



1. TIME AND PLACE OF OPENING BIDS. Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 10:00 a.m. on August 4, 2017, at which time the bids will be publicly opened from the iCX SecureVault.

2. DESCRIPTION OF WORK. The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. SD058
St. Louis Downtown Airport
Cahokia, Illinois
St. Clair County
Illinois Project No. CPS-4505
SBG Project No. 3-17-SBGP-133/134**

Taxiway B Relocation, Phase 1: Fillet Improvements

For engineering information, please contact Barry Stolz, P.E. of Hanson Professional Services, Inc. at 314.942.5288.

3. INSTRUCTIONS TO BIDDERS.

(a) This Notice, the invitation for bids, proposal and letter of 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 rules, Invitation for Bids 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. N/A

6. DISADVANTAGED BUSINESS POLICY. The DBE goal for this contract is 6.0%.

7. SPECIFICATIONS AND DRAWINGS. The work shall be done in accordance with the Illinois Standard Specifications for Construction of Airports, the Special Provisions dated June 9, 2017, and the Construction Plans dated June 9, 2017 as approved by the Illinois Department of Transportation, Division of Aeronautics.

- 8. 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.
- 9. 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: 95 calendar days; Additive Alternate 1: 31 additional calendar days.
- 10. 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.
- 11. MATERIAL COST ADJUSTMENTS.** Federal Aviation Administration rules prohibit the use of escalation clauses for materials. Therefore, the Illinois Department of Transportation, Division of Aeronautics cannot offer any material cost adjustment provisions for projects that utilize Federal Funds.
- 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.

By Order of the
Illinois Department of Transportation

Randall S. Blankenhorn,
Secretary



Division of Aeronautics
Proposal Bid Bond

Sponsor _____ Item No. _____

IL Proj. No. _____ SBG Pr. 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 Guaranty 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 _____ By: _____
(Signature & Title) (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 _____

ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS

REQUIRED CONTRACT PROVISIONS FOR STATE FUNDED AIRPORT CONSTRUCTION PROJECTS

The following provisions are State of Illinois requirements and are in addition to the REQUIRED CONTRACT PROVISIONS FOR AIRPORT IMPROVEMENT PROGRAM AND FOR OBLIGATED SPONSORS

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.

SPECIAL PROVISION FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000

Revised: July 2, 2016

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, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

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. The 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 6.0% 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 for 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 website at:
<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is required prior to the award of the contract and the failure of the low bidder to comply will render the bid not responsive.

In order to assure the timely award of the contract, the low bidder shall submit:

- (a) The bidder shall submit a DBE Utilization Plan on completed Department forms SBE 2025 and 2026.
 - (1) The final Utilization Plan must be submitted within five calendar days after the date of the letting in accordance with subsection (a)(2) of Bidding Procedures.
 - (2) To meet the five day requirement, the bidder may send the Utilization Plan electronically by scanning and sending to **DOT.DBE.UP@illinois.gov** or faxing to (217) 785-1524. The subject line must include the bid Item Number and the Letting date. The Utilization Plan should be sent as one .pdf file, rather than multiple files and emails for the same Item Number. It is the responsibility of the bidder to obtain confirmation of email or fax delivery.

Alternatively, the Utilization Plan may be sent by certified mail or delivery service within the five calendar day period. If a question arises concerning the mailing date of a Utilization Plan, the mailing date will be established by the U.S. Postal Service postmark on the certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service when the Utilization Plan is received by the Department. It is the responsibility of the bidder to ensure the postmark or receipt date is affixed within the five days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Utilization Plan is to be submitted to:

Illinois Department of Transportation
Bureau of Small Business Enterprises
Contract Compliance Section
2300 South Dirksen Parkway, Room 319
Springfield, Illinois 62764

The Department will not accept a Utilization Plan if it does not meet the five day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Utilization Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration.

- (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 Utilization 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 scanned or 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 names and addresses 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 Utilization 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; the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract.

GOOD FAITH EFFORT PROCEDURES. 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 that 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 documents sufficient commercially useful DBE work 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 document 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. In accordance with subsection (c)(6) of the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.
- (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 or 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 for the determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period in order to cure the deficiency.
 - (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after the 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 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 documentation and 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 consideration, 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 DBE regular dealer or DBE 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 DBE Participation Commitment 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) **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 or AER 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.
- (c) **SUBCONTRACT.** The Contractor must provide DBE subcontracts to IDOT upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (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 reasonable 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 listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special

Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, 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 2 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 subcontractor 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. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department shall provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (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 Resident 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 109.09 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. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

SPECIAL PROVISION FOR WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

Revised: April 2, 2015

The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

The report shall be submitted to the Resident Engineer on Division of Aeronautics Form "AER 723" within ten business days following the reporting period. The reporting period shall be Monday through Sunday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

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 80-01 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.

SPECIAL PROVISION FOR ADDITIONAL STATE REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION CONTRACTS

Effective: February 1, 1969

Revised: April 1, 2015

EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act, or the Illinois Department of Human Rights Rules and Regulations, the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political sub-divisions or municipal corporations, and the contract may be cancelled or voided 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, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status, or an unfavorable discharge from military service; 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 (according to the Illinois Department of Human Rights Rules and Regulations) 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, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service.

(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 Human Rights Act and the Illinois Department of Human Rights Rules and Regulations. If any 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 Department of Human Rights and IDOT 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 Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Illinois Department of Human Rights or IDOT, and in all respects comply with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.

(6) That it will permit access to all relevant books, records, accounts, and work sites by personnel of IDOT and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.

(7) That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the 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 subcontractors; and further it will promptly notify IDOT and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply with these provisions. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

SPECIAL PROVISION FOR 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 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).

SPECIAL PROVISION FOR COMPLETION TIME VIA CALENDAR DAYS

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: 95 calendar days; Additive Alternate 1: 31 additional 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 in Section 80-09 Failure to Complete on Time of the Standard Specifications, 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.

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
SECTION 80 PROSECUTION AND PROGRESS

This Special Provision amends the provisions of the Standard Specifications for Construction of Airports, adopted April 1, 2012 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

80-09 FAILURE TO COMPLETE ON TIME.

DELETE: "See contract documents for current schedule of deductions."

ADD:

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	6,775	9,525

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
SECTION 90 MEASUREMENT AND PAYMENT

This Special Provision amends the provisions of the Standard Specifications for Construction of Airports, adopted April 1, 2012 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

90-07 PARTIAL PAYMENTS.

DELETE: The entire section.

ADD: Partial payments will be made to the Contractor at least once each month as the work progresses. The payments will be based upon estimates, prepared by the Resident Engineer, of the value of the work performed and materials complete and in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the Section 90-08 PAYMENT FOR MATERIALS ON HAND. From the amount of partial payment so determined on Federal-Aid projects, there shall be deducted an amount up to ten percent of the cost of the completed work which shall be retained until all conditions necessary for financial closeout of the project are satisfied. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1,000.00 will be approved for payment other than the final payment. A final voucher for under \$5.00 shall not be paid except through electronic funds transfer. (15 ILCS 405/9(b-1))

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Department to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in Section 90-09 ACCEPTANCE AND FINAL PAYMENT.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610) progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

In accordance with 49 USC § 47111, the Department will not make payments totaling more than 90 percent of the contract until all conditions necessary for financial closeout of the project are satisfied.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.

90-10 TRUST AGREEMENT OPTION.

DELETE: The entire section.



Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors

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REQUIREMENTS

1. Required Contract Provisions

Federal laws and regulations require that recipients of federal assistance (Sponsors) include specific contract provisions in certain contracts, requests for proposals, or invitations to bid.

Certain provisions must be included in all sponsor contracts, regardless of *whether or not* the contracts are federally-funded. This requirement was established when a sponsor accepted the Airport Improvement Program (AIP) grant assurances.

To maintain eligibility of their procurement actions, a sponsor must incorporate applicable contract provisions in all federally-assisted procurement and contract documents, including all subcontracts. For purposes of determining requirements for contract provisions, the term **contract** includes subcontracts.

2. Sponsor Requirements

In general, the sponsor must:

- 1) Incorporate applicable contract provisions in each contract funded under AIP;
 - a. Except as noted herein, a sponsor must physically incorporate the text of the provision within the procurement documents.
 - b. Where specifically noted, sponsors may incorporate select provisions by reference provided the sponsor indicates that the reference has the same force and effect as if given in full text.
- 2) Require the contractor (including all subcontractors) to insert these contract provisions in each lower tier contracts (e.g. subcontract or sub-agreement);
- 3) Require the contractor (or subcontractor) to incorporate the applicable requirements of these contract provisions by reference for work done under any purchase orders, rental agreements and other agreements for supplies or services;
- 4) Require that the prime contractor be responsible for compliance with these contract provisions by any subcontractor, lower-tier subcontractor or service provider;
- 5) Verify that any required local or State provision does not conflict with, or alter a Federal law or regulation.

3. Incorporation of Provisions

The statutes and regulations that establish the requirements for contract provisions do not always specify language the sponsor must use to address the requirement. Appendix A of this guide provides information on when a provision or clause has mandatory language that a sponsor must apply. Refer to the subheading *Applicability* for each provision.

Whenever a clause or provision has mandatory text, the sponsor must incorporate the text of the provision without change. The only exception to this restriction is for those instances within the provision text that require the sponsor to insert appropriate information such as name or value. To align with the sponsor's standard contract language, the word "Owner" may also be replaced with "Airport Authority" or their standard method of referring to the sponsor in contracts. Any modification beyond what is specifically permitted is not permitted and may invalidate the clause.

For those provisions that do not have required language, this guidance provides model language acceptable to the FAA in meeting the intent and purpose of the law or regulation. Some sponsors may already have standard procurement language that is equivalent to those Federal provisions that do not have explicit mandatory language. In these cases, sponsors may use their existing standard procurement provision language provided the text meets the intent and purpose of the Federal law or regulation.

Contract clause language must be made available to bidders. The Sponsor does this by including the required language in Requests for Bids, Notices to Bidders, or in the contract.

4. Requests for Bids (Advertisement) and Notice to Bidders

The sponsor may incorporate certain provisions *by reference* in the Request for Bids (the Advertisement) rather than including the entire text of the provision in the Request or Notice to Bidders. The sponsor must incorporate the full text of these provisions within any contract that originates from the procurement action. The provisions that can be incorporated by reference in the Request or Notice are:

- 1) Buy American Preference
- 2) Foreign Trade Restriction
- 3) Davis Bacon
- 4) Affirmative Action
- 5) Government-wide Debarment and Suspension
- 6) Government-wide Requirements for Drug-free Workplace

5. Requirements For All Contracts Entered into by Obligated Sponsors.

A sponsor's acceptance of previous grant assurances obligates them to include certain notifications in all contracts and procurement actions they undertake regardless of funding source. Contracts and agreements fully funded by the sponsor must incorporate those select provisions.

6. Failure to Comply with Provisions

Sponsor failure to incorporate required provisions will jeopardize AIP eligibility of the sponsor's project. Contractor failure to comply with the terms of these contract provisions may be sufficient grounds to:

- 1) Withhold progress payments or final payment;
- 2) Terminate the contract for cause;
- 3) Seek suspension/debarment; or

- 4) Take other action determined to be appropriate by the sponsor or the FAA.

7. Applicability Matrix for Contract Provisions

Table 1 summarizes the applicability of contract provisions based upon the type of contract or agreement. The dollar threshold represents the value at which, when equal to or exceeded, the sponsor must incorporate the provision in their contract or agreement. Supplemental information addressing applicability and use for each provision is located in Appendix A.

Meaning of cell values

- REQD - a provision the sponsor must incorporate in their procurement action.
- Limited –a provision with limited applicability depending on circumstances of the procurement.
- n/a – a provision that is not applicable for that procurement type.

Table 1 – Applicability of Provisions

Provision	Dollar Threshold	Professional Services	Construction	Equipment	Property (Land)	Non-AIP Contracts
a. Access to Records and Reports	\$ 0	REQD	REQD	REQD	REQD	n/a
b. Buy American Preferences	\$ 0	Limited	REQD	REQD	Limited	n/a
c. Civil Rights – General	\$ 0	REQD	REQD	REQD	REQD	REQD
d. Civil Rights - Title VI Assurances	\$ 0	REQD	REQD	REQD	REQD	REQD
(1) Notice - Solicitation	\$ 0	REQD	REQD	REQD	REQD	REQD
(2) Clause - Contracts	\$ 0	REQD	REQD	REQD	REQD	REQD
(3) Clause – Transfer of U.S. Property	\$ 0	n/a	n/a	n/a	REQD	REQD
(4) Clause – Transfer of Real Property	\$ 0	n/a	n/a	n/a	REQD	REQD
(5) Clause - Construct/Use/Access to Real Property	\$ 0	n/a	n/a	n/a	REQD	REQD
(6) List – Pertinent Authorities	\$ 0	REQD	REQD	REQD	REQD	REQD
e. Disadvantaged Business Enterprise	\$ 0	REQD	REQD	REQD	REQD	n/a
f. Energy Conservation Requirements	\$ 0	REQD	REQD	REQD	REQD	n/a
g. Federal Fair Labor Standards Act	\$ 0	REQD	REQD	REQD	REQD	REQD
h. Occupational Safety and Health Act	\$ 0	REQD	REQD	REQD	REQD	REQD
i. Rights to Inventions	\$ 0	Limited	Limited	Limited	n/a	n/a
j. Trade Restriction Certification	\$ 0	REQD	REQD	REQD	REQD	n/a
k. Veteran’s Preference	\$ 0	REQD	REQD	REQD	REQD	n/a
l. Seismic Safety	\$ 0	Limited	Limited	n/a	n/a	n/a
m. Copeland Anti-Kickback	\$ 2,000	Limited	REQD	Limited	Limited	n/a
n. Davis Bacon Requirements	\$ 2,000	Limited	REQD	Limited	Limited	n/a
o. Distracted Driving	\$3,500	REQD	REQD	REQD	REQD	n/a
p. Affirmative Action Requirement	\$10,000	Limited	REQD	Limited	Limited	n/a
q. Equal Employment Opportunity	\$10,000	Limited	REQD	Limited	Limited	n/a
(1) EEO Contract Clause	\$10,000	Limited	REQD	Limited	Limited	n/a
(2) EEO Specification	\$10,000	Limited	REQD	Limited	Limited	n/a
r. Prohibition of Segregated Facilities	\$10,000	Limited	REQD	Limited	Limited	n/a
s. Recovered Materials	\$10,000	Limited	REQD	REQD	Limited	n/a
t. Termination of Contract	\$10,000	REQD	REQD	REQD	REQD	n/a
u. Debarment and Suspension	\$25,000	REQD	REQD	REQD	Limited	n/a
v. Contract Work Hours and Safety Standards	\$100,000	Limited	REQD	Limited	Limited	n/a
w. Lobbying Federal Employees	\$ 100,000	REQD	REQD	REQD	REQD	n/a
x. Breach of Contract	\$150,000	REQD	REQD	REQD	REQD	n/a
y. Clean Air/Water Pollution Control	\$150,000	REQD	REQD	REQD	REQD	n/a

APPENDIX A – CONTRACT PROVISIONS

A1 ACCESS TO RECORDS AND REPORTS

A1.1 SOURCE

2 CFR § 200.333

2 CFR § 200.336

FAA Order 5100.38

A1.2 APPLICABILITY

2 CFR § 200.333 requires a sponsor to retain records pertinent to a Federal award for a period of three years from submission of final closure documents. 2 CFR § 200.336 establishes that sponsors must provide Federal entities the right to access records pertinent to the Federal award. FAA policy extends these requirements to the sponsor's contracts and subcontracts of AIP funded projects.

Contract Types – The sponsor must include this provision in all contracts and subcontracts of AIP funded projects.

Use of Provision – The regulation does not prescribe mandatory language, the following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of part 200.

A1.3 CONTRACT CLAUSE

ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the sponsor, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives, access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A2 AFFIRMATIVE ACTION REQUIREMENTS

A2.1 SOURCE

41 CFR part 60-4

Executive Order 11246

A2.2 APPLICABILITY

Minority Participation. Sponsors are required to set goals for minority participation in AIP funded projects. The goals for minority participation depend on Economic Area (EA) and Standard Metropolitan Statistical Area (SMSA) as established in Volume 45 of the Federal Register dated 10/3/80. Page 65984 contains a table of all EAs and SMSAs and the associated minority participation goals.

To find the goals for minority participation, a sponsor must either refer to the Federal Register Notice or to the Department of Labor online document, "Participation Goals for Minorities and Females". EA's and SMSA's cross state boundaries so a sponsor may have to refer to entries for adjacent states to find their project location.

A sponsor must insert the applicable percentage minority goal. Sponsor must not simply insert a reference to the Federal Register Notice.

Female Participation. Executive Order 11246 has set a goal of 6.9% nationally for female participation for all construction contractors. This value does not change per county or state.

Contract Types –

Construction: The sponsor must incorporate this notice in all solicitations for bids or requests for proposals for AIP funded construction work contracts and subcontracts that exceed \$10,000. Construction work means construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction.

Equipment: The sponsor must incorporate this notice in any equipment project exceeding \$10,000 that involves installation of equipment onsite (e.g. electrical vault equipment). This provision does not apply to equipment acquisition projects where the manufacture of the equipment takes place offsite at the vendor plant (e.g. firefighting and snow removal vehicles)

Professional Services: The sponsor must incorporate this notice in any professional service agreement if the professional service agreement includes construction work (as defined above) that exceed \$10,000. Examples include installation of noise monitoring systems.

Property/Land: The sponsor must incorporate this notice in any agreement associated with land acquisition if the agreement includes construction work (defined above) that exceeds \$10,000. Examples include demolition of structures or installation of boundary fencing.

Use of Provision – The sponsor must incorporate the text of this provision without modification. The sponsor must incorporate the established minority participation goal and the covered area by geographic name within the provision text.

A2.3 CONTRACT CLAUSE

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION to ENSURE EQUAL EMPLOYMENT OPPORTUNITY

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:

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

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 (percent)</u>	Goal
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
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 -	7.6

IL - Macon	
7880 Springfield, IL - IL - Menard, 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 - JoDavies 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
107 St. Louis, MO: SMSA Counties: 7040 St. Louis, MO - IL - IL - Clinton, Madison, Monroe, St. Clair MO - Franklin, Jefferson, St. Charles, St. Louis, St. Louis City	14.7
Non-SMSA Counties - 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	11.4

These goals are applicable to all of 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 non-federally involved construction.

The Contractor's compliance with the 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 specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. 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 Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is Cahokia, Illinois; St. Clair County.

A3 BREACH OF CONTRACT TERMS

A3.1 SOURCE

2 CFR § 200 Appendix II(A)

A3.2 APPLICABILITY

This provision requires sponsors to incorporate administrative, contractual or legal remedies if contractors violate or breach contract terms. The sponsor must also include appropriate sanctions and penalties.

Contract Types – This provision is required for all contracts that exceed the simplified acquisition threshold as stated in 2 CFR Part 200, Appendix II (A). This threshold is occasionally adjusted for inflation, and is now equal to \$150,000.

Use of Provision – The regulation does not prescribe mandatory language. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of part 200. Select either "contractor" or "consultant" as applicable.

A3.3 CONTRACT CLAUSE

BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide the [*Contractor / Consultant*] written notice that describes the nature of the breach and corrective actions the [*Contractor / Consultant*] must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the [*Contractor / Consultant*] must correct the breach. Owner may proceed with termination of the contract if the [*Contractor / Consultant*] fails to correct the breach by deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A4 BUY AMERICAN PREFERENCE

A4.1 SOURCE

Title 49 USC § 50101

A4.2 APPLICABILITY

The sponsor must meet the Buy American preference requirements found in 49 USC § 50101 in all AIP-funded projects. The Buy America requirements flow down from the sponsor to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are in compliance. The Buy American preference also applies to professional service agreements if the agreement includes any manufactured product as a deliverable.

A4.3 CONTRACT CLAUSE

- (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 Illinois 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.

A5 CIVIL RIGHTS - GENERAL

A5.1 SOURCE

49 USC § 47123

A5.2 APPLICABILITY

Note: This provision is in addition to the Civil Rights – Title VI provisions.

Contract Types – The General Civil Rights Provisions found in 49 USC § 47123, derived from the Airport and Airway Improvement Act of 1982, Section 520, apply to all sponsor contracts regardless of funding source.

Use of Provision – There are two versions of this provision. One applies to sponsor contracts and the other applies to sponsor lease agreements and transfer agreements. The sponsor must incorporate the text of the appropriate provision without modification.

A5.3 CONTRACT CLAUSE

A5.3.1 Sponsor Contracts

GENERAL CIVIL RIGHTS PROVISIONS

The contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the contractor and subtier 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.

A5.3.2 Sponsor Lease Agreements and Transfer Agreements

GENERAL CIVIL RIGHTS PROVISIONS

The tenant/concessionaire/lessee and its transferee agree to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability 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 through the Airport Improvement Program.

In cases where Federal assistance provides, or is in the form of personal property; real property or interest therein; structures or improvements thereon, this 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.

A6 CIVIL RIGHTS – TITLE VI ASSURANCE

A6.1 SOURCE

49 USC § 47123

FAA Order 1400.11

A6.2 APPLICABILITY

Title VI of the Civil Rights Act of 1964, as amended, (Title VI) prohibits discrimination on the grounds of race, color, or national origin under any program or activity receiving Federal financial assistance. Sponsors must include appropriate clauses from the Standard DOT Title VI Assurances in all contracts and solicitations.

The clauses are as follows:

A6.2.1 Applicability of Title VI Solicitation Notice

a. Contract Clause	b. The Sponsor must include the contract clause in:	c. Clause Text is Included in Paragraph
d. Title VI Solicitation Notice	1) All solicitations for bids, requests for proposals work, or material subject to the nondiscrimination acts and regulations made in connection with Airport Improvement Program grants; and 2) All proposals for negotiated agreements regardless of funding source.	e. A6.3.1
f. Title VI Clauses for Compliance with Nondiscrimination Requirements	g. Every contract or agreement, unless the sponsor has determined and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities	h. A6.3.2
Title VI Required Clause for Property Interests Transferred from the United States	i. As a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a sponsor.	j. A6.3.3
k. Title VI Required Clause for Transfer of Real Property Acquired or Improved Under the Activity, Facility or Program	l. As a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the sponsor with other parties for all transfers of real property acquired or improved under the activity, facility, or program	m. A6.3.4
Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program	n. As a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the sponsor with other parties for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program	o. A6.3.5
Title VI List Of Pertinent Nondiscrimination Acts And Authorities	p. Insert this list in every contract or agreement, unless the sponsor has determined and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities	q. A6.3.6

A6.3 CONTRACT CLAUSE

A6.3.1 Title VI Solicitation Notice

Title VI Solicitation Notice:

The Bi-State Development Agency, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

A6.3.2 Title VI Clauses for Compliance with Nondiscrimination Requirements

Compliance with Nondiscrimination 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:

Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts And Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

Non-discrimination: The contractor, with regard to the work performed by it during the contract, will 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 will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

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 will be notified by the contractor of the contractor's obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.

