SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

ITEM: 3.33
(ID # 21326)
MEETING DATE:
Tuesday, March 28, 2023

FROM : TLMA - AVIATION:

SUBJECT: TRANSPORTATION AND LAND MANAGEMENT AGENCY/AVIATION: Approval of the Plans and Specifications and Authorization to Advertise for Bid for the Jacqueline Cochran Regional Airport Runway 17-35: Electric, Lighting, and PAPI Rehabilitation Project, CEQA Exempt, District 4. [$2,056,295 Total Cost - Federal Aviation Administration Airport Improvement Grant Funds 90%, Airport Budget Fund (22350) 10%] (Clerk of the Board to Advertise for Bids for Construction of Airport Improvements)

RECOMMENDED MOTION: That the Board of Supervisors:

1. **Find** that the Jacqueline Cochran Regional Airport Runway 17-35: Electric, Lighting, and PAPI Rehabilitation Project is exempt from the California Environmental Quality Act (CEQA) pursuant to the State CEQA Guidelines Section 15301, Class 1 Existing Facilities Exemption; Section 15302 Replacement or Reconstruction; and Section 15061 (b)(3) "Common Sense" Exemption;

Continued on Page 2

ACTION:Policy

Charissa Leach, TLMA Director 3/15/2023

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Perez, seconded by Supervisor Spiegel and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes:	Jeffries, Spiegel, Washington, Perez, and Gutierrez
Nays:	None
Absent:	None
Date:	March 28, 2023
xc:	Aviation, Recorder

Kimberly A. Rector
Clerk of the Board
By: _____
Deputy

SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

RECOMMENDED MOTION: That the Board of Supervisors:

2. **Approve** the Contract Documents and Specifications for the construction of the Jacqueline Cochran Regional Airport Runway 17-35: Electric, Lighting, and PAPI Rehabilitation Project;

3. **Authorize** the Clerk of the Board to Advertise for bids to be received by the Office of the Clerk of the Board of Supervisors for the County of Riverside, located at 4080 Lemon Street, 1st Floor, Riverside, California 92501. All bids must be received up to the hour of 2:00 PM on Monday April 17, 2023, at which time the bids will be opened; and

4. **Direct** the Clerk of the Board of Supervisors to file the Notice of Exemption with the County Clerk for posting within five (5) working days.

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	$ 0	$ 2,056,295	$ 2,056,295	$ 0
NET COUNTY COST	$ 0	$ 0	$ 0	$ 0
SOURCE OF FUNDS: Federal Aviation Administration Airport Improvement Grant Funds 90%, Aviation Budget Fund (22350) 10%			**Budget Adjustment:**	No
			For Fiscal Year:	23/24

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

Summary

On February 25, 2020, Agenda Item 3.7, the Board of Supervisors approved the five-year design and engineering services agreement with Mead & Hunt for airport engineering, architectural, planning, and environmental services which includes design, construction administration, construction inspection of projects, planning and environmental services for the County's five airports. The design services for the Jacqueline Cochran Airport Runway 17-35 Electric, Lighting, and PAPI Rehabilitation Project is now complete, and staff request approval to solicit bids for construction of the project.

The purpose of this project is the rehabilitation of the electrical system for Runway 17-35. This includes the design of PAPI's for both Runway 17 and Runway 35, replacement of Runway 17-35's wire and light fixtures, and replacement of signs along Runway 17-35. This project is programmed as a fixture replacement project for the runway and taxiway lights. The intent is the existing cans, counterpoise, and conduits will be reused and lights will be reconstructed in the same location. The existing electrical system is over 20 years old, exceeding its life expectancy requirements. Runway 35 has an existing 4L PAPI, which needs a complete replacement of equipment. Runway 17 has an existing 2L VASI, which will be replaced by a new 4L PAPI. Runway 17-35 is equipped with medium-intensity runway edge lighting (MIRL) that is pilot

controlled (TRM is a non-towered Airport). The ALP recommends the edge lighting to be upgraded to a high-intensity system when the approach to Runway 35 is upgraded from non-precision to a precision instrument approach; the timing of this change will be evaluated as part of the design work.

The Runway 17-35 Electric, Lighting, and PAPI Rehabilitation Project is consistent with the Airport's Capital Improvement Program Master Plan. Mead & Hunt was selected by Request for Qualification as the County's Airport Project Consultant, per the Federal Aviation Administration's (FAA) five-year consultant selection criteria.

The proposed Project is categorically exempt from the provisions of CEQA according to the State CEQA Guideline Section 15301, Class 1 Existing Facilities Exemption; Section 15302 Replacement or Reconstruction; and Section 15061 (b)(3) "Common Sense" Exemption, and categorically excluded from NEPA US Department of Transportation Federal Aviation Administration Order 1050.1E, Categorical Exclusion 5-6.4e Facility Siting, Construction, and Maintenance. The Project will not cause any impact to an environmental resource of hazardous or critical concern, nor would the Project include unusual circumstances which would have a potentially significant effect on the environment.

County Counsel has reviewed and approved the plans and specification as to legal form.

Impact on Residents and Businesses

The Runway 17-35 Electric, Lighting, and PAPI Rehabilitation Project will improve the airport operations and enhance capacity and safety.

Additional Fiscal Information

The project will be financed using the Federal Aviation Administration Airport Improvement Grant Funds 90%, Special Aviation Budget Fund (22350) 10%. There will be no impact on the County's general fund.

ATTACHMENTS:

- Specification and Contract Documents
- Notice of Exemption

SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

Jason Farin, Principal Management Analyst 3/23/2023

Ronak Patel, Deputy County Counsel 3/22/2023

Danielle Maland, Deputy County Counsel 3/22/2023

County of Riverside
Facilities Management
3450 14th Street, Suite 200, Riverside, CA 92501

FOR COUNTY CLERK USE ONLY

FILED / POSTED

County of Riverside
Peter Aldana
Assessor-County Clerk-Recorder

E-202300344
03/29/2023 12:36 PM Fee: $ 50.00
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Removed: By: Deputy

NOTICE OF EXEMPTION

September 12, 2022

Project Name: County of Riverside Aviation, Runway 17-35 Electric, Lighting and PAPI Rehabilitation, Jacqueline Cochran Regional Airport, Thermal

Project Number: FM05191011913

Project Location: Higgins Drive, west of Highway 111, south of Airport Boulevard, unincorporated community of Thermal, Riverside County, California 92274; Assessor's Parcel Numbers (APN) 759-070-005, 759-100-013, 759-060-018

Description of Project: On February 25, 2020, The Board of Supervisors approved the five-year design and engineering services agreement with Mead & Hunt for airport engineering, architectural, planning, and environmental services which includes design, construction administration, construction inspection of projects, planning and environmental services for the County's five airports. There is a need for the rehabilitation of the electrical system for Runway 17-35 a Jaqueline Cochran Regional Airport. The scope of work for the rehabilitation includes the design of the Precision Approach Path Indicators (PAPI's) for both Runway 17 and Runway 35, replacement of Runway 17-35's wire and light fixtures, and replacement of signs along Runway 17-35. This project is programmed as a fixture replacement project for the runway and taxiway lights. The intent is the existing cans, counterpoise, and conduits will be reused and lights will be reconstructed in the same location. The existing electrical system is over 20 years old, exceeding its life expectancy requirements. Runway 35 has an existing 4L PAPI, which needs a complete replacement of equipment. Runway 17 has an existing 2L VASI, which will be replaced by a new 4L PAPI. Runway 17-35 is equipped with medium-intensity runway edge lighting (MIRL) that is pilot controlled (TRM is a non-towered Airport). The Airport Land Use Plan recommends the edge lighting to be upgraded to a high-intensity system when the approach to Runway 35 is upgraded from non-precision to a precision instrument approach; the timing of this change will be evaluated as part of the design work. The approval of the Sublease Agreement at Cochran Airport is identified as the proposed project under the California Environmental Quality Act (CEQA). No additional direct or indirect physical environmental impacts are anticipated.

Name of Public Agency Approving Project: Riverside County

Name of Person or Agency Carrying Out Project: Riverside County Aviation

Exempt Status: State CEQA Guidelines Section 15301, Class 1, Existing Facilities Exemption; Section 15302 Replacement or Reconstruction Exemption, Section 15061(b) (3), General Rule or "Common Sense" Exemption. Codified under California Code of Regulations Title 14, Article 5, Sections 15301, 15302, and 15061.

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- **Section 15301 –Existing Facilities:** This Class 1 categorical exemption includes the operation, repair, maintenance, leasing, or minor alteration of existing public or private structures or facilities, provided the exemption only involves negligible or no expansion of the previous site's use. The project is the replacement and rehabilitation of existing transportation infrastructure at an existing airport. The improvements to the runway and taxi lighting system will have the same purpose and substantially similar capacity, would be within the existing transportation infrastructure footprint, and would be consistent with the existing land use. Therefore, the project is exempt as it meets the scope and intent of the Categorical Exemption identified in Section 15301, Article 19, Categorical Exemptions of the CEQA Guidelines.

- **Section 15302 –Replacement or Reconstruction:** This Class 2 categorical exemption consists of the replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced. Under (c), replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. The project, as proposed, is the replacement of an existing runway electrical system with new infrastructure in the same location with similar size and capacity. The improvements are part of an existing facility that provides transportation services. The replacement would have the same purpose as the existing transportation infrastructure and is being implemented to maintain an appropriate level of safety and operational efficiency. Therefore, the project is exempt as it meets the scope and intent of the Categorical Exemption identified in Section 15302, Article 19, Categorical Exemptions of the CEQA Guidelines.

- **Section 15061 (b) (3) – "Common Sense" Exemption:** In accordance with CEQA, the use of the Common Sense Exemption is based on the "general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment." State CEQA Guidelines, Section 15061(b) (3). The use of this exemption is appropriate if "it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment." *Ibid.* This determination is an issue of fact and if sufficient evidence exists in the record that the activity cannot have a significant effect on the environment, then the exemption applies and no further evaluation under CEQA is required. See *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal. 3d 68. The ruling in this case stated that if a project falls within a category exempt by administrative regulation or 'it can be seen with certainty that the activity in question will not have a significant effect on the environment', no further agency evaluation is required. With certainty, there is no possibility that the project may have a significant effect on the environment. The proposed new transportation infrastructure at the existing airport will not result in any direct or indirect physical environmental impacts. The replacement runways 17-35 electrical system would not increase the capacity of the site and would be installed to continue the safety and security of the existing transportation services at an existing County owned facility. The use and operation of the runway and taxiways will be substantially similar to the existing use and will not create any new environmental impacts. Therefore, in no way, would the project as proposed have the potential to cause a significant environmental impact and the project is exempt from further CEQA analysis.

The replacement of the electrical system was also reviewed under the National Environmental Policy Act (NEPA) and found to be categorically excluded under 309b of FAA Order 1050.1E. The scope of work falls within the installation or upgrade of airfield lighting and no unusual or extraordinary circumstances exist which would preclude the use of this categorical exclusion. Therefore, the County of Riverside hereby concludes that no physical environmental impacts are anticipated to occur and the project as proposed is exempt under CEQA and excluded under NEPA. No further environmental analysis is warranted.

Signed: _____ **Date:** 9-12-2022

Mike Sullivan, Senior Environmental Planner
County of Riverside

RIVERSIDE COUNTY AVIATION

JACQUELIN
REGIONA

Runway 17-
Lighting, and P

Bid Opening: Apr

3.33
backup
Pending
NOE

CONTRACT DOCUMENTS
AND
SPECIFICATIONS

REGISTERED PROFESSIONAL ENGINEER
SCOTT A. SWONKE
C 83719
EXP. 3/31/25
CIVIL
STATE OF CALIFORNIA
3/16/23

RIVERSIDE COUNTY AVIATION

Issued For Bid Only: March 28, 2023
Not for Construction

County of Riverside
4080 Lemon Street, 14th Floor
Riverside, California 92501
(951) 955-9722
www.rctlma.org

Mead & Hunt, Inc.
3110 E. Guasti Road, Suite 330
Ontario, California 91761
(909) 467-8560

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DIVISION I

Bidding and Contract Documents

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Advertisement for Bids & Instructions to Bidders

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ADVERTISEMENT FOR BIDS

Jacqueline Cochran Regional Airport

Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation

PUBLIC NOTICE: Sealed proposals for the Jacqueline Cochran Regional Airport Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation will be received at the offices of the Clerk of the Board of Supervisors for the County of Riverside, 4080 Lemon Street, First Floor, Riverside California 92501 until **2:00 p.m. PST April 17, 2023,** and then will be publicly opened and read.

DESCRIPTION OF WORK:

The project is a Runway Electrical Rehabilitation job, with various replacements of lights, signs, cabling, conduit, PAPIs, and other appurtenances.

The award of project will be based on the lowest responsive, responsible Total Bid Price, inclusive of Base Bid and all Bid Alternates.

ENGINEER'S COST ESTIMATE

Total (including Base Bid and all Bid Alternates) is 1.9-million dollars.

PRE-BID MEETING. A Non-Mandatory Pre-Bid Meeting and site-walk will be held on April 5, 2023, at 11:00 a.m. at the Airport, at the Operations Office (former Fire Station) at 56-925 Higgins Rd., Thermal, California. All Bidders are HIGHLY ENCOURAGED to attend this meeting.

BID DOCUMENTS: Complete digital Project Bidding Documents (Plans, Specifications, and Bid Documents) are available only online from Quest Construction Data Network (Quest CDN) at www.questcdn.com. Interested parties may download the digital documents for twenty-two dollars ($22.00) by inputting **Quest Project #8409641** on the Project Search page. Those downloading the bidding documents electronically do so at their own risk for completeness of documents. Please contact Quest CDN at (952)233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information.

PROJECT INFORMATION:

Bidders may submit a Request for Information (RFI), a clarification, or interpretation of any aspect of the Bid Documents by e-mail at Scott.Swonke@meadhunt.com. These must be received no later than April 10, 2023 at 5:00 pm. Any interpretation, correction, or answers to submitted questions regarding the Bid Documents will be made only by Addendum and will be uploaded to QuestCDN.com.

BIDDER / CONTRACTOR REQUIREMENTS:

1. **Contractor's License**: Each Bidder must have a Class "A" California Contractor's License as required under provisions of the California Business and Professions Code at time of bid.

2. **Registered**. Per Public Works Contractor Registration Law [SB 854], Contractors and Subcontractors who intend to bid or perform work on this Project must be registered with the Department of Industrial Relations. (Information is available at http://www.dir.ca.gov/Public-Works/Contractors.html).

   - No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

- No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
- This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

3. Federal Aviation Administration.

This project is funded under the Federal Aviation Administration (FAA) Airport Improvement Program (AIP). Contractor(s) will be required to comply with specific federal contract provisions as listed herein and contained in the Bid Documents.

(a) NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION to ENSURE EQUAL EMPLOYMENT OPPORTUNITY

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.

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:

Timetables

Goals for minority participation for each trade: 19.0%
Goals for female participation in each trade: 6.9%

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.

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.

1) As used in this notice and in the contract resulting from this solicitation, the "covered area" is City of Thermal, County of Riverside, State of California.

(b) CIVIL RIGHTS – TITLE VI ASSURANCE

The RIVERSIDE COUNTY, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors 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.

(c) DISADVANTAGE BUSINESS ENTERPRISE (DBE)

A **DBE Goal of 12.5%** has been established for this contract. DBE Percentage shall be based on the Total Bid Price, inclusive of Base Bid and all Bid Alternates.

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

The successful Bidder or Offeror must provide written confirmation of participation from each of the DBE firms the Bidder or Offeror lists in its commitment within five days after bid opening.

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; and
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.

(d) FEDERAL PROVISIONS

The following provisions are incorporated herein by reference with the same force and effect as if given in full text:

1) Buy American Preference (Reference: 49 USC § 50101)
2) Trade Restriction Certification (Reference: 49 USC § 50104; 49 CFR part 30)
3) Davis Bacon Act (Reference: 2 CFR § 200, Appendix II(D); 29 CFR Part 5)
4) Debarment and Suspension (Reference: 2 CFR part 180 (Subpart C); 2 CFR part 1200; and DOT Order 4200.5)
5) Lobbying and Influencing Federal Employees (Reference: 31 USC § 1352 – Byrd Anti-Lobbying Amendment; 2 CFR part 200, Appendix II(J); and 49 CFR part 20, Appendix A)
6) Procurement of Recovered Materials (Reference: 2 CFR § 200.322; 40 CFR part 247; and Solid Waste Disposal Act)
7) Government-wide Requirements for Drug-free Workplace (Reference: 28 CFR 83.635)
8) Certification of Nonsegregated Facilities (41 CFR Part 60-1.8)
9) Veteran's Preference (49 USC Section 47112(c))
10) Distracted Driving (Texting when Driving) (Executive Order 13513/ DOT Order 3902.10)

(See Federal Provisions of the Contract Bid Documents for further details.)

Successful Bidder/Contractor will be required to insert applicable federal contract provisions in all subcontracts and shall be responsible for compliance by subcontractor(s).

4. **Prevailing Wages and Payroll Records.** Contractor will be required to pay employees and keep records in accordance with the Davis Bacon Act (29 CFR Part 5) and/or the Federal Fair Labor Standards Act (29 CFR part 201).

5. **List of Subcontractors** The prime contractor must provide a list of subcontractors with his bid on the form provided in the Proposal forms (see Instructions to Bidders for further information).

BID SUBMISSION. Each bidder must complete, sign, and furnish with his bid all forms and certifications contained in the Proposal Forms section of the Bid Documents. All proposals sent by mail must be posted so as to be in the hands of the County of Riverside by the hour and date set forth above for the bid opening. All proposals shall be addressed to:

Clerk of the Board of Supervisors for the County of Riverside,
4080 Lemon Street, First Floor, Riverside, California 92501 and marked:

Jacqueline Cochran Regional Airport
Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation Bid

Each bid/proposal must be accompanied by a certified check, cashier's check, or bid bond in an amount not less ten percent (10%) of the amount bid. The successful bidder shall be required to submit at the time of execution of the Contract a Performance Bond and a Payment Bond (Labor and Material), each for 100% of the Contract price.

The County shall have the right to reject any bids presented in accordance with Section 20150.9 of the California Public Contracts Code.

Substitution of securities for any moneys withheld by the County shall be permitted as provided for by Section 22300 of the California Public Contract Code.

BID EVALUATION: Bids will be evaluated for price and completeness. The lowest bid price will be determined by the total sum of the Base Bid and all Bid Alternates. In accordance with Section 20103.8(b) of the California Public Contracts Code, "the lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation as being used for the purpose of determining the lowest bid price."

After determination of the lowest bid, County has at their discretion, the right to award a contract for the base bid and any number of alternatives or combination of alternatives that fit within the funds available for the project.

The bid price for each Contract item shall include all costs associated with completing the work included in the item and only those costs. Profit and overhead shall be factored into each item.

