American Preferences for all materials and equipment. Do not submit ARRA (American Recovery and Reinvestment Act) certification as a substitute for certification of compliance with the AIP Buy American Preferences. Shop drawings submitted without certification of compliance with the Airport Improvement Program Buy American Preferences or without certification of manufacture in the United States of America from Domestic materials in accordance with the AIP Buy American Requirements will be rejected. See the FAA website at: http://www.faa.gov/airports/aip/buy_american/ for more information on the Airport Improvement Program Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects. See the FAA website at: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls for a list of equipment on the FAA Buy American Conformance List.**
- B. In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.

- C. Cut sheets with part number and specifications for the tell-tale relay, lightning rods, load center, and obstruction lights.
- D. Provide cut sheets with manufacturer's name, for galvanized rigid steel conduit. **Include certification that conduit is made in the United State of America from 100 percent domestic steel.**
- E. Provide cut sheets with manufacturer's name, catalog number, dimensions, material and UL listing for each type and size ground rod. **Include certification of 100 percent domestic steel for ground rods.**
- F. Provide shop drawings for wire/conductor/cable cut sheets with type, size, specifications, ETL or UL listing, manufacturer, and catalog or part number. Where cable is required to have colored coded insulation, provide information on the color coding for the respective conductors.

EQUIPMENT AND MATERIALS

800591-2.1 GENERAL. Airport lighting equipment and applicable materials covered by these Specifications shall have the prior approval of the Federal Aviation Administration (FAA) and shall be listed in Advisory Circular 150/5345-1 "Approved Airport Equipment", and/or Advisory Circular 150/5345-53 "Airport Lighting Equipment Certification Program" (latest revision). All other equipment and materials covered by other referenced Specifications shall be subject to acceptance through manufacturer's certification on compliance with the applicable specification, when requested by the Airport Representative.

800591-2.2 TELL-TALE RELAY. A tell-tale relay for interface and control of the associated obstruction lights shall be furnished and installed at the airport rotating beacon. The beacon will be a 36 in. refurbished airport rotating beacon. The obstruction lights shall illuminate when the beacon is off or when the beacon lamp fails. Tell-tale relay shall be installed in a NEMA 4 enclosure or in the beacon base where there is adequate mounting space. Tell-tale relay shall be properly sized for the application and as recommended by the respective airport rotating beacon manufacturer.

800591-2.3 LIGHTNING RODS. Air terminals shall be UL-listed, Class II (1/2 in. minimum diameter), nickel-plated Copper with blunt tips. Lightning rods shall extend 10" minimum above the top of the airport rotating beacon and obstruction lights to conform to NFPA 780, 4.6.2 Air Terminal Height. Lightning rods shall be manufactured by Thompson Lightning Protection, Inc. 901 Sibley Highway, St. Paul, Minnesota 55118-1792, Phone: 1-800-777-1230 or 612-455-7661, Harger Lightning Protection/Grounding Equipment, 301 Ziegler Drive, Grayslake, Illinois 60030, Phone: 1-800-842-7473 or 847-548-8700, or approved equal. Provide two (2) air terminals located opposite of each other on the tower, as detailed on the Plans.

800591-2.4 DOWN CONDUCTOR. The beacon tower shall serve as the down conductor where there is a continuous metallic path from the air terminal to the point of attachment to the grounding electrode conductor that bonds the tower to the ground rods.

800591-2.5 GROUND RODS. Ground rods shall be 3/4-in. diameter by 10-ft long, UL-listed, Copper-clad with 10-mils minimum Copper coating. Steel used to manufacture ground rods shall be 100 percent domestic steel.