Information and Reports: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will 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 to be pertinent to ascertain compliance with such Nondiscrimination Acts And Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the contractor under the contract until the contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

A6.3.3 Title VI Clauses for Deeds Transferring United States Property

CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of the Airport Improvement Program grant assurances.

NOW, THEREFORE, the Federal Aviation Administration as authorized by law and upon the condition that the Bi-State Development Agency will accept title to the lands and maintain the project constructed thereon in accordance with Public Law 114-141, for the Airport Improvement Program and the policies and procedures prescribed by the Federal Aviation Administration of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the Bi-State Development Agency all the right, title and interest of the U.S. Department of Transportation/Federal Aviation Administration in and to said lands described in the Exhibit A.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto the Bi-State Development Agency and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the Bi-State Development Agency, its successors and assigns.

The Bi-State Development Agency, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the Bi-State Development Agency will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the Federal Aviation Administration and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

A6.3.4 Title VI Clauses for Transfer of Real Property Acquired or Improved Under the Activity, Facility, or Program

CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the Bi-State Development Agency pursuant to the provisions of the Airport Improvement Program grant assurances.

- A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
 - 1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a Federal Aviation Administration activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Nondiscrimination Acts and Regulations listed in the Pertinent List of Nondiscrimination Authorities (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
- B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, the Bi-State Development Agency will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.*
- C. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the Bi-State Development Agency will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the Bi-State Development Agency and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

A6.3.5 Title VI Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by the Bi-State Development Agency pursuant to the provisions of the Airport Improvement Program grant assurances.

- A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the List of discrimination Acts And Authorities.
- B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above nondiscrimination covenants, the Bi-State Development Agency will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*
- C. With respect to deeds, in the event of breach of any of the above nondiscrimination covenants, the Bi-State Development Agency will there upon revert to and vest in and become the absolute property of the Bi-State Development Agency and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

A6.3.6 Title VI List of Pertinent Nondiscrimination Acts and Authorities

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;

The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

A7 CLEAN AIR AND WATER POLLUTION CONTROL

A7.1 SOURCE

2 CFR § 200, Appendix II(G)

A7.2 APPLICABILITY

Contract Types – This provision is required for all contracts and lower tier contracts that exceed \$150,000.

Use of Provision – The regulation does not prescribe mandatory language. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of Appendix II to 2 CFR §200.

A7.3 CONTRACT CLAUSE

CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 U.S.C. § 740-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. § 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds \$150,000.

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

A8.1 SOURCE

2 CFR § 200, Appendix II(E)

A8.2 APPLICABILITY

Contract Workhours and Safety Standards Act Requirements, (CWHSSA) requires contractors and subcontractors on covered contracts to pay laborers and mechanics employed in the performance of the contracts one and one-half times their basic rate of pay for all hours worked over 40 in a workweek. CWHSSA prohibits unsanitary, hazardous, or dangerous working conditions on federally assisted projects. The Wage and Hour Division (WHD) within the U.S. Department of Labor (DOL) enforces the compensation requirements of this Act, while DOL's Occupational Safety and Health Administration (OSHA) enforces the safety and health requirements

Contract Types –

Construction - This provision applies to all contracts and lower tier contracts that exceed \$100,000, and employ laborers, mechanics, watchmen and guards.

Equipment - This provision applies to any equipment project exceeding \$100,000 that involves installation of equipment onsite (e.g. electrical vault equipment). This provision does not apply to equipment acquisition projects where the manufacture of the equipment takes place offsite at the vendor plant (e.g. ARFF and SRE vehicles)

Professional Services - This provision applies to professional service agreements that exceed \$100,000 and employs laborers, mechanics, watchmen and guards. This includes members of survey crews and exploratory drilling operations.

Property – While most land transactions do not involve employment of laborers, mechanics, watchmen and guards, under certain circumstances, a property acquisition project could require such employment. Examples include the installation of property fencing or testing for environmental contamination

Use of Provision – Sponsors must incorporate this text without modification.

A8.3 CONTRACT CLAUSE

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 or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) of this clause, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the 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 or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner 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 of this clause.

4. Subcontractors.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor 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 clause.

A9 COPELAND “ANTI-KICKBACK” ACT

A9.1 SOURCE

2 CFR § 200, Appendix II(D)

29 CFR Parts 3 & 5

A9.2 APPLICABILITY and PURPOSE

The Copeland (Anti-Kickback) Act (18 U.S.C. 874 and 40 U.S.C. 3145) makes it unlawful to induce by force, intimidation, threat of dismissal from employment, or by any other manner, any person employed in the construction or repair of public buildings or public works, financed in whole or in part by the United States, to give up any part of the compensation to which that person is entitled under a contract of employment. The Copeland Act also requires each contractor and subcontractor to furnish weekly a statement of compliance with respect to the wages paid each employee during the preceding week.

Contract Types –

Construction – This provision applies to all construction contracts and subcontracts financed under the AIP program that exceeds \$2,000.

Equipment – This provision applies to all equipment installation projects (e.g. electrical vault improvements) financed under the AIP program that exceeds \$2,000. This provision does not apply to equipment acquisitions where the equipment is manufactured at the vendor's plant (e.g. SRE and ARFF vehicles)

Professional Services - The emergence of different project delivery methods has created situations where Professional Service Agreements (PSA) includes tasks that meet the definition of construction, alteration or repair as defined in 29 CFR Part 5. If such tasks result in work that qualifies as construction, alteration or repair and it exceeds \$2,000, the PSA must incorporate the Copeland Anti-kickback provision.

Property - Ordinarily, land acquisition projects would not involve employment of laborers or mechanics and thus the Copeland Anti-Kickback provision would not apply. However, land projects that involve installation of boundary fencing and demolition of structures would involve laborers and mechanics. The sponsor must include this provision if the land acquisition project involves employment of laborers or mechanics for a contract exceeding \$2,000.

Use of Provision – 29 CFR Part 5 establishes specific language a sponsor must use in construction contracts. The sponsor may not make any modification to the standard language. A/E firms that employ laborers and mechanics on a task that meets the definition of construction, alteration or repair are acting as a contractor. The sponsor may not substitute the term “contractor” for “consultant” in such instances.

A9.3 CONTRACT CLAUSE

COPELAND "ANTI-KICKBACK" ACT

Contractor must comply with the requirements of the Copeland "Anti-Kickback" Act (18 U.S.C. 874 and 40 U.S.C. 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A10 DAVIS-BACON REQUIREMENTS

A10.1 SOURCE

2 CFR § 200, Appendix II(D)

29 CFR Part 5

A10.2 APPLICABILITY

The Davis-Bacon Act ensures that laborers and mechanics employed under the contract receive pay no less than the locally prevailing wages and fringe benefits as determined by the Department of Labor.

Contract Types –

Construction - Incorporate into all construction contracts and subcontracts that exceed \$2,000 and include funding from the AIP program.

Equipment – This provision applies to all equipment installation projects (e.g. electrical vault improvements) financed under the AIP program that exceeds \$ 2, 000. This provision does not apply to equipment acquisitions where the equipment is manufactured at the vendor's plant (e.g. SRE and ARFF vehicles)

Professional Services - The emergence of different project delivery methods has created situations where Professional Service Agreements (PSA) includes tasks that meet the definition of construction, alteration or repair as defined in 29 CFR Part 5. If such tasks result in work that qualifies as construction, alteration or repair and it exceeds \$2,000, the PSA must incorporate this clause.

Property - Ordinarily, land acquisition projects would not involve employment of laborers or mechanics and thus the provision would not apply. However, land projects that involve installation of boundary fencing and demolition of structures would involve laborers and mechanics. The sponsor must include this provision if the land acquisition project involves employment of laborers or mechanics for a contract exceeding \$2,000.

Fencing Projects - Fencing projects that exceed \$2,000 must include this provision.

Use of Provision – 29 CFR Part 5 establishes specific language a sponsor must use. The sponsor may not make any modification to the standard language. A/E firms that employ laborers and mechanics on a task that meets the definition of construction, alteration or repair are acting as a contractor. The sponsor may not substitute the term "contractor" for "consultant" in such instances.

A10.3 CONTRACT CLAUSE

DAVIS-BACON REQUIREMENTS

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 the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

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 provisions of paragraph (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 29 CFR Part 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 (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 easily be seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, 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 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 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 work, all or part of the wages required by the contract, the Federal Aviation Administration 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 worker, 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 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 costs 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 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (*e.g.*, the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request 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 them to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(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 provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;

(2) That each laborer and 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 sponsor, the Federal Aviation Administration 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 an 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 that 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 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. In the event the Employment and Training Administration withdraws approval of a training program, the contractor 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 any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 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 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 reference 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.

A 11 DEBARMENT AND SUSPENSION

A 11.1 SOURCE

2 CFR part 180 (Subpart C)

2 CFR part 1200

DOT Order 4200.5

A 11.2 APPLICABILITY

The sponsor must verify that the firm or individual that it is entering into a contract with are not presently suspended, excluded or debarred by any Federal department or agency from participating in federally-assisted projects. The sponsor accomplishes this by: (1) checking the System for Award Management (SAM.gov) to verify that the firm or individual is not listed in SAM.gov as being suspended, debarred or excluded, (2) collecting a certification from the firm or individual that they are not suspended, debarred or excluded, and (3) incorporating a clause in the contract that requires lower tier contracts to verify that no suspended, debarred or excluded firm or individual are included in the project.

Contract Types – This requirement applies to *covered transactions*, which are defined in 2 CFR part 180. AIP funded contracts are non-procurement transactions, as defined by §180.970. Covered transactions include any AIP-funded contract, regardless of tier, that is awarded by a contractor, subcontractor, supplier, consultant, or its agent or representative in any transaction, if the amount of the contract is expected to equal or exceed \$25,000. This includes contracts associated with land acquisition projects.

Use of Provision – The regulation does not prescribe mandatory language, the following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 2 CFR part 180. For professional service agreements, sponsor may substitute bidder/offeror with consultant.

A 11.3 CONTRACT CLAUSE

A 11.3.1 Bidder or Offeror Certification

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

A 11.3.2 Lower Tier Contract Certification

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: <http://www.sam.gov>

2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A12 DISADVANTAGED BUSINESS ENTERPRISE

A12.1 SOURCE

49 CFR part 26

A12.2 APPLICABILITY and PURPOSE

A sponsor that anticipates awarding \$250,000 or more in AIP funded prime contracts in a federal fiscal year must have an approved Disadvantaged Business Enterprise (DBE) program on file with the FAA Office of Civil Rights (§26.21). The approved DBE program will identify a 3-year overall program goal that the sponsor bases on the availability of ready, willing and able DBEs relative to all businesses ready, willing and able to participate on the project (§26.45).

Contract Types – Sponsors with a DBE program on file with the FAA must include the three following provisions, if applicable:

Clause in all solicitations for proposals for which a contract goal has been established.

Clause in each prime contract

Clause in solicitations that are obtaining DBE participation through race/gender neutral means.

Use of Provision –

1. Solicitations with a DBE Project Goal - 49 CFR §26.53 requires a sponsor's solicitation to address what a contractor must submit on proposed DBE participation. This language is not required for projects where DBE participation is by race-gender neutral means.

The regulation does not prescribe mandatory language, the following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's revised language must fully these requirements.

The sponsor may require the contractor's submittal on proposed DBE participation either with the bid or within a specified timeframe after bidding.
2. Contracts Covered by DBE Program - Sponsors must incorporate this language if they have a DBE program on file with the FAA. This includes projects where DBE participation is obtained through race-gender neutral means (i.e. no project goal). Sections §26.13 and §26.29 establish mandatory language for contractor assurance and prompt payment. The sponsor must not modify the language.
3. The regulation does not prescribe mandatory language. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's revised language must fully these requirements for a sponsor that is not applying a project specific contract goal but is covered by a DBE program on file with the FAA.
4. Sponsors that do not have a DBE program on file with the FAA are not required to include DBE provisions and clauses.

A12.3 REQUIRED PROVISIONS

A12.3.1 Solicitation Language (Project Goal)

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR §26.53.

As a condition of bid responsiveness, the Bidder or Offeror must submit the following information with their proposal on the forms provided herein:

- (1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- (2) A description of the work that each DBE firm will perform;
- (3) The dollar amount of the participation of each DBE firm listed under (1)
- (4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
- (5) If Bidder or Offeror cannot meet the advertised project DBE goal; evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR Part 26.

The successful Bidder or Offeror must provide written confirmation of participation from each of the DBE firms the Bidder or Offeror lists in their commitment. This Bidder or Offeror must submit the DBE's written confirmation of participation within 5 calendar days after bid opening.

A12.3.2 Solicitation Language (Race/Gender Neutral Means)

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the Bi-State Development Agency to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

A12.3.3 Prime Contracts (Projects covered by DBE Program)

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.

Prompt Payment (§26.29) - The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than {specify number} days from the receipt of each payment the prime contractor receives from {Name of recipient}. The prime contractor agrees further to return retainage payments to each subcontractor within {specify the same number as above} days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the {Name of Recipient}. This clause applies to both DBE and non-DBE subcontractors.

A13 DISTRACTED DRIVING

A13.1 SOURCE

Executive Order 13513

DOT Order 3902.10

A13.2 APPLICABILITY

The FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or sub-grant.

Contract Types – Sponsors must insert this provision in all AIP funded contracts that exceed the micro-purchase threshold of 2 CFR §200.67 (currently set at \$3,500).

Use of Provision – The regulation does not prescribe mandatory language, the following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's revised language must fully these requirements. .

A13.3 CONTRACT CLAUSE

TEXTING WHEN DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving" (10/1/2009) and DOT Order 3902.10 "Text Messaging While Driving" (12/30/2009), the FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or sub-grant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$3,500 and involve driving a motor vehicle in performance of work activities associated with the project.

A14 ENERGY CONSERVATION REQUIREMENTS

A14.1 SOURCE

2 CFR § 200, Appendix II(H)

A14.2 APPLICABILITY

The Energy Conservation Requirements found in 2 CFR § 200 Appendix II(H) requires this provision on energy efficiency.

Contract Types – The sponsor must include this provision in all AIP funded contracts and lower-tier contracts.

Use of Provision – The regulation does not prescribe mandatory language, the following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's revised language must fully these requirements. Sponsor may substitute "contractor and subcontractor" with "consultant and sub-consultant" for professional service agreements.

A14.3 CONTRACT CLAUSE

ENERGY CONSERVATION REQUIREMENTS

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201 *et seq*).

A15 EQUAL EMPLOYMENT OPPORTUNITY (E.E.O.)

A15.1 SOURCE

2 CFR 200, Appendix II(C)

41 CFR § 60-1.4

41 CFR § 60-4.3

Executive Order 11246

A15.2 APPLICABILITY

The purpose of this provision is to provide equal opportunity for all persons, without regard to race, color, religion, sex, or national origin who are employed or seeking employment with contractors performing under a federally assisted construction contract. There are two provisions – a construction clause and a specification clause.

The equal opportunity contract clause must be included in any contract or subcontract when the amount exceeds \$10,000. Once the equal opportunity clause is determined to be applicable, the contract or subcontract must include the clause for the remainder of the year, regardless of the amount or the contract.

Contract Types –

Construction – The sponsor must incorporate contract and specification language in all construction contracts and subcontracts as required above.

Equipment - The sponsor must incorporate contract and specification language into all equipment contracts as required above that involves installation of equipment onsite (e.g. electrical vault equipment). This provision does not apply to equipment acquisition projects where the manufacture of the equipment takes place offsite at the vendor plant (e.g. ARFF and SRE vehicles)

Professional Services - The sponsor must include contract and specification language into all professional service agreements as required above. *Property* – The sponsor must include contract and specification language into all land acquisition projects that include work that qualifies as construction work as defined by 41 CFR part 60 as required above. An example is installation of boundary fencing.

Use of Provision – 41 CFR § 60-1.4 provides the mandatory contract language. 41 CFR § 60-4.3 provides the mandatory specification language. The sponsor must incorporate these clauses without modification.

A15.3 MANDATORY CONTRACT CLAUSE

A15.3.1 E.E.O. Contract Clause

EQUAL OPPORTUNITY CLAUSE

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, sexual orientation, gender identify 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 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, 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 procedures 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 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 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.

A 15.3.2 EEO Specification

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS**

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 (OFCCP), U.S. 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:
 - (1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) 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
 - (4) 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 shall 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 7p 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 a geographical area 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 in meeting 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 non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall 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 onsite 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 at 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 therefore along with whatever additional actions the contractor 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 female 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 agreement; 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 foremen, 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 non-segregated 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 supervisor's 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 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p 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, if the 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 specific 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 employment 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 number, 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 this 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).

A16 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

A16.1 SOURCE

29 U.S.C. § 201, et seq

A16.2 APPLICABILITY

The United States Department of Labor (DOL) Wage and Hour Division administers the Fair Labor Standards Act (FLSA). This act prescribes federal standards for basic minimum wage, overtime pay, record keeping and child labor standards.

Contract Types – Per the Department of Labor, all employees of certain enterprises having workers engaged in interstate commerce, producing goods for interstate commerce, or handling, selling, or otherwise working on goods or materials that have been moved in or produced for such commerce by any person, are covered by the FLSA.

All consultants, sub-consultants, contractors and subcontractors employed under this federally assisted project must comply with the FLSA.

Professional Services – 29 CFR § 213 exempts employees in a bona fide executive, administrative or professional capacity. Because professional firms employ individuals that are not covered by this exemption, the sponsor's agreement with a professional services firm must include the FLSA provision.

Use of Provision – The regulation does not prescribe mandatory language, the following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 29 U.S.C. § 201. The sponsor must select *contractor* or *consultant*, as appropriate for the contract.

A16.3 CONTRACT CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The [*contractor / consultant*] has full responsibility to monitor compliance to the referenced statute or regulation. The [*contractor / consultant*] must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division

A17 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

A17.1 SOURCE

31 U.S.C. § 1352 – Byrd Anti-Lobbying Amendment

2 CFR part 200, Appendix II(J)

49 CFR part 20, Appendix A

A17.2 APPLICABILITY

Consultants and contractors that apply or bid for an award of \$100,000 or more must certify that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or another award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award.

Contract Types – The sponsor must incorporate this provision into all contracts exceeding \$100,000.

Use of Provision – Appendix A to 49 CFR Part 20 prescribes language the sponsor must use. The sponsor must incorporate this provision without modification.

A17.3 CONTRACT CLAUSE

CERTIFICATION REGARDING LOBBYING

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an 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 sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients 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.

A18 PROHIBITION of SEGREGATED FACILITIES

A18.1 SOURCE

41 CFR § 60

A18.2 APPLICABILITY

The contractor must comply with the requirements of the E.E.O. clause by ensuring that facilities they provide for employees are free of segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin. This clause must be included in all contracts that include the equal opportunity clause, regardless of the amount of the contract.

Contract Types – AIP sponsors must incorporate the Prohibition of Segregated Facilities clause in any contract containing the Equal Employment Opportunity clause of 41 CFR §60.1. This obligation flows down to subcontract and sub-tier purchase orders containing the Equal Employment Opportunity clause.

Construction - Construction work means construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction.

Equipment – On site installation of equipment such as airfield lighting control equipment meets the definition of construction and thus this provision would apply. This provision does not apply to equipment projects involving manufacture of the item at a vendor's manufacturing plant. An example would be the manufacture of a SRE or ARFF vehicle.

Professional Services - Professional services that include tasks that qualify as construction work as defined by 41 CFR part 60. Examples include the installation of noise monitoring equipment.

Property/Land - Land acquisition contracts that include tasks that qualify as construction work as defined by 41 CFR part 60. Examples include demolition of structures or installation of boundary fencing.

Use of Provision – The regulation does not prescribe mandatory language, the following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 41 CFR § 60.

A18.3 CONTRACT CLAUSE

PROHIBITION of SEGREGATED FACILITIES

(a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

A19 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

A19.1 SOURCE

20 CFR part 1910

A19.2 APPLICABILITY

Contract Types – All contracts and subcontracts must comply with the Occupational Safety and Health Act of 1970 (OSH). The United States Department of Labor Occupational Safety & Health Administration (OSHA) oversees the workplace health and safety standards wage provisions from OSH.

Use of Provision – The regulation does not prescribe mandatory language. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 20 CFR part 1910.

A19.3 CONTRACT CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The Contractor retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). Contractor must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A20 PROCUREMENT OF RECOVERED MATERIALS

A20.1 SOURCE

2 CFR § 200.322

40 CFR part 247

A20.2 APPLICABILITY

Sponsors of AIP funded development and equipment projects must comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. Section 6002 emphasizes maximizing energy and resource recovery through use of affirmative procurement actions for recovered materials identified in the EPA guidelines.

The requirements of § 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition.

Contract Types – This provision applies to any contracts that include procurement of products where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired by the preceding fiscal year exceeded \$10,000.

Construction and Equipment – Include this provision in all construction and equipment projects

Professional Services and Property – Include this provision if the agreement includes procurement of a product that exceeds \$10,000

Use of Provision – The regulation does not prescribe mandatory language. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 2 CFR § 200.

A20.3 CONTRACT CLAUSE

Procurement of Recovered Materials

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use of products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or,

The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/epawaste/conserve/tools/cpg/products/.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

A21 RIGHT TO INVENTIONS

A21.1 SOURCE

2 CFR § 200, Appendix II(F)

37 CFR §401

A21.2 APPLICABILITY

Contract Types – This provision applies to all contracts and subcontracts with small business firms or nonprofit organizations that includes performance of *experimental, developmental, or research work*. This clause is not applicable to construction, equipment or professional service contracts unless the contract includes *experimental, developmental or research work*.

Use of Provision – The regulation does not prescribe mandatory language. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor’s language must fully satisfy the requirements of Appendix II to 2 CFR part 200.

A21.3 CONTRACT CLAUSE

RIGHTS TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within in the 37 CFR §401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental or research work.

A22 SEISMIC SAFETY

A22.1 SOURCE

49 CFR part 41

A22.2 APPLICABILITY

Contract Types – This provision applies to construction of new buildings and additions to existing buildings financed in whole or in part through the Airport Improvement Program.

Professional Services and Construction – Sponsor must incorporate this clause in any contract involved in the construction of new buildings or structural addition to existing buildings.

Equipment – Sponsor must include this provision if the project involves construction or structural addition to a building such as an electrical vault project.

Land – This provision will not typically apply to a property/land project.

Use of Provision – The regulation does not prescribe mandatory language. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor’s language must fully satisfy the requirements of 49 CFR part 41.

A22.3 CONTRACT CLAUSE

A22.3.1 Professional Service Agreements for Design

Seismic Safety

In the performance of design services, the Consultant agrees to furnish a building design and associated construction specification that conform to a building code standard which provides a level of seismic safety substantially equivalent to standards as established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their building code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety. At the conclusion of the design services, the Consultant agrees to furnish the Owner a “certification of compliance” that attests conformance of the building design and the construction specifications with the seismic standards of NEHRP or an equivalent building code.