In the case that the amount listed in the Price Total is not the correct sum of the Unit Price multiplied by the Quantity, the Unit Price amount shall govern and the Price Total will be corrected along with the Total Bid amount accordingly.

If the Total Bid amount listed is not the correct sum of the *Prices Totals*, the Unit Price Totals shall govern and the Total Bid will be corrected accordingly.

INSTRUCTIONS TO BIDDERS

Jacqueline Cochran Regional Airport

Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation

1. **Proposal Requirements**:

   A. **General Requirements**. The Bidder's / Contractor's attention is directed to Division III "FAA General Contract Provisions", Section 20, "Proposal Requirements and Conditions," for general details on the preparation of proposals for this Project.

   B. **Federal Requirements**. This Project is funded by the FAA and as such is subject to extensive Federal requirements and provisions in the areas of labor, wage rates, notices for Contracts, and bidding provisions. The Bidder's / Contractor's attention is directed to Division II "Required Federal Contract Provisions," and Division III "FAA General Contract Provisions" for detailed information on FAA requirements.

   C. **Required Registration**. Per Public Works Contractor Registration Law [SB 854], Contractors and Subcontractors who intend to bid or perform work on this Project must be registered with the Department of Industrial Relations. (Information is available at http://www.dir.ca.gov/Public-Works/Contractors.html.

   D. **Required Contractor's License**. See *Advertisement for Bids*.

2. **Description of Work**: The scope of work for this project consists of the following:

   The project is a Runway Electrical Rehabilitation job, with various replacements of lights, signs, cabling, conduit, PAPIs, and other appurtenances.

   The Award of project will be as indicated in the *Advertisement for Bids.*

3. **Project Information**: General and technical information can be obtained from the offices of Mead & Hunt, 3110 E. Guasti Road, California 91761; phone (909) 467-8560. Contact Project Manager: Scott Swonke, PE; email: Scott.swonke@meadhunt.com.

4. **Interpretation of Drawings and Documents**: If any Bidder is in doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, or finds discrepancies in or omissions from the Plans and Specifications, he may submit his questions or request for information / clarification in writing to the Engineer not later than the deadline listed in the *Advertisement for Bids*. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the Contract Documents will be made only by Addendum and will be uploaded to QuestCDN.com. A notice will be generated to all plan holders who have purchased bid documents. It is the bidder's responsibility to download the Addenda from QuestCDN.com. Inquiries received after the above-stated time will not be answered.

5. **Addenda**: Any irregularities or lack of clarity in the Bid Documents must be brought to the attention of the Project Manager at Mead & Hunt, Inc. in writing no later as indicated in the *Advertisement for Bids*. Any responses will be in the form of written addenda to the documents and will be available to plan holders through QuestCDN.com as described in paragraph 4 above. Inquiries received after date stated above, **will not be answered**. Unless so noted, subject matters shall be interpreted to favor the County of Riverside. All addenda must be acknowledged by signature where provided and returned with the bid

submission. Verbal interpretations are not to be relied upon. FAILURE OF THE BIDDER TO CALL ATTENTION TO IRREGULARITIES OR LACK OF CLARITY WILL NOT RELIEVE THE BIDDER OF PERFORMANCE UNDER THE CONTRACT.

6. **Proposal Forms**. Bidders must use the proposal forms provided in the Contract Documents / Bid Book. The Bidder must provide all information required by the Bid Documents, sign forms and required certifications, and acknowledge receipt of any addenda that was issued. The Bid Schedule must have the unit price amounts written in words and figures.

7. **Time and Place of Receiving Proposals**: Sealed bids will be received as designated in the *Advertisement for Bids*.

8. **Bid Bond**: Each proposal shall be accompanied by a bid guarantee equivalent to ten percent (10%) of the bid price. The "bid guarantee" shall consist of a firm commitment such as a certified check, cashier's check, or bid bond accompanying a bid as assurance that the Bidder will, upon acceptance of his bid, execute such Contractual documents as may be required within the time specified. A Bid Bond form is included in the Proposal Documents; use of this form is mandatory for Bid submittal.

9. **Performance and Payment Bonds**:

   A. The successful bidder (Contractor) agrees to furnish a performance bond for 100 percent of the Contract price. This bond is one that is executed in connection with a Contract to secure fulfillment of all the Contractor's obligations under such Contract.

   B. The Contractor agrees to furnish a payment bond for 100 percent of the Contract price. This bond is one that is executed in connection with a Contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the Contract.

10. **Pre-Bid Meeting**: A pre-bid Meeting has been scheduled as stated in the Advertisement for Bids. All Bidders are encouraged to attend this meeting.

11. **Examination of the Job Site**: Prior to the submission of a bid, the Bidder shall examine the job site to become familiar with the existing conditions. A job site visit will be held at time of pre-bid meeting. The job site will not be available for visit at any other time than the pre-bid meeting. Any discrepancy between the Bid Documents and actual site conditions shall immediately be brought to the attention of the Engineer in writing. Failure to examine the job site or call attention to discrepancies shall not relieve the Contractor of performance under any Contract issued as a result of his bid.

12. **Lowest Bidder:** Bids will be evaluated as indicated in the Advertisement for Bids.

13. **Award of Contract**: The County of Riverside reserves the right to reject any and all bids in conformance with Section 20150.9 of the California Public Contracts Code. Each Contractor shall provide prices for all Bid Schedules and Alternates included in the Proposal Form. The award(s), if made, will be pending FAA review and confirmation of availability of funds. County has at their discretion, the right to award a contract for the base bid and any number of alternatives or combination of alternatives that fit within the funds available for the project.

    All bids shall be valid for a period of **one hundred eighty (180) calendar days** from the opening date.

14. **Time of Completion**: The time of completion for the Project is detailed in Division IV "Special Provisions for Airport Construction", Section A-105, "Airfield Safety and Traffic Control"; and in the Construction Safety and Phasing Plan, which is included as an Appendix to these project specifications. This Project

is subject to liquidated damages if time limitations are not met. Details are in the Special Provisions as noted above.

15. **Disadvantaged Business Enterprise**: For credit to be allowed toward the DBE goal for this Project, prospective DBEs must be certified by Caltrans, or other agency acceptable to the County of Riverside, on the date bids for the Project are opened.

16. **Minimum Wage**: Wage rates and restrictions on working days and times shall meet all requirements of the Labor Code of the State of California for public contract and the Federal Requirements, as detailed in the Project Specifications (Division II). All labor on this Project shall be paid not less than the greater of the minimum wage rates established by the U.S. Secretary of Labor (Federal Wage Rates), or by the State of California's Director of the Department of Industrial Relations (State Wage Rates). Federal wage determinations issued under the Davis-Bacon and related Acts are available electronically at no cost at Wage Determinations OnLine.gov, http://www.wdol.gov/Index.aspx. The bidder may contact the Director of the Department of Industrial Relations, phone number (415) 703-4774 or www.dir.ca.gov/dlsr/PWD/ (website), to obtain a schedule of the State general prevailing wages applicable to the location and work to be done. The Contractor and the Contractor's subcontractors are responsible for compliance with the requirements of Section 1777.5 and 1777.6 of the Labor Code of the State of California regarding employment of apprentices.

17. **Certified Payroll.** The Contractor shall submit two (2) copies of all certified payroll, including subcontractors, to the County of Riverside each month. Failure to submit complete certified payroll in a timely manner may delay progress payments. For certified payroll to be considered for review, the submittal must contain the necessary information in a clear, logical manner. Refer to Division II, Required Federal Provisions.

18. **List of Subcontractors:**

    A. Pursuant to the provisions of Section 4100 through 4114 of the Public Contract Code of the State of California all bids shall be accompanied by a List of Subcontractors that the Bidder proposes to use who will perform work or labor or render service to the Bidder in excess of one-half of one percent of the Bidder's total bid or $10,000, whichever is greater. The names, principal business address, license number, Department of Industrial Relations (DIR) number, and portion of work that will be done by each subcontractor shall be submitted on the form, which is furnished in the Proposal Forms of this Contract Documents Book.

    B. Bidder shall be solely responsible to correct any errors in the listing of the California Contractor's license number.

    C. A deadline of 24 hours after bid opening is established by which a bidder must submit corrected California Contractor's license number information to the County.

    D. A bidder's failure to submit corrected California Contractor's license numbers will cause the bid to be non-responsive.

    E. If the Bidder fails to specify a subcontractor for any portion of the work to be performed under the Contract in excess of one-half of one percent of the Bidder's total bid, the Bidder agrees to perform that portion itself. The successful bidder shall not, without the consent of the County, either:

        1) Substitute any person, firm, or corporation as subcontractor in place of the subcontractor designated in the original bid; or

        2) Permit any subcontractor to be assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the bid.

19. **Collusion**: Any agreement or collusion among Bidders or prospective Bidders to bid a fixed price or restrict the competitive bid process in any way shall render the bids of such Bidders void.

20. **Drug-free Workplace:** This project / contract is covered by the Drug-Free Workplace Act of 1988; contractor will be required to provide a drug-free workplace.

21. **Interest in More Than One Bid**: No person, firm, or corporation, under the same or a different name, shall make, file, or be interested in more than one (1) bid for the same work unless alternate bids are requested; however, submitting a subcontractor's bid or material quotation to more than one (1) Bidder will not disqualify the subcontractor or material supplier.

22. **Independent Contractor Status**: The parties agree that the Contractor shall have the status of and shall perform all work under this Contract as an independent Contractor, maintaining control over all of its consultants, subconsultants, contractors, or subcontractors. The only contractual relationship created by this Contract is between the County of Riverside and the Contractor, and nothing in this Contract shall create any contractual relationship between the County's and Contractor's consultants, subconsultants, contractors, or subcontractors. The parties also agree that by explicit agreement of the parties, the Contractor is not an employee and that there shall be no:
    1) Withholding of income taxes by the County;
    2) Industrial insurance coverage provided by the County;
    3) Participation in group insurance plans which may be available to employees of the County;
    4) Participation or contributions by either the independent Contractor or the County to the County's public employees' retirement system;
    5) Accumulation of vacation leave or sick leave.

23. **Permits, Fees, Licenses, and Taxes**: The Contractor shall be responsible for securing all required permits, for all approvals or reviews, and for any required licenses.

24. **Pre-Construction Meeting**: The Contractor and subcontractors shall attend a pre-construction meeting with representatives of the County to discuss specific Project procedures. The pre-construction meeting may be waived by mutual agreement of the Contractor and the County.

25. **Construction Schedule**: The Contractor shall submit a construction schedule to the County's Representative prior to or during the pre-construction meeting. The construction schedule shall establish the start and completion dates for each phase of the Project in sufficient detail to relate to the progress payment schedule of values. The County shall review and approve the schedule prior to commencement of work.

26. **Order of Precedence**: See Division III 50-04 *Order of Precedence*.

27. **Construction Utilities**: The Contractor shall arrange for and bear the cost of all temporary construction utilities including water for dust control.

28. **Compliance**: The Contractor shall be responsible for complying with all County, State, and Federal Codes, Laws, Statutes, Regulations, Ordinances, and Policies, as applicable, in the performance of the Contract.

29. **Access to the Work Site**: The Contractor, in the performance of the Contract, shall not be unduly denied access to the worksite provided that such access does not interfere with normal Airport / County operations, unless prior arrangements have been made with the County.

30. **Worksite Security/Safety**: The Contractor shall provide barricades, fencing, exhaust fans, temporary closures, hoods, drapes, or any other temporary structure required to protect County and Contractor personnel and the general public from accidental injury, illness, or death during the term of the Project.

The Contractor shall be responsible for securing the Project to prevent theft, vandalism, or arson of the County's or the Contractor's property, materials, equipment, and supplies. The County shall not be responsible for any property, equipment, materials, or supplies of the Contractor. The Contractor shall be responsible for any theft, vandalism, or arson of County property, materials, equipment, or supplies if such loss is due to the negligence of the Contractor.

31. **Damage to Property**: Any damage to the County's real or personal property caused by the Contractor, his subcontractors, or agents shall be promptly repaired or replaced to the approval of the County.

32. **Workmanship**: All work shall be performed by competent personnel under the direction of a qualified project superintendent who shall be the representative of the Contractor. Work performed shall meet the workmanship standards for the trade involved. All materials and equipment installed by the Contractor shall be new, of suitable quality, and conform to all Specifications and/or Drawings. The use of other than new materials or equipment is not acceptable without the written consent of the County and will include a mutually agreeable cost reduction.

33. **Schedule of Values**: If requested, ap schedule of value(s) shall be provided for each lump sum bid item Mobilization phase, but not later than 10 working days before the first progress payment. The schedule of values shall be in the form of a detailed, itemized cost breakdown of the lump sum amount that includes the profit and overhead costs for each item. All work to be performed by subcontractors shall be listed. The schedule of values, once established, will serve as the basis for estimating or evaluating the percentage of lump sum work completed for progress payments. Progress payments on Unit Price Work will be based on the number of units completed. The schedule of values may also be used to evaluate the impact of unbalanced pricing.

34. **Progress Payments**: Progress payments may be authorized by the County if the Project duration exceeds thirty (30) calendar days. Progress Payment Requests are to be submitted to the Engineer accompanied by a schedule of values in the form of a Payment Request. Progress payments will be authorized by the County Project Manager. The County reserves the right to reduce the Progress Payment amount if, in the opinion of the Engineer, Project Manager, or the Purchasing and Contracts Administrator, the values on the Schedule of Values exceed the amount of work completed or material delivered to the job site. Any such changes will be reviewed with the Contractor.

35. **Retention:** Progress payments shall be subject to five percent (5%) retention until the Project is at least ninety percent (90%) complete and may be reduced thereafter. Within thirty-five (35) days following publication of the Notice of Completion (Contracts over $20,000) the retention may be reduced to an amount equal to twice the estimated value of any uncompleted work.

36. **Insurance:** Without limiting or diminishing the CONTRACTOR'S obligation to indemnify or hold the COUNTY harmless, CONTRACTOR shall procure and maintain or cause to be maintained, at its sole cost and expense, the following insurance coverage's during the term of this Agreement. As respects to the insurance section only, the COUNTY herein refers to the County of Riverside, its Agencies, Districts, Special Districts, and Departments, their respective directors, officers, Board of Supervisors, employees, elected or appointed officials, agents or representatives as Additional Insureds.

    A. Workers' Compensation:
    If the CONTRACTOR has employees as defined by the State of California, the CONTRACTOR shall maintain statutory Workers' Compensation Insurance (Coverage A) as prescribed by the laws of the State of California. Policy shall include Employers' Liability (Coverage B) including Occupational Disease with limits not less than $1,000,000 per person per accident. The policy shall be endorsed to waive subrogation in favor of The County of Riverside. Policy shall name the COUNTY as Additional Insureds.

B. Commercial General Liability:
Commercial General Liability insurance coverage, including but not limited to, premises liability, unmodified contractual liability, products and completed operations liability, personal and advertising injury, and cross liability coverage, covering claims which may arise from or out of CONTRACTOR'S performance of its obligations hereunder. Policy shall name the COUNTY as Additional Insured. Policy's limit of liability shall not be less than $2,000,000 per occurrence combined single limit. If such insurance contains a general aggregate limit, it shall apply separately to this agreement or be no less than two (2) times the occurrence limit. Policy shall name the COUNTY as Additional Insureds.

C. Vehicle Liability:
If vehicles or mobile equipment are used in the performance of the obligations under this Agreement, then CONTRACTOR shall maintain liability insurance for all owned, non-owned or hired vehicles so used in an amount not less than $1,000,000 per occurrence combined single limit. If such insurance contains a general aggregate limit, it shall apply separately to this agreement or be no less than two (2) times the occurrence limit. Policy shall name the COUNTY as Additional Insureds.

D. Professional Liability Insurance – Not Applicable

E. Insurance Requirements for Aviation Services Including Unmanned Aircraft's (Drones) – Not Applicable

F. Insurance Requirements for IT Contractor Services – Not Applicable

G. Sexual Abuse or Molestation (SAM) Liability:
If the work will include contact with minors, and the Commercial General Liability policy is not endorsed to include affirmative coverage for sexual abuse or molestation, Vendor/Contractor shall obtain and maintain a policy covering Sexual Abuse and Molestation with a limit no less than $2,000,000 per occurrence or claim.

H. General Insurance Provisions:

1) Any insurance carrier providing insurance coverage hereunder shall be admitted to the State of California and have an A M BEST rating of not less than A: VIII (A:8) unless such requirements are waived, in writing, by the County Risk Manager. If the County's Risk Manager waives a requirement for a particular insurer such waiver is only valid for that specific insurer and only for one policy term.

2) The CONTRACTOR must declare its insurance self-insured retention for each coverage required herein. If any such self-insured retention exceed $500,000 per occurrence each such retention shall have the prior written consent of the County Risk Manager before the commencement of operations under this Agreement. Upon notification of self-insured retention unacceptable to the COUNTY, and at the election of the County's Risk Manager, CONTRACTOR'S carriers shall either; 1) reduce or eliminate such self-insured retention as respects this Agreement with the COUNTY, or 2) procure a bond which guarantees payment of losses and related investigations, claims administration, and defense costs and expenses.

3) CONTRACTOR shall cause CONTRACTOR'S insurance carrier(s) to furnish the County of Riverside with either 1) a properly executed original Certificate(s) of Insurance and certified original copies of Endorsements effecting coverage as required herein, and if requested to do so orally or in writing by the County Risk Manager, provide original Certified copies of policies including all Endorsements and all attachments thereto, showing such insurance is in full force and effect. Further, said Certificate(s) and policies of insurance shall contain the

covenant of the insurance carrier(s) that a minimum of thirty (30) days written notice shall be given to the County of Riverside prior to any material modification, cancellation, expiration or reduction in coverage of such insurance. If CONTRACTOR insurance carrier(s) policies does not meet the minimum notice requirement found herein, CONTRACTOR shall cause CONTRACTOR'S insurance carrier(s) to furnish a 30 day Notice of Cancellation Endorsement.

4) In the event of a material modification, cancellation, expiration, or reduction in coverage, this Agreement shall terminate forthwith, unless the County of Riverside receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverage's set forth herein and the insurance required herein is in full force and effect. CONTRACTOR shall not commence operations until the COUNTY has been furnished original Certificate (s) of Insurance and certified original copies of endorsements and if requested, certified original policies of insurance including all endorsements and any and all other attachments as required in this Section. An individual authorized by the insurance carrier to do so on its behalf shall sign the original endorsements for each policy and the Certificate of Insurance.

5) It is understood and agreed to by the parties hereto that the CONTRACTOR'S insurance shall be construed as primary insurance, and the COUNTY'S insurance and/or deductibles and/or self-insured retention's or self-insured programs shall not be construed as contributory.