800591-2.6 LOAD CENTER OR PANELBOARD. Load center/panelboard shall be provided with plug-on or bolt-on circuit breakers of size and rating as detailed on the Plans. Breakers shall be 1 or 2 pole with an integral crossbar to assure simultaneous opening of all poles in multiple circuit breakers. Breakers shall have an overcenter, trip-free, toggle-type operating mechanism with quick-make, quick-break action and positive handle indication. Handles shall have "ON," "OFF," and "TRIPPED" positions. Circuit breakers shall be UL-listed in accordance with UL Standard 489, shall be rated 120/240-Volts AC, 1-phase 3-wire, and shall be the size, type, number of poles, trip rating, and Amp Interrupting Capacity as detailed on the Plans for the respective application. Load center/panelboard bus structure and main lugs or main circuit breakers shall have current ratings as shown in the panel schedule on the Plans. Such ratings shall be in accordance with UL Standard 67. Bus bar connections to the branch circuit breakers shall be the "distributed phase" or phase sequence type. All current carrying parts of the bus structures shall be plated. The load center/panelboard bus assembly shall be enclosed in a steel cabinet suitable for the respective location. A circuit directory frame and card with a clear plastic cover shall be provided on door interior. Circuit directory shall be typed indicating each branch circuit of the load center or panelboard. Revise directory to reflect circuiting changes as required. Load centers and/or panelboards and the respective enclosures shall be as detailed on the Plans. AC surge protectors for use with the respective load center and/or panelboard shall be as detailed on the Plans.

800591-2.7 WIRE.

- A. Wire for power and control circuits shall be THWN Copper conductors. Cable shall be 1/C sized as indicated on the Plans. Cable shall comply with Underwriters' Laboratories Standard UL-83 and shall be UL-listed as VW-1. Conductor shall be soft annealed uncoated Copper and shall comply with ASTM B3 and B8. Insulation shall be rated for 600V. Insulation shall be polyvinyl-chloride conforming to Underwriters' Laboratories requirements for Type THW. The outer covering shall be nylon conforming to Underwriters' Laboratories for type THHN or THWN-2. Cable shall be UL-listed and marked THWN-2. **Conductor insulation shall be color coded as noted in the table below.**
- B. XLP-USE Wire. Cable shall comply with UL Standard 44, UL Standard 854, and Federal Specification A-A-59544. Conductor shall be concentric-strand, soft Copper, conforming to ASTM B8 and Underwriters' Laboratories Standard UL44 for Rubber Insulated Wires. Insulation shall be rated for 600-Volt. Insulation shall be cross-linked polyethylene conforming to Underwriter's Laboratories Requirements for Type USE-2 insulation. Cable shall be UL-listed and marked USE-2. Cable shall be Service Wire Company Type USE-2,

or approved equal. **Conductor insulation shall be color coded as noted in the table below.**

120/240 VAC, 1 PH, 3W with GND

Phase A – Black

Phase B – Red

Neutral – White

Ground – Green

800591-2.8 CONDUIT.

- A. **Galvanized Rigid Steel Conduit (GRSC).** Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded galvanized steel or galvanized malleable iron specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 – Fittings Rigid Metal Conduit and EMT and UL 514B – Conduit, Tubing, and Cable Fittings. Set screw type fittings are not acceptable. Steel used to manufacture conduits shall be 100 percent domestic steel. Contractor shall provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.
- B. **Liquid-Tight, Flexible Metal Conduit.** Liquid-tight, flexible metal conduit shall consist of polyvinyl jacket over flexible, hot-dip, galvanized steel tubing. The flexible conduit shall be completely sealed from liquids, dust, dirt, and fumes, and be resistant to oil, gasoline, grease, and abrasion. Jacket shall also be sunlight-resistant. Liquid-tight, flexible metal conduit shall be UL-listed, suitable for use as a grounding conductor, and comply with Article 350 of the NEC. **Liquid-tight, flexible metal conduit and associated fittings shall be UL-listed to meet the requirements of NEC 350.6.** Liquid-tight, flexible metal conduit shall be Anaconda Sealtite Type UA as manufactured by Anamet Electrical Inc., 1000 Broadway Avenue East, Mattoon, Illinois 61938-0039, (Phone: 217-234-8844), Licutite Type LA as manufactured by Electri-Flex Company, 222 W. Central Ave., Roselle, Illinois 60172, (Phone: 630-529-2920 or 1-800-323-6174), or approved equal. Do not install liquid-tight, flexible metal conduit that is not UL listed. Confirm liquid-tight, flexible metal conduit bears the UL label prior to installation.
- C. **Unit Duct.** Unit duct shall conform to the requirements of Item 108.
- D. **Plastic Conduit.** Plastic conduit shall conform to the requirements of Item 110.

800591-2.9 OBSTRUCTION LIGHTS. Obstruction lights will be furnished by the Airport and shall be installed by the Contractor.