A22.3.2 Construction Contracts

Seismic Safety

The contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

A23 TERMINATION OF CONTRACT

A23.1 SOURCE

2 CFR § 200 Appendix II(B)

FAA Advisory Circular 150/5370-10, Section 80-09

A23.2 APPLICABILITY

Contract Types – All contracts and subcontracts in excess of \$10,000 must address *termination for cause* and *termination for convenience* by the sponsor. The provision must address the manner (i.e. notice, opportunity to cure, and effective date) by which the sponsor’s contract will be affected and the basis for settlement (i.e. incurred expenses, completed work, profit, etc.).

Use of Provision –

Termination for Default - Section 80-09 of FAA Advisory Circular 150/5370-10 establishes standard language for Termination for Default under a construction contract. The sponsor must not make any changes to this standard language.

Termination for Convenience – The sponsor must include a clause for termination for convenience. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor’s language must fully satisfy the requirements of Appendix II to 2 CFR part 200.

Equipment, Professional Services and Property – The sponsor may use their established clause language provided that it adequately addresses the intent of Appendix II(B) to Part 200, which addresses termination for fault and for convenience.

A23.3 CONTRACT CLAUSE

A23.3.1 Termination for Convenience

Termination for Convenience (Construction & Equipment Contracts)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

- a) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;

documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;

reasonable and substantiated claims, costs and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and reasonable and substantiated expenses to the contractor directly attributable to Owner’s termination action

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner’s termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

Termination for Convenience (Professional Services)

The Owner may, by written notice to the Consultant, terminate this Agreement for its convenience and without cause or default on the part of Consultant. Upon receipt of the notice of termination, except as explicitly directed by the Owner, the Contractor must immediately discontinue all services affected.

Upon termination of the Agreement, the Consultant must deliver to the Owner all data, surveys, models, drawings, specifications, reports, maps, photographs, estimates, summaries, and other documents and materials prepared by the Engineer under this contract, whether complete or partially complete.

Owner agrees to make just and equitable compensation to the Consultant for satisfactory work completed up through the date the Consultant receives the termination notice. Compensation will not include anticipated profit on non-performed services.

Owner further agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

A23.3.2 Termination for Default

Termination for Default (Construction)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights and remedies associated with Owner termination of this contract due default of the Contractor.

Termination for Default (Equipment)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract if the Contractor:

1. Fails to commence the Work under the Contract within the time specified in the Notice-to-Proceed;
2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
4. Fails to comply with material provisions of the Contract;
5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements;
6. Becomes insolvent or declares bankruptcy;

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within [10] days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the Work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

The rights and remedies of the Owner in this clause are in addition to any other rights and remedies provided by law or under this contract.

Termination for Default (Professional Services)

Either party may terminate this Agreement for cause if the other party fails to fulfill its obligations that are essential to the completion of the work per the terms and conditions of the Agreement. The party initiating the termination action must allow the breaching party an opportunity to dispute or cure the breach.

The terminating party must provide the breaching party [7] days advance written notice of its intent to terminate the Agreement. The notice must specify the nature and extent of the breach, the conditions necessary to cure the breach, and the effective date of the termination action. The rights and remedies in this clause are in addition to any other rights and remedies provided by law or under this agreement.

a) **Termination by Owner:** The Owner may terminate this Agreement in whole or in part, for the failure of the Consultant to:

1. Perform the services within the time specified in this contract or by Owner approved extension;
2. Make adequate progress so as to endanger satisfactory performance of the Project;
3. Fulfill the obligations of the Agreement that are essential to the completion of the Project.

Upon receipt of the notice of termination, the Consultant must immediately discontinue all services affected unless the notice directs otherwise. Upon termination of the Agreement, the Consultant must deliver to the Owner all data, surveys, models, drawings, specifications, reports, maps, photographs, estimates, summaries, and other documents and materials prepared by the Engineer under this contract, whether complete or partially complete.

Owner agrees to make just and equitable compensation to the Consultant for satisfactory work completed up through the date the Consultant receives the termination notice. Compensation will not include anticipated profit on non-performed services.

Owner further agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

If, after finalization of the termination action, the Owner determines the Consultant was not in default of the Agreement, the rights and obligations of the parties shall be the same as if the Owner issued the termination for the convenience of the Owner.

b) **Termination by Consultant:** The Consultant may terminate this Agreement in whole or in part, if the Owner:

1. Defaults on its obligations under this Agreement;
2. Fails to make payment to the Consultant in accordance with the terms of this Agreement;
3. Suspends the Project for more than [180] days due to reasons beyond the control of the Consultant.

Upon receipt of a notice of termination from the Consultant, Owner agrees to cooperate with Consultant for the purpose of terminating the agreement or portion thereof, by mutual consent. If Owner and Consultant cannot reach mutual agreement on the termination settlement, the Consultant may, without prejudice to any rights and remedies it may have, proceed with terminating all or parts of this Agreement based upon the Owner's breach of the contract.

In the event of termination due to Owner breach, the Engineer is entitled to invoice Owner and to receive full payment for all services performed or furnished in accordance with this Agreement and all justified reimbursable expenses incurred by the Consultant through the effective date of termination action. Owner agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

A24 TRADE RESTRICTION CERTIFICATION

A24.1 SOURCE

49 USC § 50104

49 CFR part 30

A24.2 APPLICABILITY

Unless waived by the Secretary of Transportation, sponsors may not use AIP funds on a product or service from a foreign country included in the current list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (U.S.T.R)

Contract Types – The trade restriction certification and clause applies to all AIP funded projects.

Use of Provision – 49 CFR part 30 prescribes the language for this model clause. The sponsor must include this certification language in all contracts and subcontracts without modification.

A24.3 CONTRACT CLAUSE

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror -

- a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (U.S.T.R.);
- b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the U.S.T.R; and
- c. has not entered into any subcontract for any product to be used on the Federal on the project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R.

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

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

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 an Offeror or subcontractor:

- (1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R. or
- (2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such U.S.T.R. list or
- (3) who incorporates in the public works project any product of a foreign country on such U.S.T.R. list;

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.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by U.S.T.R, unless the Offeror has knowledge that the certification is erroneous.

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

A25 VETERAN'S PREFERENCE

A25.1 SOURCE

49 USC § 47112(c)

A25.2 APPLICABILITY

Contract Types – This provision applies to all AIP funded projects that involve labor to carry out the project. This preference, which excludes executive, administrative and supervisory positions, applies to covered veterans (as defined under §47112(c)) only when they are readily available and qualified to accomplish the work required by the project.

Use of Provision – The regulation does not prescribe mandatory language, the following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 49 U.S.C. § 47112.

A25.3 CONTRACT CLAUSE

VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 U.S.C. 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

SECTION III

St. Louis Downtown Airport Cahokia, Illinois

Taxiway B Relocation, Phase 1: Fillet Improvements

Illinois Project No.: CPS-4505
SBG Project No.: 3-17-SBGP-133/134

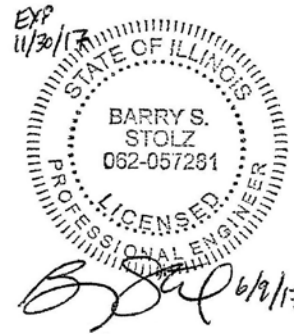
Prepared By:



Engineering | Planning | Allied Services

Hanson Professional Services Inc.
1525 S. Sixth St.
Springfield, IL 62703

June 9, 2017



Kevin N. Lightfoot
6/6/2017
EXPIRES: 11/30/2017
COVERING
ELECTRICAL DESIGN

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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 (IDA) for the following improvement project at the **St. Louis Downtown Airport, Cahokia, Illinois**, including the following:

SCOPE OF WORK

This project shall consist of the construction of pavement widening adjacent to existing taxiway pavement at multiple locations on the airfield. The project includes unclassified excavation, removal/relocation/replacement of airfield lighting and signage, earthwork grading and drainage, pavement placement, pavement marking, erosion control items and incidentals.

GOVERNING SPECIFICATIONS AND RULES AND REGULATIONS

The State of Illinois Department of Transportation, Division of Aeronautics, Standard Specifications for Construction of Airports, adopted April 1, 2012, 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 April 1, 2016, as revised. In the event of inconsistencies between the Standard Specifications and the Special Provisions, the Special Provisions shall govern. The Contractor shall maintain a minimum of one printed copy of the relevant sections of the Standard Specifications for Construction of Airports on the project site at all times. The Standard Specifications for Construction of Airports is available on line at the following address link:

<http://www.idot.illinois.gov/>

RESOURCES
Manuals & Guides

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. 70/7460-1L (or most current issue) "Obstruction Marking and Lighting."
- B. FAA AC No. 150/5210-5D (or most current issue) "Painting, Marking, and Lighting of Vehicles Used on an Airport."
- C. FAA AC No. 150/5300-13A "AIRPORT DESIGN."
- D. FAA AC No. 150/5370-2F (or most current issue) "Operational Safety on Airports During Construction."

DIVISION I – GENERAL PROVISIONS

SECTION 70. LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-10 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS. Add the following paragraphs to this section:

“The St. Louis Downtown Airport has three paved runways. This project will require the temporary closure of Runway 12R/30L. The project will also require the temporary closure of taxiways. Refer to the Construction Safety Plan Sheets for information regarding the temporary reduction of the runway safety area during construction.

Runway 12R/30L will be closed any time the Contractor is working within 150 feet of the runway centerline. Runway closures shall be completed in accordance with the details shown in the Construction Plans. Prior to opening the Runway a Representative of the Airport, the Contractor, and the Resident Engineer/Resident Technician will inspect Runway 12R/30L to be sure the pavement is clean, all holes and trenches have been backfilled, and all equipment and materials are at least 150 feet from the Runway centerline. Any deficiencies noticed will be corrected before the Contractor will be allowed to re-open the runway.

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

Work within 81 feet of an active taxi-lane centerline shall require closure of that taxi-lane using barricades.

Work within 93 feet of an active taxiway centerline shall require closure of that taxiway using barricades.

All work included in opening and closing the runways, taxiways, and taxi-lanes will be considered incidental to the Project and no additional compensation will be allowed.

The Airport Director shall be notified a minimum of **72 hours** in advance of any work that would require the closure of the runway, and a minimum of **48 hours** notice before the closure of any taxiway. 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.

The Contractor will be required to be in 2-way radio contact with the FAA controllers (ground control on 121.80MHZ) at the air traffic control tower (ATCT). This will permit the controllers to immediately reach the Contractor in case of an aeronautical emergency requiring some action by the Contractor and/or his personnel. The Contractor and his employees will be restricted to the work areas. All other areas of the Airport are "off limits." The Contractor shall provide their own airport radios for this purpose.

Extreme care will be taken not to impose on the operations of any open runway or taxiway. The proposed Safety and Phasing Plan Sheets, as outlined on the Construction Plans and in the Special Provisions, will maximize safety and attempt to minimize disruption to Airport daily operations.

The St. Louis Downtown Airport has a restriction on personnel driving on the airfield. A person must first take a driving course taught by Airport personnel. The Contractor will have a couple of his employees take this class. These persons will be responsible for driving vehicles on the airfield site, educating other operators on the correct operation of vehicles on the airfield, and escorting vehicles (such as asphalt/concrete trucks) to and from the construction site.

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 Director. 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.

All runway closures will be coordinated with the Airport Director. 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.
7. Representatives of the Contractor, Airport Director and Resident Engineer/ Technician shall inspect the pavement prior to re-opening. Anything noted will be corrected prior to re-opening.”

Add the following:

70-27 AIRPORT SECURITY NOTES. Airport security will be maintained at all times. The Contractor will access the proposed job site through existing access gates. The Contractor will be required to close and secure these gates after they have gone through it in either direction. The gates 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 gates to insure no one will enter the access gates that is not authorized to be on the construction site or on the air side of the airport.

70-28 MAINTAINING OPERATION OF AIRFIELD LIGHTING AND NAVAIDS. Shut down of airfield lighting and/or Navaids shall only be permitted during day light hours and must be coordinated with and approved by the Airport Manager. All airfield lighting and navaid circuits shall be operational at night fall. The Contractor shall not leave the runway lighting, taxiway lighting, or any other airfield lighting circuit inoperable overnight. The Contractor shall provide temporary cable connections (in unit duct) and any manual operations of airfield lighting to keep them in operation overnight. 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”.

70-29 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.

70-30 SAFETY PLAN COMPLIANCE DOCUMENT. Prior to the issuance of a construction Notice-to-Proceed (NTP), the Contractor shall be responsible for preparing and submitting a Safety Plan Compliance Document in accordance with FAA Advisory Circular 150/5370-2F, paragraph 204b, or equivalent section in subsequent/current issue. The Airport Director shall approve this document and submit to the Division of Aeronautics for approval prior to the NTP issuance.

END OF SECTION 70

SECTION 80. PROSECUTION AND PROGRESS

80-08 DETERMINATION AND EXTENSION OF CONTRACT TIME. Replace the first paragraph of this section with the following:

“The number of calendar days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME. In addition to the overall project CONTRACT TIME, there shall be an intermediate restriction on the contract time allowed to complete Phase 1 of the construction as depicted on the Proposed Safety and Phasing Plan sheets. If the Contractor fails to complete the Phase 1 work within this intermediate contract time restriction they shall be subject to the schedule of deductions in the contract documents independently of the CONTRACT TIME for the overall project.”

80-13 CONTRACTOR'S ACCESS TO AIRFIELD. Add the following to this section:

The Contractor's personnel and equipment shall not traverse outside the designated work areas to other locations on the Airport. The designated haul route will be the only vehicular access to the construction site. It will be the responsibility of the Contractor to maintain the proposed haul route and equipment parking area for the duration of the project.

The Contractor shall access the proposed work site using the haul routes as detailed on the Plans. The Contractor will be expected to maintain this access throughout this project. At the end of the project the Contractor will return the haul routes and equipment parking area to their original condition, unless otherwise noted on the Plans.

The Contractor will be responsible for obtaining any permits necessary to use the State/County/Township/City roads. All work required in complying with the above requirement will be considered incidental to the Contract, and no additional compensation will be allowed.

Failure to use the prescribed haul routes and equipment parking area or adhere to the safety requirements will result in the suspension of work.

Add the following:

80-14 EMPLOYEE PARKING. The Contractor's employees shall park their personal vehicles in the designated Equipment Parking Area as shown on the Proposed Safety and Phasing Plan Sheets. The Contractor will transport the workers from the parking area to the work area. Only Contractor vehicles needed for construction will be allowed outside of the proposed equipment parking area. No employee vehicle will be allowed onto the proposed construction site.

80-15 EQUIPMENT PARKING AND MATERIAL STORAGE. The Contractor will be allowed to park equipment and store material in the Proposed Equipment Parking Area shown on the Safety and Phasing Plan Sheets. The Contractor will maintain this area throughout the duration of the project and restore it to its original condition upon completion of the project. This work will be considered incidental to the Contract and no additional compensation will be allowed.

END OF SECTION 80

DIVISION II PAVING CONSTRUCTION DETAILS

ITEM 150510 ENGINEER'S FIELD OFFICE

DESCRIPTION

150-1.1 Add the following to this section:

“A cellular telephone will be required for exclusive use by the Resident Engineer/Technician for the duration of this project. The cellular telephone shall be hand-held and portable, and shall be approved by the Resident Engineer/Technician. The Resident Engineer/Technician will use this cellular telephone for project related phone calls only. The Contractor will be responsible for all charges associated with this cellular telephone. Upon completion of the project the cellular telephone will be returned to the Contractor.”

CONSTRUCTION METHODS

150-2.1 Revise the first sentence as follows:

“Field offices shall have a ceiling height of not less than 7 ft and a floor space of not less than 450 sq. ft.”

Revise the following in the list of equipment and furniture required in the office:

“B. Delete this item

C. One four-drawer legal letter size filing cabinet with lock and an Underwriter's Laboratories insulated file device 350 degrees one hour rating.

G. One electric water cooler dispenser with water supply as needed, or bottled water.

H. A cellular telephone with voicemail and a functional internet Wi-Fi device such as a mobile hot spot providing hi-speed broadband internet access to the field office. Dial up, or equivalent, internet service will not be acceptable.

J. Delete this item.

L. Delete this item.”

Add the following to the list of equipment and furniture required in the office:

(N) One lockable cabinet or closet that is large enough in which a nuclear density machine may be stored.

(O) High-speed internet access shall be provided to the field office by the Contractor via modem, if phone or cable connections are available. If they are not, the contractor shall provide a wireless Aircard, or similar; internet access method which shall be approved by the Resident Engineer/Technician. Dial up, or equivalent, internet service will not be acceptable.

BASIS OF PAYMENT

150-3.1 Add the following to this section:

“The cellular telephone and associated charges will be included in the contract unit price per lump sum for Engineer's Field Office. This price shall include all utility costs and shall reflect the salvage value of the building or buildings, equipment, and furniture which remain the property of the Contractor after release by the Engineer, except the Project Engineer's firm will pay that portion of the monthly long distance, monthly local telephone, and online data usage that, when combined, exceed \$250.

Payment will be made under:

Item AR150510 Engineer's Field Office - per lump sum.”

END OF ITEM 150510

ITEM 150520 MOBILIZATION

BASIS OF PAYMENT

150-5.1 Add the following to this section:

“Payment will be made under:

Item AR150520 Mobilization - per lump sum”

END OF ITEM 150520

ITEM 150540 HAUL ROUTE

DESCRIPTION

150540-1.1. This item of work shall consist of the construction/utilization, maintenance, and restoration of the proposed haul route and equipment parking area that are needed to provide access to the proposed construction area as shown on the Construction Plans. This item of work also includes the restoration of the haul route, equipment parking and material storage area to its pre-construction condition following construction, unless otherwise noted on the plans. The entrance to the equipment parking and material storage area will be from Goose Lake Road. The Contractor will utilize the access points and proposed routes to each work area as shown on the Proposed Safety and Phasing Plan sheets of the Construction Plan Set.

The proposed equipment parking area will also be utilized as shown on the Proposed Safety and Phasing Plan sheets of the Construction Plan Set. The Contractor's personnel will park their personal vehicles in this area and be transported to the construction site by a Contractor vehicle.

CONSTRUCTION METHODS

150540-2.1. In accordance with section 70-04 of the Standard Specifications, it is the Contractor's responsibility to obtain permission and any applicable permits to use the roads (federal, state, county, city, township) leading to the airport construction site.

The Contractor shall utilize the haul route and equipment parking and material storage areas to provide all weather access to the construction site. The haul route and equipment parking and material storage areas will be maintained so as not to cause delays to the proposed construction. Any temporary additions to the haul route outside of the existing pavements will be made of any suitable aggregate material to provide an all-weather haul route, and temporary drainage pipes shall be installed as necessary to maintain existing drainage patterns. Upon completion of the project; the aggregate material and any temporary drainage pipes will be removed.

Restoration: The haul route, parking and material storage area shall be restored to their original condition and configuration. The access gate and chain-link fence shall be restored to its original condition and configuration, if necessary. The disturbed turf areas that are outside of the proposed seeding and mulching limits will be regraded to drain, seeded and mulched in accordance with Item 901 - Seeding and Item 908 - Mulching. The restoration of these areas will be considered as part of this item.

Safety: All traffic control, safety, and permitting requirements associated with the construction and use of the haul routes are the responsibility of the Contractor.

BASIS OF PAYMENT

150540-3.1. Payment will be made at the contract unit price per lump sum for utilizing, maintaining and restoring the haul route and equipment parking area as specified. This price shall be full compensation for furnishing, installing, maintaining and restoration; for all labor, equipment, and incidentals necessary to complete this item of work.

Payment will be made under:

Item AR150540 Haul Route - per lump sum

END OF ITEM 150540

ITEM 152 UNCLASSIFIED EXCAVATION

CONSTRUCTION METHODS

152-2.2 EXCAVATION. The compaction control tests to be used shall be in accordance with Item 611 Compaction Control Tests, for aircraft weighing 60,000 pounds or more.

152-2.6 FORMATION OF EMBANKMENT. The compaction control tests to be used shall be in accordance with Item 611 Compaction Control Tests, for aircraft weighing 60,000 pounds or more.

152-2.8 HAUL. Add the following to this section:

“The Contractor shall take special precautions when hauling excavated material so as not to create deep ruts in the hauling areas adjacent to the site. All existing graded or turfed areas outside the grading limits which are disturbed or rutted by the Contractor during the hauling operation shall be regraded and returfed at his own expense to the satisfaction of the Resident Engineer/Technician.”

152-3.1. Revise the first paragraph of this section to read as follows:

“The yardage paid for shall be the number of cubic yards measured in its original position. Pay quantities shall be computed to the neat lines staked, by a comparison of the existing subgrade surface to the proposed subgrade surface, of materials acceptably excavated and stripped as specified.”

BASIS OF PAYMENT

152-4.2. Payment will be made under:

Item AR152410 Unclassified Excavation - per cubic yard
Item AS152410 Unclassified Excavation - per cubic yard

END OF ITEM 152

ITEM 152540 SOIL STABILIZATION FABRIC

BASIS OF PAYMENT

152-2.1 Replace this section with the following:

“Fabric for soil stabilization shall be one of the following products:

Tensor BX1100 as manufactured by Tensar International Corporation,
Tensor TX140 as manufactured by Tensar International Corporation,
Wingrid BX11A as manufactured by Willacoochee Industrial Fabrics (WINFAB),
Wingrid BX12A as manufactured by Willacoochee Industrial Fabrics (WINFAB),
or approved equal.”

152-5.1 Add the following to this section:

“Payment will be made under:

Item AR152540 Soil Stabilization Fabric - per square yard.”

END OF ITEM 152540

ITEM AR156531 EROSION CONTROL BLANKET

DESCRIPTION

156531-1.1. This item shall consist of furnishing, transporting, and placing erosion control blanket. The location(s) for the proposed erosion control blanket has not been delineated on the Construction Plans but will be determined at the time of construction by the Resident Engineer/Resident Technician.

MATERIALS

156531-2.1. Materials shall meet the requirements of the following Articles of Division 1000 - Materials, Illinois Department of Transportation, Standard Specifications for Road and Bridge Construction, April 1, 2016.

<u>Item</u>	<u>Article</u>
Knitted Straw Mat	1081.10(b)
Wire Staples	1081.10(d)

CONSTRUCTION REQUIREMENTS

156531-3.1. The blanket shall be placed within 24 hours after seeding operations have been completed on the areas specified. Prior to placing the blanket, the areas to be covered shall be relatively free of all rocks or clods over 1½ in. in diameter, and all sticks or other foreign material which will prevent the close contact of the blanket with the seed bed. If, as a result of rain, the prepared seed bed becomes crusted or eroded, or if eroded places, ruts, or depressions exist for any reason, the Contractor will be required to rework the soil until it is smooth and to reseed such areas which are reworked. After the area has been properly shaped, fertilized, and seeded, the blanket shall be laid out flat, evenly, and smoothly without stretching the material.