6) If, during the term of this Agreement or any extension thereof, there is a material change in the scope of services; or, there is a material change in the equipment to be used in the performance of the scope of work; or, the term of this Agreement, including any extensions thereof, exceeds five (5) years; the COUNTY reserves the right to adjust the types of insurance and the monetary limits of liability required under this Agreement, if in the County Risk Management's reasonable judgment, the amount or type of insurance carried by the CONTRACTOR has become inadequate.

7) CONTRACTOR shall pass down the insurance obligations contained herein to all tiers of subcontractors working under this Agreement.

8) The insurance requirements contained in this Agreement may be met with a program(s) of self insurance acceptable to the COUNTY.

9) CONTRACTOR agrees to notify COUNTY of any claim by a third party or any incident or event that may give rise to a claim arising from the performance of this Agreement.

Contractor shall indemnify and hold harmless Mead & Hunt, Inc. and the County of Riverside, its Agencies, Districts, Special Districts and Departments, their respective directors, officers, Board of Supervisors, elected and appointed officials, employees, agents and representatives (individually and collectively hereinafter referred to as Indemnitees) from any liability, action, claim or damage whatsoever, based or asserted upon any services of Contractor, its officers, employees, subcontractors, agents or representatives arising out of or in any way relating to the Contract, including but not limited to property damage, bodily injury, or death or any other element of any kind or nature. Contractor shall defend the Indemnitees, at its sole expense, including all costs and fees (including, but not limited, to attorney fees, cost of investigation, defense and settlements or awards) in any claim or action based upon such alleged acts or omissions.

With respect to any action or claim subject to indemnification herein by Contractor, Contractor shall, at their sole cost, have the right to use counsel of their own choice and shall have the right to adjust, settle, or compromise any such action or claim without the prior consent of County; provided, however, that any such adjustment, settlement or compromise in no manner whatsoever limits or circumscribes Contractor's indemnification to Indemnitees as set forth herein.

Contractor's obligation hereunder shall be satisfied when Contractor has provided to County the appropriate form of dismissal relieving County from any liability for the action or claim involved.

The specified insurance limits required in the Contract shall in no way limit or circumscribe Contractor's obligations to indemnify and hold harmless the Indemnitees herein from third party claims.

In the event there is conflict between this clause and California Civil Code §2782, this clause shall be interpreted to comply with Civil Code 2782. Such interpretation shall not relieve the Contractor from indemnifying the Indemnitees to the fullest extent allowed by law.

37. **Fair Employment Practices**: In connection with the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for such employment because of race, creed, color, national origin, sex, or age. Such agreement 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 acknowledges awareness of and is fully informed of the Contractor's obligations under Executive Order 11246 and, where applicable, shall comply with the requirements of the Order and all other orders, rules, and regulations promulgated under the Order unless exempted therefrom.

Without limitation of the foregoing, Contractor's attention is directed to 41 C.F.R. § 60-1.4, and the clause entitled "Equal Opportunity Clause" which, by reference, is incorporated into this Contract, to 41 C.F.R. § 60-250 et seq. and the clause entitled "Affirmative Action Obligations of Contractors and Subcontractors for Disabled Veterans and Veterans of the Vietnam Era", which, by reference, is incorporated in this Contract, and to 41 C.F.R. § 60-471 and the clause entitled "Affirmative Action Obligations of Contractors and Subcontractors for Handicapped Workers", which, by this reference, is incorporated in this Contract.

Contractor agrees to assist Disadvantaged Business Enterprises in obtaining business opportunities by identifying and encouraging disadvantaged suppliers, consultants, and subconsultants to participate to the extent possible, consistent with their qualifications, quality of work, and obligation of Contractor under this Contract.

The Contractor further agrees to insert these provisions in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials. Any violation of such provision by a Contractor shall constitute a material breach of Contract.

38. **Appeal by Unsuccessful Bidders**: A protest related to a *Recommendation to Award* of this project, must be submitted in detail, in writing, signed by the protestor or by a representative of the protestor, and received in the offices of the County before 5:00 P.M., 7 calendar days from the date the County issues a *Recommendation to Award* to bidders. If the 7th day does not fall on a business day, the deadline to submit a protest shall be extended to 5:00 p.m. on the next business day. For purposes of this section, "business day" shall mean any day that the County Clerk's office is open to the public to conduct business. Requests for extension of time or protests received outside of this timeframe will not be considered.

Eligibility for Protests: Only a bidder who has actually submitted a *Bid Proposal* is eligible to submit a bid protest. Subcontractors are not eligible to submit bid protests. Plan holders that did not submit a bid are not eligible to submit a bid protest. A bidder may not rely on the bid protest submitted by another bidder but must timely pursue its own protest.

The County will only consider protests by a bidder that has a substantial and reasonable prospect of receiving an award if the protest is sustained. Whether a bidder has a substantial and reasonable prospect of receiving an award includes, without limitation, whether the following two conditions are met:

1. The protesting bidder is the 2nd or 3rd lowest-bidder; and
2. The protesting bidder's Bid Proposal is less than 125% of the Engineer's Estimate for the Bid Schedule(s) used in determining the low bid.

Required Documentation: The protest shall contain a full and complete statement specifying, in detail, the factual grounds and legal basis of the protest and specific relief requested. The protest shall refer to the specific portion of the submitted bid, or other document which forms the basis for the protest. The protest must include the name, address, and telephone number of the protestor and protestor's representatives and any supporting documentation. Any grounds not raised in the written protest are deemed waived by the protesting bidder.

All protests must be addressed to:

Clerk of the Board of Supervisors for the County of Riverside,
4080 Lemon Street, First Floor, Riverside, California 92501

And marked:

Jacqueline Cochran Regional Airport
Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation Bid
Bid Protest

County Review: County will review the bid protest and issue a determination. There is no time-limit imposed on the County for this action. The County reserves the right to contact all interested parties and provide and request any pertinent information regarding the bidders and bid protest. If a bid protest is determined to be valid, County may enter into discussions with the next-lowest bidder, or the County may reject all bids for the project. Rejecting all bids shall render a protest moot and terminate all protest proceedings. A bid protest being valid in no way obligates the County to enter into a contract with the bid protestor or next-lowest bidder.

39. **Contractor's Employees Identification**: Contractor must submit a current list of full names i.e., first, middle, and last (no nicknames), addresses, birth dates, social security numbers, driver's license numbers, and last known address of all employees who perform work in County facilities under this Contract. Changes in the employment list must be reported to the County within 24 hours.

40. **Badging**
Not required.

41. **Unbalanced Pricing**: An offer with unbalanced pricing is not acceptable. Unbalanced pricing may increase performance risk and could result in payment of unreasonably high prices or payment for incomplete work, or for work not done. Unbalanced pricing exists when, despite an acceptable total overall price, the price of one or more Contract line items is significantly over or understated, as determined by the Engineer in the application of customary construction industry standard techniques for cost and price analysis.

All offers with separately priced line items or sub-line items will be analyzed to determine if the prices are unbalanced. Bidders shall provide a schedule of values for all lump sum items upon request. If an offer is deemed to be unbalanced, the County will:

1. Consider the risks to the County associated with the unbalanced pricing in determining the competitive range and in making the award decision; and
2. Consider whether award of the Contract will result in paying unreasonably high prices for Contract performance and whether the award fails to represent the lowest ultimate cost to the County.

An offer may be rejected if the County deems that the lack of balances poses an unacceptable risk to the County. The County reserves the right to delete all or part of an item that is deemed to be unbalanced and award the Contract; and to require that item of work to be done by force account or negotiated price.

42. **Withdrawal of Bid:** A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

Proposal Forms

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BIDDER'S CHECK LIST
for
Jacqueline Cochran Regional Airport

Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation

For bid to be considered "responsive" the following documents are required to be fully executed and **submitted with your bid:**

_____ Bidder's Check List (This List)

_____ Proposal Form

_____ Bid Schedules (Base Bid, Bid Alternate 1, Bid Alternate 2, Bid Alternate 3)

_____ Bid Bond

_____ DBE Designation of Subcontractors

_____ Non-DBE Designation of Subcontractors

_____ Iran Contracting Act Verification Form – California

_____ Drug-free Workplace Requirements Certification

_____ Certificate of Compliance with FAA Buy American Preference – Construction Projects (A4)

_____ Suspension and Debarment Requirements (A11)

_____ Assurance of Disadvantaged Business Enterprise Participation (A12)

_____ Lobbying and Influencing Federal Employees (A18)

_____ Certification of Offeror/Bidder Regarding Tax Delinquency and Felony Convictions (A24)

_____ Non-Collusion Affidavit Declaration

_____ Public Contract Code Sections Questionnaire / Statement

_____ Evidence of Competency

Each Bidder shall submit "evidence of competency" to the Owner at the time of bid opening (See FAA General Provisions Section 20-02 of the Project Specifications for details).

_____ Evidence of Financial Responsibility

Each Bidder shall submit "evidence of financial responsibility" to the Owner at the time of bid opening (See FAA General Provisions Section 20-02 of the Project Specifications for details).

The Specifications make multiple references to acknowledgement of Addenda. Initialing below for any issued addendum shall meet the requirement of "Acknowledgement of Addenda."

_____ Addendum #1

_____ Addendum #2

_____ Addendum #3

The **apparent low bidder** will be required to provide the following **after** *Notice of Apparent Low Bid*:

- DBE Information – Demonstration of Good Faith Efforts - within 5 days of request: Owner may choose to, but is not obligated to, extend this deadline upon request.

The **successful bidder** will be required to provide the following **after** *Notice of Award*:

- Signed Contract
- Payment Bond
- Performance Bond

PROPOSAL FORM

COUNTY OF RIVERSIDE, CALIFORNIA

JACQUELINE COCHRAN REGIONAL AIRPORT
RUNWAY 17-35: ELECTRICAL, LIGHTING, AND PAPI REHABILITATION

TO: COUNTY OF RIVERSIDE

The undersigned, as bidder, *under penalty of perjury,* declares that the only persons or parties interested in this proposal as principals are those named herein: that this proposal is made without collusion with any other person, firm, or corporation; that he has carefully examined the location of the proposed work, the proposed form of contract, the Plans and Specifications herein referred to; and he proposes, and agrees if this proposal is accepted, that he will contract with the COUNTY OF RIVERSIDE, in the form of the Contract annexed hereto, to provide all necessary machinery, tools, apparatus, and other means of construction, and to do all the work and furnish all the materials specified in the Contract in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefore the following item prices, to wit:

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

NAME OF BIDDER_____

BUSINESS ADDRESS _____

BUSINESS TELEPHONE _____AFTER-HOURS TELEPHONE _____

CONTRACTOR LICENSE NUMBER _____

DEPARTMENT OF INDUSTRIAL RELATIONS NUMBER_____

SIGNATURE_____

NOTE: *The bidder shall set forth a Unit Price for each item of Work for "Base Bid" and all "Bid Alternates" as listed on the Bid Schedule in clearly legible figures and words, in the respective spaces provided for this purpose. This price shall include all materials, labor, and all incidentals required to complete the work for this Project.*

BID SCHEDULE
Jacqueline Cochran Regional Airport: Runway 17-35: Electrical, Lighting, And PAPI Rehabilitation

Schedule 0: Base Bid

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
1	C-105-6.1	Mobilization (**MAXIMUM 10% OF SCHEDULE 0**)	LS	1	$		$
2	A-105-3.1	Airfield Safety and Traffic Control	LS	1	$		$
3	A-126-3.1	Salvage Existing Runway Edge/Threshold Light and Demolish Base Can	EA	80	$		$
4	A-126-3.4	Remove and Dispose Existing Taxiway Edge Light	EA	320	$		$
5	A-126-3.5	Remove and Dispose Existing Runway Holding Position Sign	EA	1	$		$
6	A-126-3.6	Remove Existing Conductors, Protect Conduit in Place	LF	3,000	$		$
7	A-126-3.10	Demolish Direct Earth Buried Cable	LF	2,000	$		$
8	A-126-3.11	Remove Airfield Markings	LS	1	$		$
9	L-109-7.1	7.5kW CCR Ferroresonant Type with S-1 Internal Cut Out	EA	1	$		$

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
10	L-109-7.2	15kW CCR Ferroresonant Type with S-1 Internal Cut Out	EA	1	$		$
11	L-110-5.1	Electrical Duct Bank, 1W-2" Sch 40 PVC, Concrete Encased	LF	2,640	$		$
12	L-110-5.2	Electrical Duct Bank, 1W-2" Sch 40 PVC, Native Backfill	LF	2,640	$		$
13	L-110-5.3	Electrical Duct Bank, 2W-4" Sch 40 PVC, Native Backfill	LF	1,000	$		$
14	L-125-6.1a	LED L-861 (L) Medium Intensity Elevated Runway Edge Light and Base Can	EA	71	$		$
15	L-125-6.1b	LED L-861T (L) Medium Intensity Elevated Taxiway Edge Light and Base Can	EA	16	$		$
16	L-125-6.1c	LED L-861SE (L) Medium Intensity Elevated Threshold / End Light and Base Can	EA	16	$		$
17	L-125-6.2.1	S-101 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
18	L-108-5.1	No. 6 AWG, 5kV, L-824, Type C Cable, Installed in Duct Bank, or Conduit	LF	30,000	$		$
19	L-108-5.2	No. 6 AWG, Solid, Bare Tinned Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Ground Rods and Connections/Terminations	LF	5,000	$		$
20	L-108-5.3	Misc. Temporary Jumpers No. 8AWG, 5kV, L-824 Type, C Cable	LF	2,000	$		$

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
21	L-115-5.1	Aircraft Rated Electrical Handhole, 4'x4'x30" with Spring Assist	EA	7	$		$
22	P-620-5.1	Marking	LS	1	$		$
						Total Base Bid in Figures	$
Total Base Bid in Words:							

Schedule 1: Bid Alternate 1

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
A1	A-126-3.3	Remove and Dispose Existing Runway Exit Sign	EA	20	$		$
A2	A-126-3.5	Remove and Dispose Existing Runway Holding Position Sign	EA	15	$		$
A3	A-126-3.6	Remove Existing Conductors, Protect Conduit in Place	LF	500	$		$
A4	L-125-6.2.2	S-102 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A5	L-125-6.2.3	S-103 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A6	L-125-6.2.4	S-104 LED L-858(L) Airfield Guidance Sign	EA	1	$		$

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
A7	L-125-6.2.5	S-105 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A8	L-125-6.2.6	S-106 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A9	L-125-6.2.7	S-107 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A10	L-125-6.2.8	S-108 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A11	L-125-6.2.9	S-109 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A12	L-125-6.2.10	S-110 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A13	L-125-6.2.11	S-111 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A14	L-125-6.2.12	S-112 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A15	L-125-6.2.13	S-113 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A16	L-125-6.2.14	S-114 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A17	L-125-6.2.15	S-115 LED L-858(L) Airfield Guidance Sign	EA	1	$		$

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
A18	L-125-6.2.16	S-116 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A19	L-125-6.2.17	S-117 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A20	L-125-6.2.18	S-118 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A21	L-125-6.2.19	S-119 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A22	L-125-6.2.20	S-120 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A23	L-125-6.2.21	S-121 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A24	L-125-6.2.22	S-122 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A25	L-125-6.2.23	S-123 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A26	L-125-6.2.24	S-124 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A27	L-125-6.2.25	S-125 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A28	L-125-6.2.26	S-126 LED L-858(L) Airfield Guidance Sign	EA	1	$		$

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
A29	L-125-6.2.27	S-127 LED L-858(L) Airfield Guidance Sign	EA	1	$		$
A30	L-108-5.1	No. 6 AWG, 5kV, L-824, Type C Cable, Installed in Duct Bank, or Conduit	LF	1,000	$		$
A31	L-108-5.2	No. 6 AWG, Solid, Bare Tinned Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Ground Rods and Connections/Terminations	LF	500	$		$
A32	L-108-5.3	Misc. Temporary Jumpers No. 8AWG, 5kV, L-824, Type C Cable	LF	500			
A33	L-110-5.1	Electrical Duct Bank, 1W-2" Sch 40 PVC, Concrete Encased	LF	500	$		$
Total Bid Alternate 1 in Figures							$
Total Bid Alternate 1 in Words:							

Schedule 2: Bid Alternate 2

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
B1	A-126-3.6	Remove Existing Conductors, Protect Conduit in Place	LF	750	$		$
B2	A-126-3.7	Demolish PAPI and Foundations	LS	1	$		$

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
B3	A-126-3.8	Demolish Old VASI Foundation	LS	1	$		$
B4	A-126-3.9	Remove and Dispose Existing REIL Pair, Protect Existing Pads	EA	2	$		$
B5	L-108-5.1	No. 6 AWG, 5kV, L-824, Type C Cable, Installed in Duct Bank, or Conduit	LF	5,280	$		$
B6	L-108-5.2	No. 6 AWG, Solid, Bare Tinned Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Ground Rods and Connections/Terminations	LF	500	$		$
B7	L-108-5.3	Misc. Temporary Jumpers No. 8AWG, 5kV, L-824 Type, C Cable	LF	500			
B8	L-125-6.1	Construct PAPI and Foundation LED L-894I (L), Style E, Runway End Identifier Light	EA Set	2	$		$
B9	L-125-6.3	LED L-880 Precision Approach Path Indicator, Style B, Class I	EA Set	2	$		$
B10	L-110-5.1	Electrical Duct Bank, 1W-2" Sch 40 PVC, Concrete Encased	LF	200	$		$
B11	L-110-5.2	Electrical Duct Bank, 1W-2" Sch 40 PVC, Native Backfill	LF	300	$		$
						Total Bid Alternate 2 in Figures	$
Total Bid Alternate 2 in Words:							

Schedule 3: Bid Alternate 3

ITEM NO.	SPEC REF.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE		TOTAL PRICE (Figures)
					Figures	in Words (dollars & cents)	
C1	A-126-3.2	Demolish Miscellaneous Structure	EA	1	$		$
C2	A-126-3.6	Remove Existing Conductors, Protect Conduit in Place	LF	500	$		$
C3	L-110-5.1	Electrical Duct Bank, 1W-2" Sch 40 PVC, Concrete Encased	LF	750	$		$
C4	L-108-5.1	No. 6 AWG, 5kV, L-824, Type C Cable, Installed in Duct Bank, or Conduit	LF	1,500	$		$
C5	L-108-5.2	No. 6 AWG, Solid, Bare Tinned Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Ground Rods and Connections/Terminations	LF	750	$		$
C6	L-125-6.5	Windcone Installation	LS	1	$		$
						Total Bid Alternate 3 in Figures	$
Total Bid Alternate 3 in Words:							

Bid Totals:

Total Schedule 0: Base Bid in Figures:_____

Total Schedule 1: Bid Alternate 1 in Figures: _____

Total Schedule 2: Bid Alternate 2 in Figures: _____

Total Schedule 3: Bid Alternate 3 in Figures: _____

Total of All Schedules in Figures: _____

BID BOND

(Public Work – Public Contract Code Section 20129 (a))

KNOW ALL MEN BY THESE PRESENTS THAT:

WHEREAS, The undersigned _____ [Insert Name of Bidder] ("Principal") is herewith submitting to the County of Riverside ("County") a Bid, in the amount of _____ ($ _____) [Enter amount of Principal's Total Bid Price, inclusive of Base Bid and all Bid Alternates] ("Bid Amount") for the award by County to Principal of a contract ("Contract") for the following: Jacqueline Cochran Regional Airport Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation ("Project");

AND, WHEREAS, Principal is obligated as a condition of said Bid to submit security pursuant to Public Contract Code Section 20129 (a) in the amount of ten percent (10%) of the Bid Amount, which security may be in the form of a Bid Bond issued by an admitted surety insurer pursuant to Code of Civil Procedure Section 995.120 ("Admitted Surety");

NOW THEREFORE, the Principal and _____ ("Surety"), an Admitted Surety, are held and firmly bound unto the County in the penal sum of ten percent (10%) of the Bid Amount above for the payment of which sum in lawful money of the United States, well and truly to be made, we, Principal and Surety, bind ourselves, our executors, administrators, successors, heirs and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that if Principal is awarded the Contract upon such Bid and thereafter within the period of time specified in County's bidding documents governing the bidding process applicable to such Bid ("Bidding Documents") enters into the Contract with County on the terms and conditions required by the Bidding Documents and furnishes the performance and payment bonds, evidence of insurance and other documents that Principal is required to submit under the terms of the Bidding Documents, then this obligation shall be null and void; otherwise, it shall remain in full force and effect and the sum guaranteed by this bond shall, at the option of County, be forfeited to County to pay all losses and damages suffered by County as a result thereof and permitted by applicable law, including, without limitation, the difference between the Bid Amount and amount for which the County may legally contract with another party to perform the Work (if such latter amount be greater than the Bid Amount), costs of publication, and all other losses and damages suffered by County (including, without limitation, those associated with delay to the Project); provided, however, that Surety's liability shall not exceed the penal amount of this bond.

Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the terms of the Contract or the Bidding Documents, or to the work to be performed thereunder, nor any withdrawal of the Bid in a manner not permitted by the requirements of the Bidding Documents shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

IN WITNESS WHEREOF the undersigned parties have executed this instrument under their several seals this day of _____, 20__, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Affix Seal if Corporation

(Firm Name – Principal)

(Business Address)

By (Original Signature)

(Title)

Affix Seal if Corporation

Corporation Name – Surety)

(Business Address)

By (Original Signature)
ATTORNEY-IN-FACT

Note: Principal and Surety(ies) shall sign and affix their seal (if corporations) to this Bid Bond above. The Bid Bond shall be issued by an Admitted Surety insurer in the Sate of California. The Surety on the Bid Bond shall have an A.M. Best's Insurance Rating of A:VIII (A:8) or better. Notary acknowledgements of the signatures of the Principal and Surety(ies) is required. The attorney-in-fact who executes this Bid Bond on behalf of the Surety shall affix thereto a certified and current copy of the power of attorney authorizing such attorney-in-fact to execute same on behalf of such Surety.

Revised 3-21-2023

DBE DESIGNATION OF SUBCONTRACTORS

The following are the names, DIR numbers, license numbers, and the principal places of business of all DBE subcontractors who will perform work or labor, or render services to the bidder in or about the work, together with a statement of the portion and dollar value of the work to be done by each subcontractor. Please attach additional sheets of paper as necessary.

A. DBE OWNED AND CONTROLLED BUSINESS ENTERPRISES:

1. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK: _____%
2. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK: _____%
3. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK :_____%
4. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK: _____%
5. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK: _____%

Total DBE $ Value of Work: _____ **Total DBE % of Work:** _____

See "Assurance of DBE Participation" for more required information.

NON-DBE DESIGNATION OF SUBCONTRACTORS

The following are the names, DIR numbers, license numbers, and the principal places of business of all non-DBE subcontractors who will perform work or labor, or render services to the bidder in or about the work, together with a statement of the portion and dollar value of the work to be done by each subcontractor. Please attach additional sheets of paper as necessary.

A. NON-DBE OWNED AND CONTROLLED BUSINESS ENTERPRISES:

1. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK: _____%
2. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK: _____%
3. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK :_____%
4. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK: _____%
5. NAME: _____
   DIR NUMBER: _____
   LICENSE NUMBER: _____
   ADDRESS: _____
   CONTRACT ITEM OF WORK: _____
   DOLLAR VALUE OF WORK: $_____ PERCENTAGE OF WORK: _____%

Total Non-DBE $ Value of Work: _____ **Total Non-DBE % of Work:** _____

IRAN CONTRACTING ACT VERIFICATION FORM - CALIFORNIA

(Public Contract Code sections 2202-2208)

Prior to bidding on, submitting a proposal or executing a contract or renewal for a County of Riverside contract for goods or services of $1,000,000 or more, a vendor must either: a) certify it is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code section 2203(b) and is not a financial institution extending twenty million dollars ($20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS; or b) demonstrate it has been exempted from the certification requirement for that solicitation or contract pursuant to Public Contract Code section 2203(c) or (d). The most current DGS list of entities prohibited from contracting with public entities in California per the Iranian Contracting Act, 2010, can be found at:

Department of General Services Procurement Division Iran Contracting Act List
(https://www.dgs.ca.gov/-/media/Divisions/PD/PTCS/OPPL/Iran-Contracting-Act-List.pdf?la=en&hash=71776438AADF114D952082668B1D6A0AEED31C2B)

To comply with this requirement, please insert your vendor or financial institution name and Federal ID Number (if available) and complete **one** of the options below. Please note: California law establishes penalties for providing false certifications, including civil penalties equal to the greater of $250,000 or twice the amount of the contract for which the false certification was made; contract termination; and three-year ineligibility to bid on contracts. (Public Contract Code section 2205.)

OPTION #1 – CERTIFICATION

I, the official named below, certify I am duly authorized to execute this certification on behalf of the vendor/financial institution identified below, and the vendor/financial institution identified below is not on the current list of persons engaged in investment activities in Iran created by DGS and is **not** a financial institution extending twenty million dollars ($20,000,000) or more in credit to another person/vendor, for 45 days or more, if that other person/vendor will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

Vendor Name/Financial Institution (Printed)	Federal ID Number (or n/a)
By (Authorized Signature)	
Printed Name and Title of Person Signing	
Date Executed	Executed in

OPTION #2 – EXEMPTION

Pursuant to Public Contract Code sections 2203(c) and (d), a public entity may permit a vendor/financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit a proposal for, or enters into or renews, a contract for goods and services. If you have obtained an exemption from the certification requirement under the Iran Contracting Act, please fill out the information below, and attach documentation demonstrating the exemption approval.

Vendor Name/Financial Institution (Printed)	Federal ID Number (or n/a)
By (Authorized Signature)	
Printed Name and Title of Person Signing	
Date Executed	Executed in

Department of General Services
Procurement Division 707 Third Street, Second Floor, West Sacramento, CA 95605
(916) 375-4400 (800) 559-5529

List Date as of: August 5, 2020 (most current at the time of this publication)

Entities Prohibited from Contracting with Public Entities in California per the Iranian Contracting Act, 2010

1. China National Petroleum Corporation
2. China Oilfield Services Limited
3. Indian Oil Corporation Ltd.
4. Oil and Natural Gas Corporation
5. Oil India Limited
6. ONGC Videsh Ltd.
7. Petrofield
8. Petróleos de Venezuela, S.A
9. Sinopec
10. SKS Ventures

STATE OF CALIFORNIA

DRUG-FREE WORKPLACE CERTIFICATION

STD. 21

I, the official named below, herby swear that I am duly authorized to legally bind the prospective contractor to the certification described below. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

CONTRACTOR/BIDDER FIRM NAME	FEDERAL ID NUMBER
BY (Authorized Signature)	DATE EXECUTED
PRINTED NAME AND TITLE OF PERSON SIGNING	TELEPHONE NUMBER (Include Area Code)
TITLE	CALIFORNIA DIR NUMBER
CONTRACTOR/BIDDER FIRM'S MAILING ADDRESS	

The contractor or grant recipient named above hereby certifies with Government Code Section 8355 in matters relating to providing a drug-free workplace. The above-named contractor or grant recipient will:

1. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a).

2. Establish a Drug-Free Awareness Program as required by Government Code 8355(b), to inform employees about all of the following:

   (a) The Dangers of drug abuse in the workplace,
   (b) The person's or organization's policy in maintaining a drug-free workplace,
   (c) Any available counseling, rehabilitation and employee assistance programs, and
   (d) Penalties that may be imposed upon employees for drug abuse violations.

3. Provide as required by Government Code 8355(c), that everyone who works on the proposed contract or grant:

   (a) Will receive a copy of the company's drug-free policy statement, and
   (b) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or grant.

4. At the election of the contractor or grantee, from and after the "Date Executed" and until _____ (NOT TO EXCEED 36 MONTHS), the state will regard this certificate as valid for all contracts or grants entered into between the contractor or grantee and this state agency without requiring the contractor or grantee to provide a new individual certificate for each contract or grant. If the contractor or grantee elects to fill in the blank date, then the terms of this certificate shall have the same force, meaning, effect and enforceability as if a certificate were separately, specifically, and individually provided for each contract or grant between the contractor or grantee and this state agency.

ADA Notice For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

CERTIFICATE OF COMPLIANCE WITH FAA BUY AMERICAN PREFERENCE – CONSTRUCTION PROJECTS

Federal Contract Provision A4

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws,1 U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, by selecting one on the following certification statements. These statements are mutually exclusive. **Bidder must select one or the other (not both) by inserting a checkmark (✓) or the letter "X".**

☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101, BABA and other related U.S. statutes, guidance, and policies of the FAA by:

a) Only installing iron, steel, and manufactured products produced in the United States;

b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States;

c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or

d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Airport Sponsor of the FAA evidence that documents the source and origin of the iron, steel, and/or and manufactured product.
2. To faithfully comply with providing US domestic products.
3. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.
4. Certify that all construction materials used in the project are manufactured in the U.S.

☐ The bidder or offeror hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

1. To the submit to the Airport Sponsor within 15 calendar days of being selected as the responsive bidder, a formal waiver request and required documentation that supports the type of waiver being requested.
2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.
3. To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
4. To furnish U.S. domestic product for any waiver request that the FAA rejects.
5. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 2 Waiver (Nonavailability) - The iron, steel, manufactured goods or construction materials or manufactured goods are not available in sufficient quantity or quality in the United States. The required documentation for the Nonavailability waiver is

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire
b) Record of thorough market research, consideration where appropriate of qualifying alternate items, products, or materials including;
c) A description of the market research activities and methods used to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources.

Type 3 Waiver - The cost of components and subcomponents produced in the United States is more than 60% of the cost of all components and subcomponents of the "facility/project". The required documentation for a Type 3 waiver is:

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;
b) Listing of all manufactured products that are not comprised of 100% U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
c) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.
d) Percentage of non-domestic component and subcomponent cost as compared to total "facility" component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Type 4 Waiver (Unreasonable Costs) - Applying this provision for iron, steel, manufactured goods or construction materials would increase the cost of the overall project by more than 25%. The required documentation for this waiver is:

a) A completed Content Percentage Worksheet and Final Assembly Questionnaire from
b) At minimum two comparable equal bids and/or offers;
c) Receipt or record that demonstrates that supplier scouting called for in Executive Order 14005, indicates that no domestic source exists for the project and/or component;
d) Completed waiver applications for each comparable bid and/or offer.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date	Signature
Company Name	Title

SUSPENSION AND DEBARMENT REQUIREMENTS

Federal Contract Provision A11

This is required for any AIP-funded contract, regardless of tier, that is awarded by a contractor, subcontractor, supplier, consultant if the amount of the contract is equal to or exceeds $25,000.

CERTIFICATION OF OFFEROR/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.

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 confirm 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 remedy, including suspension and debarment of the non-compliant participant.

Date	Signature
Company Name	Title

ASSURANCE OF DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

Federal Contract Provision A12

The bidder hereby gives assurance pursuant to the requirements of Title 49 CFR Part 23 that bidder has made a reasonable effort to meet the goals for Disadvantaged Business Enterprise participation specified for the contract for which this proposal is submitted and that bidder, if the contract is awarded to bidder, will have a DBE participation of the percentage indicated below relative to the total amount of this bid (including the aggregate sum of Base Bid and all Bid Alternates). Bidder further gives assurance that bidder will submit the documentation required by said Regulations and the contract specifications, including the Listing of Disadvantaged Business Enterprises with which the bidder will subcontract if the contract is awarded and if bidder is unable to meet the contract goals for DBE participation, of the steps bidder has taken to obtain DBE participation.

NOTE: Bidder shall insert the percentage for DBE participation.

_____
DBE Contractor Commitment Percentage

If any of your DBE percentage is from a method other than subcontractor participation (material/products supplier is a DBE, Prime Bidder is a DBE, etc.), explain here and provide the dollar value of work and the total percentage of work. (Provide additional sheets as necessary).

_____

_____

_____

_____

_____

Date	Signature
Company Name	Title

LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

Federal Contract Provision A18

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, subgrants, 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.

Date	Signature
Company Name	Title

CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

Federal Contract Provision A24

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications – ***Provide a checkmark (✓) in the correct response in line items 1) and 2).***

1) The applicant represents that it is ( ) is not ( ) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2) The applicant represents that it is ( ) is not ( ) is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Date	Signature
Company Name	Title

NON-COLLUSION AFFIDAVIT DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

California Public Contract Code § 7106

The undersigned declares:

I am the _____[job title] of _____[bidder entity], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or a sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

"I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at_____ [city], _____[state]."

_____
By (Signature)

_____
Typed Name and Title

_____
For (Bidder)

_____
Business Address

Note: *Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.*

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats.1985), the Bidder hereby declares under penalty of perjury under the laws of the State of California that the

Bidder has _____ has not_____

been convicted within the preceding three years of any offenses referred to in that section including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "Bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The Bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the Bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes_____ No_____ If the answer is yes, explain the circumstances in the following space.

PUBLIC CONTRACT SECTION 10232 STATEMENT

In accordance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

DBE INFORMATION – DEMONSTRATION OF GOOD FAITH EFFORTS

This information may be submitted with your bid. If it is not, and you are the apparent low bidder, it must submitted and received pursuant to the timelines established in the Bidder's Checklist. Failure to submit the required DBE commitment may be grounds for finding the bid nonresponsive.

Prime contractors shall indicate all work to be performed by DBEs including, if the prime is a DBE, work performed by its own forces, if a DBE. The DBE shall provide a certification number to the Contractor and expiration date. Enter the DBE prime's and subcontractors' certification numbers. The form has a column for the Names of DBE contractors to perform the work.

IMPORTANT: Identify **all** DBE firms participating in the project regardless of tier. Names of the First-Tier DBE Subcontractors and their respective item(s) of work listed should be consistent, where applicable, with the names and items of work in the "List of Subcontractors" submitted with your bid.

A. Provide names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

Publication	Date of Advertisement

DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION CONT'D

B. Provide names and dates of notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested (please attach copies of solicitations, telephone records, fax confirmations, email etc.):

Name of DBE Solicited	Date of Initial Solicitation	Follow-Up Method and Dates

DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION CONT'D

C. Identify the items of work which the bidder made available to DBE firms including, where appropriate, any breaking down of the contract work items (including those items normally performed by the bidder with its own forces) into economically feasible units to facilitate DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate DBE participation was made available to DBE firms.

Item of Work	Does Bidder normally perform this work with their own forces?	Amount	Percentage of Contract

DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION CONT'D

D. Provide names, addresses and phone numbers of rejected DBE firms, the reasons for the bidder's rejection of the DBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each DBE if the selected firm is not a DBE:

Names, addresses and phone numbers of rejected DBEs and the reasons for the bidder's rejection of the DBEs:

Names, addresses and phone numbers of firms selected for the work above (Identify any self-performance work)

DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION CONT'D

E. Describe efforts made to assist interested DBEs in obtaining bonding, lines of credit or insurance, and any technical assistance or information related to the plans, specifications and requirements for the work which was provided to DBEs:

F. Describe efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION CONT'D

G. Provide names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):
H. Provide any additional data to support a demonstration of good faith efforts (use additional sheets if necessary):

Sample Forms

Intentionally left blank

SAMPLE AGREEMENT FOR AIRPORT CONSTRUCTION

THIS AGREEMENT, made and entered into this _____ day of _____ 20_____, by and between the County of Riverside, a political subdivision of the state of California, hereinafter called "***", and ***, hereinafter called "CONTRACTOR".

WITNESSETH

WHEREAS the *** secured bids for airport improvements known as: Jacqueline Cochran Regional Airport Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation and;

WHEREAS the CONTRACTOR submitted a proposal for said improvements which is attached hereto and made a part hereof, said proposal having been regularly and duly accepted by minute order of the *** on the _____ day of _____, 20___, all in full compliance with the Contract Documents:

Now, THEREFORE, in consideration of the Mutual Covenants, herein contained, the parties hereto mutually covenant agree to abide as follows:

SCOPE OF WORK

The CONTRACTOR agrees to furnish all labor, materials, tools, and equipment required to perform and complete in good workmanship like manner the work as called for, in the manner designated in and in strict conformance with the Contract Documents and Specifications for the Construction of Improvements at Jacqueline Cochran Regional Airport. Said scope of work shall include: Rehabilitation of Runway 17-35 electrical system which includes various replacements of lights, signs, cabling, conduit, PAPIs, and other appurtenances.

CONTRACT DOCUMENTS

The completed CONTRACT between the parties hereto shall consist of the following identified documents, herein referred to as the Contract Documents: Advertisement for Bids, Instruction to Bidders, Proposal Forms, this Agreement, Bid Bond, Payment Bond, Performance Bond, Plans, and Specifications and addenda thereto.

CONTRACT PRICE

The *** agrees to pay and the CONTRACTOR agrees to accept, in full payment for the full and complete performance of this CONTRACT, the sum of _____.
subject to additions and deductions as provided for in the Contract Documents.

TIME OF COMPLETION

The time of completion for the bid items is 98 calendar days. The per diem rate for liquidated damages shall be $1,500 dollars per calendar day.

CONTRACTOR	SPONSOR
By _____	By _____ *** _____
Title _____	Title _____
APPROVED AS TO FORM:	ATTEST:
_____	_____

PAYMENT BOND

(Public Work – Civil Code Sections 9550 et seq.)