CONSTRUCTION METHODS

800591-3.1 GENERAL. The Contractor shall furnish and install all equipment and materials necessary for complete and operational installation, as shown on the Plans and specified herein. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of NFPA 70 – National Electrical Code (NEC) most current issue in force. Electrical equipment shall be installed in conformance with the respective manufacturer’s directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer’s warranty of a device will not be permitted.

The Contractor should examine the proposed site to evaluate the existing conditions and the complexity of the work.

Contractor shall keep a copy of the latest NEC in force on site at all times during construction for use as a reference.

Contractor shall coordinate work and any power outages to the airport rotating beacon or other facilities located on the Airport with the Airport Manager and/or Airport personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

Contractor shall comply with the requirements of FAA AC No. 150/5370-2F (or most current issue) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.”

Contractor shall comply with the applicable requirements of NFPA 70E – Standard for Electrical Safety in the Workplace.

800591-3.2 TELL-TALE RELAY. A tell-tale relay shall be installed at the airport rotating beacon in accordance with the manufacturer’s instructions for the respective application. The tell-tale relay shall be wired to activate the obstruction lights when the beacon is off or when the beacon lamp fails.

800591-3.3 LIGHTNING PROTECTION. The Contractor shall furnish and install two (2) lightning rods, down conductor, and two (2) 3/4-in. diameter by 10-ft long, UL-listed, Copper-clad ground rods for the beacon tower. The lightning rods shall be installed at the top of the tower, shall be located at 180 degrees apart (opposite sides to each other), and secured to the obstruction light conduits as detailed on the Plans. The tip of the lightning rods shall extend not less than 10 in. above the top of the obstruction lights in conformance with NFPA 780 Installation of Lightning Protection Systems. Note the obstruction lights shall be at a height of not less than 4 in. above the top of the beacon. The beacon tower shall serve as the down

conductor where there is a continuous metallic path from the air terminal to the point of attachment to the grounding electrode conductor that bonds the tower to the ground rods. Ground rods shall be located at least 2 ft from the tower foundation, and shall not be spaced less than one (1) rod length (10 ft) apart. The ground rods shall be driven into the earth so that the top of the rod is at least 30 in. below finish grade. The tower shall be bonded to the ground rods with a #2 AWG bare solid tinned Copper conductor. Connections to the tower and ground rods shall be with exothermic-weld type connectors, Cadweld by Erico Products, Inc., Solon, Ohio, (Phone 1-800-248-9353), or Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone 918-663-1440), or Ultraweld by Harger, Grayslake, Illinois (Phone 1-800-842-7437), or approved equal. The resistance to ground of any part of the lightning protection system shall not exceed 25 Ohms. The Contractor shall test the made electrode ground rod with an instrument specifically designed for testing ground field systems. If ground resistance exceeds **25 Ohms**, contact the Airport Representative for further direction. Copies of ground rod test results shall be furnished to the Airport Representative, upon request, for review and record purposes.

800591-3.4 INSTALLATION OF LOAD CENTERS AND/OR PANELBOARDS. The Contractor shall furnish and install a load center or panelboard at the top of the beacon tower, as detailed on the Plans and specified herein. Load centers and/or panelboards shall be thoroughly inspected for physical damage, proper alignment, anchorage, and grounding. The exterior finish shall be inspected for blemishes, nicks, and bare spots, and touched up, as required, using matching touch-up paint. Inspections shall be made for proper installation and tightness of connections for circuit breakers. Install load centers and/or panelboards as shown on the Plans and in accordance with NEMA PB1.1. Provide appropriate corrosion-resistant mounting hardware and strut support. Strut support shall be hot-dipped, galvanized steel strut support, Unistrut P-1000HG, or stainless steel strut support, Unistrut P-1000SS, or approved equal. Provide zinc rich paint applied to field cuts of strut support to minimize the potential for corrosion per the respective strut support manufacturer's recommendation. Install load centers and/or panelboards plumb. Install circuit breakers in panelboards and/or load centers in conformance with the respective manufacturer's directions. Connect only one (1) wire/cable to each breaker terminal. Provide filler plates for unused spaces in load centers and/or panelboards. Provide typed or neatly printed circuit directory to identify each branch circuit in the load center and/or panelboard. Revise directory to reflect circuiting changes as required. Provide legend plates for all load centers and/or panelboards to identify the area and/or equipment controlled by the load center and/or panelboard, the power source, and the voltage system. Legend plates shall be weatherproof and abrasion-resistant, phenolic material. Lettering shall be black on white background. Load centers and/or panelboards shall be thoroughly tested after installation and connection to respective loads.