Placing and anchoring the blankets in ditches and on slopes shall be as follows:

Erosion Control Blanket. The blankets shall be stapled in-place, using four staples across the end at the start of each roll and placing staples on 6-ft centers along each side. All end seams shall overlap at least 2 in.

METHOD OF MEASUREMENT

156531-4.1. The area of Erosion Control Blanket to be paid for shall be the number of square yards of blanket measured in-place, satisfactorily installed and maintained throughout the duration of the project and the design lifespan of the blanket product.

BASIS OF PAYMENT

156531-5.1. Payment will be made at the contract unit price per square yard of Erosion Control Blanket. This price shall be full compensation for furnishing all materials, for all preparation and installation of these materials, including placement, staples, and maintenance, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item AR156531 – Erosion Control Blanket – Per S.Y.

END OF ITEM AR156531

ITEM 208 AGGREGATE BASE COURSE

MATERIALS

208-2.1 Add the following to this section:

“The oversize aggregate material shall be a CA-2 aggregate (3-in. top size). It may be placed in lifts not to exceed 8”, and each lift shall be compacted with a minimum 3 passes of a steel drum roller.”

BASIS OF PAYMENT

208-4.1 Add the following to this section:

“Payment shall be made under:

Item AR208540	Oversize Aggregate – per ton
Item AS208540	Oversize Aggregate – per ton.”

END OF ITEM 208

ITEM 209 CRUSHED AGGREGATE BASE COURSE

BASIS OF PAYMENT

209-5.1 Add the following to this section:

“Payment shall be made under:

Item AR209510	Crushed Aggregate Base Course – per ton
Item AS209510	Crushed Aggregate Base Course – per ton.”

END OF ITEM 209

ITEM 401 BITUMINOUS SURFACE COURSE - SUPERPAVE

BASIS OF PAYMENT

401-6.1 Add the following to this section:

“Payment will be made under:

Item AR401613 Bit. Surf. Cse.-Method I, Superpave - per ton
Item AS401613 Bit. Surf. Cse.-Method I, Superpave - per ton.”

END OF ITEM 401

ITEM 403 BITUMINOUS BASE COURSE - SUPERPAVE

BASIS OF PAYMENT

403-6.1 Add the following to this section:

“Payment will be made under:

Item AR403614 Bit. Base Cse.-Method II, Superpave - per ton
Item AS403614 Bit. Base Cse.-Method II, Superpave - per ton.”

END OF ITEM 403

ITEM 602 BITUMINOUS PRIME COAT

BASIS OF PAYMENT

602-5.1 Add the following to this section:

“Payment will be made under:

Item AR602510 Bituminous Prime Coat - per gallon
Item AS602510 Bituminous Prime Coat - per gallon.”

END OF ITEM 602

ITEM 603 BITUMINOUS TACK COAT

BASIS OF PAYMENT

603-5.1 Add the following to this section:

“Payment will be made under:

Item AR603510 Bituminous Tack Coat - per gallon
Item AS603510 Bituminous Tack Coat - per gallon.”

END OF ITEM 603

ITEM 620 PAVEMENT MARKING

Revise Item 620 of the Standard Specifications as follows:

MATERIALS

620-2.2 PAINT.

Add the following as the first paragraph:

“White paint shall conform to Federal Standard No. 595, color 37925.
Red paint shall conform to Federal Standard No. 595, color 31136.
Yellow paint shall conform to Federal Standard No. 595, color 33538 or 33655.
Black paint shall conform to Federal Standard No. 595, color 37038.”

BASIS OF PAYMENT

620-5.1 Add the following to this section:

“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
Item AS620900 Pavement Marking Removal – per square foot”

END OF ITEM 620

DIVISION IV – DRAINAGE

ITEM 701 PIPE FOR STORM SEWERS AND CULVERTS

BASIS OF PAYMENT

701-2.1 Add the following to this section:

“The proposed Reinforced Concrete Pipe shall be tongue and groove type.”

701-5.1 Add the following to this section:

“Payment will be made under:

Item AR701624 24” RCP, Class V – per lin. ft.
Item AR701900 Remove Pipe – per lin. ft.”

END OF ITEM 701

ITEM 752 PIPE FOR STORM SEWERS AND CULVERTS

BASIS OF PAYMENT

752-5.1 Add the following to this section:

“Payment will be made under:

Item AR752424 Precast Reinforced Conc. FES 24” – per each
Item AR752900 Remove End Section – per each”

END OF ITEM 752

DIVISION V – TURFING

ITEM 901 SEEDING

BASIS OF PAYMENT

901-5.1 Add the following to this section:

“Payment will be made under:

Item AR901510 Seeding – per acre
Item AR901520 Temporary Seeding – per acre
Item AS901510 Seeding – per acre
Item AS901520 Temporary Seeding – per acre”

END OF ITEM 901

ITEM 908 MULCHING

BASIS OF PAYMENT

908-5.1 Add the following to this section:

“Payment will be made under:

Item AR908510 Mulching – per acre
Item AS908510 Mulching – per acre”

END OF ITEM 908

DIVISION VI – LIGHTING INSTALLATION

ITEM 108 INSTALLATION OF UNDERGROUND CABLE FOR AIRPORTS

DESCRIPTION

108-1.1. Add the following to this section:

“This Item of work shall also consist of the installation of cable by directional-boring method. This Item shall include cable in unit duct where noted on the Plans and specified herein.”

Add the following:

108-1.2 REFERENCES. Note: where FAA Advisory Circulars are referenced they shall be the current issue or issues in effect.

- 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 150/5340-30H (current issue in effect) DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS
- D. FAA Advisory Circular 150/5345-7 (current issue in effect) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS.
- E. FAA Advisory Circular 150/5345-26 (current issue in effect) “FAA SPECIFICATIONS FOR L-823 PLUG AND RECEPTACLE CABLE CONNECTORS”.
- F. FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (current issue in effect) and AC 150/5345-53D, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum (current issue in effect).
- G. FAA AC No. 150/5370-2 (current issue in effect) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
- 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. OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures.

L. UL Standard 44 – Thermoset-Insulated Wires and Cables.

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

N. 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.** The preferred shop drawing submittal format shall be electronic (PDF) copies. Contractor may submit hard copies of shop drawings instead of electronic copies where applicable. Where hard copies are provided, the Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 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. Do not submit NAFTA (North American Free Trade Agreement) 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 AIP Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List or the list of Nationwide Buy American Waivers Issued by the FAA complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects.**
- 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 150/5345-7F, (or current edition in effect) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS". L-824 cable shall be FAA approved and listed in the current AC150/5345-53D, 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. Circuits for use with low voltage applications (600 Volts or below) shall use either 5000-Volt rated cable or 600-Volt rated cable and shall have colored insulation corresponding to the respective voltage system. Cable shall be manufactured in the United States of America to comply with the Airport Improvement Program Buy American Requirement or be on the Federal Aviation Administration list of Nationwide Buy American Waivers.

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

Item AR108108, 1/C #8 5KV UG Cable shall be one conductor No. 8 AWG, 5,000-Volt, FAA L-824, Type C, stranded.

Item AR108158/AS108158, 1/C #8 5KV UG Cable in UD shall be one 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 Underwriters Laboratories Requirements for Type USE-2 insulation. Cable shall be UL-listed and marked USE-2. Cable shall be manufactured in the United States of America to comply with the Airport Improvement Program Buy American Requirement.

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.”

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

“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 ½ 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 Resident Engineer/Resident Technician 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.”

108-2.5 RESERVED. Revise 108-2.5 as follows to comply with the requirements of FAA Advisory Circular Number 150/5370-10G Standards for Specifying Construction of Airports, Item L-108 Underground Power Cable for Airports:

“108-2.5 SPLICER QUALIFICATIONS. Every airfield lighting cable splicer shall be qualified in making cable splices and terminations on cables rated at and/or above 5000 Volts AC. The Contractor shall submit to the Project Engineer proof of the qualifications of each proposed cable splicer for the cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.”

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*
¾”	0.910”	0.070”	1.050”
1”	1.145”	0.085”	1.315”
1-1/4”	1.440”	0.110”	1.660”
1-1/2”	1.650”	0.125”	1.900”
2”	2.065”	0.155”	2.375”
2-1/2”	2.449”	0.213”	2.875”
3”	3.048”	0.226”	3.500”
4”	4.000”	0.250”	4.500”

* 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/Resident Technician 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 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 Resident Engineer/Resident Technician.”

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 or manhole with a continuous duct bank system to the termination point (such as from a handhole to the vault or between handholes and/or manholes) 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 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 splice kits on the job site at all times for emergency repairs. Cast splice kits shall be as 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, at the Contractor’s own expense.

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

All splices and connections will be considered incidental to the respective cable.”

108-3.8 TESTING. Add the following:

- K. Prior to beginning airfield lighting modifications and/or cable installation all existing series circuit cables shall be Megger tested with an insulation resistance tester and recorded at the vault. All existing series circuit cable loops shall have the resistance measured with an Ohmmeter and recorded for each circuit at the vault. Each constant current regulator shall be tested with results recorded. Copies of test results shall be provided to the Resident Engineer/Resident

Technician and the respective Project Engineer. See testing forms included in Appendix A.

- L. After airfield lighting modifications, additions, and/or upgrades have been completed, series circuit cables shall be Megger tested with an insulation resistance tester and recorded at the vault. All series circuit cable loops shall have the resistance measured with an Ohmmeter and recorded for each circuit at the vault. Each constant current regulator shall be tested with results recorded. Copies of test results shall be provided to the Resident Engineer/Resident Technician and the respective Project Engineer. See testing forms included in Appendix A.
- M. Insulation resistance testing equipment for use with 5,000 Volt series circuit cables shall use an insulation resistance tester capable of testing the cables at 5,000 Volts. Older series circuit cables and/or cables in poor condition may require the test voltage to be performed at a voltage lower than 5,000 Volts (Example 1,000 Volts, 500 Volts, or less than 500 Volts). The respective test voltage shall be recorded for each cable insulation resistance test result.
- N. Insulation resistance testing equipment for use with 600 Volt rated cables shall use a 500 Volt insulation resistance tester. The respective test voltage shall be recorded for each cable insulation resistance test result.
- P. It is recommended to use the same insulation resistance test equipment throughout the project to ensure reliable comparative readings at the beginning of the project and at the completion of the project.”

Add the following:

108-3.12 LOCATING OF 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 whatsoever 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/Resident Technician 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. High-voltage circuit wiring (airfield lighting 5000 Volt series circuits and/or other circuits rated above 600 Volts) and low-voltage circuit wiring (rated 600 Volts and below) shall maintain separation from each other. High-voltage wiring and low-voltage wiring shall not be installed in the same wireway, conduit, duct, 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.

108-3.14 IDENTIFICATION OF CABLES. At electrical junction structures, splice cans, electrical handholes and manholes, identify and label each cable originating in the vault with respect to the system or device served. Provide identification tags rated suitable for the respective locations with permanent markings.

METHOD OF MEASUREMENT

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

“The footage of cable and/or cable in unit duct installed in duct, conduit, raceway, or trench to be paid for shall be the number of linear feet of cable installed in duct, conduit, raceway, or trench 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. Coring and interface to 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 vault or other respective termination point. Conduit and/or raceway necessary to interface cable or cable in unit duct to a respective power source will be considered incidental to the respective cable pay item and no additional compensation will be made.”

BASIS OF PAYMENT

108-5.1. Add the following:

“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 AR108108, 1/C #8 5KV UG Cable - per linear foot
Item AR108158, 1/C #8 5KV UG Cable in UD - per linear foot
Item AS108158, 1/C #8 5KV UG Cable in UD - per linear foot"

END OF ITEM 108

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.”

Add the following:

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.** The preferred shop drawing submittal format shall be electronic (PDF) copies. Contractor may submit hard copies of shop drawings instead of electronic copies where applicable. Where hard copies are provided, the Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 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 AIP 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 Schedule 40 (minimum) Polyvinyl Chloride (PVC) or Schedule 40 (minimum) High-Density Polyethylene (HDPE), sized as detailed on the Plans, and suitable for concrete encasement.
- 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 11, or SDR 13.5), and listed suitable for directional boring installation.
- C. Item AR110551 Extend Duct, shall be SDR 13.5 High Density Polyethylene (HDPE) duct to be compatible with the respective existing HDPE SDR 13.5 Duct to be extended.

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 shall be suitable for underground applications encased in concrete or direct burial, and suitable for exposed applications aboveground.

- A. Conduits for concrete encasement shall be Schedule 40 PVC, UL-listed or ETL listed, rated for 90°C cable, conforming to NEMA Standard TC-2 and UL 651, listed suitable for concrete encasement or Schedule 40 (minimum) HDPE conduit, UL-listed or ETL listed, conforming to NEMA Standard TC-7 and UL 651B and listed suitable for concrete encasement.
- B. 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 or ETL listed, conforming to NEMA Standard TC-7 and UL 651B and suitable for directional boring installation, or Wall Type SDR 9, SDR 11, or SDR 13.5 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.**
- C. Conduits for direct burial in earth shall be PVC Schedule 40 (minimum wall thickness), UL-listed or ETL listed, rated for 90°C cable, conforming to NEMA Standard TC-2 and UL 651, listed suitable for direct burial in earth, or HDPE Schedule 40 (minimum wall thickness), conforming to NEMA Standard TC-7 and UL 651B, or HDPE SDR 13.5 (minimum wall thickness) 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). Conduits shall be suitable for direct burial in earth and/or concrete encasement.

- D. Conduits for extending existing 2-inch SDR 13.5 High Density Polyethylene (HDPE) duct shall be Wall Type SDR 13.5 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 shall be compatible with the existing duct. **Conduits for extending existing 2-inch SDR 13.5 HDPE duct will be paid for under Item AR110551 Extend Duct per linear foot.**

Add the following:

110-2.9 NON-METALLIC SPLIT DUCT. Non-metallic split duct shall be used to extend existing duct that contains cables and/or for protection of existing cables as detailed on the Plans. Non-metallic split duct shall be Schedule 40 PVC designed for use with power and control cable applications. Non-metallic split duct shall be suitable for direct burial in earth and concrete encasement and exhibit superior impact strength. Joints shall be sealed with corrosion-resistant tape and heavy-duty plastic straps as recommended by the split duct manufacturer for the application. Split duct sleeve couplings, duct sweeps, fittings, and accessories shall be by the same manufacturer to assure system integrity. Non-metallic split duct shall be manufactured by Prime Conduit, Inc., Carlon Electrical Products, Cantex Inc., or approved equal. 4-in. Schedule 40 split ducts shall be Carlon Part Number 49015SD, Cantex Part Number A52EASZ, or approved equal. Install split duct as detailed on the Plans and in conformance with manufacturer's recommendations for the respective application. Where split duct is to be concrete-encased, confirm it is suitable for the respective application with the manufacturer.

110-2.10 DUCT SPACERS. Provide duct spacers to provide proper separation of conduits installed in concrete encased duct. Duct spacers shall be designed to provide 3" separation of conduits. Duct spacers shall be suitable for the respective size and quantity of ducts. Duct spacers shall be Underground Devices Incorporated Wunpeece Series, Carlon Snap-N-Stac Combo Spacers Series, or approved equal. 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 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.

Any and all disturbed pavement areas will be restored to original or better condition. Restoration of pavement areas disturbed during the installation of the proposed ducts will be incidental to the respective pay item for which the duct is installed.

Add the following:

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 whatsoever 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/Resident Technician 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 ten (10) feet 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/Resident Technician at the Contractor's expense. The Resident Engineer/Resident Technician 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.

110-3.9 SEPARATION OF HIGH-VOLTAGE AND LOW-VOLTAGE WIRING. High-voltage circuit wiring (airfield lighting 5000 Volt series circuits and/or other circuits rated above 600 Volts) and low-voltage circuit wiring (rated 600 Volts and below) shall maintain separation from each other. High-voltage wiring and low-voltage wiring shall not be installed in the same wireway, conduit, duct, raceway, handhole, or junction box.

METHOD OF MEASUREMENT

110-4.1. Add the following:

“The quantity of conduit to be paid for shall be the number of linear feet of ducts of the particular type installed and measured in-place, complete, and accepted by the Resident Engineer/Resident Technician. Conduits, conduit nipples, conduit couplings, and other conduit fittings included with splice cans, junction structures, Navaid installations, base mounted airfield light fixtures, and/or taxi signs, will be considered incidental to the respective item for which they are installed and no additional measurement will be made.”

BASIS OF PAYMENT

110-5.1. Add the following:

“Payment will be made at the contract linear foot price (or other respective 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

Item AR110551 Extend Duct - per linear foot

Item AS110013 3" Directional Bore - per linear foot"

END OF ITEM 110

ITEM 115 ELECTRICAL MANHOLES AND JUNCTION STRUCTURES

DESCRIPTION

115-1.1. This item of work shall consist of electrical manholes and junction structures (handholes and splice cans) in accordance with this Specification and as detailed on the Construction Plans. This item shall include the installation and/or relocation of each electrical manhole and/or junction structure with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the Engineer.

MATERIALS

115-2.1. GENERAL

- A. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the Engineer.
- B. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.
- C. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 CONCRETE STRUCTURES. Provide precast concrete structures where shown on the Plans. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. Openings or knockouts shall be provided in the structure as detailed on the Plans and as applicable to interface to the respective duct system. Threaded inserts and pulling eyes shall be cast in as shown.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the Engineer shall be submitted by the Contractor to allow for a full evaluation by the Engineer.

115-2.3 CABLE TRAYS. Cable racks shall be as detailed on the Plans.

115-2.4 GROUND RODS. Furnish and install ground rods at locations where shown on the Plans or specified herein. Provide ground rods in manholes and/or handholes where applicable for termination of ground conductors. Provide ground rods for splice cans as detailed on the Plans. Ground rods for splice cans shall be 3/4-inch diameter, 10 feet long, UL-listed, copper-clad. Longer ground rods shall be provided where detailed on the Plans. Ground rods shall

have 10 mils minimum copper coating. Steel used to manufacture ground rods shall be 100 percent domestic steel to comply with the Airport Improvement Program Buy American Preference Requirements and the Steel Products Procurement Act. Contractor shall provide certification that the respective ground rods used on this project are manufactured from 100 percent domestic steel.

CONSTRUCTION METHODS

115-3.1. Electrical handholes and manholes shall be constructed in accordance with the details as shown on the Construction Plans. At electrical handholes and manholes, identify and label each cable with respect to its origin and/or the system or device served. Coordinate conduit and duct interface with the handhole and/or manhole installation. Field cut openings for conduits and ducts according to the respective handhole and/or manhole manufacturer's recommendations. Core drill and/or cut wall of handhole and/or manhole with a tool designed for the material to be cut and suitable for the respective application. Size holes for termination fittings to be used and seal around penetrations after fittings are installed.

115-3.2 UNCLASSIFIED EXCAVATION. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the Engineer without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to the respective handhole and/or manhole structure pay item of which it is a component part. Dewatering necessary for manhole structure installation, erosion and turbidity control, in accordance with Federal, State, and Local requirements is incidental to its respective pay item. The cost of all excavation regardless of type of material encountered, shall be included in the unit price bid for the respective manhole structure pay item.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the Resident Engineer/Resident Technician. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be

performed in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the Resident Engineer/Resident Technician. Structures shall be placed after the Resident Engineer/Resident Technician has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 in of sand or a material approved by the Resident Engineer/Resident Technician as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the Plans.

115-3.2 CONCRETE STRUCTURES. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item 610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the Engineer before the concrete is placed.

115-3.3 PRECAST UNIT INSTALLATIONS. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 PLACEMENT AND TREATMENT OF CASTINGS, FRAMES AND FITTINGS. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the Resident Engineer/Resident Technician and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written permission is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the Resident Engineer/Resident Technician and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

115-3.5 INSTALLATION OF LADDERS. [Not used]

115-3.6 REMOVAL OF SHEETING AND BRACING. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches (150 mm) of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The Resident Engineer/Resident Technician may order the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 BACKFILLING. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches (150 mm) in thickness. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the Resident Engineer/Resident Technician.

Backfill shall not be placed against any structure until permission is given by the Resident Engineer/Resident Technician. In the case of concrete, such permission shall not be given until tests made by the laboratory under supervision of the Engineer establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the Resident Engineer/Resident Technician may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

115-3.8 CONNECTION OF DUCT BANKS. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

115-3.9 RESTORATION. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, seeding, mulching grading and restoration shall be considered incidental to the respective pay item. The Contractor shall grade around structures as required to provide positive drainage away from the structure. Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials. After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.10 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 whatsoever 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/Resident Technician 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 ten (10) feet 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/Resident Technician at the Contractor's expense. The Resident Engineer/Resident Technician and Owner shall be notified immediately if any cables are damaged.

Due to the quantities of existing utilities and lines in the proposed areas of work, the Contractor will need to carefully excavate to expose and protect these utilities and lines prior to installing manholes, handholes, and/or junction structures and the associated trenches for the proposed conduits, ducts, and raceway system.

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.

115-3.11 SEPARATION OF HIGH-VOLTAGE AND LOW-VOLTAGE WIRING. High-voltage circuit wiring (airfield lighting 5000 Volt series circuits and/or other circuits rated above 600 Volts) and low-voltage circuit wiring (rated 600 Volts and below) shall maintain separation from each other. High-voltage wiring and low-voltage wiring shall not be installed in the same wireway, conduit, duct, raceway, handhole, or junction box.

METHOD OF MEASUREMENT

115-4.1. Electrical manholes, handholes and junction structures shall be measured by each unit completed in place and accepted by the Resident Engineer/Resident Technician. The following additional items are specifically included in each unit.

- All required excavation,
- Sheeting and bracing
- All required backfilling with on-site materials
- Restoration of all surfaces and finished grading, sodding

- All required connections
- Dewatering if required
- Temporary cables and connections
- Ground rod testing
- All coring and labor associated with conduit, duct, cable in unit duct, and/or cable entries
- Locating existing utilities, lines, and cables in the respective areas of work
- All coordination with the respective Airport staff, site personnel, and/or FAA personnel

BASIS OF PAYMENT

115-5.1. Payment will be made at the contract unit price bid for each electrical manhole, handhole, and/or junction structure 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 locating existing utilities, lines, and cables in the respective areas of work; for all coring and labor associated with conduit, duct, cable in unit duct, and/or cable entries; for all coordination with the respective Airport and/or FAA personnel; for furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item AR115966 Relocate Electrical Handhole - per each

END OF ITEM 115

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 and/or relocation of airfield 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 airfield lights, electrical junction structures/splice cans and/or taxi guidance signs. 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.”

Add the following:

125-1.6 REFERENCES. Note: where FAA Advisory Circulars are referenced they shall be the current issue or issues in effect.