KNOW ALL MEN BY THESE PRESENTS THAT:

THAT WHEREAS, the County of Riverside ("County") by action of the Board of Supervisors on _____, 20__, has awarded Construction Contract Number _____ ("Contract") to the undersigned _____ as Principal ("Principal") to perform the work ("Work") for the following project Name of Project;

AND, WHEREAS, said Principal is required by the Contract and/or by Division 3, Part IV, Title XV, Chapter 7 (commencing at Section 9550) of the California Civil Code to furnish a payment bond in connection with the Contract;

NOW THEREFORE, we, the Principal and _____ ("Surety"), an admitted surety insurer pursuant to Code of Civil Procedure, Section 995.120, are held and firmly bound unto County in the penal sum of _____ Dollars ($_____), this amount being not less than one hundred percent (100%) of the total sum payable by County under the Contract at the time the Contract is awarded by County to the Principal, lawful money of the United States of America, for the payment of which sum well and truly to be made, we, Principal and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, its heirs, executors, administrators, successors, or assigns approved by County, or its subcontractors, of any contracting tier, shall fail to pay any person or persons named in California Civil Code, Section 9554, then Surety will pay for the same, in or to an amount not exceeding the penal amount hereinabove set forth.

Surety, for value received, agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the Work to be performed thereunder, nor any rescission or attempted rescission of the Contract or this bond, nor any conditions precedent or subsequent in the bond or Contract attempting to limit the right of recovery of any claimant otherwise entitled to recover under the Contract or this bond shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

Surety is not released from liability to those for whose benefit this bond has been given, by reason of any breach of the Contract by County or Principal.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, joint and severally, or against any one or more of them or against less than all of them, without impairing County's rights against the others.

Affix Seal if Corporation

(Firm Name – Principal)

(Business Address)

By (Original Signature)

(Title)

Affix Seal if Corporation

Corporation Name – Surety)

(Business Address)

By (Signature – Attached Notary's Acknowledgment)

ATTORNEY-IN-FACT
(Title-Attach Power of Attorney)

Note: Notary acknowledgment of signatures of Bidder and Surety, and Surety's Power of Attorney, must be included or attached

PERFORMANCE BOND

(Public Work – Public Contract Code Section 20129(b)))

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the County of Riverside ("County") by action of the Board of Supervisors on _____, 20__, has awarded Construction Contract Number _____ ("Contract") to the undersigned _____ as Principal ("Principal") to perform the work ("Work") for the following project: Name of project, which Contract is by this reference hereby incorporated herein and made a part hereof;

AND, WHEREAS, said Principal is required by the Contract and/or by California Public Contract Code, Section 20129 (b) to furnish a performance bond for the faithful performance of the Contract;

NOW THEREFORE, we, the Principal and _____ ("Surety"), an admitted surety insurer pursuant to Code of Civil Procedure, Section 995.120, are held and firmly bound unto County in the penal sum of _____ Dollars ($_____), this amount being not less than one hundred percent (100%) of the total sum payable by County under the Contract at the time the Contract is awarded by County to the Principal, lawful money of the United States of America, for the payment of which sum well and truly to be made, we, Principal and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, its heirs, executors, administrators, successors or assigns approved by County, shall in all things stand to and abide by and well and truly keep and perform all the undertakings, terms, covenants, conditions and agreements in the Contract, including, without limitation, all obligations during the original term and any extensions thereof as may be granted by County, with or without notice to Surety thereof (including, without limitation, the obligation for Principal to pay liquidated damages), all obligations during the period of any warranties and guarantees required under the Contract and all other obligations otherwise arising under the terms of the Contract (such as, but not limited to, obligations of indemnification), all within the time and in the manner therein designated in all respects according to their true intent and meaning, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

Whenever Principal shall be, and is declared by County to be, in default under the Contract, the Surety shall promptly either remedy the default, or, if the Contract is terminated by County or the Principal's performance of the Work is discontinued, Surety shall promptly complete the Contract through its agents or independent contractors, subject to acceptance of such agents or independent contractors by County as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract (including, without limitation, all obligations with respect to payment of liquidated damages) less the "Balance of the Contract Price" (as hereinafter defined); subject to the penal amount of this bond as set forth above. The term "Balance of the Contract Price," as used in this paragraph, shall mean the total amount payable to Principal by County under the Contract and any modifications thereto, less the amount previously paid by County to the Principal and less amounts that County is authorized to withhold under the terms of the Contract.

If County determines that completion of the Contract by Surety or its agents or independent contractors must be performed by a lowest responsible bidder selected pursuant to a competitive bidding process, then Surety shall comply with such processes in accordance with the requirements of County and applicable laws. Unless otherwise approved by District, in the exercise of its sole and absolute discretion, Surety shall not utilize Principal in completing performance of the Work.

No right of action shall accrue on this bond to or for the use of any person or entity other than County or its successors or assigns.

Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

Surety, for value received, agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder, shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, joint and severally, or against any one or more of them or against less than all of them, without impairing County's rights against the others.

Affix Seal if Corporation

(Firm Name – Principal)

(Business Address)

By (Original Signature)

(Title)

Affix Seal if Corporation

Corporation Name – Surety)

(Business Address)

By (Signature – Attached Notary's Acknowledgment)

Note: Notary acknowledgment of signatures of Bidder and Surety, and Surety's Power of Attorney, must be included or attached

DIVISION II

Required Federal Contract Provisions

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Required Federal Contract Provisions for FAA Airport Improvement Program Projects

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Contract Guidance

This project is funded by the Federal Aviation Administration. Federal laws and regulations require that projects funded by federal assistance programs must include specific contract provisions. Contractor(s) including subcontractors are required to:

- Include certain provisions in their subcontracts and sub-tier agreements
    - Mandatory Language – Whenever a clause or provision has mandatory text, Contractors and subcontractors must incorporate the text of the provision without change, except where specific adaptive input is necessary
- 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.

The prime contractor shall be responsible for compliance with these contract provisions by any subcontractor, lower-tier subcontractor or service provider.

Failure to Comply with Provisions

Contractors' 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 actions determined to be appropriate by the Sponsor or the FAA.

A1 ACCESS TO RECORDS AND REPORTS

(Source: 2 CFR § 200.334, 2 CFR § 200.337, FAA Order 5100.38)

FAA policy extends these requirements to the Sponsor's contracts and subcontracts of AIP funded projects.

ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, 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 REQUIREMENT

(Source: 41 CFR Part 60-4, Executive Order 11246)

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:

Timetables

Goals for minority participation for each trade: **19.0%**

Goals for female participation in each trade: **6.9%**

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 Riverside County TLMA Aviation, city of Thermal, Riverside County, California.

A3 BREACH OF CONTRACT TERMS

(Source: 2 CFR Part 200, Appendix II(A))

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 $250,000.

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 *Contractor* written notice that describes the nature of the breach and corrective actions the *Contractor* 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* must correct the breach. Owner may proceed with termination of the contract if the *Contractor* fails to correct the breach by the 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

(Source: Title 49 USC § 50101; Executive Order 14005, *Ensuring the Future is Made in All of America by All of America's Workers;* Bipartisan Infrastructure Law (Pub. L. No. 117-58), Build America, Buy America (BABA)

**********************Form is included in Division 1 Proposal Forms**********************

The Buy American Preference incorporates statutory requirements and policies outlined in the in 49 USC § 50101, Executive Order 14005, and BABA.

Section 50101 of 49 USC requires that all steel and manufactured goods used on AIP projects be produced in the United States. This section also gives the FAA the ability to issue a waiver to a Sponsor to use non-domestic material on an AIP funded project subject to meeting certain conditions. A Sponsor may request that the FAA issue a waiver from the Buy American Preference requirements if the FAA finds that:

1) Applying the provision is not in the public interest.
2) The steel or manufactured goods are not available in sufficient quantity or quality in the United States.
3) The cost of components and subcomponents produced in the United States is more than 60 percent of the total components of a facility or equipment, and final assembly has taken place in the United States. Items that have an FAA standard specification item number (such as specific airport lighting equipment) are considered the equipment.
4) Applying this provision would increase the cost of the overall project by more than 25 percent.

Executive Order 14005 advances the Administration's priority to use terms and conditions of Federal financial assistance awards to maximize the use of goods, products, and materials produced in, and services offered in, the United States. The Order directs, to the extent appropriate and consistent with

applicable law, agencies shall partner with the Hollings Manufacturing Extension Partnership (MEP) to conduct supplier scouting in order to identify American companies that are able to produce goods, products, and materials in the United States that meet Federal procurement needs, prior to consideration of using non-domestic products.

The Bipartisan Infrastructure Law, Build America, Buy America (BABA) Act strengthens Made in America Laws and bolsters America's industrial base, protects national security, and supports high-paying jobs. Under BABA, iron, steel and certain construction materials are required to be 100% produced in the United States.

Under the Bipartisan Infrastructure Law (Pub. L. No. 117-58) BABA three waivers are available for iron and steel, manufactured products, and construction materials when a Federal agency finds that –

1) Applying the domestic content procurement preference would be inconsistent with the public interest (a "public interest waiver");
2) Types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality (a "nonavailability waiver"); or
3) The inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent (an "unreasonable cost waiver").

BABA defines construction materials, items that are or consists primarily of non-ferrous metals, plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables), glass (including optic glass), lumber or drywall.

Items that consist of two or more of the aforementioned materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process, should be treated as manufactured products, rather than as construction materials. For example, a plastic framed sliding window should be treated as a manufactured product while plate glass should be treated as a construction material.

The Buy America Preference requirements flow down from the Sponsor to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are also in compliance.

Note: The Buy American Preference does not apply to temporary equipment a contractor uses as a tool of its trade and which does not remain as part of the project.

Required Documentation

The FAA Buy American Requests. All applications (requests) for an FAA Buy American Preference Waiver includes, at minimum, a completed Content Percentage Worksheet and Final Assembly Questionnaire. Additional information may be requested from the applicant by the FAA. Airport Sponsors, consultants, construction contractors, or equipment manufacturers are responsible for completing and submitting waiver applications. The FAA is unable to make a determination on waiver requests with incomplete information. Sponsors must confirm with the bidder or offeror to assess the adequacy of the waiver request and associated information prior to forwarding a waiver request to the FAA for action. All FAA waivers forms are available from the FAA Buy American Requirements webpage.

Proprietary Confidentiality. Exemption 4 of the Freedom of Information Act protects trade secrets and commercial or financial information obtained from a person [that is] privileged or confidential. Proprietary manufacturing and design information submitted to the Federal Aviation Administration for the purposes of receiving a Buy American Waiver shall not be disclosed outside the FAA. The FAA will provide a written notification to the Airport Sponsor, manufacturer(s), contractor(s) or supplier(s) when a waiver determination is complete.

Buy American Conformance Lists. The FAA Office of Airports maintains listings of projects and products that have received a waiver from the Buy American Preference requirements for project specific and nationwide use. Each of these conformance lists is available online at www.faa.gov/airports/aip/buy_american/. Products listed on the FAA Nationwide Buy American Conformance list do not require additional submittal of domestic content information. Nationwide waivers expire five years from the date issued, unless revoked earlier by the FAA.

Contract Types –

- **Construction Projects** involving the replacement, rehabilitation, reconstruction of airfield surfaces such as on runways, taxiways, taxilanes, aprons, roadways, parking lots, etc.
- **Equipment and Buildings Projects** involving and including the acquisition of equipment such as snow removal equipment, navigational aids, wind cones, and the construction of buildings such as hangars, terminal development, lighting vaults, aircraft rescue & firefighting buildings, etc. - Insert the Certificate of Compliance with FAA Buy American Preference Based on Equipment/Building Projects.

FAA BUY AMERICAN PREFERENCE

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws,[1] U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. ***(See Proposal Forms).*** The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

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[1] Per Executive Order 14005 "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States.

A5 CIVIL RIGHTS - GENERAL
(Source: 49 USC § 47123)

Insert this in every contract or agreement

GENERAL CIVIL RIGHTS PROVISIONS

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

The above provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

A6 CIVIL RIGHTS – TITLE VI ASSURANCE
(Source: 49 USC § 47123; FAA Order 1400.11)

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.

The text of each individual clause comes from the U.S. Department of Transportation Order DOT 1050.2, Standard Title VI Assurances and Nondiscrimination Provisions, effective April 24, 2013. Where the clause refers to the applicable activity, project, or program, it means the AIP project.

Insert this list in every contract or agreement

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 USC § 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 USC § 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 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-259) (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 (42 USC § 12101, et seq) (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) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Nondiscrimination statute (49 USC § 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 (ensures nondiscrimination 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. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, et seq).

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:

1. **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.

2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability 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.

3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier 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.

4. **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.

5. **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.

6. **Incorporation of Provisions: The Contractor will include the provisions <u>of paragraphs one through six in every subcontract,</u>** 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.

A7 CLEAN AIR AND WATER POLLUTION CONTROL

(Source: 2 CFR Part 200, Appendix II(G); 42 USC § 7401, et seq 33; USC § 1251, et seq)

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

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 USC §§ 7401-7671q) and the Federal Water Pollution Control Act as amended (33 USC §§ 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 exceed $150,000.

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

(Source: 2 CFR Part 200, Appendix II(E); 2 CFR § 5.5(b); 40 USC § 3702; 40 USC § 3704)

Contract Work Hours and Safety Standards Act Requirements (CWHSSA) (40 USC §§ 3702 & 3704) requires contractors and subcontractors on covered contracts to pay laborers and mechanics employed in the performance of the contracts not less than 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.

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

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 $29 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

(Source: 2 CFR Part 200, Appendix II(D); 29 CFR Parts 3 and 5)

This provision applies to all construction contracts and subcontracts financed under the AIP that exceed $2,000.

COPELAND "ANTI-KICKBACK" ACT

Contractor must comply with the requirements of the Copeland "Anti-Kickback" Act (18 USC 874 and 40 USC 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

(Source: 2 CFR Part 200, Appendix II(D); 29 CFR Part 5; 49 USC § 47112(b); 40 USC §§ 3141-3144, 3146, and 3147)

The Davis-Bacon Act (40 USC §§ 3141-3144, 3146, and 3147) 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.

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

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 § 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;

(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, U.S. Department of Labor,

Washington, DC 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 the 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 that 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, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, 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 Office of Apprenticeship Training, Employer and Labor Services 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 Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, 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 that 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 §§ 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 § 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 USC § 1001.

A11 DEBARMENT AND SUSPENSION

(Source: 2 CFR Part 180 (Subpart B); 2 CFR Part 200, Appendix II(H); 2 CFR Part 1200; DOT Order 4200.5; Executive Orders 12549 and 12689)

**********************Form is included in Division 1 Proposal Forms**********************

This provision must be included in any AIP-funded contract, <u>regardless of tier</u>, that is awarded by a contractor, subcontractor, supplier, consultant if the amount of the contract is <u>equal to or exceeds $25,000.</u>

CERTIFICATION OF OFFEROR/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.

CERTIFICATION OF <u>LOWER TIER</u> CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must confirm 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
   Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
2. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration 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

(Source: 49 CFR Part 26)

**********************Form is included in Division 1 Proposal Forms**********************

<u>Bid Information Submitted as a matter of responsiveness</u>:

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 responsiveness, the Bidder or Offeror must submit the following information with its 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) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
6) 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

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.

Bid Information submitted as a matter of responsibility:

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 responsibility, every Bidder or Offeror must submit the following information on the forms provided herein within five days after bid opening.

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) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
6) 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 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.

The requirements of 49 CFR part 26 apply to this contract. It is the policy of Riverside County TLMA Aviation 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.

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 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, which may include, but is not limited to:

1) Withholding monthly progress payments;
2) Assessing sanctions;
3) Liquidated damages; and/or
4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (49 CFR § 26.29)

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than fourteen (14) days from the receipt of each payment the prime contractor receives from the Riverside County TLMA Aviation. The prime contractor agrees further to return retainage payments to each subcontractor within thirty (30) 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 Riverside County TLMA Aviation. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53(f))

The prime contractor must not terminate a DBE subcontractor listed in response to this project's Notice to Bidders / Bid Advertisement (or an approved substitute DBE firm) without prior written consent of Riverside County TLMA Aviation. This includes, but is not limited to, instances in which the prime 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.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent of Riverside County TLMA Aviation. Unless Riverside County TLMA Aviation consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

Riverside County TLMA Aviation may provide such written consent only if Riverside County TLMA Aviation agrees, for reasons stated in the concurrence document, that the prime contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR §26.53.

Before transmitting to Riverside County TLMA Aviation its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to Riverside County TLMA Aviation, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise Riverside County TLMA Aviation and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why Riverside County TLMA Aviation should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), Riverside County TLMA Aviation may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to pre-award deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

A13 DISTRACTED DRIVING

(Source: Executive Order 13513, DOT Order 3902.10)

Insert this provision in all AIP funded contracts that exceed the micro-purchase threshold of 2 CFR § 200.320 (currently set at $10,000).

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 Federal Aviation Administration 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 subgrant.

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 $10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

A14 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

(Source: 2 CFR § 200, Appendix II(K); 2 CFR § 200.216)

Sponsors and subgrant recipients are prohibited from using AIP grant funds to:

a) Procure or obtain,
b) Extend or renew a contract to procure or obtain, or
c) Enter into a contract to procure or obtain certain covered telecommunications equipment.

These restrictions apply to telecommunication equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system or as critical technology as part of any system. Covered telecommunications equipment is equipment produced or provided by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of either).

Include the following provision in all AIP funded contracts and lower-tier contracts.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act [Public Law 115-232 § 889(f)(1)].

A15 RESERVED

A16 EQUAL EMPLOYMENT OPPORTUNITY (EEO)

(Source: 2 CFR Part 200, Appendix II(C); 41 CFR § 60-1.4; 41 CFR § 60-4.3; Executive Order 11246)

Contractor must incorporate these clauses without modification in any contract or subcontract when the amount exceeds $10,000.

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 contract clause and a specification clause.

EQUAL OPPORTUNITY CONTRACT 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, sexual orientation, gender identity, 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 consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under this section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) 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.

(6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any such 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 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.

(8) The Contractor will include the provisions of paragraphs (1) through (8) 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 may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance*: Provided,* however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

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 part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontractor participating in an approved plan is individually required to comply with its

obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 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 nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other 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 woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining 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 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 work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all 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 group of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 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, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a 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, sexual orientation, gender identity, 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 part 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation if any, employee identification

number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy 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).

A17 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

(Source: 29 USC § 201, et seq, 2 CFR § 200.430)

The U.S. 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.

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

FEDERAL FAIR LABOR STANDARDS ACT CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, et seq, 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* has full responsibility to monitor compliance to the referenced statute or regulation. The *Contractor* must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

A18 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

(Source: 31 USC § 1352 – Byrd Anti-Lobbying Amendment; 2 CFR Part 200, Appendix II(I); 49 CFR Part 20, Appendix A)

**********************Form is included in Division 1 Proposal Forms**********************

Contractor must include Lobbying Certification and this language (not modified) in subcontracts exceeding $100,000.

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, subgrants, 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.