800591-3.5 WIRING. The Contractor shall furnish and install all wiring, as detailed on the Plans, per the respective equipment manufacturer's recommendations and as specified herein. Installation of cable and wiring shall also conform to Item 108 Installation of Underground Cable for Airports of the Illinois Standard Specifications for Construction of Airports, State of Illinois Department of Transportation Division of Aeronautics.

800591-3.6 CONDUIT INSTALLATION. Installation of conduit shall conform to Item 110, Installation of Airport Underground Electrical Duct of the Illinois Standard Specifications for

Construction of Airports, State of Illinois Department of Transportation Division of Aeronautics and as detailed on the Plans and as specified herein.

Where possible, no conduit shall be installed on top of the beacon platform floor.

Conduit size and fill requirements shall comply with Appendix C, conduit fill tables, of the NEC. It should be noted these are minimum requirements, and larger conduit sizes or smaller fill requirements shall be used whenever specified or detailed on the Drawings.

Liquid-tight, flexible metal conduit shall be provided as a connection between each motor junction box (or any other piece of equipment subject to movement or vibration) and the rigid conduit system.

Ream conduits only after threads are cut. Cut joints square to butt solidly into couplings. Where necessary to join two (2) pieces of conduit, and it is impossible to use standard couplings, use 3-piece, malleable iron, conduit coupling. The use of running thread is prohibited. This applies to all rigid conduit installations, underground or otherwise.

Where conduit enters a box or fitting, provide a steel locknut and an insulated metallic bushing. Use this method to terminate conduit in panels, pull boxes, safety switches, etc.

Provide NEMA 4 hubs for all conduit entries into enclosures rated NEMA 4, 4X to maintain NEMA 4, 4X rating.

800591-3.7 INSTALLATION OF JUNCTION AND PULL BOXES. Use only screws, bolts, washers, etc. fabricated from rust-resisting metals for the supporting of boxes. Install pull boxes in runs of conduit such that a total of 360 degrees in bends is not exceeded. Junction boxes shall be installed at all points in conduit runs where taps or splices are located. Boxes required by code or need which are not detailed on the Plans shall be considered incidental to the respective work Item, and will not be paid for separately.

800591-3.8 INSTALLATION OF OBSTRUCTION LIGHTS. Obstruction lights shall be installed on the beacon tower in accordance with FAA Advisory Circular 150/5370-10F, Part XI—LIGHTING INSTALLATION, Item L-101 Airport Rotating Beacon. Two (2) obstruction lights shall be installed on top of the airport rotating beacon tower located 180 degrees apart (opposite sides to each other). These lights shall be mounted on 1 in. GRSC extensions to a height not less than 4 in. above the top of the beacon. They shall be connected into the tell-tale relay which will activate the obstruction lights when the beacon is off or when the beacon lamp fails.

800591-3.9 BOOSTER TRANSFORMER FOR OBSTRUCTION LIGHTS. Boost transformers for use with the voltage power feeder circuit for the airport rotating beacon and obstruction lights will vary depending upon the obstruction light manufacturer and type, their respective lighting load in Amps, and the distance from the vault (power source) to the respective beacon tower. The specified cable feeding the airport rotating beacon and obstruction lights was selected to maintain a voltage drop of less than 3 percent from the respective power source to the airport