- A. ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- C. FAA AC No. 150/5340-30 (current issue in effect) “DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS
- D. FAA AC No. 150/5345-42 (current issues in effect) “Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories”.
- E. FAA AC No. 150/5345-44 (current issues in effect) “SPECIFICATION FOR RUNWAY AND TAXIWAY SIGNS”.
- F. FAA AC No. 150/5345-46 (current issue in effect) “SPECIFICATION FOR RUNWAY AND TAXIWAY LIGHT FIXTURES”
- G. FAA AC No. 150/5345-47 (current issue in effect) “SPECIFICATION FOR SERIES TO SERIES ISOLATION TRANSFORMERS FOR AIRPORT LIGHTING SYSTEMS”.
- H. FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (current issue in effect) and AC 150/5345-53D, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum (current issue in effect).
- I. FAA AC No. 150/5370-2 (current issue in effect) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
- J. NFPA 70 – National Electrical Code (most current issue in force).
- K. NFPA 70E – Standard for Electrical Safety in the Workplace

- 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 514B – Conduit, Tubing and Cable Fittings.

125-1.7 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.** The preferred shop drawing submittal format shall be electronic (PDF) copies. Contractor may submit hard copies of shop drawings instead of electronic copies where applicable. Where hard copies are provided, the Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 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 AIP Buy American Preferences requirements. FAA approved equipment that is on the FAA Buy American Conformance List or the list of Nationwide Buy American Waivers Issued by the FAA complies with the AIP Buy American Preferences and will not require additional waiver paperwork for AIP projects.**
- 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 for L-867 base cans/splice cans with cover plates.
- E. Include cut sheets with part numbers for transformers to be provided with relocated taxi guidance signs.

- F. Concrete mix design.
- G. 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% domestic steel for ground rods. Include cut sheets for exothermic weld connections, ground lugs, and ground wire.
- H. Provide cut sheets for all types of conduit used with the airfield light fixtures and/or taxi guidance signs (for example galvanized rigid steel conduit). Include certification that steel conduits are made with 100 percent domestic steel.

EQUIPMENT AND MATERIALS

125-2.1 GENERAL. Add the following to this section:

- "D. The proposed taxiway lights shall be Type L-861T with blue lenses. All lights shall have an overall height of **24 inches**. All of the above lights shall be manufactured in accordance to FAA Specification AC No. 150/5345-46 (current issue in effect) and shall be FAA approved and in compliance with the Airport Improvement Program Buy American Preference Requirements.
- E. 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 150/5340-30H DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, Chapter 12, Parts 12.6 and 12.7.
- F. The concrete used in the construction of these Items shall be in accordance with Item 610."

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 150/5345-47 (current issue in effect), 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. Relocated airfield light fixtures shall be provided with new series isolation transformers sized for each respective light fixture in accordance with the light fixture manufacturer's recommendation. Relocated taxi guidance signs shall be provided with new series isolation transformers sized for each respective sign in accordance with the sign manufacturer's recommendation. 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. Lids for splice cans containing high voltage airfield lighting cables shall include minimum 1/2-inch high lettering labeled "**DANGER HIGH VOLTAGE KEEP OUT**" to comply with National Electrical Code Article 300.45 "Warning Signs" and National Electrical Code Article 314.71(E) "Suitable Covers". This will need to be coordinated with the splice can manufacturer. Lids for splice cans containing low voltage cables (rated 600 Volts and below) will be acceptable to use blank covers."

Add the following:

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 base cans, splice cans, and/or other junction structures, the Contractor will apply an oxide-inhibiting, anti-seizing compound to all screws, bolts, nuts, breakable couplings, and all places where metal comes into contact with metal.

125-2.16 STAINLESS STEEL BOLTS. All base plate-mounting bolts and stake-mounting bolts shall be stainless steel.

125-2.17 GROUND RODS. **Ground rods shall be 3/4-inch diameter by 10-foot long UL listed Copper clad with 10 mils (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 to comply with the Steel product Procurement Act.

CONSTRUCTION METHODS

125-3.1 GENERAL. Add the following to this section:

“The proposed and/or relocated 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, taxi guidance signs, and/or electrical junction structures/splice cans designated for removal shall be removed in their entirety. The Contractor shall remove the existing lights, signs, and/or electrical junction structures/splice cans 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, signs, 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 and/or sign foundations shall be removed and earth material will be placed in the hole made from the base and/or foundation 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.

The existing cables associated with airfield lighting removals, relocations, and/or cable or duct replacements shall be abandoned in place unless it conflicts with the installation of the airfield light, sign, duct, cable, handhole, manhole, site work, pavement or other work, then it shall be disconnected, removed, and disposed of off the site at no additional cost to the Contract. Contractor may remove abandoned cables at no additional cost to the Contract and shall have the salvage rights to abandoned cables.

The existing airfield lights designated for relocation will require the Contractor to remove the designated lights in a manner as not to damage them. The Contractor will need to field verify the existing site conditions. Concrete and/or dirt shall be removed from the mounting stakes, and the Contractor will relocate them to the locations shown on the Construction Plans. The concrete base-mounted lights will be excavated and moved to their designated location in their entirety. All components of the medium-intensity light (except the transformer) will be relocated in their current condition. New FAA approved series isolation transformers sized for the respective airfield light shall be furnished and installed for each relocated airfield light fixture. Any damage, beyond what is documented and confirmed by the Resident Engineer/Resident Technician, to the existing lighting system will be repaired/replaced at the Contractor's expense. Ground rods shall be provided for each relocated light fixture as detailed on the Plans and as specified herein. The Contractor will need to field verify the existing site conditions. The Contractor will install new 1/C #8 5KV UG cable-in-unit duct from the respective light on either side of the relocated light in order to place the relocated light into the lighting circuit. The cable will be paid for under Item AR108158/AS108158 “1/C #8 5KV UG Cable in UD per linear foot.

The taxi guidance signs designated to be relocated shall be relocated, adjusted, and/or installed in accordance with the details shown on the Construction Plans. The existing taxi guidance signs designated for relocation will require the Contractor to remove the

designated signs in a manner as not to damage them. The Contractor will need to field verify the existing site conditions. The signs shall be stored in a secure location to prevent them from damage, until they are ready for installation at the new location. Any damage, beyond what is documented and confirmed by the Resident Engineer/Resident Technician, to the existing taxi guidance signs will be repaired/replaced at the Contractor's expense. The existing sign foundations shall be removed and disposed of off the Airport site in a legal manner. New foundations with transformer base cans shall be provided for the relocated taxi guidance signs as detailed on the Plans. New FAA approved series isolation transformers sized in accordance with the respective sign manufacturer's recommendation shall be provided for each relocated sign. Ground rods shall be provided for each relocated sign as detailed on the Plans and as specified herein.

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/relocated taxi guidance signs, lights, splice cans, and/or removal/relocation 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/Resident Technician. 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, Intertek Testing Services verification/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 current issue in effect) "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.

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 Contact. 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.”

Add the following:

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 and new taxiway lights. The correct light identification numbers are shown on the Construction Plans. The cost to provide and install the proposed identification number tags will be considered as an incidental item to the new and relocated airfield lights and taxi guidance signs and no additional compensation will be allowed.

125-3.5 GROUNDING FOR AIRFIELD LIGHTS AND TAXI GUIDANCE SIGNS. Furnish and install a ground rod at each L-867 transformer base/light can/splice can and at each stake-mounted light fixture. 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 150/5340-30H DESIGN AND INSTALLATION 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 **3/4-in. diameter by 10-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 Pentair Erico Products, Inc., Thermoweld by Continental Industries, Inc., or Ultraweld by Harger, 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 each airfield light fixture and taxi guidance sign the Contractor shall test the made electrode ground**

system with an instrument specifically designed for testing ground systems. Test results shall be recorded for each airfield light fixture and each taxi guidance sign installation. If ground resistance exceeds 25 Ohms, contact the Project Engineer for further direction. Copies of ground system test results shall be furnished to the Resident Engineer/Technician and the Project Engineer.

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 insulation or a braided ground strap of equivalent current rating. 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 GROUNDING FOR SPLICE CANS. Furnish and install a ground rod at each L-867 transformer base/light can. Grounding for splice cans shall be as detailed on the Plans and as specified herein. The splice can ground shall be a #6 AWG bare Copper conductor bonded to the ground lug on the respective L-867 transformer base/light can and a **3/4-inch diameter by 10-foot long (minimum)**, UL-listed, Copper-clad ground rod. Connections to ground lugs on the L-867 transformer base/light can shall be with a UL-listed grounding connector. Connections to ground rods shall be made with exothermic-weld type connectors; Cadweld by Pentair Erico Products, Thermoweld, Ultraweld by Harger, 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 inches minimum below grade, unless noted deeper on the Plans.

125-3.7 TESTING AIRFIELD LIGHTING SYSTEMS. Prior to beginning airfield lighting modifications and/or cable installation all existing series circuit cables shall be Megger tested with an insulation resistance tester and recorded at the vault. All existing series circuit cable loops shall have the resistance measured with an Ohmmeter and recorded for each circuit at the vault. Each constant current regulator shall be tested with results recorded. Copies of test results shall be provided to the Resident Engineer/Technician and the respective Project Engineer.

After airfield lighting modifications, additions, and/or upgrades have been completed, series circuit cables shall be Megger tested with an insulation resistance tester and recorded at the vault. All series circuit cable loops shall have the resistance measured with an Ohmmeter and recorded for each circuit at the vault. Each constant current regulator shall be tested with results recorded. Copies of test results shall be provided to the Resident Engineer/Technician and the respective Project Engineer.

See Appendix A – “Constant Current Regulator and Cable Testing Forms” for additional information on testing requirements for airfield lighting systems. All testing will be considered incidental to the respective work items and no additional compensation will be allowed.

METHOD OF MEASUREMENT

125-4.1 Add the following:

“Ground resistance tests for the made electrode ground system at each airfield light fixture, taxi sign, and splice can will be considered incidental to the respective item and no additional compensation will be allowed.

Testing the airfield lighting systems and the associated constant current regulator tests and cable tests will be considered incidental to the Contract and no additional compensation will be allowed.

The quantity of taxi guidance signs to be paid for under this item shall be the number of each type installed as completed units in place, ready for operation, and accepted by the Engineer. The transformer can associated with the taxi guidance sign and slack cable to perform cable connections outside of the transformer can, will be considered incidental to the respective taxi guidance sign and no additional compensation will be allowed. Ground resistance tests for the made electrode ground system at each taxi guidance sign will be considered incidental to the respective taxi guidance sign and no additional compensation will be allowed.

The quantity of airfield light fixtures, signs, and/or electrical junction structures/splice cans to be removed will be paid for at the contract unit price per each for removal of the respective airfield light, sign, or electrical junction structure/splice can. This price and payment shall constitute full compensation for field verification of existing site conditions and power sources, disconnecting the respective power sources, removing the respective airfield light, sign, or electrical junction structure/splice can with associated mounting stakes, bases, foundations, handholes, splice cans, and transformers; for all excavating and backfilling; for furnishing all earth material; and for furnishing all coordination, labor, tools, equipment, and incidentals necessary to complete this item of work. Salvageable materials shall be turned over to the Airport. Any materials not salvaged by the Airport shall be legally disposed of off the Airport site by the Contractor at no additional cost to the Contract.

The removal of airfield lights and taxi guidance signs designated to be relocated will be considered incidental to the relocation of the respective airfield light or sign and no additional compensation will be allowed. Removal and disposal of existing sign foundations associated with the relocation of a taxi guidance sign will be considered incidental to the relocation of the respective taxi guidance sign and no additional compensation will be allowed. Replacement of any damaged base cans, fixtures, or other items necessary for a complete installation with new items, as directed by the Resident Engineer/Resident Technician, shall be considered incidental to the relocation of the respective airfield light or taxi guidance sign and no additional compensation will be allowed.

New series isolation transformers to be furnished and installed with each airfield light relocation and each taxi guidance sign relocation will be considered incidental to the relocation of the respective airfield light or taxi guidance sign and no additional compensation will be allowed. New ground rods to be furnished and installed with each

airfield light relocation and each taxi guidance sign relocation will be considered incidental to the relocation of the respective airfield light or taxi guidance sign and no additional compensation will be allowed.

New L-867 transformer cans to be furnished and installed with each taxi guidance sign relocation will be considered incidental to the relocation of the respective taxi guidance sign and no additional compensation will be allowed.

Relocated taxi guidance signs will be paid for under Item AR125964/AS125964 Relocate Taxi Guidance Sign per each. Relocation of a taxi guidance sign larger than 4 modules will be paid for as a quantity of 2 (two) sign relocations under Item AR125964/AS125964 Relocate Taxi Guidance Sign per each.

Conduits, conduit nipples, conduit couplings, and other conduit fittings included with splice cans, junction structures, Navaid installations, base mounted airfield light fixtures, and/or taxi signs, will be considered incidental to the respective item for which they are installed and no additional compensation will be made.”

BASIS OF PAYMENT

125-5.1 Add the following:

“Payment will be made at the contract price for each complete airfield light fixture, taxi guidance sign, and/or splice can installed in place by the Contractor 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; and for all excavation, backfilling, and restoration; and for all labor, testing, equipment, tools, and incidentals necessary to complete this item.

Removal work will be paid for at the contract unit bid price per each for the respective airfield light fixture removal, electrical junction structure or splice can removal and/or respective taxi sign and foundation removal. Said price and payment shall constitute full compensation for field verification of existing site conditions and power sources, disconnecting the respective power sources, removing the respective airfield light, junction structure, splice can, or sign, with associated mounting stakes, bases, foundations, handholes, splice cans, and transformers; for all excavating, backfilling, and restoration; for furnishing all earth material; and for furnishing all coordination, labor, tools, equipment, and incidentals necessary to complete this item of work.

Conduits, conduit nipples, conduit couplings, and other conduit fittings included with splice cans, junction structures, Navaid installations, base mounted airfield light fixtures, and/or taxi signs, will be considered incidental to the respective item for which they are installed and no additional compensation will be made.

Payment will be made under:

Item AR125410 MITL – Stake Mounted – per each

Item AR125415 MITL – Base Mounted – per each

Item AR125565 Splice Can – per each

Item AR125906 Remove Splice Can – per each
Item AR125961 Relocate Stake Mounted Light – per each
Item AR125962 Relocate Base Mounted Light – per each
Item AR125964 Relocate Taxi Guidance Sign – per each
Item AS125410 MITL – Stake Mounted – per each
Item AS125415 MITL – Base Mounted – per each
Item AS125565 Splice Can – per each
Item AS125904 Remove Taxi Guidance Sign – per each
Item AS125906 Remove Splice Can – per each
Item AS125961 Relocate Stake Mounted Light – per each
Item AS125962 Relocate Base Mounted Light – per each
Item AS125964 Relocate Taxi Guidance Sign – per each”

END OF ITEM 125

APPENDIX A

Constant Current Regulator and
Cable Testing Forms

Engineering Firm Hanson Professional Services Inc.
Airport Name CPS-St. Louis Downtown
Project Taxiway B Relocation, Ph.1:
Fillet Improvements
Illinois Project CPS-4505
Hanson Project 16A0107C
Date _____

TESTING FORMS

Prior to beginning airfield lighting modifications and/or cable installation all existing series circuit cables shall be Megger tested with an insulation resistance tester and recorded at the vault. All existing series circuit cable loops shall have the resistance measured with an Ohmmeter and recorded for each circuit at the vault. Each constant current regulator shall be tested with results recorded. Voltage power circuits that are affected by this project shall also be Megger tested with an insulation resistance tester and recorded at the vault or respective power source location.

___ Megger test and record Runway 5-23 series circuit cable loop at the vault.

___ Runway 5-23 series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Runway 12L-30R MIRL series circuit cable loop at the vault.

___ Runway 12L-30R MIRL series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Runway 12R-30L HIRL series circuit cable loop at the vault.

___ Runway 12R-30L HIRL series circuit cable loop shall have the resistance tested and recorded at the vault.

Engineering Firm Hanson Professional Services Inc.
Airport Name CPS-St. Louis Downtown
Project Taxiway B Relocation, Ph.1:
Fillet Improvements
Illinois Project CPS-4505
Hanson Project 16A0107C
Date _____

TESTING FORMS

___ Megger test and record Taxiway A series circuit cable loop at the vault.

___ Taxiway A series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Taxiway B, Circuit 1 series circuit cable loop at the vault.

___ Taxiway B, Circuit 1 series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Taxiway B, Circuit 2 series circuit cable loop at the vault.

___ Taxiway B, Circuit 2 series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Taxiway C series circuit cable loop at the vault.

___ Taxiway C series circuit cable loop shall have the resistance tested and recorded at the vault.

Engineering Firm Hanson Professional Services Inc.
Airport Name CPS-St. Louis Downtown
Project Taxiway B Relocation, Ph.1:
Fillet Improvements
Illinois Project CPS-4505
Hanson Project 16A0107C
Date _____

TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ Test Runway 5-23 CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

__ Test Runway 5-23 CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

Engineering Firm Hanson Professional Services Inc.
Airport Name CPS-St. Louis Downtown
Project Taxiway B Relocation, Ph.1:
Fillet Improvements
Illinois Project CPS-4505
Hanson Project 16A0107C
Date _____

TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ Test Backup CCR for Runway 5-23 by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ Test Backup CCR for Runway 5-23 by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

Engineering Firm Hanson Professional Services Inc.
Airport Name CPS-St. Louis Downtown
Project Taxiway B Relocation, Ph.1:
Fillet Improvements
Illinois Project CPS-4505
Hanson Project 16A0107C
Date _____

TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ Test Runway 12L-30R MIRL CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

__ Test Runway 12L-30R MIRL CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

Engineering Firm Hanson Professional Services Inc.
Airport Name CPS-St. Louis Downtown
Project Taxiway B Relocation, Ph.1:
Fillet Improvements
Illinois Project CPS-4505
Hanson Project 16A0107C
Date _____

TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ Test Backup CCR for Runway 12L-30R MIRL by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ Test Backup CCR for Runway 12L-30R MIRL by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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Hanson Project 16A0107C
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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ Test Runway 12R-30L HIRL CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B1	Phase A:		
	Phase B:		
B2	Phase A:		
	Phase B:		
B3	Phase A:		
	Phase B:		
B4	Phase A:		
	Phase B:		
B5	Phase A:		
	Phase B:		

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TESTING FORMS

__ Test Runway 12R-30L HIRL CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B1	Phase A:		
	Phase B:		
B2	Phase A:		
	Phase B:		
B3	Phase A:		
	Phase B:		
B4	Phase A:		
	Phase B:		
B5	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ Test Backup CCR for Runway 12R-30L HIRL by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B1	Phase A:		
	Phase B:		
B2	Phase A:		
	Phase B:		
B3	Phase A:		
	Phase B:		
B4	Phase A:		
	Phase B:		
B5	Phase A:		
	Phase B:		

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TESTING FORMS

__ Test Runway 12R-30L HIRL CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B1	Phase A:		
	Phase B:		
B2	Phase A:		
	Phase B:		
B3	Phase A:		
	Phase B:		
B4	Phase A:		
	Phase B:		
B5	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ Test Taxiway "A" CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

__ Test Taxiway "A" CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ Test Taxiway "B" Circuit 1 CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

__ Test Taxiway "B", Circuit 1 CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ Test Taxiway “B” Circuit 2 CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

__ Test Taxiway “B”, Circuit 2 CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ Test Taxiway "C" CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

__ Test Taxiway "C" CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

After airfield lighting modifications, additions, and/or upgrades have been completed, all series circuit cables shall be Megger tested with an insulation resistance tester and recorded at the vault. All series circuit cable loops shall have the resistance measured with an Ohmmeter and recorded for each circuit at the vault. Each constant current regulator shall be tested with results recorded. Voltage power circuits that are affected by this project shall also be Megger tested with an insulation resistance tester and recorded at the vault or respective power source location.

___ Megger test and record Runway 5-23 series circuit cable loop at the vault.

___ Runway 5-23 series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Runway 12L-30R MIRL series circuit cable loop at the vault.

___ Runway 12L-30R MIRL series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Runway 12R-30L HIRL series circuit cable loop at the vault.

___ Runway 12R-30L HIRL series circuit cable loop shall have the resistance tested and recorded at the vault.

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TESTING FORMS

___ Megger test and record Taxiway A series circuit cable loop at the vault.

___ Taxiway A series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Taxiway B, Circuit 1 series circuit cable loop at the vault.

___ Taxiway B, Circuit 1 series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Taxiway B, Circuit 2 series circuit cable loop at the vault.

___ Taxiway B, Circuit 2 series circuit cable loop shall have the resistance tested and recorded at the vault.

___ Megger test and record Taxiway C series circuit cable loop at the vault.

___ Taxiway C series circuit cable loop shall have the resistance tested and recorded at the vault.

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Runway 5-23 CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Runway 5-23 CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Backup CCR for Runway 5-23 by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Backup CCR for Runway 5-23 by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Runway 12L-30R MIRL CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Runway 12L-30R MIRL CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Backup CCR for Runway 12L-30R MIRL by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Backup CCR for Runway 12L-30R MIRL by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Runway 12R-30L HIRL CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B1	Phase A:		
	Phase B:		
B2	Phase A:		
	Phase B:		
B3	Phase A:		
	Phase B:		
B4	Phase A:		
	Phase B:		
B5	Phase A:		
	Phase B:		

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TESTING FORMS

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Runway 12R-30L HIRL CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B1	Phase A:		
	Phase B:		
B2	Phase A:		
	Phase B:		
B3	Phase A:		
	Phase B:		
B4	Phase A:		
	Phase B:		
B5	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ After airfield lighting modifications, additions, and/or upgrades have been completed test Backup CCR for Runway 12R-30L HIRL by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B1	Phase A:		
	Phase B:		
B2	Phase A:		
	Phase B:		
B3	Phase A:		
	Phase B:		
B4	Phase A:		
	Phase B:		
B5	Phase A:		
	Phase B:		

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___ After airfield lighting modifications, additions, and/or upgrades have been completed test Runway 12R-30L HIRL CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B1	Phase A:		
	Phase B:		
B2	Phase A:		
	Phase B:		
B3	Phase A:		
	Phase B:		
B4	Phase A:		
	Phase B:		
B5	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Taxiway "A" CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Taxiway "A" CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

__ After airfield lighting modifications, additions, and/or upgrades have been completed test Taxiway “B” Circuit 1 CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

__ After airfield lighting modifications, additions, and/or upgrades have been completed test Taxiway “B”, Circuit 1 CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Taxiway “B” Circuit 2 CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Taxiway “B”, Circuit 2 CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

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TESTING FORMS

Note: Output voltage measurements are not required for constant current regulators that are not equipped with output voltage meters.

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Taxiway "C" CCR by Manual Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

___ After airfield lighting modifications, additions, and/or upgrades have been completed test Taxiway "C" CCR by ATCT Control and record input current and output amperage at each step.

STEP	INPUT CURRENT	OUTPUT CURRENT	OUTPUT VOLTS
B10	Phase A:		
	Phase B:		
B30	Phase A:		
	Phase B:		
B100	Phase A:		
	Phase B:		

APPENDIX B

IDOT Division of Aeronautics
Policy Memorandum 96-1

Item 610, Structural Portland Cement Concrete:
Job Mix Formula Approval & Production Testing

State of Illinois
Department of Transportation
Division of Aeronautics

POLICY MEMORANDUM

April 1, 2010

Springfield

Number 96-1

TO: CONSULTING ENGINEERS

SUBJECT: ITEM 610, STRUCTURAL PORTLAND CEMENT CONCRETE:
JOB MIX FORMULA APPROVAL & PRODUCTION TESTING.