A19 PROHIBITION OF SEGREGATED FACILITIES

(Source: 2 CFR Part 200, Appendix II(C); 41 CFR Part 60-1)

This clause must be included in any AIP funded projects that contains the Equal Employment Opportunity clause of 41 CFR § 60-1.4. This obligation flows down to subcontract and sub-tier purchase orders containing the Equal Employment Opportunity 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 Employment 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, sexual orientation, gender identity, 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 Employment Opportunity clause of this contract.

A20 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

(Source: 29 CFR Part 1910)

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. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer 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 (29 CFR Part 1910). The employer 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.

A21 PROCUREMENT OF RECOVERED MATERIALS

(Source: 2 CFR § 200.323, 2 CFR Part 200, Appendix II(J), 40 CFR Part 247, 42 USC § 6901, et seq (Resource Conservation and Recovery Act (RCRA))

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 products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

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

2) 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/smm/comprehensive-procurement-guidelines-construction-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.

A22 RESERVED

A23 RESERVED

A24 TAX DELINQUENCY AND FELONY CONVICTIONS

(Source: Section 8113 of the Consolidated Appropriations Act, 2022 (Public Law 117-103) and similar provisions in subsequent appropriations acts; DOT Order 4200.6 – Appropriations Act Requirements for Procurement and Non-Procurement Regarding Tax Delinquency and Felony Convictions)

**********************Form is included in Division 1 Proposal Forms**********************

This provision applies to all contracts funded in whole or part with AIP.

CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

1) The applicant represents that it is ( ) is not ( ) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been

exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2) The applicant represents that it is ( ) is not ( ) a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the Sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 USC § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A25 TERMINATION OF CONTRACT

(Source: 2 CFR Part 200, Appendix II(B); FAA Advisory Circular 150/5370-10, Section 80-09)

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

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:

1. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
2. 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;
3. Reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
4. 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 provide are in addition to any other rights and remedies provided by law or under this contract.

TERMINATION FOR CAUSE (CONSTRUCTION)

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

TERMINATION FOR CAUSE (EQUIPMENT)

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

1. Fails to begin 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; or
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 ten (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.

A26 TRADE RESTRICTION CERTIFICATION

(Source: 49 USC § 50104, 49 CFR Part 30)

Contractor will incorporate this provision for certification <u>without modification</u> in all lower tier subcontracts. (The trade restriction certification and clause apply to all AIP funded projects.)

Unless waived by the Secretary of Transportation, AIP funds may not be used 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 (USTR).

TRADE RESTRICTION CERTIFICATION

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

1) 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 (USTR);

2) 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 USTR; and

3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

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 USC § 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 USTR; or

2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or
3) who incorporates in the public works project any product of a foreign country on such USTR 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 USTR, 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 (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

A27 VETERAN'S PREFERENCE

(Source: 49 USC § 47112(c))

This provision applies to all AIP funded projects that involve labor to carry out the project.

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 USC § 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.

A28 DOMESTIC PREFERENCES FOR PROCUREMENTS

(Source: 2 CFR § 200.322; 2 CFR Part 200, Appendix II(L))

Must be included in all subawards, including all contracts and purchase orders for work or products under the grant.

CERTIFICATION REGARDING DOMESTIC PREFERENCES FOR PROCUREMENTS

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

END OF REQUIRED FEDERAL CONTRACT PROVISIONS

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DIVISION III

Part I - General Contract Provisions

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Part 1 – General Contract Provisions

Section 10 Definition of Terms

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

Paragraph Number	Term	Definition
10-11	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	Contract	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).

Paragraph Number	Term	Definition
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.

Paragraph Number	Term	Definition
10-30	Force Account	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b. Owner Force Account - Work performed for the project by the Owner's employees.
10-31	Intention of Terms	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	Owner	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only.

Paragraph Number	Term	Definition
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

Paragraph Number	Term	Definition
10-49	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
10-54	Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.

Paragraph Number	Term	Definition
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%: (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.

END OF SECTION 10

SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 Advertisement (Notice to Bidders). The "Advertisement for Bids" has been published at such places and at such times as required by local law or ordinances and is made a part of the "Contract Documents."

The Bid Advertisement provides the following information for Bidders:

- time and place for submitting sealed proposals;
- description of the proposed work;
- instructions about obtaining proposal forms, plans, and specifications;
- Contractor's requirements (license, registration, etc);
- required Federal Provisions solicitation language;
- the proposal guaranty required; and
- the Owner's right to reject any and all bids.

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 Irregular proposals.

A prebid conference is included on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements. Time, place, and location are identified in Division I.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.

c. Documented record of Contractor default under previous contracts with the Owner.

d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral shall be made payable to the Owner.

20-11 Delivery of proposal. See Division I.

20-12 Withdrawal of proposals. See Division I.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, Issuance of Proposal Forms, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than the RFI deadline in Division I.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

SECTION 30 AWARD AND EXECUTION OF CONTRACT

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices, pursuant to the evaluation procedures in Division I.

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

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, Irregular Proposals.

b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, Disqualification of Bidders.

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

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made as specified in Division I.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 Approval of Contract.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, Consideration of Proposals. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, Requirements of Contract Bonds.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, Requirements of Contract Bonds, of this section, within 10 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, Execution of Contract, of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

SECTION 40 SCOPE OF WORK

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, Compensation for Altered Quantities.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, Payment for Omitted Items.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, Payment for Extra Work. Extra work that is necessary for acceptable completion of the project but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, Supplemental Agreement.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, Limitation of Operations. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, Contractor's Responsibility for Utility Service and Facilities of Others.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (http://mutcd.fhwa.dot.gov/), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, Rights in and Use of Materials Found in the Work, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the RPR; or

c. Use such material for the Contractor's own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

SECTION 50 CONTROL OF WORK

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 Order of Precedence. Order of precedence of the Contract Documents is as follows:

Contractor shall comply with all applicable County, State, and Federal Codes, Laws, Statutes, Regulations, Ordinances, and Policies, as applicable, in the performance of the Contract.

When a conflict in documentation occurs, the governing ranking of Contract parts in descending order is:

1. Applicable Laws and Regulations.
2. Permits.
3. Executed Change Orders (more recent controlling).
4. Executed Contract Agreement for Airport Construction and Performance and Payment Bonds.
5. Bid Addendums.
6. Bid Schedule.
7. Special Provisions for Airport Construction (Division IV: A-130 Wage Rate and DBE Requirements).
8. Special Provisions for Airport Construction: All Other Documents (Division IV)
9. Construction Safety and Phasing Plan.
10. Technical Specifications (Division V).
11. Project Plans/Drawings (detailed plans having greater precedence).
12. Advertisement for Bids.
13. Instructions to Bidders.
14. General Conditions (Division III, Part 2).
15. General Contract Provisions (Division III, Part 1).
16. Required Federal Contract Provisions (Division II).
17. All other items not previously referenced on this list.

In the event that a conflict occurs in items of equal precedence, the first item listed in the document shall govern.

50-05 Cooperation of Contractor. The Contractor shall be supplied with one hard copy and an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): AutoCAD 2018.

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have

the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, Conformity with Plans and Specifications.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, Contractor's Responsibility for Work.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, Maintenance during Construction, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor

may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

50-17 Value Engineering Cost Proposal. Not applicable.

END OF SECTION 50

SECTION 60 CONTROL OF MATERIALS

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, Airport Lighting Equipment Certification Program and Addendum, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP). Contractor shall provide all test results in PDF format.

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance

for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.

b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. An Engineer/RPR field office is not required.

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

SECTION 70 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows: No on-going construction, beyond routine maintenance, is expected during this project.

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with

Section 40, paragraph 40-05, Maintenance of Traffic, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, Limitation of Operations.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is on the G-series of the project plan sheets.

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

See CSPP.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, Partial Acceptance.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, Partial Acceptance, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's responsibility for utility service and facilities of others. As provided in paragraph 70-04, Restoration of Surfaces Disturbed by Others, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans. The PERSONS to CONTACT will be discussed at the Pre-Construction Meeting.

Prior to any construction work, the Contractor shall notify the Airport and the utility purveyors two full working days (48 hours minimum) in advance of any construction activities that could affect any underground utility; this includes pavement removal, excavation, and vault work.

The contractor performing the work on this project shall become familiar with the site and shall be solely responsible for any damage to existing facilities/utilities resulting directly or indirectly from the construction operations, whether or not the facility/utility is shown on the plans. Utility line locations were taken from available record data and were not located in the field, unless otherwise noted on the plans. The Contractor shall be responsible for accurately locating all existing underground utilities prior to work.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, Restoration of Surfaces Disturbed By Others. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA facilities and cable runs. There are no known FAA facilities in the project limits.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, Extra Work, and Section 90, paragraph 90-05, Payment for Extra Work. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, Determination and Extension of Contract Time.

70-21 Insurance Requirements. See Division I.

END OF SECTION 70

SECTION 80 EXECUTION AND PROGRESS

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least 25 percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary

temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, Construction Safety and Phasing Plan (CSPP).

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

Additional information is in the Construction Safety and Phasing Plan.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of calendar or working days shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, Determination and Extension of Contract Time) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due

the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

The maximum construction time allowed will be the sum of the time allowed for individual schedules but not more than 14 days. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the execution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors, or

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

SECTION 90 MEASUREMENT AND PAYMENT

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 km) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

Term	Description
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted. In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded.

Term	Description
	Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 Payment for Extra Work.
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, No Waiver of Legal Rights.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, Alteration of Work and Quantities, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, Omitted Items, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, Extra Work, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, 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 paragraph 90-07, Payment for Materials on Hand. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

From the total of the amount determined to be payable on a partial payment, 5% percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

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 or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner 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 paragraph 90-09, Acceptance and Final Payment.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other

sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 Partial Payments, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, Final Acceptance, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, Claims for Adjustment and Disputes.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, Contractor Final Project Documentation, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, Claims for Adjustments and Disputes, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with Section 40, paragraph 40-08, Final Cleanup.

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s).

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

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DIVISION III

Part II - General Construction Items

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Item C-100 Contractor Quality Control Program (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

a. Provide qualified personnel to develop and implement the CQCP.

b. Provide for the production of acceptable quality materials.

c. Provide sufficient information to assure that the specification requirements can be met.

d. Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Resident Project Representative (RPR). No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

a. Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.

b. Discussion of the QA program.

c. Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.

d. Establish regular meetings to discuss control of materials, methods and testing.

e. Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10

calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff
2. Project progress schedule
3. Submittals schedule
4. Inspection requirements
5. QC testing plan
6. Documentation of QC activities and distribution of QC reports
7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of QC experience, the CQCPA must meet at least one of the following requirements:

(1) Professional Engineer with one (1) year of airport paving experience.

(2) Engineer-in-training with two (2) years of airport paving experience.

(3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport experience.

(4) An individual with four (4) years of airport experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the

construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.

(2) Performance of all QC tests as required by the technical specifications and paragraph100-8.

(3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

a. Specification item number

b. Item description

c. Description of submittal

d. Specification paragraph requiring submittal

e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401)

b. Item description (e.g., Hot Mix Asphalt Pavements)

c. Test type (e.g., gradation, grade, asphalt content)

d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)

f. Responsibility (e.g., plant technician)

g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description

(2) Compliance with approved submittals

(3) Proper storage of materials and equipment

(4) Proper operation of all equipment

(5) Adherence to plans and technical specifications

(6) Summary of any necessary corrective actions

(7) Safety inspection.

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

1. Technical specification item number and description
2. Test designation
3. Location
4. Date of test
5. Control requirements
6. Test results
7. Causes for rejection
8. Recommended remedial actions
9. Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:

(1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

100-13 Basis of measurement and payment. No separate measurement shall be made for the CQCP. All work shall be incidental to the items necessary to complete the contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

DESCRIPTION

102-1. This item shall consist of temporary erosion control measures during the life of the contract to control pollution of air and water, soil erosion, and siltation through the use of berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

The Contractor shall prepare and submit an Erosion Control Plan, laying out all preventive measures for stormwater and non-stormwater discharges. Contractor shall prepare and submit a Notice of Intent on the California SMARTS system. It is anticipated the project will qualify for an erosivity waiver. The Owner will establish the project in SMARTS and pay for any SMARTS fees.

Temporary erosion control shall be in accordance with the Contractor-provided Erosion Control Plan; the approved Construction Safety and Phasing Plan (CSPP), the California Stormwater Quality Association Best Practice Handbook – Construction, and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

MATERIALS

102-2.1 Grass. Not used.

102-2.2 Mulches. Not used.

102-2.3 Fertilizer. Not used.

102-2.4 Slope drains. Not used.

102-2.5 Silt fence. Not used.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

102-3.3 Construction details. The Contractor will be required to incorporate all erosion control features into the project at the earliest practicable time when applicable. When applicable, temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

The Contractor shall provide immediate permanent or temporary pollution control measures as directed by the RPR to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

If erosion control features are installed by the Contractor, they shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance and removal of silt fence. Not used.

102-3.5 Storm Water Discharge Permit. Not used.

METHOD OF MEASUREMENT

102-4.1 Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR and shall be measured as incidental to the total construction cost of the project. This shall include, but not be limited to, fiber rolls, erosion control blankets, storm drain inlet protection, silt trap, check dam, concrete washout, stabilized construction entrance, or other temporary erosion and pollution control measures as approved by the RPR.

Measures and practices required for compliance with this specification for protection of construction areas will not be measured but shall be considered as a subsidiary obligation of the Contractor. Measures and practices shall include, but not be limited to, air pollution prevention, water pollution prevention, construction road stabilization, dust control, protecting vegetation, and erosion and sediment control practices required due to the Contractor's means and methods of construction, and for borrow and waste areas, haul roads, equipment and material storage sites, staging areas as shown on the plans, and temporary plant sites.

BASIS OF PAYMENT

102-5.1 Measures and practices required for compliance with this specification for protection of construction areas will not be separately paid but shall be considered as a subsidiary obligation of the Contractor.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33	*Hazardous Wildlife Attractants on or Near Airports*
AC 150/5370-2	*Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461	*Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

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Item C-105 Mobilization

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-2 Mobilization limit. Mobilization shall be limited to 10 percent of the Base Bid.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4 Engineer/RPR field office. An Engineer's Field Office is not required.

METHOD OF MEASUREMENT

105-5.1 Basis of measurement and payment. Based upon the contract lump sum price for "Mobilization" partial payments will be allowed as follows:

a. Upon acceptance of all submittals and establishment of the Contractor's Yard, 25%.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 40%.

d. After Final Inspection, Staging Area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, *Contractor Final Project Documentation,* the final 10%.

The Contract lump sum price paid for Mobilization shall include full compensation for furnishing all labor, submittals, materials, tools, equipment, field office, and incidentals, and for doing all the work involved in mobilization as specified herein.

Payments made for Mobilization will be excluded from consideration in determining compensation under changed quantities.

Mobilization shall only be paid in the Base Bid. Any additional mobilization costs for any bid alternate / additive shall be incidental to the items requiring mobilization.

105-5.2 Basis of measurement and payment. Based upon the contract allowance for "Unforeseen Conditions" partial payments will be allowed as follows:

a. Contractor shall not begin any work on this item without formalized scope and fee negotiations that are accepted by the Airport and the RPR. Any work under this item shall require an approved Contract Change Order.

b. Work performed that conforms to existing Items shall be measured under those items separately.

c. Payment shall not be made until all negotiated scope and fee work is completed and accepted by the RPR.

BASIS OF PAYMENT

105-6 Payment will be made under:

Item C-105-6.1 Mobilization – per lump sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

DIVISION IV

Special Provisions for Airport Construction

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Item A-105 Airfield Safety and Traffic Control

105-1.1 Overview. This Section provides for construction safety in an Airport environment; limitations on construction operations; minimum requirements for construction management and scheduling; and site- specific information pertaining to potential impacts on construction activities. Unless otherwise noted, all costs associated with related work shall be included in the Contract pay item for Airfield Safety and Traffic Control.

105-1.2 Construction Safety and Phasing Plan (CSPP). The Contractor shall comply with the Project-specific CSPP included as *Appendix 1* to these Specifications. Included as part of the requirements of the CSPP is the Safety Plan Compliance Document (SPCD), which Contractor must complete and submit to Engineer for approval. (Notice to Proceed for Construction will not be issued until SCPC is approved.)

105-1.3 Engineer's / Construction Site Office. Not required.

105-1.4 Lines and Grades. The Contractor shall provide construction and layout staking for the Engineer to review and confirm prior to work being started. The Engineer will be given 48 hours' notice of pavement marking layout so it may be checked.

Contractor shall notify the Engineer immediately regarding any survey monuments, benchmarks, control points, stakes or marks, etc., that are in jeopardy of being disturbed or destroyed by your construction, so that they may be relocated and perpetuated.

105-1.5 Record Drawings. The Contractor shall maintain Record Drawings of all work continuously as the job progresses. A separate set of prints, for this purpose only, shall be kept at the job site at all times. It shall be required that these Drawings be up to date and be reviewed by the field inspector at the time each progress bill is submitted. All deviations from the Drawings, exact locations and sizes of all utilities, mechanical and electrical lines, equipment details, and all stub outs and connections for future expansion, shall be incorporated. Fees for documentation of Record Drawings shall be included in other items of work and no separate payment will be made.

105-1.6 Material Testing and Retesting. All Quality Control shall be performed by the Contractor; all acceptance testing will be performed by the Engineer as necessary. The Quality Control Testing shall include but is not limited to:

- Concrete strength mix design and other conformance testing required for structural Portland cement concrete.

105-1.7 Schedule of Values. See Instructions to Bidders. Contractor shall provide a Schedule of Values for all Lump Sum items prior to proceeding with construction.

105-1.8 Reserved.

105-1.9 Liquidated Damages. The time of completion for the bid items is 98 calendar days. The per diem rate for liquidated damages shall be $1,500 dollars per calendar day.

105-1.10 Barricades. Contractor is responsible for providing, placing, and maintaining barricades, including replacing batteries as needed. Contractor is responsible for additional barricades needed during project.

105-1.11 Runway RSA Inspection.

The County shall inspect the runway and any excavated areas within the RSA 60 minutes prior to removal of crosses. The Contractor shall ensure that the following conditions are satisfied 60 minutes prior to removing crosses and opening the runway for aircraft operations:

a. All runway and taxiway surfaces shall be swept clean and be free of debris.

b. All runway restricted areas shall be free of obstructions, abrupt irregularities in grade, and drop edges greater than 3 inches. The Contractor shall provide trench plates, temporary backfill, and other measures as necessary.

c. Barricades shall be installed around any construction area(s), as directed, to prevent access by aircraft.

105-1.12 There is no Air Traffic Control Tower (ATCT) on this Airport. Contractor shall monitor air traffic radio frequencies as indicated in the CSPP.