rotating beacon and obstruction lights and does not require a boost transformer for loads of 5.3 Amps or less at 120 VAC. The cable feed sized on the Plans was based on an airport rotating beacon with an approximate load rating/current draw of 5.3 Amps at 120 VAC, and obstruction lights with a total approximate load rating/current draw of 2 Amps or less at 120 VAC. If the Contractor proposes to use a beacon and/or obstruction lights that have a higher Amperage rating, he will be required to provide voltage drop calculations and furnish a boost transformer (where necessary) adequate to compensate for voltage drop to the beacon and/or obstruction lights. Boost transformers for use with beacon and/or obstruction lights feeder circuit shall be sized for the respective beacon and/or obstruction lighting loads and to maintain a voltage drop of approximately 3 percent or less. Also note per FAA AC 150/5345-43F Specification for Obstruction Lighting Equipment, Part 3.3.6 Input Voltage, it states: "The obstruction lighting equipment must be designed to operate from the specified input voltage \pm 10 percent. Incandescent lamps must be operated to within \pm 3 percent of the rated lamp voltage to provide proper light output." Boost transformer shall be UL listed and designed, manufactured, and tested in accordance with ANSI Standard Z535.3 and NEMA ST20 where applicable. Transformer shall be suitable for indoor/outdoor installation with a NEMA 3R weatherproof enclosure. Boost transformers for beacon and/or obstruction lighting circuits shall be manufactured in the United States to comply with the Airport Improvement Program Buy American Preference requirements. Confirm proper output voltage for the respective application."

800591-3.10 LOCATE EXISTING UNDERGROUND UTILITIES AND CABLES. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor's responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain from the respective utility companies detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract.

All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

800591-3.11 MARKING AND LABELING. Legend plates shall be provided for all equipment. Legend plates shall be provided to identify the equipment controlled, the power source, and the function of each device. Legend plates shall be weatherproof, abrasion-resistant, phenolic/plastic-engraved material, and fastened with contact-type, permanent adhesive, screws, or rivets. Installation shall not break, crack, or deform the legend plate. Lettering shall be 1/4 in. high, black on a white background, unless noted otherwise. Each panelboard/load center shall be furnished with a phenolic-engraved legend plate that identifies the panel designation, the power source, and the respective voltage, phase, and wire. Color code phase and neutral conductor insulation for No. 6 AWG or smaller. Provide colored insulation or colored marking tape for phase and neutral conductors for No. 4 AWG and larger. Insulated ground conductors shall have green colored insulation for all conductor sizes (AWG and/or KCMIL). Standard colors for 120/240 VAC, 1-phase, 3-Wire power wiring and branch circuits shall be as Phase A-Black, Phase B-Red, Neutral-White, and Ground-Green.

800591-3.12 GROUNDING REQUIREMENTS. Grounding shall conform to the following, as applicable: The Contractor shall furnish and install all grounding shown on the Plans and/or as may be necessary or required to make a complete grounding system, as required by the latest NEC (NFPA 70) in force. The reliability of the grounding system is dependent on careful, proper installation and choice of materials. Improper preparation of surfaces to be joined to make an electrical path, loose joints, or corrosion can introduce impedance that will seriously impair the ability of the ground path to protect personnel and equipment and to absorb transients that can cause noise in circuits. The following functions are particularly important to ensure a reliable ground system:

- A. All products associated with the grounding system shall be UL-listed and labeled.
- B. All bolted or mechanical connections shall be coated with a corrosion preventative/conductive grease and lubricant suitable for electrical connections and grounding connections, before joining, Sanchem Inc. "NO-OX-ID "A-Special" compound, Burndy Penetrox E, or approved equal.
- C. Metallic surfaces to be joined shall be prepared by the removal of all non-conductive material, per 2011 NEC Article 250-12. All Copper bus bars must be cleaned prior to making connections to remove surface oxidation.
- D. Metallic raceway fittings shall be made up tight to provide a permanent low impedance path for all circuits. Metal conduit terminations in enclosures shall be bonded to the enclosure with UL-listed fittings suitable for grounding. Provide grounding bushings with bonding jumpers for all metal conduits entering an enclosure through concentric or eccentric knockouts that are punched or otherwise formed so as to impair the electrical connection to ground. Standard locknuts or bushings shall not be the sole means for bonding where a conduit enters an enclosure through a concentric or eccentric knockout.
- E. Furnish and install ground rods at all locations where shown on the Plans or specified herein. Ground rods for electrical installations shall be 3/4-in. diameter by 10-ft long, UL-listed, Copper-clad with 10-mils minimum Copper coating. Top of ground rods shall be a minimum of 30 in. below finish grade, unless otherwise noted on the Plans. Ground rods shall be