- I. This policy memorandum addresses the Job Mix Formula (JMF) approval process and production testing requirements when Item 610 is specified for an airport construction contract.
- II. PROCESS
 - a. The contractor may submit a mix design with recent substantiating test data or he may submit a mix design generated by the Illinois Division of Highways with recent substantiating test data for approval consideration. The mix design should be submitted to the Resident Engineer.
 - b. The Resident Engineer should verify that each component of the proposed mix meets the requirements set forth under Item 610 of the *Standard Specifications for Construction of Airports* and/or the contract special provisions.
 - c. The mix design should also indicate the following information:
 1. The name, address, and producer/supplier number for the concrete.
 2. The source, producer/supplier number, gradation, quality, and SSD weight for the proposed coarse and fine aggregates.
 3. The source, producer/supplier number, type, and weight of the proposed flyash and/or cement.
 4. The source, producer/supplier number, dosage rate or dosage of all admixtures.
 - d. After completion of Items b and c above, the mix with substantiating test data shall be forwarded to the Division of Aeronautics for approval. Once the mix has been approved, the production testing shall be at the rate in Section III as specified herein.

III. PRODUCTION TESTING

- a. One set of cylinders or beams, depending on the strength specified, shall be cast for acceptance testing for each day the mix is used. In addition, at least one slump and one air test shall be conducted for each day the mix is used. If more than 100 c.y. of the mix is placed in a given day, additional tests at a frequency of 1 per 100 c.y. shall be taken for strength, slump, and air. The concrete shall have a maximum slump of three inches (3") and minimum slump of one inch (1") when tested in accordance with ASTM C-143. The air content of the concrete shall be between 5% and 8% by volume. At no time shall the temperature of the concrete exceed 90 degrees Fahrenheit.
- b. If the total proposed amount of Item 610 Structural Portland Cement Concrete as calculated by the Resident Engineer is less than 50 c.y. for the entire project, the following shall apply:
 - The Resident Engineer shall provide calculations of the quantity of Item 610 to the Division of Aeronautics.
 - One set of cylinders or beams, depending the strength specified, shall be cast for acceptance testing.
 - One air content and one slump test shall be taken for acceptance testing.
 - The concrete shall have a maximum slump of three inches (3") and minimum of one inch (1") when tested in accordance with ASTM C-143. The air content of the concrete shall be between 5% and 8% by volume. At no time shall the temperature of the concrete exceed 90 degrees Fahrenheit.
- c. The Resident Engineer shall collect actual batch weight tickets for every batch of Item 610 concrete used for the project. The actual batch weight tickets shall be kept with the project records and shall be available upon request of the Department of Transportation.

Steven J. Long, P.E.
Acting Chief Engineer

Supersedes Policy Memorandum 96-1 dated January 1, 2004

APPENDIX C

Report of Subsurface Exploration and
Geotechnical Engineering Evaluation

REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION

ST. LOUIS DOWNTOWN AIRPORT
TAXIWAY IMPROVEMENTS
CAHOKIA, ILLINOIS
TSI PROJECT NO. 20175006.00

HANSON PROFESSIONAL SERVICES, INC.
13801 Riverport Drive, Suite 300
St. Louis, Missouri 63043



1340 North Price Road
St. Louis, Missouri 63132

February 27, 2017



1340 North Price Road
St. Louis, MO 63132
314.373.4000 T
314.227.6622 F

www.tsigetechn.rocks

February 27, 2017

Mr. Barry Stolz, PE
HANSON PROFESSIONAL SERVICES, INC.
13801 Riverport Drive, Suite 300
St. Louis, Missouri 63043

**Re: Report of Subsurface Exploration and Geotechnical Engineering Evaluation
St. Louis Downtown Airport Taxiway Improvements
Cahokia, Illinois
TSi Project No. 20175006.00**

Dear Mr. Stolz:

TSi Geotechnical, Inc. (TSi) has completed the authorized Subsurface Exploration and Geotechnical Engineering Evaluation for the St. Louis Downtown Airport Taxiway Improvements project and is pleased to submit this report of our findings to Hanson Professional Services, Inc. (HPS). The purpose of our work was to determine subsurface conditions at specific boring locations, and to gather data on which to prepare geotechnical recommendations for use in the design and construction of the project. This report describes the exploration procedures used, exhibits the data obtained, and presents our evaluations and recommendations relative to certain geotechnical engineering aspects of the project.

We appreciate the opportunity to assist you with this project. If you have any questions, or if we may be of further service to you, please call us.

Respectfully submitted,
TSI GEOTECHNICAL, INC.

Daniel D. Iffrig, EI
Project Manager

Jacob A. Schaeffer, PE
Manager, Geotechnical Services


Denise B. Hervey, PE
Principal

PROFESSIONAL SERVICES SINCE 1989

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SUBSURFACE EXPLORATION AND
GEOTECHNICAL ENGINEERING EVALUATION
ST. LOUIS DOWNTOWN AIRPORT
TAXIWAY IMPROVEMENTS
CAHOKIA, ILLINOIS

1.0 SCOPE OF WORK

This report summarizes the results of a geotechnical study performed for use in the design and construction of taxiway widening at seven (7) locations at St. Louis Downtown Airport in Cahokia, Illinois. The study was performed in general accordance with the TSi proposal to HPS, dated January 16, 2017. Based on TSi's understanding of the project, the following items have been identified for inclusion in the study report:

- subsurface conditions including material types at the boring locations;
- laboratory test results for soil samples;
- estimated California Bearing Ratio (CBR), and modulus-of-subgrade reaction (k) for the conditions that should be achieved upon proper subgrade preparation for the taxiway widening;
- location and description of any deleterious materials encountered at the boring locations that could impact design or construction;
- general recommendations for soil stabilization or modification, if warranted, to reduce swell potential or improve constructability;
- potential impact of groundwater on design and construction; and
- recommendations for engineering observation and testing during construction.

2.0 SITE AND PROJECT DESCRIPTIONS

The general area of the project site is located approximately 1.9 miles east of downtown Cahokia and is bounded to the north by Sauget Business Boulevard, to the east by Interstate 255, to the south by Jerome Lane, and to the west by Vector Road. It is TSi's understanding that the project includes the construction of new pavement sections situated just off of the existing pavement near several corners of existing taxiway intersections at this site. At this time, the new pavement section materials, thicknesses, and tie-ins to the existing taxiways are unknown. TSi understands that grade changes at the site will not exceed about 2 feet. The general location of the airport site is shown on the Vicinity Map, Figure 1 in Appendix A. Taxiway widening areas (shown in red) and the location of the test borings performed for this study are provided on the Site and Boring Location Plan, Figure 2 in Appendix A.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

3.1 FIELD EXPLORATION

The field exploration for this project consisted of completing seven borings, designated B-1 through -7. The exploration was performed on February 16, 2017. Each boring was drilled to a depth of 5.0 feet below ground surface. The borings were advanced using a truck-mounted CME-45c rotary drill. The borings were drilled into the subsurface soils using flight auger drilling methods. The boring locations were selected TSi, approved by HPS, and marked in the field by surveyors. At the request of HPS, the boring locations were offset a minimum of 25 feet from the staked locations into the grass areas, away from the existing pavement sections. Ground surface elevations at the boring locations have not yet been provided to TSi.

A geotechnical specialist from TSi observed drilling and sampling procedures for the borings. Split-spoon samples were recovered from the borings using a 2-inch outside-diameter, split-barrel sampler, driven by a CME automatic hammer, in accordance with ASTM D 1586. Shelby tube samples were obtained in accordance with ASTM D 1587. The split-spoon samples were placed in glass jars and saved for later testing in the laboratory. The Shelby tube samples were preserved by sealing the entire sample in the tube. The sampling sequence for each boring is summarized on the Logs of Boring in Appendix B of this report.

The results of the field tests and measurements were recorded on field logs and appropriate data sheets. Those data sheets and logs contain information concerning the boring methods, samples attempted and recovered, indications of the presence of various subsurface materials, and the observation of groundwater. The field logs and data sheets contain the field engineer's interpretations of the conditions between samples, based on the performance of the drilling equipment and the cuttings brought to the surface by the drilling tools.

3.2 LABORATORY TESTING

A laboratory testing program was conducted by TSi to determine selected engineering properties of the obtained soil samples. The results of the individual tests are presented on the Logs of Boring and in Appendix C. The following laboratory tests were performed on the samples recovered from the borings:

- visual descriptions by color and texture of each sample (ASTM 2488);
- natural moisture content of each sample (ASTM D 2216);
- Atterberg limits on selected samples (ASTM D 4318);
- unit weight of selected samples (ASTM D 7263);
- unconfined compressive strength (ASTM D 2166); and
- unconsolidated, undrained triaxial compression tests (ASTM D 2850).

Data and observations from laboratory tests were recorded on laboratory data sheets during the course of the testing program. The logs represent considered interpretation of the field and laboratory data. The analyses and conclusions contained in this report are based on field and laboratory test results and on the interpretations of the subsurface conditions as reported on the logs. Only data pertinent to the objectives of this report have been included on the logs; therefore, these logs should not be used for other purposes.

4.0 SUBSURFACE CONDITIONS

Details of the subsurface conditions encountered at the boring locations are shown on the Logs of Boring in Appendix B. The general subsurface conditions encountered and their pertinent engineering characteristics are described in the following paragraphs. Conditions represented by the borings should be considered applicable only at the boring locations on the date shown; the reported conditions may be different at other locations or at other times.

4.1 GENERAL GEOLOGY

The airport lies in the floodplain of the Mississippi River. In this area, published geologic surveys indicate the underlying bedrock is limestone, at depths of approximately 80 to 100 feet. The bedrock channel has been filled with deposits of alluvial soils. In general, soils within the floodplain consist of shallow to moderately deep deposits of fine-grained alluvium, underlain by an extensive unit of sand that typically grades coarser and more dense with depth to bedrock.

4.2 GENERALIZED SUBSURFACE PROFILE

The soils encountered at the boring locations generally consist of fill or possible fill overlying natural alluvial soils, except for Borings B-6 and -7, where fill soils were encountered at the ground surface and extend to a termination depth of approximately 5.0 feet. Fill soils were also observed at the ground surface at Borings B-1 through -5, and extended to depths of approximately 2.5 to 4.5 feet.

The fill and possible fill soils encountered at the borings consist primarily of lean clay, fat clay, and silt (CL, CH, and ML, as defined by the Unified Soil Classification System), with variable secondary contents of sand, gravel, crushed limestone, and organics. The standard penetration test (N) values in the fill generally range from 5 to 18 blows per foot (bpf). However, an N-value of 3 bpf was recorded in a layer of softer material encountered at Boring B-6 at a depth range of approximately 3.3 to 5.0 feet. Compressive strength tests performed on selected Shelby tube samples produced undrained shear strength values ranging from 0.35 to 0.97 ton per square foot (tsf), with dry unit weights ranging from 85 to 95 pounds per cubic foot (pcf). Moisture contents of the soil typically range from 12 to 41 percent.

The natural alluvial soils were encountered below the fill at Borings B-1 through -5 and consist primarily of lean clay, fat clay, and silt (CL, CH, and ML) and extend to a termination depth of approximately 5.0 feet. These soils also contained variable secondary contents of sand and roots. N-values recorded in the natural alluvial soils were 5 and 10 bpf, with corresponding moisture contents of 36 and 25%.

4.3 GROUNDWATER

Groundwater was not encountered in any of the borings at the time of drilling. However, a possible perched water zone was noted at Boring B-7 at a depth of approximately 5.0 feet. The presence or absence of groundwater at a particular location does not necessarily mean that groundwater will be present or absent at that location at other times. Seasonal variations, and other unknown considerations, could cause fluctuations in water levels and the presence of water in the soil.

5.0 ENGINEERING ASSESSMENTS AND RECOMMENDATIONS

5.1 EXISTING FILL MATERIALS

Existing fill or possible fill materials were encountered at Borings B-1 through B-7 and extend to depths of approximately 2.5 to 5.0 feet below the existing ground surface. It does not appear that the fill was placed and compacted in a controlled manner. As a result, the engineering properties of the fill cannot be predicted with certainty, and there is a risk for excessive total or differential settlement or other performance problems if the new pavement additions are supported on the existing fill. In addition, fill of greater thickness and more variable composition than encountered at the boring locations could be present between or away from the borings. It appears that the existing runways and taxiways may be supported on the existing fill soils. The existing pavements generally appear to be performing satisfactorily, so the risks associated with constructing the new pavement additions above the existing fill soils may be considered to be relatively low.

Options are available for mitigating the risks associated with the old fill material, which will ultimately be the decision of the owner to decide which course of action to take, based on a comparison of risks that result from the presence of the fill with the costs associated with reducing or eliminating the risks. However, the costs for mitigating the fill now may exceed any pavement maintenance costs attributable to the fill in the future. Most owners elect to construct pavements over fill materials and accept the risks in exchange for the savings in initial construction costs. Removal of the upper 2 feet, followed by compaction and proofrolling of the exposed subgrade and replacement with a new structural fill consisting of low volume change material will reduce, but not eliminate, the risks. In addition, asphaltic concrete pavements are more flexible than Portland cement concrete, and therefore more capable of withstanding differential settlements without notable cracking.

5.2 ANTICIPATED CONDITIONS

Existing fill was encountered at the ground surface at all boring locations and consisted primarily of lean clay, fat clay, and silt soils (CL, CH, and ML). Natural soil conditions below the fill at Borings B-1 through -5 were fairly consistent with alluvial deposits and consisted primarily of lean clay, fat clay, and silt soils (CL, CH, and ML). Because of the variable soil materials encountered in the existing fill and the natural alluvial deposits, the type of soil that will directly underlie the new pavement additions could vary significantly over short distances, and will remain unknown except at the boring locations unless the entire subgrade is exposed for further assessment. In addition to soil type, shear strength and apparent density could also be somewhat variable. Although proofrolling, moisture conditioning, and recompaction of the subgrade can provide more uniform density and shear strength, these procedures will not produce uniform soil composition. Thus, the conditions of variable support will remain. Due to the possibility of variation, it is essential that the excavation, re-compaction, and preparation of the subgrade be performed in accordance with the site preparation recommendations that appear in a later section of this report.

5.3 SWELLING CLAY CONSIDERATIONS

High plasticity fat clay, soil with a liquid limit in excess of 50, may be exposed at the subgrade level of the pavement additions. The clay is of concern due to its potential for volume change. This material tends to swell when it absorbs water and shrink when it dries out. Potential detrimental effects on the performance of the pavement additions include heaving, cracking, and differential movement of the pavement constructed on this material.

Based on the laboratory tests and potential for swell of these fat clays, support of the new pavement directly on the potentially expansive materials is not recommended. It is recommended that where high plasticity clays (CH) are found at the subgrade levels of the proposed pavement, they should be overexcavated to a depth of approximately 24 inches below the subgrade level. These materials should be replaced with Low Volume Change (LVC) fill material. LVC fill should consist of approved, well-graded granular materials or low to moderate plasticity cohesive soil. Low to moderate plasticity cohesive materials used as LVC fill should consist of inorganic clay with a liquid limit less than 45 and a plasticity index of less than 25. Granular fill should be well-graded and have a maximum particle size of 1.0 inch. If the on-site high plastic soils are treated with lime, the modified clay will meet the requirements of an LVC fill material. A minimum thickness of 24 inches of lime-modified soil would be appropriate. The optimum lime percentage was not part of this scope of work and will need to be determined in the laboratory before construction activities begin. If requested, TSi can perform the laboratory testing for lime percentage determination as an additional service.

Local authorities should be contacted for permission to use lime, for it is a fine-grained and somewhat caustic material that is easily windborne.

In addition to the removal and replacement or treatment, some relatively simple design and construction considerations are recommended that will help to maintain the natural moisture content of the fat clay. Avoiding conditions that could result in excessive wetting or drying of the fat clay will reduce its potential for volume change. The following design and construction precautions are recommended:

1. Positive surface drainage should be provided during construction to prevent ponding of water in and around any excavations or the exposed subgrade.
2. Stormwater runoff should be collected and carried away from the taxiway to avoid saturating the subgrade under the pavement.
3. Any watering of grass adjacent to the taxiway should be avoided.

5.4 PAVEMENT DESIGN RECOMMENDATIONS

Based on the general character of the existing soils at the borings at this site, TSi recommends an estimated California Bearing Ratio (CBR) value of 3. In accordance with the Federal Aviation Administration (FAA) Advisor Circular 150/5320-6F, a CBR value of 3 equates to a modulus-of-subgrade reaction, k_s , for the soil of approximately 70 pounds per square inch per inch (pci).

6.0 SITE PREPARATION AND EXCAVATION CONSIDERATIONS

6.1 SUBGRADE PROTECTION

Construction areas should be properly drained in order to reduce or prevent surface runoff from collecting on the pavement subgrade. Any ponded water on the exposed subgrade should be removed immediately. Precautions should be taken during construction to maintain the present moisture content of the soil. These soils should not be allowed to dry excessively due to prolonged exposure to the sun or wind. Water should not be allowed to collect on these soils.

The exposed subgrade should be proofrolled under the observation of TSi to identify any areas of soft subgrade. Proofrolling can be accomplished by passing over the subgrade with a loaded tandem axle dump truck and observing the subgrade for pockets of excessively soft, wet, disturbed, or otherwise unsuitable soils. Any soft, loose, wet, or otherwise unsuitable areas identified by proofrolling should be reworked or replaced with compacted crushed limestone in accordance with the recommendations presented in this report. If fill is to be placed to increase the existing grade, prior to placing fill over the natural soil, the subgrade should be scarified to a depth of about 6 inches, the moisture content of the soil adjusted to near its optimum moisture content, and the subgrade recompacted in accordance with the recommendations presented in later sections of this report. This recommended scarification and recompaction may be waived if, in the opinion of a representative of TSi, this procedure appears to be detrimental or unnecessary, based on the response of the subgrade.

General site grading activities and any excavations for utilities must be performed in a manner that limits disturbance to subgrade soils. The contractor should select earth-moving equipment carefully and should be prepared to adjust the type or usage of the equipment as necessary to minimize distress of the subgrade. If wet or soft subgrade conditions persist, it may be necessary to stabilize the subgrade with a moisture-reducing chemical. To prevent unnecessary disturbance of the subgrade soils, heavy construction vehicles should be restricted from traveling through the finished subgrade. If areas of disturbed subgrade develop, they should be properly repaired in accordance with the recommendations in this report.

6.2 FILL AND BACKFILL MATERIALS

At this time, the moisture content of the subgrade soil is somewhat variable, and at the time of construction may not be within the range necessary for proper placement and compaction. Prior to compaction, some of the soil may require moisture reduction. During warm weather, moisture reduction can generally be accomplished by disking, or otherwise aerating the soil. Some of the soil may require the addition of moisture prior to compaction. This should be performed in a controlled manner, and the moistened soil should be thoroughly blended with a disk or pulverizer to produce a uniform moisture content. Repeated passages of the equipment may be required to achieve uniform moisture content.

If the project is constructed during the winter season, fill materials should be carefully observed to see that no ice or frozen soils are placed as fill or remain in the base materials upon which fill is placed. Fill material from off-site borrow sources should be approved by TSi prior to import to the project site.

6.3 FILL AND BACKFILL PLACEMENT

Generally, granular or cohesive soils for pavement support should be compacted to a dry density of at least 95% of the standard Proctor maximum dry density (ASTM D 698) of the soil. The moisture content of these materials at the time of compaction should generally be within $\pm 3\%$ of the optimum moisture content of the materials as determined by the standard Proctor compaction test. Moisture conditioning and recompaction is typically limited to the upper 12 inches of the profile.

Well-graded granular material, such as crushed limestone base, should be compacted to at least 100% of the standard Proctor maximum dry density. The moisture content of these materials at the time of compaction should generally be within $\pm 2\%$ of the optimum moisture content of the materials as determined by the standard Proctor compaction test.

Materials should be placed in loose lifts not in excess of 8 inches thick, and compacted with a vibratory smooth drum roller to the aforementioned criterion. However, it may be necessary to place materials in thinner lifts to achieve the recommended compaction when using small hand-operated equipment.

Crushed limestone available from local quarries is a common construction material in the general region. There is a misconception among some builders that open-graded (also known as “clean”) limestone does not require compaction when placed as fill or backfill. Settlement of open-graded crushed rock that had not been compacted when placed is a common cause of damage to foundations, walkways, concrete slabs or pavements, including the development of substantial gaps beneath the concrete caused by the settlement.

Any crushed rock placed as structural fill or backfill that will underlie future walkways, concrete slabs or pavements must be placed in lifts (layers) of controlled loose thickness and compacted in accordance with the recommendations that appear in this report. Both open-graded and well-graded stone should be compacted with a vibratory compactor, whether a self-propelled roller, backhoe-mounted plate, or walk-behind sled.

6.4 SOIL SENSITIVITY

The silty soils encountered at the site are considered potentially sensitive and susceptible to strength loss caused by excess moisture or disturbance by construction activity. Repetitious passage of equipment can result in rutting and “pumping” (deflection under passing load), even if the soil was properly compacted. Once disturbed, extensive effort is required to restore the integrity of the soils. General site grading activities must be performed in a manner that limits disturbance to subgrade soils. The contractor should select earth-moving equipment carefully and should be prepared to adjust the type or usage of the equipment as necessary to minimize distress to the subgrade.

6.5 GROUNDWATER CONSIDERATIONS

Groundwater was not encountered during drilling. However, a possible perched water zone was noted at Boring B-7 at a depth of approximately 5.0 feet. Groundwater seepage is not anticipated at the depths of grading planned for the pavement additions; however, if it occurs, it is likely that the condition could be handled by shallow swales, with a sump and pump arrangement, as necessary. If groundwater seepage or moist conditions become evident within the subgrade area, care must be taken not to disturb the exposed saturated soil. Equipment should not operate directly on the saturated areas. TSi should be consulted for specific recommendations to address such conditions. The excavations should be kept as dry as possible.

6.6 SOFT SUBGRADE CONDITIONS

Soft soils were encountered at Boring B-6 at a depth range of approximately 3.3 to 5.0 feet. In general, soft soils should also be anticipated at the subgrade level near portions of the new pavement additions. Soft soils can be difficult to recompact to the aforementioned criteria in a conventional manner. These soils may require removal and replacement with crushed limestone underlain by a soil stabilization geogrid. A geogrid such as Tensar BX1100 or TX140 or equivalent may be suitable; crushed limestone that is well-graded with a maximum particle size of 1 inch would be acceptable. It is anticipated that no more than 24 inches of soft soil would require removal. To prevent unnecessary disturbance of the soft subgrade soils, heavy construction vehicles should be restricted from traveling through the soft subgrade.

Alternatively, a soft subgrade could be stabilized by using a lime additive. Typically, quicklime in the amount of 3 to 5% by dry weight of soil should be effective for lean and fat clay soils. The lime should be thoroughly mixed into the top 24 inches of the subgrade, allowed to hydrate, then the soil recompact to 90% of the modified Proctor maximum density. TSi should be consulted if significant areas of soft subgrade soils are encountered.