105-1.13 Access and Security.

a. Contractor Access. Contractor access to the various work areas shall be via the closest access routes indicated on the Construction Safety and Phasing Plan. Haul routes on Airport property shall be approved by the Airport. All access routes and haul roads shall be kept clean and free of debris. Dust control shall be maintained. Where haul routes cross active runways, taxiways, or aprons, radio-equipped flaggers shall be provided by the Contractor as required.

b. Security Control.

1) The Contractor shall be responsible for maintaining Airport security at all gates designated for his use. Gates must be locked or manned by the Contractor's personnel to ensure no unauthorized access to the air operations area.

2) All access gates shall be kept clear of equipment and material.

105-1.14 Reserved.

105-1.15 Dust Control. Contractor is responsible for providing dust control measures to limit dust nuisance during the Project. Prevent and alleviate dust by applying water, and covering active and inactive stockpiles. Apply water in the quantity, at the location, and for the purpose described or ordered. Apply water with the appropriate equipment to ensure the uniform application of water.

105-1.16 Construction Water. The source of construction water for the Project shall be coordinated by the Contractor. The Contractor shall pay water and meter fees and make all necessary arrangements with appropriate local utility or County to secure construction water for the duration of the Contract, if necessary. No direct payment will be made for this work. The Contractor shall include all costs associated with construction water in the price of the work.

105-1.17 Utility Investigation and Safety Requirements Certain underground facilities exist that may require special precautions to protect the health, safety and welfare of workmen and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipelines greater than 6 inches in diameter or pipelines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables, with potential to ground of more than 300 volts, either directly buried or in duct or conduit which do not have concentric grounded conductors or other effectively grounded metal shields or sheaths.

At least two working days prior to beginning excavation notify 811.

You will be required to work around public utility facilities and other improvements that are to remain in place within the construction area, or that are to be relocated and relocation operations have not been completed. You will be liable to owners of such facilities and improvements for any damage or interference with services resulting from his operations.

You must determine the exact location of underground facilities and improvements within the construction area before using equipment that may damage such facilities or interfere with the services.

METHOD OF MEASUREMENT and BASIS of PAYMENT

Airfield Safety and Traffic Control, and all incidentals required to complete work described in this section unless otherwise indicated will be measured and paid for as a lump sum.

Airfield Safety and Traffic Control shall be paid in the Base Bid Only. Any additional Airfield Safety and Traffic Control required for any Bid Alternate shall be incidental to the Bid Item requiring the control measures.

Payment will be made under:

Item A-105-3.1 Airfield Safety and Traffic Control – per Lump Sum

END OF ITEM A-105

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Item A-126 Removing Miscellaneous Structures

DESCRIPTION

This Work generally consists of removal and salvage or disposal of airfield lighting.

CONSTRUCTION METHODS, METHOD OF MEASUREMENT, AND PAYMENT

126-2.1 Salvage Existing Runway Edge / Threshold Light and Demolish Base Can. Remove and salvage for reinstallation, within the limits shown, the existing runway / threshold light. Item shall include the removal of the light fixture; and demolition of transformer, can, and all appurtenances. After new can is constructed, the existing light will be reinstalled. Reconnection of existing light upon new can shall be paid under this item. Removal of light for second time prior to reconnection light shall be paid under this item. Debris resulting from the removals shall become property of the Contractor and shall be removed and disposed of off-site. All removed materials shall become property of the Contractor and be disposed of off-site or placed in the staging area for a period of 90 days for Airport to determine salvageable items. Measurement shall be per each light. Payment shall be made at 75% for the first removal of the can and salvage of the light, and the final 25% after removal of the light for the second time.

126-2.2 Demolish Miscellaneous Structure. Remove, within the limits shown, a miscellaneous concrete structure located in the Runway 17 RSA. Removal shall include removal of all foundations, cabling, and other items found in the area indicated on the plans. Conduit, and conductors are to be demolished. Debris resulting from the removals shall become property of the Contractor and shall be removed and disposed of off-site. All removed materials shall become property of the Contractor and be disposed of off-site. Measurement and payment will be per each.

126-2.3 Remove and Dispose Existing Runway Exit Sign. Remove, within the limits shown, the existing runway exit sign. Removal shall include removal of lighted sign and transformer. The foundation shall be protected in place. Conduit, and conductors are to be demolished. Debris resulting from the removals shall become property of the Contractor and shall be removed and disposed of off-site. All removed materials shall become property of the Contractor and be disposed of off-site. Measurement and payment will be per each sign demolished.

126-2.4 Remove and Dispose Existing Taxiway Edge Light. Remove and salvage to owner, within the limits shown, the existing taxiway edge-light. Removal shall include removal of light fixture and transformer for spare parts. Conduit, conductors, and cans are to be demolished. Debris resulting from the removals shall become property of the Contractor and shall be removed and disposed of off-site. All removed materials shall become property of the Contractor and be disposed of off-site or placed in the staging area for a period of 90 days for Airport to determine salvageable items. Measurement and payment will be per each complete flasher light and foundation. Measurement and payment will be each light.

126-2.5 Remove and Dispose Existing Runway Holding Position Sign. Remove, within the limits shown, the existing runway holding position sign. Removal shall include removal of lighted sign and transformer. The foundation shall be protected in place. Conduit and conductors are to be demolished. Debris resulting from the removals shall become property of the Contractor and shall be removed and disposed of off-site. All removed materials shall become property of the Contractor and be disposed of off-site. Measurement and payment will be per each sign demolished.

126-2.6 Remove Conductors, Protect Conduit In-Place. The Contractor shall remove existing and abandoned cable(s) from conduit, counterpoise inside and outside of conduit, and/or manholes/junction boxes as indicated in the Plans; existing conduit to remain and to be abandoned in-place. Due to the phasing contained in the project, removal of cabling from a conduit may occur multiple times for the same conduit. The removal of cabling from a conduit will only be considered once per conduit, regardless of the amount of times cabling is removed from the conduit. In some instances, identification of cables needing to be removed along with all other cables routed in the same duct, handhole, manhole, or junction can will be required. Cables that are to remain shall be meggered prior to and after the removal of cable. All

removed materials shall become property of the Contractor and be disposed of off-site. Measurement and payment will be per linear foot of conduit, regardless of the number of demolished wires.

126-2.7 Demolish PAPI and Foundations. The Contractor shall remove existing PAPI light boxes and foundations as indicated in the Plans. Removal shall include removal of light fixture, foundations, and any junction cans. Debris resulting from the removals shall become property of the Contractor and shall be removed and disposed of off-site. All removed materials shall become property of the Contractor and be disposed of off-site or placed in the staging area for a period of 90 days for Airport to determine salvageable items. Demolished pads shall be backfilled with native material, compacted to 95% RD, and made flush with surrounding grade. Measurement and payment will be per each, defined as a complete set of 4-PAPI light boxes their foundations removed.

126-2.8 Demolish old VASI Foundation. The Contractor shall remove the existing ,abandoned VASI foundations as indicated in the Plans. Removal shall include foundations, and any junction cans. Debris resulting from the removals shall become property of the Contractor and shall be removed and disposed of off-site. All removed materials shall become property of the Contractor and be disposed of off-site or placed in the staging area for a period of 90 days for Airport to determine salvageable items. Demolished pads shall be backfilled with native material, compacted to 95% RD, and made flush with surrounding grade. Measurement and payment will be per each, defined as a complete removal of both the uprange and downrange foundations.

126-2.9 Remove and Dispose Existing REIL. Remove and salvage to owner, within the limits shown, the existing REIL fixture. Removal shall include removal of light fixture and transformer for spare parts. Conductors are to be demolished. Conduits, cans, and foundations are to be protected in place. Debris resulting from the removals shall become property of the Contractor and shall be removed and disposed of off-site. All removed materials shall become property of the Contractor and be disposed of off-site or placed in the staging area for a period of 90 days for Airport to determine salvageable items. Measurement and payment will be each REIL pair.

126-2.10 Demolish Direct Earth Buried Cable. The Contractor shall remove existing and abandoned direct earth buried cable(s). In some instances, identification of cables needing to be removed along with all other cables routed in the same trench will be required. Cables that are to remain shall be meggered prior to and after the removal of cable. All removed materials shall become property of the Contractor and be disposed of off-site. Measurement and payment will be per linear foot of cable run as shown in the Plans, regardless of the number of demolished wires.

126-2.11 Remove Airfield Markings. Remove existing airfield painted markings. All demolition shall be accomplished via high pressure water blasting. Limits of demolition are established in the plans and plan details. Measurement and payment will be per lump sum for all marking removal indicated on the drawings.

126-2.12 Reserved

126-2.13 Remove Ex. PAPI Cable and Abandon Conduit. The Contractor shall remove existing and abandoned cable(s) from conduit, counterpoise inside and outside of conduit, and/or manholes/junction boxes as indicated in the Plans; existing conduit to remain and to be abandoned in-place. Due to the phasing contained in the project, removal of cabling from a conduit may occur multiple times for the same conduit. The removal of cabling from a conduit will only be considered once per conduit, regardless of the amount of times cabling is removed from the conduit. In some instances, identification of cables needing to be removed along with all other cables routed in the same duct, handhole, manhole, or junction can will be required. Cables that are to remain shall be meggered prior to and after the removal of cable. All removed materials shall become property of the Contractor and be disposed of off-site. Measurement and payment will be made per A-126-2.6 *Remove Conductors, Protect Conduit In-Place*.

Payment will be made under:

A-126-3.1 Salvage Existing Runway Edge / Threshold Light and Demolish Base Can – Per Each

A-126-3.2 Demolish Miscellaneous Structure – Per Each

A-126-3.3 Remove and Dispose Existing Runway Exit Sign – Per Each

A-126-3.4 Remove and Dispose Existing Taxiway Edge Light – Per Each

A-126-3.5	Remove and Dispose Existing Runway Holding Position Sign – Per Each
A-126-3.6	Remove Conductors, Protect Conduit In-Place – Per Linear Foot
A-126-3.7	Demolish PAPI and Foundations – Per Lump Sum
A-126-3.8	Demolish Old VASI Foundation – Per Lump Sum
A-126-3.9	Remove and Dispose Existing REIL Pair – Per Each
A-126-3.10	Demolish Direct Earth Buried Cable – Per Linear Foot
A-126-3.11	Remove Airfield Markings – Per Lump Sum

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Item A-130 Wage Rate and DBE Requirements

130-1.1 Overview. This Section provides the minimum requirements for determining and providing certified payroll wage rates and the Disadvantaged Business Enterprise (DBE) requirements on the project.

130-1.2 Wage Rate Requirements

130-1.2a Minimum Wage. Labor on this project shall be paid no less than the greater of the minimum wage rates established by the U.S. Secretary of Labor or by the State of California's Director of the Department of Industrial Relations (DIR). The Contractor shall comply with Division II Requirements, and all applicable provisions of the California Labor Code.

130-1.2b Certified Payroll. The Contractor shall email one (1) copy of all certified payroll, including that of all subcontractors, to Mead & Hunt the person identified at the pre-construction meeting. Failure to submit complete weekly certified payroll, including signed Fringe Benefits Statements, all actual payroll, signed Statements of Compliance, including any Statements of Non-Performance (for any week in which work was not performed) throughout the length of the project or until such contractor or subcontractor provides an indicated 'final' payroll, as well as all eCPR submittals (receipts of submittal of said payroll to the DIR), in a clear, logical, and timely manner, may delay progress payments. All certified payroll must comply with the requirements outlined in Division II, and all applicable provisions of the California Labor Code.

130-1.3 Disadvantaged Business Enterprise (DBE) Requirements

The recipient or its contractors agrees to ensure that disadvantaged business enterprises as defined in 49 CFR Part 26 have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or part with Federal funds provided under this agreement. In this regard, contractors shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 to ensure that disadvantaged business enterprises have the maximum opportunity to compete for and perform contracts. Recipients and their contractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of DOT-assisted contracts.

The bidder/proposer shall make good faith efforts, as defined in Appendix A of 49 CFR Part 26, Regulations of the Office of the Secretary of Transportation, to subcontract to small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE). Percentage of DBE and *Basis of Percentage* is as indicated in the *Advertisement for Bids.* See Division II for specific, federal Contract requirements.

If the bidder for this solicitation qualifies as a DBE, the contract goal shall be deemed to have been met. Individuals who are rebuttably presumed to be socially and economically disadvantaged include women, Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, and Asian-Indian Americans. The apparent successful competitor will be required to submit information concerning the DBE's that will participate in the contract. The information will include: (1) the name and address of each DBE; (2) a description of the work to be performed by each named firm; and (3) the dollar value of the work of the contract. If the bidder fails to achieve the contract goal stated herein, it will be required to provide documentation demonstrating that it made good faith efforts in attempting to do so. A bid that fails to meet these requirements will be considered nonresponsive.

All bidders, potential contractors, or subcontractors for this DOT-assisted contract are hereby notified that failure to carry out the DOT policy and the DBE obligation, as set forth above, shall constitute a breach of contract which may result in termination of the contract or such other remedy as deemed appropriate by the recipient and the FAA. See Division II for additional DBE information.

END OF ITEM A-130

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DIVISION V

Part 1 - FAA Technical Specifications

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Item L-108 Underground Power Cable for Airports

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the RPR. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA owned/operated facilities.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format. The RPR reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least **at least four years for LED fixtures and workmanship for at least 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. The Contractor shall maintain a minimum insulation resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge (AWG), L-824 Type C , 5,000 volts, non-shielded, with ethylene propylene insulation, cross-linked polyethylene insulation. L-824

conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Commercial Item Description A-A-59544A and shall be type THWN-2, 75°C for installation in conduit and RHW-2, 75°C for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, THWN-2, 600-volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of THWN-2, 600-volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Document.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for grounding bond wire per ASTM B3 and ASTM B8, and shall be bare copper. For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.

Ground rods shall be copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 10 feet (2.54 m) long and 3/4 inch (19 mm) in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The cast splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M™ Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal is acceptable.

c. The factory-molded plug-in splice. Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. The taped or heat-shrink splice. Not used.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the RPR proof of the qualifications of each proposed cable splicer for the airport 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.

108-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

108-2.7 Flowable backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch (38 mm) wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Cable shall be run without splices, from fixture to fixture.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the RPR or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at pullboxes. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed and on both sides of slack loops where a future connector would be installed.

Provide not less than 3 feet (1 m) of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot (30 cm) vertically above the top of the access structure. This requirement also applies where primary

cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the RPR.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch (6 mm) in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in duct banks or conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the RPR, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

108-3.3 Installation of direct-buried cable in trenches. Not Used.

108-3.4 Cable markers for direct-buried cable. Not Used.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer's instructions and to the satisfaction of the RPR.

b. Field-attached plug-in splices. These shall be assembled per the manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) Wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

d. Taped or heat-shrink splices. Not Used.

e. Assembly. Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer's recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean all surfaces at least 1/4 inch (6.4 mm) beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare counterpoise wire installation for lightning protection and grounding. If shown on the plans or included in the job specifications, bare solid #6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.

a. Equipotential. – Not Used

b. Isolation – used in areas where lightning strikes are not common. Counterpoise size is selected by the RPR. The isolation method is an alternate method for use only with edge lights installed in turf and stabilized soils and raceways installed parallel to and adjacent to the edge of the pavement. NFPA 780 uses 15 feet to define "adjacent to".

The counterpoise conductor shall be installed halfway between the pavement edge and the light base, mounting stake, raceway, or cable being protected.

The counterpoise conductor shall be installed 8 inches (203 mm) minimum below grade. The counterpoise is not connected to the light base or mounting stake. An additional grounding electrode is required at each light base or mounting stake. The grounding electrode is bonded to the light base or mounting stake with a 6 AWG solid copper conductor.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Isolation Method of lightning protection.

c. Common Installation requirements. When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 feet (150 m) apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

d. Parallel Voltage Systems. Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.

108-3.7 Counterpoise installation above multiple conduits and duct banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete area of protection measured 45 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise installation at existing duct banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic bonding. Bonding of counterpoise wire shall be by the exothermic welding process or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The RPR shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the RPR the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 500 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed **25** ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

108-4.2 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet (meters) installed and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall not include additional quantities required for slack.

Cable and counterpoise slack is considered incidental to this item and is included in the Contractor's unit price. No separate measurement or payment will be made for cable or counterpoise slack.

108-4.3 No separate payment will be made for ground rods.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place

by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

Item L-108-5.1	No. 8 AWG, 5 kV, L-824 Type C Cable, Installed in Duct Bank or Conduit - per linear foot
Item L-108-5.2	No. 6 AWG, Solid, Bare Tinned Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Ground Rods and Connections/Terminations – per linear foot
Item L-108-5.3	Misc. Temporary Jumpers No. 8 AWG, 5 kV, L-824 Type C Cable – per linear foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM International (ASTM)

ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes

Mil Spec

MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems

American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Federal Aviation Administration Standard

FAA STD-019E	Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment

END OF ITEM L-108

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Item L-109 Airport Transformer Vault and Vault Equipment

DESCRIPTION

109-1.1 This item shall consist of removing existing airport equipment and installation of new airport equipment per the design and dimensions shown in the plans. This work shall also include the installation of conduits and conductors to new airport equipment and the furnishing of all incidentals that are necessary to produce a completed operating unit as indicated on the plans. This work shall also include the painting of equipment and conduit; the marking and labeling of equipment and the labeling or tagging of wires; the testing of the installation; and the furnishing of all incidentals necessary to place it in operating condition as a completed unit to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

109-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be certified in AC 150/5345-53, Airport Lighting Equipment Certification Program (ALECP) and listed in the ALECP Addendum.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

f. 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 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.

CONSTRUCTION OF VAULT AND PREFABRICATED METAL HOUSING

109-3.1 Electrical vault building. Not Required.

109-3.2 Concrete. Not Required.

109-3.3 Precast concrete structures. Not Required.

109-3.4 Reinforcing steel. Reinforcing steel bars shall be intermediate or structural grade deformed-type bars and shall be per ASTM A615.

109-3.5 Brick. Not Required.

109-3.6 Rigid steel conduit. Rigid steel conduit and fittings shall be per Underwriters Laboratories Standards 6 and 514B.

109-3.7 Plastic Conduit and fittings. Plastic Conduit and fittings shall conform to the requirements of UL-651 and UL-654 schedule 40 polyvinyl chloride (PVC) suitable for use above or below ground.