spaced, as detailed on the Plans, and in no case spaced less than one (1) rod length apart. All connections to ground rods and/or ground rings shall be made with exothermic weld type connectors, Cadweld by Erico Products, Inc., Solon, Ohio, (Phone 1-800-248-9353), Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone 918-663-1440), Ultraweld by Harger, Grayslake, Illinois (Phone 1-800-842-7437), or approved equal. Exothermic weld connections shall be installed in conformance with the respective manufacturer's directions using molds as required for each respective application. Bolted connections will not be permitted at ground rods or at buried grounding electrode conductors. Grounding electrode conductors shall be bare Copper (stranded or solid) sized, as detailed on the Plans. In addition to the grounding work described herein and shown on the Plans, the Contractor shall test the made electrode ground system with an instrument specifically designed for testing ground systems. If ground resistance exceeds **25 Ohms**, contact the Resident Engineer for further direction. Copies of ground system test results shall be furnished to the Resident Engineer, upon request, for review and record purposes.

- F. All connections located above grade between the different types of grounding conductors shall be made using UL-listed, double-compression, crimp-type connectors or UL-listed, bolted ground connectors. For ground connections to enclosures, cases, and frames of electrical equipment not supplied with ground lugs, the Contractor shall drill required holes for mounting a bolted ground connector. All bolted ground connectors shall be Burndy, Thomas and Betts, or equal. Tighten connections to comply with tightening torques in UL Standard 486A to assure permanent and effective grounding.
- G. All metal equipment enclosures, conduits, cabinets, boxes, receptacles, etc. shall be bonded to the respective grounding system.
- H. Each feeder circuit and/or branch circuit shall include an equipment ground wire. Metal raceway or conduit shall not meet this requirement. The equipment ground wire from equipment shall not be smaller than allowed by 2011 NEC Table 250-122 "Minimum Size Conductors or Grounding Raceway and Equipment." When conductors are adjusted in size to compensate for voltage drop, equipment-grounding conductors shall be adjusted proportionately, according to circular mil area. All equipment ground wires shall be Copper, either bare or insulated, green in color. Where the equipment grounding conductors are insulated, they shall be identified by the color green, and shall be the same insulation type as the phase conductors.
- I. Bond the main electrical service neutral to ground at the main service disconnect. Bond the service neutral to ground at one (1) location only per the NEC. A grounding connection shall not be made to any neutral circuit conductor on the load side of the service disconnecting means, except as permitted by 2011 NEC 250-24. Where the Contractor is unable to distinguish the difference between a neutral conductor and equipment grounding conductor, or other ground conductor, contact the Airport Representative for assistance.
- J. All exterior metal conduits, where not electrically continuous because of manholes, handholes, non-metallic junction boxes, etc., shall be bonded to all other metal conduit in the respective duct run, and at each end, with a Copper-bonding jumper sized in conformance

with 2011 NEC 250-102. Where metal conduits terminate in an enclosure (such as a the beacon tower pole) where there is not electrical continuity with the conduit and the respective enclosure, provide a bonding jumper from the respective enclosure ground bus/frame to the conduit sized per 2011 NEC 250-102.

- K. Install grounding electrode conductors and/or individual ground conductors in Schedule 40 or Schedule 80 PVC conduit. Where grounding electrode conductors or individual ground conductors are run in PVC conduit, do not completely encircle conduit with ferrous and/or magnetic materials. Use non-metallic, reinforced fiberglass strut support. Where metal conduit clamps are installed, use nylon bolts, nuts, washers, and spacers to interrupt a complete metallic path from encircling the conduit.

METHOD OF MEASUREMENT

800591-4.1. The quantity to be paid for under this Item shall be measured for payment a unit price per lump sum, and shall consist of furnishing and installing the tell-tale relay, load center, obstruction lights, lightning protection system, and all labor, wiring, conduit, materials, equipment, electrical work, controls, grounding, tools, operational instructions, coordination, and testing required to place the respective installation into proper working order. The cables, ducts, and conduits from the respective feeder breaker in the vault to the load center at the beacon tower platform shall be incidental to this item.

BASIS OF PAYMENT

800591-5.1. Payment will be made at the contract unit price per lump sum for Upgrade Airport Rotating Beacon, and shall be full compensation for furnishing all equipment and materials and for all preparation, assembly, and installation of the equipment and materials, and for all labor, equipment, tools, adjusting, testing, and incidentals necessary to complete this Item.

Payment will be made under:

Item AR800591 Upgrade Airport Rotating Beacon - per lump sum.

END OF ITEM AR800591