7.0 CONSTRUCTION OBSERVATION AND TESTING

It is recommended that TSi be retained during construction to perform testing and observation services for the following items:

- observation of preparation of the soil subgrade that will support new fill or structural elements;
- compaction of the existing subgrade and base course and any additional materials; and
- placement and quality assurance testing of the pavement wearing surface.

These quality assurance services should help to verify the design assumptions and maintain construction procedures in accordance with the project plans, specifications, and good engineering practice.

8.0 REPORT LIMITATIONS

This report has been prepared for the exclusive use of **HANSON PROFESSIONAL SERVICES, INC.** for specific application to the subject project. The recommendations contained in this report have been made in accordance with generally accepted soil and foundation engineering practices; no other warranties are implied or expressed.

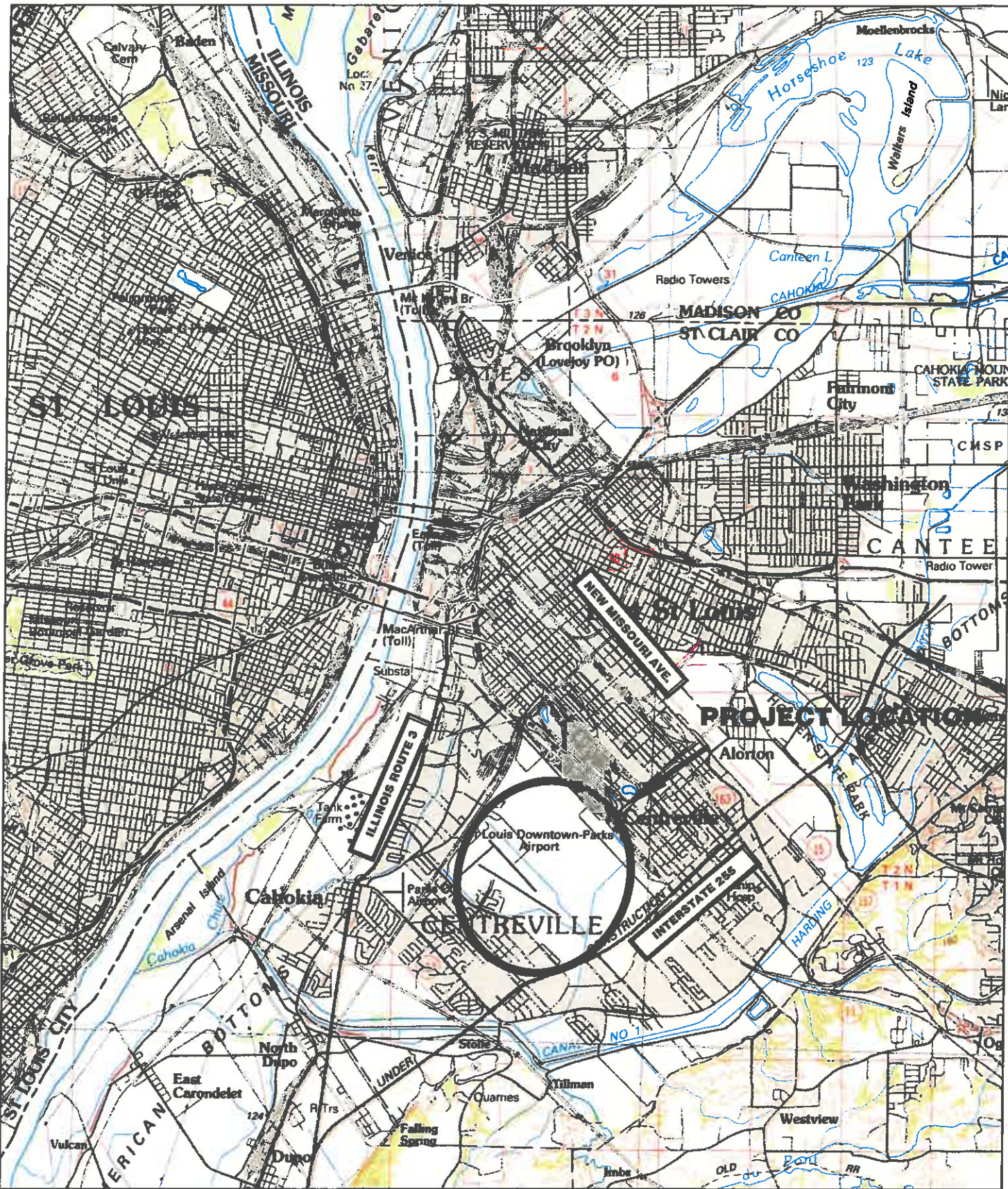
The assessments and recommendations submitted in this report are based in part upon the data obtained from the test borings. The nature and extent of variations away from the borings may not become evident until construction. If variations then appear evident, it may be necessary to re-evaluate the recommendations of this report.

This report was prepared for design purposes only and may not be sufficient to prepare an accurate construction bid. Contractors reviewing this report should acknowledge that the information and recommendations contained herein are for design purposes.

If conditions at the site have changed due to natural causes or construction operations, this report should be reviewed by TSi to determine the applicability of the analyses and recommendations considering the changed conditions. The report should also be reviewed by TSi if changes occur in the pavement locations, widths, and types, or in the planned elevations or project concepts.

TSi requests the opportunity to review the final plans and specifications for the project prior to construction to verify that the recommendations in this report are properly interpreted and incorporated in the design and construction documents. If TSi is not accorded the opportunity to make this recommended review, we can assume no responsibility for the misinterpretation of our recommendations.

APPENDIX A



NOT TO SCALE



NOTE:
DRAWING PREPARED FROM AN IMAGE
OBTAINED FROM HISTORICALMAPS.ARCGIS.COM
ON 02/17/17



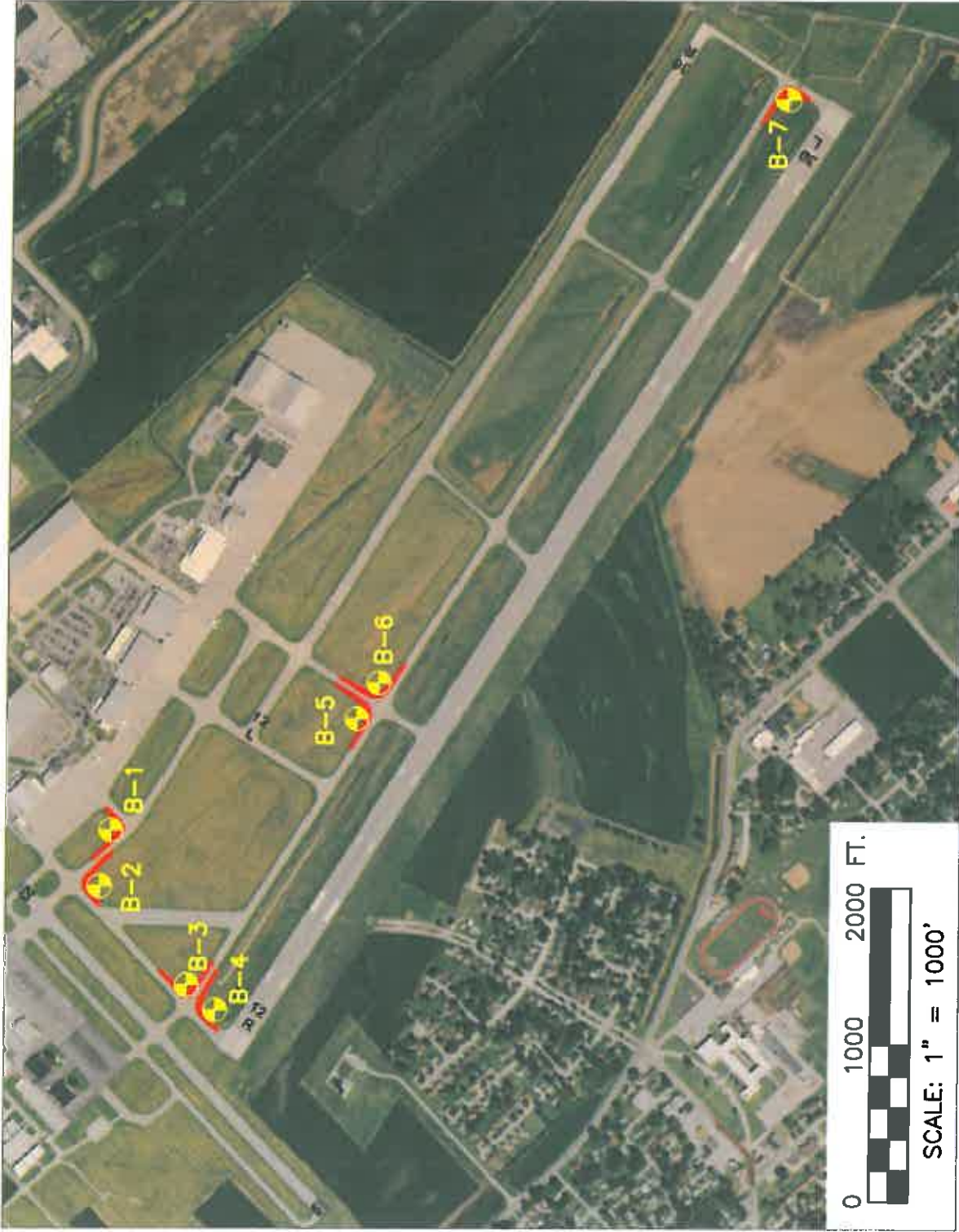
1340 NORTH PRICE ROAD
ST. LOUIS, MISSOURI 63132

VICINITY MAP

ST. LOUIS DOWNTOWN AIRPORT IMPROVEMENTS
CAHOKIA, ILLINOIS

Drawn By: DDI
Project No. 20175006.00

Checked By: JAS
Date: 02/17/17 | Figure 1



LEGEND

B-1  APPROXIMATE BORING LOCATION AND NUMBER

NOTE: THIS PLAN WAS PREPARED FROM A DRAWING OBTAINED FROM HANSON ON 01/17/17.

NOT TO SCALE



SITE AND BORING LOCATION PLAN

ST. LOUIS DOWNTOWN AIRPORT IMPROVEMENTS
CAHOKIA, ILLINOIS

Drawn By: DDI Checked By: JAS

Project No. 20175006.00 Date: 02/17/17

Figure 2

APPENDIX B

GENERAL NOTES

The number of borings is based on: topographic and geologic factors; the magnitude of structure loading; the size, shape, and value of the structure; consequences of failure; and other factors. The type and sequence of sampling are selected to reduce the possibility of undiscovered anomalies and maintain drilling efficiency. Attempts are made to detect and/or identify occurrences during drilling and sampling such as the presence of water, boulders, gas, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation in resistance to driving split-spoon samplers, unusual odors, etc. However, lack of notation regarding these occurrences does not preclude their presence.

Although attempts are made to obtain stabilized groundwater levels, the levels shown on the Logs of Boring may not have stabilized, particularly in more impermeable cohesive soils. Consequently, the indicated groundwater levels may not represent present or future levels. Groundwater levels may vary significantly over time due to the effects of precipitation, infiltration, or other factors not evident at the time indicated.

Unless otherwise noted, soil classifications indicated on the Logs of Boring are based on visual observations and are not the result of classification tests. Although visual classifications are performed by experienced technicians or engineers, classifications so made may not be conclusive.

Generally, variations in texture less than one foot in thickness are described as layers within a stratum, while thicker zones are logged as individual strata. However, minor anomalies and changes of questionable lateral extent may appear only in the verbal description. The lines indicating changes in strata on the Logs of Boring are approximate boundaries only, as the actual material change may be between samples or may be a gradual transition.

Samples chosen for laboratory testing are selected in such a manner as to measure selected physical characteristics of each material encountered. However, as samples are recovered only intermittently and not all samples undergo a complete series of tests, the results of such tests may not conclusively represent the characteristics of all subsurface materials present.

NOTATION USED ON BORING LOGS

APPROXIMATE PROPORTIONS		PARTICLE SIZE	
TRACE	<15%	BOULDERS	>12 Inches
WITH	15-30%	COBBLES	12 Inches – 3 Inches
MODIFIER	>30%	GRAVEL	
		Coarse	3 Inches – ¾ Inch
		Fine	¾ Inch – No. 4 Sieve (4.750 mm)
		SAND	
		Coarse	No. 4 – No. 10 Sieve (2.000 mm)
		Medium	No. 10 – No. 40 Sieve (0.420 mm)
		Fine	No. 40 – No. 200 Sieve (0.074 mm)
		SILT	No. 200 Sieve - 0.002 mm
		CLAY	< 0.002 mm

Clay or clayey may be used as major material or modifier, regardless of relative proportions, if the clay content is sufficient to dominate the soil properties.







PENETRATION – BLOWS

Number of impacts of a 140-pound hammer falling a distance of 30 inches to cause a standard split-barrel sampler, 1 3/8 inches I.D., to penetrate a distance of 6 inches. The number of impacts for the first 6 inches of penetration is known as the seating drive. The sum of the impacts for the last 12 inches of penetration is the Standard Penetration Test Resistance or “N” value, blows per foot. For example, if blows = 6-8-9, “N” = 8+9 or 17.

OTHER NOTATIONS

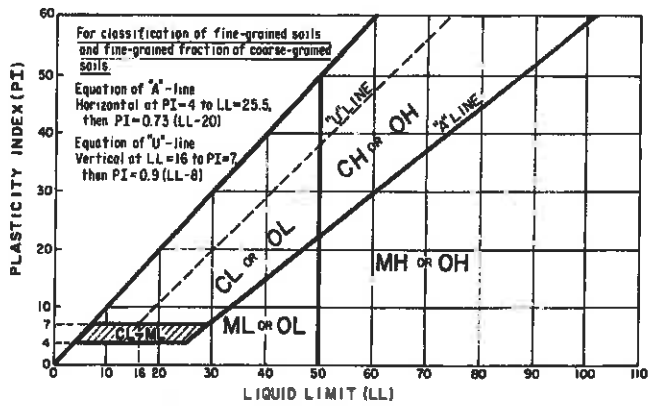
Recovery % – length of recovered soil divided by length of sample attempted.
 50/2” Impacts of hammer to cause sampler to penetrate the indicated number of inches
 WR Sampler penetrated under the static loading of the weight of the drill rods
 WH Sampler penetrated under the static loading the weight of the hammer and drill rods
 HSA Hollow stem auger drilling method
 FA Flight auger drilling method
 RW Rotary wash drilling methods with drilling mud
 AH Automatic hammer used for Standard Penetration Test sample
 SH Safety hammer with rope and cathead used for Standard Penetration Test sample

GRAPHIC SYMBOLS

-  Depth at which groundwater was encountered during drilling
-  Depth at which groundwater was measured after drilling
-  Standard Penetration Test Sample, ASTM D1586
-  3-inch diameter Shelby Tube Sample, ASTM D1587
-  Sample grabbed from auger
-  NX Size rock core sample

UNIFIED SOIL CLASSIFICATION SYSTEM, (ASTM D-2487)

Major Divisions		Group Symbols	Typical Names	Laboratory Classification Criteria		
Coarse-grained soils (More than half of materials is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
		GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Not meeting all gradation requirements for GW		
		Gravels with fines (Appreciable amount of fines)	GM ^a		d	Silty gravels, gravel-sand-silt mixtures
					u	
		GC	Clayey gravels, gravel-sand-clay mixtures	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are <i>borderline</i> cases requiring use of dual symbols	
	SW	Well-graded sands, gravelly sands, little or no fines	Atterberg limits below "A" line with P.I. greater than 7			
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SP	Poorly graded sands, gravelly sands, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
		Sands with fines (Appreciable amount of fines)	SM ^a	d		Silty sands, sand-mix mixtures
				u		
		SC	Clayey sands, sand-clay mixtures	Atterberg limits about "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are <i>borderline</i> cases requiring use of dual symbols	
SW		Well-graded sands, gravelly sands, little or no fines	Atterberg limits about "A" line with P.I. greater than 7			
Fine-grained soils (More than half of materials is smaller than No. 200 sieve size)	Silts and clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 per cent More than 12 per cent 5 to 12 per cent		
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
		OL	Organic silts and organic silty clays of low plasticity			
	Silts and clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts			
		CH	Inorganic clays of medium to high plasticity, organic silts			
		OH	Organic clays of medium to high plasticity, organic silts			
	Pt	Peat and other highly organic soils				



^aDivision of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits; suffix d used when L.L. is 26 or less and the P.I. is 6 or less; the suffix u used when L.L. is greater than 28.



^bBorderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group symbols. For example: GW-GC, well-graded gravel-sand mixture with clay binder.

LOG OF BORING NO. B-1

Project Description: **St. Louis Downtown Airport Taxiway Improvements**
Cahokia, IL

TSi Geotechnical Inc.
 1340 North Price Road
 St. Louis, Missouri 63132
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	Surface El.:	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Location: See Site and Boring Location Plan										
				MATERIAL DESCRIPTION										
		ST-1		Brown and gray, lean CLAY (CL), with fat clay pockets, trace sand (Possible FILL)	42			1.75	0.35	95	27	37	23	14
5		SS-2		Brown and gray, fat CLAY (CH), trace roots	83		2 2 3	2.00			36			
5				Boring terminated at 5.0 ft.										
10														
15														
20														
25														

LOG WITH LAB. STL DOWNTOWN AIRPORT GINT.GPJ 2/27/17

Completion Depth: **5.0**
 Date Boring Started: **2/16/17**
 Date Boring Completed: **2/16/17**
 Engineer/Geologist: **ACE**
 Project No.: **20175006.00**

Remarks: **Boring drilled with CME-45c using 4.0" CFA and auto SPT. Offset boring 25.0 ft. north of staked location. Groundwater not encountered during drilling.**




The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

LOG OF BORING NO. B-2

Project Description: **St. Louis Downtown Airport Taxiway Improvements**
Cahokia, IL

TSI Geotechnical Inc.
 1340 North Price Road
 St. Louis, Missouri 63132
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	Surface El.:	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Location: See Site and Boring Location Plan										
				MATERIAL DESCRIPTION										
		SS-1		Brown and dark brown, lean CLAY (CL), trace sand, with crushed limestone pieces (FILL)	78		9 10 8	4.00			12			
		ST-2		Brown and gray, fat CLAY (CH) (FILL)	50				0.97	88	32	74	24	50
5				Brown, SILT (ML), trace sand and clay				2.25						
				Boring terminated at 5.0 ft.										

LOG WITH LAB STL DOWNTOWN AIRPORT GINT.GPJ 2/27/17

Completion Depth: 5.0
 Date Boring Started: 2/16/17
 Date Boring Completed: 2/16/17
 Engineer/Geologist: ACE
 Project No.: 20175006.00

Remarks: Boring drilled with CME-45c using 4.0" CFA and auto SPT. Offset boring 25.0 ft. south of staked location. Groundwater not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

LOG OF BORING NO. B-3

Project Description: **St. Louis Downtown Airport Taxiway Improvements**
Cahokia, IL

TSI Geotechnical Inc.
 1340 North Price Road
 St. Louis, Missouri 63132
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	Surface El.:	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Location: See Site and Boring Location Plan										
				MATERIAL DESCRIPTION										
				Brown, SILT (ML), trace gravel (FILL)										
		ST-1		Brown and dark brown, fat CLAY (CH), with silt lenses and sand, trace crushed limestone pieces (FILL)	100			1.25	0.48	94	29	50	25	25
		SS-2		Brown and dark brown, lean CLAY (CL), with sand lenses and silt pockets			2 4 6	3.50			25			
5				Brown and gray, fat CLAY (CH), trace roots and sand - sandy lens at 4.1 ft. Boring terminated at 5.0 ft.	89									
10														
15														
20														
25														

LOG WITH LAB STL DOWNTOWN AIRPORT GINT.GPJ 2/27/17

Completion Depth: **5.0**
 Date Boring Started: **2/16/17**
 Date Boring Completed: **2/16/17**
 Engineer/Geologist: **ACE**
 Project No.: **20175006.00**

Remarks: **Boring drilled with CME-45c using 4.0" CFA and auto SPT. Offset boring 25.0 ft. east of staked location. Groundwater not encountered during drilling.**




The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

LOG OF BORING NO. B-4

Project Description: **St. Louis Downtown Airport Taxiway Improvements**
Cahokia, IL

TSI Geotechnical Inc.
 1340 North Price Road
 St. Louis, Missouri 63132
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	Surface El.:	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Location: See Site and Boring Location Plan										
				MATERIAL DESCRIPTION										
		SS-1		Brown and gray, lean CLAY (CL), trace sand and gravel, with fat clay pockets (FILL)	67		5 7 8	4.25			20			
		ST-2		Brown and gray, fat CLAY (CH) (FILL) - trace crushed limestone pieces from 3.0 to 3.5 ft.	100			2.75	0.56	93	27	60	29	31
5				Brown, fat CLAY (CH)										
				Boring terminated at 5.0 ft.										

LOG WITH LAB. STL DOWNTOWN AIRPORT GINT.GPJ 2/27/17

Completion Depth: **5.0**
 Date Boring Started: **2/16/17**
 Date Boring Completed: **2/16/17**
 Engineer/Geologist: **ACE**
 Project No.: **20175006.00**


Remarks: **Boring drilled with CME-45c using 4.0" CFA and auto SPT. Offset boring 25.0 ft. south of staked location. Groundwater not encountered during drilling.**





The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

LOG OF BORING NO. B-5

Project Description: **St. Louis Downtown Airport Taxiway Improvements**
Cahokia, IL

TSI Geotechnical Inc.
 1340 North Price Road
 St. Louis, Missouri 63132
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	Surface El.:	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Location: See Site and Boring Location Plan										
				MATERIAL DESCRIPTION										
		SS-1		Brown and dark brown, fat CLAY (CH) (FILL) - trace sand from 1.0 to 2.5 ft.	94		3 6 7	3.50			23			
		ST-2		Brown and gray, fat CLAY (CH)	83			1.25	0.47	91	29	56	25	31
5				Boring terminated at 5.0 ft.										
10														
15														
20														
25														

LOG WITH LAB STL DOWNTOWN AIRPORT GINT.GPJ 2/27/17

Completion Depth: 5.0
 Date Boring Started: 2/16/17
 Date Boring Completed: 2/16/17
 Engineer/Geologist: ACE
 Project No.: 20175006.00


Remarks: Boring drilled with CME-45c using 4.0" CFA and auto SPT. Offset boring 25.0 ft. north of staked location. Groundwater not encountered during drilling.



The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

LOG OF BORING NO. B-6

Project Description: **St. Louis Downtown Airport Taxiway Improvements**
Cahokia, IL

TSi Geotechnical Inc.
 1340 North Price Road
 St. Louis, Missouri 63132
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	Surface El.:	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Location: See Site and Boring Location Plan										
				MATERIAL DESCRIPTION										
		ST-1		Brown, SILT (ML), trace clay and sand (FILL)	38			2.75			20			
		SS-2		Brown and gray, lean CLAY (CL), trace sand (possible FILL)	100		2 1 2	1.50			31			
5				Boring terminated at 5.0 ft.										
10														
15														
20														
25														

LOG WITH LAB STL DOWNTOWN AIRPORT GINT.GPJ 2/27/17

Completion Depth: **5.0**
 Date Boring Started: **2/16/17**
 Date Boring Completed: **2/16/17**
 Engineer/Geologist: **ACE**
 Project No.: **20175006.00**

Remarks: **Boring drilled with CME-45c using 4.0" CFA and auto SPT. Offset boring 25.0 ft. east of staked location. Groundwater not encountered during drilling.**

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

LOG OF BORING NO. B-7

Project Description: **St. Louis Downtown Airport Taxiway Improvements
Cahokia, IL**

TSI Geotechnical Inc.
1340 North Price Road
St. Louis, Missouri 63132
(314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	Surface El.: Location: See Site and Boring Location Plan	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				MATERIAL DESCRIPTION										
		SS-1		Brown and gray, fat CLAY (CH) (FILL) - trace organics from 1.0 to 2.5 ft.	56		1 2 3	1.50		41				
		ST-2			96			1.25	0.36	85	35	79	30	49
5				Boring terminated at 5.0 ft.										
10														
15														
20														
25														

LOG WITH LAB. STILL DOWNTOWN AIRPORT GINT.GPJ 2/27/17

Completion Depth: 5.0
Date Boring Started: 2/16/17
Date Boring Completed: 2/16/17
Engineer/Geologist: ACE
Project No.: 20175006.00

Remarks: Boring drilled with CME-45c using 4.0" CFA and auto SPT. Offset boring 26.0 ft. west of staked location. Groundwater not encountered during drilling. Possible perched water zone at approx. 5.0 ft.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

APPENDIX C

Unconsolidated-Undrained Triaxial Compression Test - Q-test

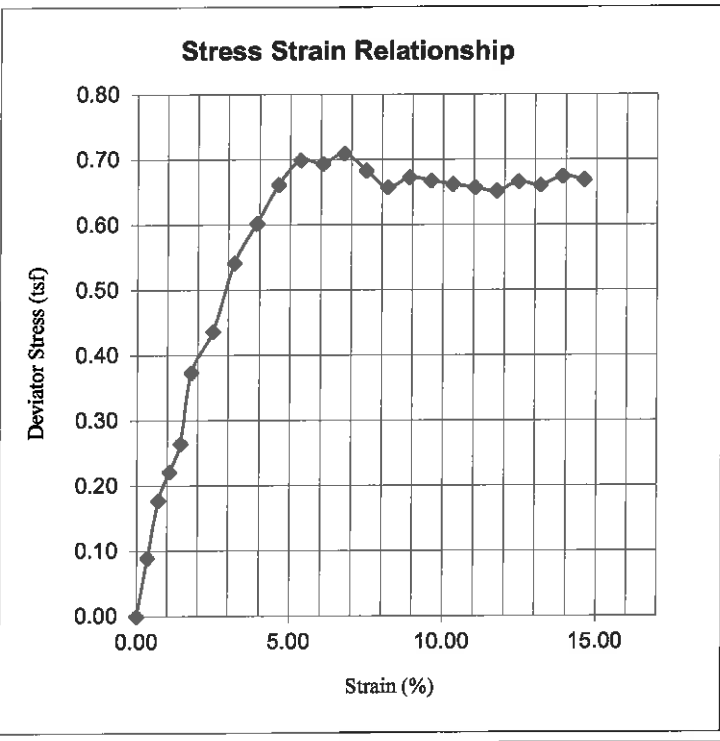
Project Name St. Louis Downtown Airport Taxiway Improvements Tested By SLY
 Project No. 20175006.00 Checked By DDI 2-23-17
 Boring No. B-1 Sample No. ST 1-2 Depth 1.5-2.0
 Soil Description Brown and gray, lean CLAY (CL), more silty, with fat clay pockets, trace sand (Possible FILL)

Liquid Limit	37	%	Specimen Data:		Instrument Constants
Plastic Limit	23	%	Height	5.620	in
Plasticity Index	14	%	Diameter	2.790	in
USCS	CL		Hgt/Dia ratio	2.01	
Specific Gravity	2.70	*	Volume	563.04	cc
*assumed			Wet Weight	1089	gm
Water Content Data:			Wet Density	120.7	pcf
Wet & Tare	34.50	gm	Dry Density	95.0	pcf
Dry & Tare	27.71	gm	Water Content	27.1	%
Tare	2.64	gm	Saturation	95	%
Water Content	27.1	%	Void Ratio	0.77	

Moisture content sample taken from: Trimmings

Confining Pressure (psi) 1

Undrained Shear Strength (tsf) 0.35
 Axial Strain (%) 6.8





UNCONFINED COMPRESSION TEST: BORING B-2 / ST 2-2

PROJECT NAME: St. Louis Downtown Airport Taxiway Improvements	Tested by: SLY 2-20-17
PROJECT LOCATION: Cahokia, IL	Calculated by: CP 2-22-17
PROJECT NUMBER: 20175006.00	Checked by: DDZ 2-23-17

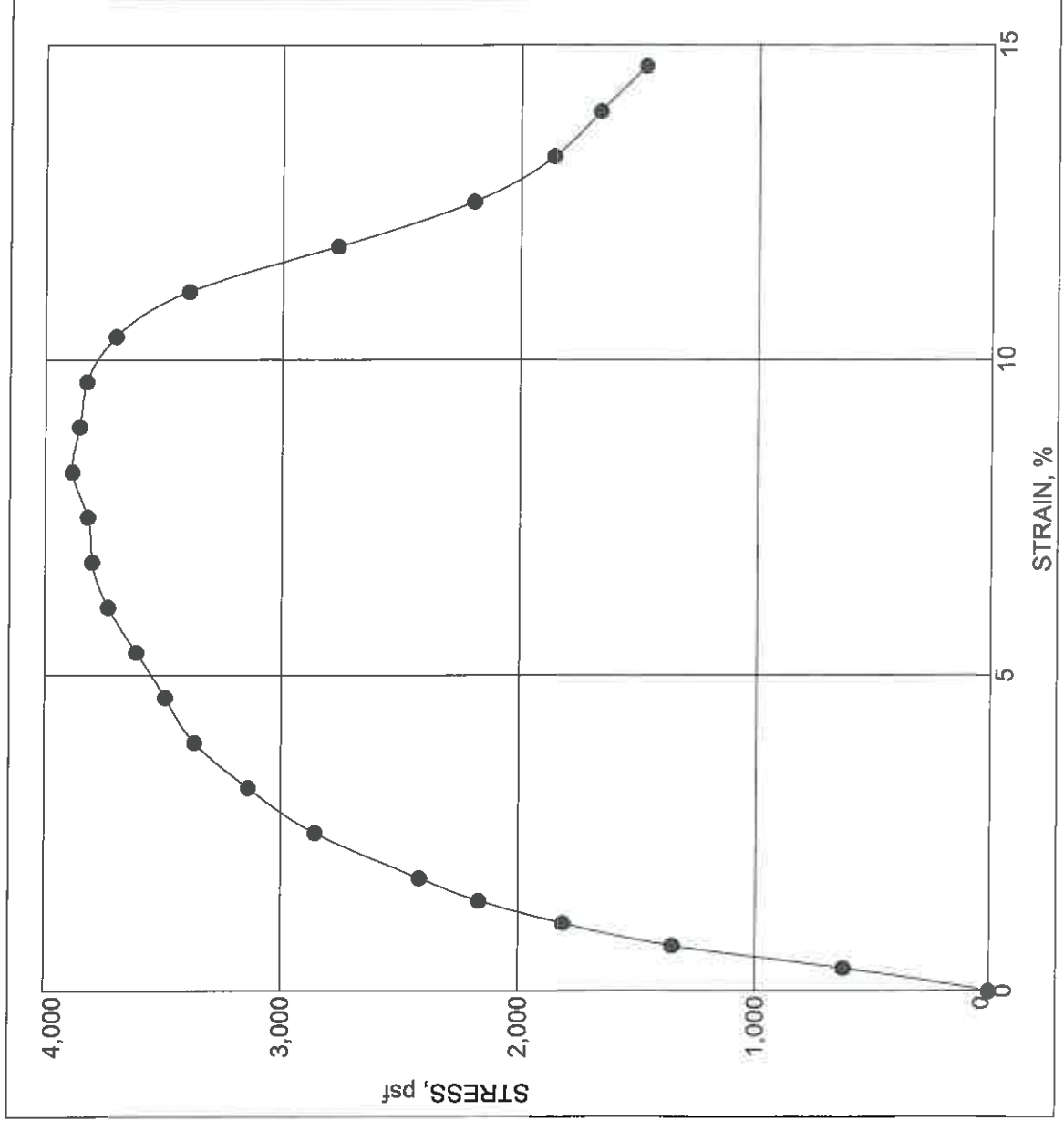
BORING NO.	B-2
Sample No.	ST 2-2
Sample Depth (ft)	3.5-4.0
Visual Classification (USCS)	Brown and gray, fat CLAY (CH) (FILL)

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	74
Plastic Limit	24
Plasticity Index	50
Classification (USCS)	CH

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	115.9
Moisture Content (%)	32.1
Dry Unit Weight (pcf)	87.7

STRENGTH	
Undrained Shear Strength, S_u (tsf)	0.97
% Strain at q_u	8.2



Unconsolidated-Undrained Triaxial Compression Test - Q-test

Project Name St. Louis Downtown Airport Taxiway Improvements Tested By SLY

Project No. 20175006.00 Checked By DDI 2-23-17

Boring No. B-3 Sample No. ST 1-2 Depth 1.5-2.0

Soil Description Brown and dark brown, fat CLAY (CH), with silt lenses and sand, trace crushed limestone pieces (FILL)

Liquid Limit	50	%
Plastic Limit	25	%
Plasticity Index	25	%
USCS	CH	
Specific Gravity	2.70	*

*assumed

Water Content Data:

Wet & Tare	61.98	gm
Dry & Tare	48.50	gm
Tare	2.60	gm
Water Content	29.4	%

Specimen Data:

Height	5.590	in
Diameter	2.840	in
Hgt/Dia ratio	1.97	
Volume	580.28	cc
Wet Weight	1127.83	gm
Wet Density	121.3	pcf
Dry Density	93.8	pcf
Water Content	29.4	%
Saturation	100	%
Void Ratio	0.80	

Instrument Constants

Deformation	0.0001	in/div
Load	1.9	lbs/div
Strain Rate	0.039	in/min
	0.70	%/min

Failure Sketch



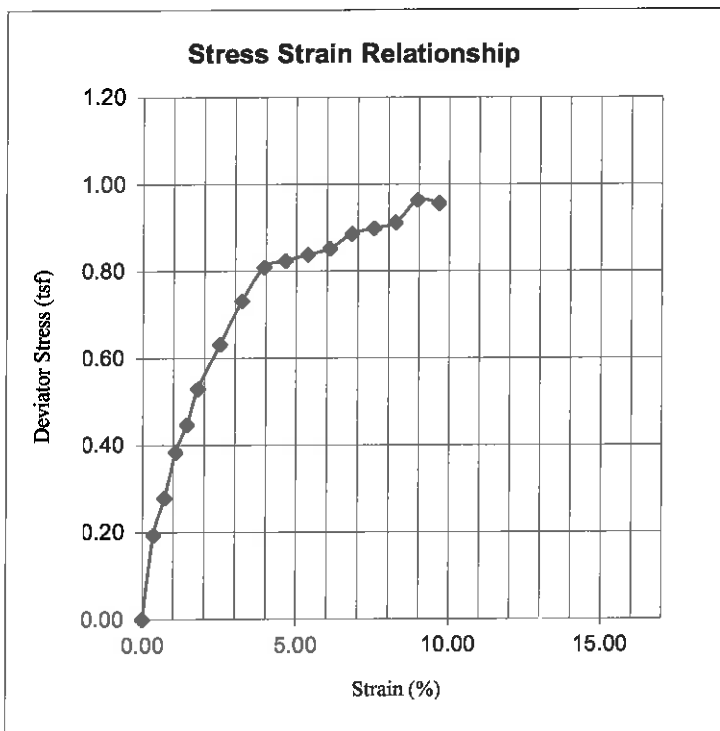
Moisture content sample taken

from: Trimming

Undrained Shear Strength (tsf) 0.48

Confining Pressure (psi) 2.5

Axial Strain (%) 8.9





UNCONFINED COMPRESSION TEST: BORING B-4 / ST 2-3

PROJECT NAME: St. Louis Downtown Airport Taxiway Improvements	Tested by: SLY
PROJECT LOCATION: Cahokia, IL	Calculated by: CP 2-22-17
PROJECT NUMBER: 20175006.00	Checked by: DDZ 2-23-17

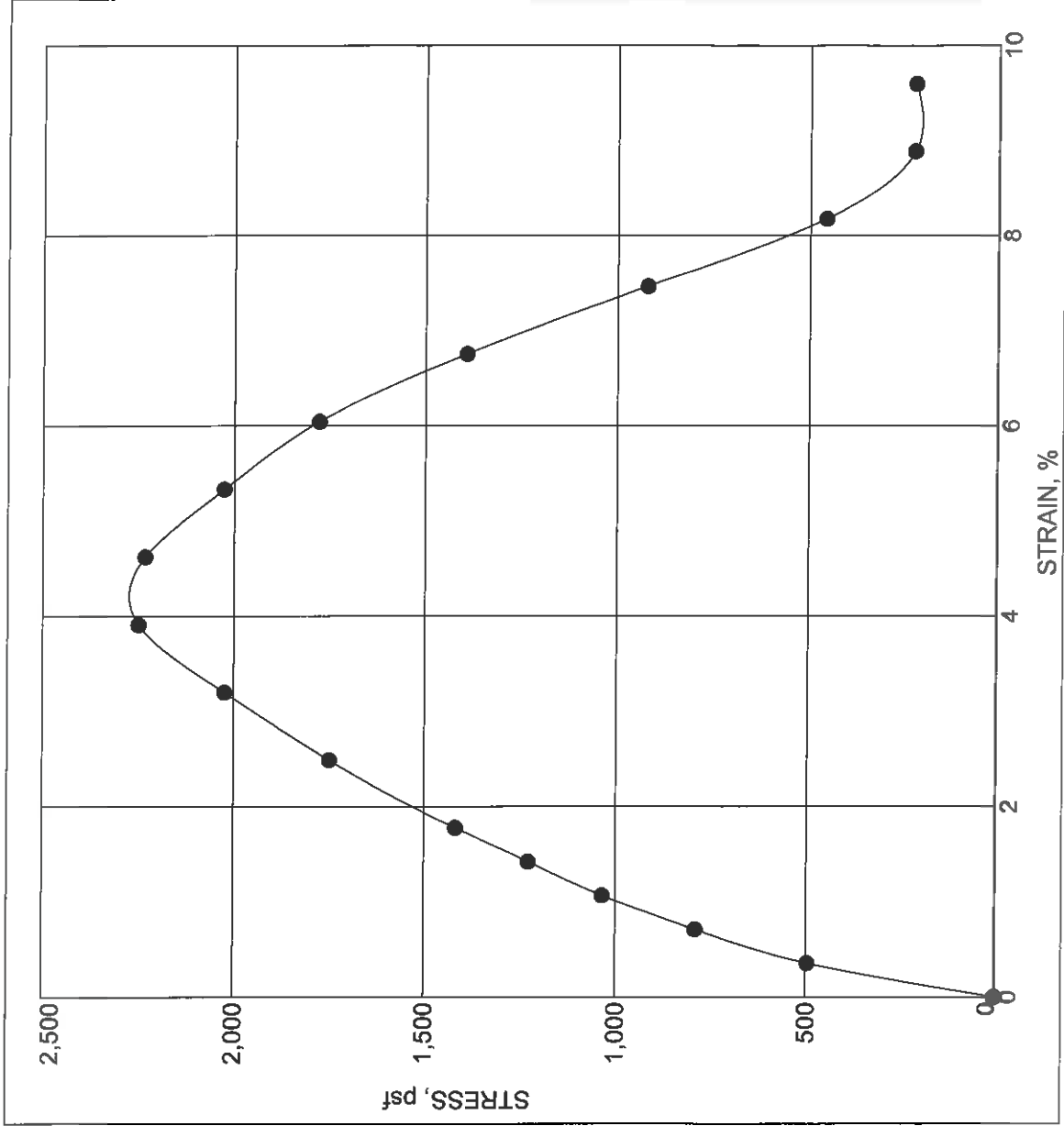
BORING NO.	B-4
Sample No.	ST 2-3
Sample Depth (ft)	4.0-4.5
Visual Classification (USCS)	Brown and gray, fat CLAY (CH) (FILL)

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	60
Plastic Limit	29
Plasticity Index	31
Classification (USCS)	CH

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	118.0
Moisture Content (%)	26.8
Dry Unit Weight (pcf)	93.1

STRENGTH	
Undrained Shear Strength, S_u (tsf)	0.56
% Strain at q_u	3.9





UNCONFINED COMPRESSION TEST: BORING B-5 / ST 2-2

PROJECT NAME: St. Louis Downtown Airport Taxiway Improvements	Tested by: SLY 2-20-17
PROJECT LOCATION: Cahokia, IL	Calculated by: CP 2-22-17
PROJECT NUMBER: 20175006.00	Checked by: DDZ 2-23-17

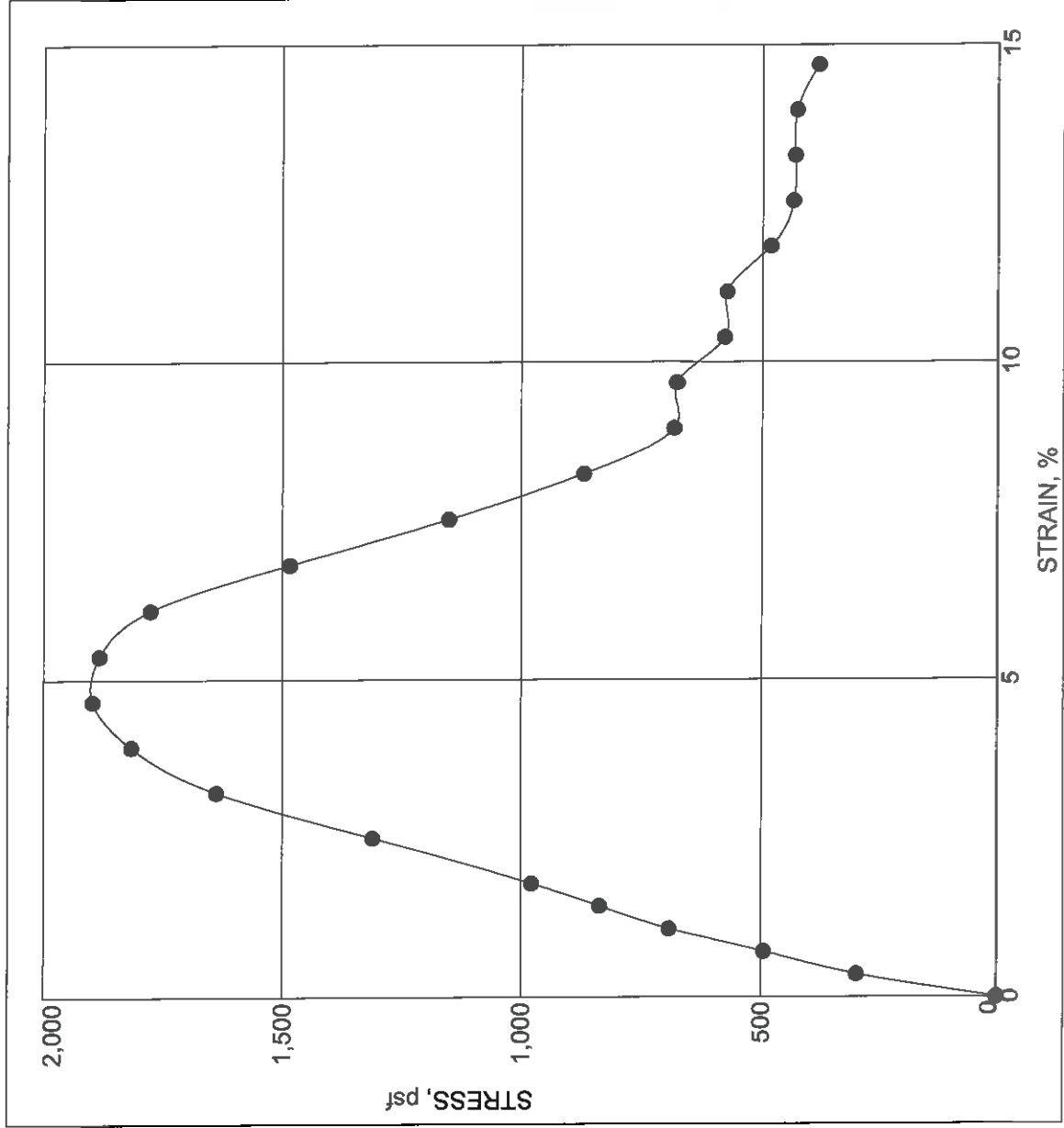
BORING NO.	B-5
Sample No.	ST 2-2
Sample Depth (ft)	3.5-4.0
Visual Classification (USCS)	Brown and gray, fat CLAY (CH) (FILL)

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	56
Plastic Limit	25
Plasticity Index	31
Classification (USCS)	CH

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	117.2
Moisture Content (%)	28.6
Dry Unit Weight (pcf)	91.1

STRENGTH	
Undrained Shear Strength, S_u (tsf)	0.47
% Strain at q_u	4.7



Unconsolidated-Undrained Triaxial Compression Test - Q-test

Project Name St. Louis Downtown Airport Taxiway Improvements Tested By SLY

Project No. 20175006.00 Checked By 2/23/2017

Boring No. B-7 Sample No. ST 2-3 Depth 4.0-4.5

Soil Description Brown and gray, fat CLAY (CH) (FILL)

Liquid Limit	79	%
Plastic Limit	30	%
Plasticity Index	49	%
USCS	CH	
Specific Gravity	2.70	*

*assumed

Water Content Data:		
Wet & Tare	35.60	gm
Dry & Tare	27.03	gm
Tare	2.63	gm
Water Content	35.1	%

Specimen Data:		
Height	5.610	in
Diameter	2.830	in
Hgt/Dia ratio	1.98	
Volume	578.27	cc
Wet Weight	1057.89	gm
Wet Density	114.2	pcf
Dry Density	84.5	pcf
Water Content	35.1	%
Saturation	95	%
Void Ratio	0.99	

Instrument Constants		
Deformation	0.0001	in/div
Load	1.9	lbs/div
Strain Rate	0.039	in/min
	0.70	%/min

Failure Sketch



Moisture content sample taken from: Trimmings

Undrained Shear Strength (tsf)	0.36
Axial Strain (%)	12.5

Confining Pressure (psi) 2.5