109-3.8 Lighting. Not Required

109-3.9 Outlets. Not Required

109-3.10 Switches. Not Required

109-3.11 Paint. Not Required

109-3.12 Ground bus. Not Required

109-3.13 Square duct. Not Required

109-3.14 Ground rods. Not Required

109-3.15 Vault prefabricated metal housing. Not Required

109-3.16 FAA-approved equipment. Certain items of airport lighting equipment installed in vaults are covered by individual ACs listed below:

AC 150/5345-3	Specification for L-821, Panels for Remote Control of Airport Lighting
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-10	Specification for Constant Current Regulators and Regulator Monitors
AC 150/5345-13	Specification for L-841 Auxiliary Relay Cabinet Assembly for Pilot Control of Airport Lighting Circuits.
AC 150/5345-49	Specification for L-854, Radio Control Equipment

109-3.17 Other electrical equipment. Distribution transformers, oil switches, cutouts, relays, terminal blocks, transfer relays, circuit breakers, and all other regularly used commercial items of electrical equipment not covered by FAA equipment specifications and ACs shall conform to the applicable rulings and standards of the Institute of Electrical and Electronic Engineers (IEEE) or the National Electrical Manufacturers Association (NEMA). When specified, test reports from a testing laboratory indicating that the equipment meets the specifications shall be supplied. In all cases, equipment shall be new and a first-grade product. This equipment shall be supplied in the quantities required for the specific project and shall incorporate the electrical and mechanical characteristics specified in the proposal and plans. Equipment selected and installed by the Contractor shall maintain the interrupting current rating of the existing systems or specified rating whichever is greater.

109-3.18 Wire. Wire (in conduit) rated up to 5,000 volts shall be per AC 150/5345-7, Specification for L-824 Underground Electrical Cables for Airport Lighting Circuits. For ratings up to 600 volts, moisture and heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be of the type, size, number of conductors, and voltage shown in the plans or in the proposal.

a. Control circuits. Unless otherwise indicated on the plans, wire shall be not less than No. 12 American wire gauge (AWG) and shall be insulated for 600 volts. If telephone control cable is specified, No. 19 AWG telephone cable per ANSI/Insulated Cable Engineers Association (ICEA) S-85-625 specifications shall be used.

b. Power circuits.

(1) 600 volts maximum – Wire shall be No. 6 AWG or larger and insulated for at least 600 volts.

(2) 3,000 volts maximum – Wire shall be No. 6 AWG or larger and insulated for at least 3,000 volts.

(3) Over 3,000 volts-Wire shall be No. 6 AWG or larger and insulated for at least the circuit voltage.

109-3.19 Short circuit / coordination / device evaluation / arc flash analysis. The Contractor shall, based upon the equipment provided, include as a part of the submittal process the electrical system "Short Circuit / Coordination / Device evaluation / Arc Flash Analysis". The analysis shall be performed by the equipment manufacturer and submitted in a written report. The analysis shall be signed and sealed by a registered professional Engineer from the state in which the project is located. The analysis shall comply with NFPA-70E and IEEE 1584.

The analysis will include: one line diagrams, short circuit analysis, coordination analysis, equipment evaluation, arc flash analysis and arc flash labels containing at a minimum, equipment name, voltage/current rating, available incident energy and flash protection boundary.

The selected firms field service Engineer shall perform data gathering for analysis completion and device settings, perform device setting as recommended by the analysis and will furnish and install the arc flash labels. The components worst case incident energy will be considered the available arc flash energy at that specific point in the system. Submit three written copies and one electronic copy of the report.

CONSTRUCTION METHODS

CONSTRUCTION OF VAULT AND PREFABRICATED METAL HOUSING

109-4.1 General. No construction of Vault on this project.

109-4.2 Foundation and walls.

- **a. Reinforced concrete construction.** Not Required
- **b. Brick and concrete construction.** Not Required.
- **c. Concrete masonry construction.** Not Required.

109-4.3 Roof. Not Required

109-4.4 Floor. Not Required.

109-4.5 Floor drain. Not Required.

109-4.6 Conduits in floor and foundation. Not Required.

109-4.7 Doors. Not Required.

109-4.8 Painting. Not Required.

109-4.9 Lights and switches. Not Required.

INSTALLATION OF EQUIPMENT IN VAULT OR PREFABRICATED METAL HOUSING

109-5.1 General. The Contractor shall furnish, install, and connect all equipment, equipment accessories, conduit, cables, wires, buses, grounds, and support necessary to ensure a complete and operable electrical distribution center for the airport lighting system as specified herein and shown in the plans. When specified, an emergency power supply and transfer switch shall be provided and installed.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and local code agency having jurisdiction. All electrical work shall comply with the NEC and local code agency having jurisdiction including the separation of under 600V work from 5,000V work."

109-5.2 Power supply equipment. Transformers, regulators, booster transformers, and other power supply equipment items shall be furnished and installed at the location shown in the plans or as directed by the RPR. The power supply equipment shall be set on steel "H" sections, "I" beams, channels, or concrete blocks to provide a minimum space of 1-1/2 inch (38 mm) between the equipment and the floor. The equipment shall be placed so as not to obstruct the oil-sampling plugs of the oil-filled units; and name-plates shall, so far as possible, not be obscured.

If specified in the plans and specifications, equipment for an alternate power source or an emergency power generator shall be furnished and installed. The alternate power supply installation shall include all

equipment, accessories, an automatic changeover switch, and all necessary wiring and connections. The emergency power generator set shall be the size and type specified.

109-5.3 Switchgear and panels. Oil switches, fused cutouts, relays, transfer switches, panels, panel boards, and other similar items shall be furnished and installed at the location shown in the plans or as directed by the RPR. Wall or ceiling mounted items shall be attached to the wall or ceiling with galvanized bolts of not less than 3/8-inch (9 mm) diameter engaging metal expansion shields or anchors in masonry or concrete vaults.

109-5.4 Duct and conduit. The Contractor shall furnish and install square-type exposed metallic ducts with hinged covers for the control circuits in the vault. These shall be mounted along the walls behind all floor-mounted equipment and immediately below all wall-mounted equipment. The hinged covers shall be placed to open from the front side with the hinges at the front bottom.

Wall brackets for square ducts shall be installed at all joints 2 feet (60 cm) or more apart with intermediate brackets as specified. Conduit shall be used between square ducts and equipment or between different items of equipment when the equipment is designed for conduit connection. When the equipment is not designed for conduit connection, conductors shall enter the square-type control duct through insulating bushings in the duct or on the conduit risers.

109-5.5 Wiring and connections. The Contractor shall make all necessary electrical connections in the vault per the wiring diagrams furnished and as directed by the RPR. In wiring to the terminal blocks, the Contractor shall leave sufficient extra length on each control lead to make future changes in connections at the terminal block. This shall be accomplished by running each control lead the longest way around the box to the proper terminal. Leads shall be neatly laced in place.

109-5.6 Marking and labeling. All equipment, control wires, terminal blocks, etc., shall be tagged, marked, or labeled as specified below:

a. Wire identification. The Contractor shall furnish and install self-sticking wire labels or identifying tags on all control wires at the point where they connect to the control equipment or to the terminal blocks. Wire labels, if used, shall be of the self-sticking preprinted type and of the manufacturer's recommended size for the wire involved. Identification -markings designated in the plans shall be followed. Tags, if used, shall be of fiber not less than 3/4 inch (19 mm) in diameter and not less than 1/32 inch (1 mm) thick. Identification markings designated in the plans shall be stamped on tags by means of small tool dies. Each tag shall be securely tied to the proper wire by a nonmetallic cord.

b. Labels. The Contractor shall stencil identifying labels on the cases of regulators, breakers, and distribution and control relay cases with white oil paint as designated by the RPR. The letters and numerals shall be not less than one inch (25 mm) in height and shall be of proportionate width. The Contractor shall also mark the correct circuit designations per the wiring diagram on the terminal marking strips, which are a part of each terminal block.

109-5-7 Constant Current Regulators. The Contractor shall furnish and install Constant Current Regulators Ferroresonant type with voltage and size as indicated on the plans. Contractor shall design structural support for CCR if a stacking type of CCR is indicated on the plans or provide a stacking support that is designed by the manufacturer for the application.

METHOD OF MEASUREMENT

109-6.3 Constant Current Regulators to be paid for under this item shall consist of all equipment installed, conduit, and conductors, panelboard breakers, and all work required in the vault to make the CCR unit complete and ready for operation within the existing vault. This includes any control relays to make the CCR operate as indicated on the plans.

BASIS OF PAYMENT

109-7.1 Constant Current Regulators Payment will be made at the contract unit price for each completed and accepted installation of CCR. This price shall be full compensation for furnishing all materials and for

all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item L-109-7.1	7.5kW CCR Ferroresonant type with S-1 internal cut out - per each unit
Item L-109-7.2	15kW CCR Ferroresonant type with S-1 internal cut out - per each unit

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-3	Specification for L-821, Panels for Remote Control of Airport Lighting
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-10	Specification for Constant Current Regulators and Regulator Monitors
AC 150/5345-13	Specification for L-841 Auxiliary Relay Cabinet Assembly for Pilot Control of Airport Lighting Circuits
AC 150/5345-49	Specification L-854, Radio Control Equipment;
AC 150/5345-53	Airport Lighting Equipment Certification Program

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/ICEA S-85-625	Standard for Telecommunications Cable Aircore, Polyolefin Insulated, Copper Conductor Technical Requirements

ASTM International (ASTM)

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM C62	Standard Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)
ASTM C90	Standard Specification for Loadbearing Concrete Masonry Units
ASTM D2823	Standard Specification for Asphalt Roof Coatings, Asbestos Containing
ASTM D4479	Standard Specification for Asphalt Roof Coatings – Asbestos-Free

Commercial Item Description (CID)

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation) Institute of Electrical and Electronic Engineers (IEEE)
IEEE 1584	Guide for Performing Arc-Flash Hazard Calculations

Master Painter's Institute (MPI)

MPI Reference #9	Alkyd, Exterior, Gloss (MPI Gloss Level 6)

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit – Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings

UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-70E	Standard for Electrical Safety in the Workplace
NFPA-780	Standard for the Installation of Lightning Protection Systems

END OF ITEM L-109

Item L-110 Airport Underground Electrical Duct Banks and Conduits

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits and removal of existing duct banks. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 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 requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

e. 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 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.

110-2.2 Steel conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

110-2.3 Plastic conduit. Plastic conduit and fittings-shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

a. Type I–Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.

b. Type II–Schedule 40 PVC suitable for either above ground or underground use.

c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.

d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Not used.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 Flowable backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches per 100 feet. On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the duct bank shall not be less than 18 inches below the

subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet.

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. Flowable backfill may alternatively be used

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet.

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet beyond the edges of the pavement or 3 feet beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches wide tape, 8 inches minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch wide tape only for single conduit runs. Utilize the 6-inch wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches nor more than 12 inches wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and lot less than 6 inches apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet square and 4 - 6 inches thick extending approximately one inch above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches high and 3 inches wide with width of stroke 1/2 inch and 1/4 inch deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches (200 mm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over

them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include fertilizing and seeding shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

110-3.8 Ownership of removed cable. Removed cable shall become the property of the Contractor. The Contractor shall have sole responsibility for the removal, temporary storage, and disposal of removed cable, conduit, wire, and associated debris.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and restoration, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1	Electrical Duct Bank, 1W-2" Schedule 40 PVC, Concrete Encased - per linear foot

Item L-110-5.2	Electrical Duct Bank, 1W-2" Schedule 40 PVC, Native Backfill - per linear foot
Item L-110-5.3	Electrical Duct Bank, 2W-4" Schedule 40 PVC, Native Backfill - per linear foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circular (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit - Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 1242	Electrical Intermediate Metal Conduit Steel
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit

END OF ITEM L-110

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Item L-115 Electrical Manholes and Junction Structures

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR including removal of existing manholes and junction structures as shown on the plans.

EQUIPMENT AND 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 RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

e. 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. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. Cast-in-place concrete structures shall be as shown on the plans.

115-2.3 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans.

Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand **1,000,000** lb. aircraft loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

Threaded inserts and pulling eyes shall be cast in as shown on the plans.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.

115-2.4 Junction boxes. Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch thickness for L-867 and 3/4-inch thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.6 Concrete. All concrete used in structures shall conform to the requirements of Item P-610, Concrete for Miscellaneous Structures.

115-2.7 Frames and covers. The frames shall conform to one of the following requirements:

a. ASTM A48 Gray iron castings

b. ASTM A47 Malleable iron castings

c. ASTM A27 Steel castings

d. ASTM A283, Grade D Structural steel for grates and frames

e. ASTM A536 Ductile iron castings

f. ASTM A897 Austempered ductile iron castings

All castings specified shall withstand a maximum tire pressure of 250 psi and maximum load of 100,000 lbs.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

Each manhole shall be provided with a "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).

115-2.8 Ladders. Ladders, if specified, shall be galvanized steel or as shown on the plans.

115-2.9 Reinforcing steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

115-2.10 Bedding/special backfill. Bedding or special backfill shall be as shown on the plans.

115-2.11 Flowable backfill. Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.

115-2.12 Cable trays. Cable trays shall be of galvanized steel, plastic, **or** aluminum. Cable trays shall be located as shown on the plans.

115-2.13 Plastic conduit. Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.

115-2.14 Conduit terminators. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.15 Pulling-in irons. Pulling-in irons shall be manufactured with 7/8-inch diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7 strand, 1/2-inch diameter with an ultimate strength of 270,000 psi). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

115-2.16 Ground rods. Ground rods shall be one piece, tinned copper clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8 feet long nor less than 5/8 inch in diameter.

CONSTRUCTION METHODS

115-3.1 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 RPR without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the RPR. 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 Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

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 RPR. 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 effected 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 RPR. Structures shall be placed after the RPR 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 inches of sand or a material approved by the RPR 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 P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR 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 RPR 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 approval 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 RPR 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. Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.

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 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 RPR may direct 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 in thickness measured after compaction to the density requirements in Item P-152. 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 RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR 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 RPR 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 Grounding. A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches above the floor. The ground rod shall be installed within one foot of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall

drill a 4-inch diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtails shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.

115-3.10 Cleanup and repair. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per MIL-P-21035. Surfaces shall be prepared and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 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, grading and restoration shall be considered incidental to the respective Item L-115 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.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 Inspection. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

115-3.13 Manhole elevation adjustments. The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise or lower the top of each manhole to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.

The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. The Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.

The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.

115-3.14 Duct extension to existing ducts. Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall

be standard manufactured connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

METHOD OF MEASUREMENT

115-4.1 Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following items shall be included in the price of each unit: All required excavation and dewatering; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing.

BASIS OF PAYMENT

115-5.1 The accepted quantity of electrical manholes and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, 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

Payment will be made under:

Item L-115-5.1	Aircraft Rated Electrical Handhole, 4'x4'x30" with Spring Assist - Per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description (CID)

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates

ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C206	Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83	In Pavement Light Fixture Bolts

Mil Spec

MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

END OF ITEM L-115

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Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not performs as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

e. 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 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.

EQUIPMENT AND MATERIALS

125-3.1 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

125-3.2 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

125-3.3 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-3.4 Cable Connections. Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

125-3.5 Retroreflective Markers. Not required.

125-3.6 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

Lights

Type	Class	Mode	Style	Option	Base	Filter (Color)	Transformer	Notes
L-861(L)	2	1	N/A	4	L-867, SIZE B, CLASS IB	W/W or W/Y or Y/W as indicate on plans	L-830 per manufacturer requirements	LED, 14" H
L-861SE(L)	2	1	N/A	4	L-867, SIZE B, CLASS IB	G/R	L-830 per manufacturer requirements	LED, 14" H
L-861T(L)	2	1	N/A	4	L-867, SIZE B, CLASS IB	B	L-830 per manufacturer requirements	LED, 14" H

125-3.7 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

Signs

Type	Size	Style	Class	Mode	Notes
L-858	1	3	2	2	

125-3.8 Runway End Identifier Light (REIL). The REIL fixtures shall meet the requirements of AC 150/5345-51, Type L-849I (L), Style E.

125-3.9 Precision Approach Path Indicator (PAPI). The light units for the PAPI shall meet the requirements of AC 150/5345-28, Type L-880(L) (4-box), Style B (current powered), Class II. Baffles to be provided for adjustment if required.

125-3.10 Circuit Selector Cabinet. Not Required.

125-3.11 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867, Class 1B , Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures. This item shall be considered incidental to the installation of any light fixture or other item where it is required.

125-3.12 Isolation Transformers. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47. This item shall be considered incidental to the installation of any light fixture or other item where it is required.

INSTALLATION

125-4.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

125-4.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-4.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

125-4.4 Elevated and In-pavement Lights. Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

METHOD OF MEASUREMENT

125-5.1 Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR.

125-5.2 Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR.

125-5.3 Runway End Identifier Lights shall be measured by each system installed as a completed unit in place, ready for operation, and accepted by the RPR.

125-5.4 Precision Approach Path Indicator shall be measured by each system installed as a completed unit, in place, ready for operation, and accepted by the RPR.

BASIS OF PAYMENT

125-6.1 Payment will be made at the Contract unit price for each complete runway or taxiway light installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-6.2 LED L-858(L) Airfield Guidance Sign will be paid at the Contract unit price for each item installed and accepted by the RPR. This price shall include full compensation for furnishing all materials, labor, equipment, excavation, preparation, assembly, associated sign base, concrete, cover, hardware, sign, lamps, transformer, wiring, grounding cable, ground rods, testing, panel swapping where indicated, incidentals, and associated items as required for a complete and operating system.

125-6.3 Payment will be made at the Contract unit price for each complete runway end identification light installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-6.4 Payment will be made at the Contract unit price for each complete precision approach path indicator (PAPI) installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

Payment will be made under:

Item L-125-6.1a	LED L-861 (L) Medium Intensity Elevated Runway Edge Light and Base Can, Complete – Per Each
Item L-125-6.1b	LED L-861T (L) Medium Intensity Elevated Taxiway Edge Light and Base Can, Complete – Per Each
Item L-125-6.1c	LED L-861SE (L) Medium Intensity Elevated Threshold/End Light and Base Can, Complete – Per Each
Item L-125-6.2.1	S-101 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.2	S-102 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.3	S-103 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.4	S-104 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.5	S-105 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.6	S-106 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.7	S-107 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.8	S-108 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.9	S-109 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.10	S-110 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.11	S-111 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.12	S-112 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.13	S-113 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.14	S-114 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.15	S-115 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.16	S-116 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.17	S-117 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.18	S-118 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.19	S-119 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.20	S-120 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.21	S-121 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.22	S-122 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.23	S-123 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.24	S-124 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.25	S-125 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.26	S-126 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.2.27	S-127 – LED L-858(L) Airfield Guidance Sign, Complete – Per Each
Item L-125-6.3	LED L-880 Precision Approach Path Indicator, Style B, Class I, Complete – Per Each Set
Item L-125-6.4	LED L-849I (L), Style E, Runway End Identifier Light, Complete – Per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

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Item P-152 Excavation, Subgrade, and Embankment

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste areas as shown on the plans. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches, to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches in their greatest dimension will not be permitted in the top 6 inches of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate or agree to any adjustments made to the original ground lines.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes as shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of at locations shown on the plans. The cost is incidental to this item. The excavated area shall be backfilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary backfill will constitute a part of the embankment.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor as indicated on the plans. All existing foundations shall be excavated at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Borrow areas are not required.

152-2.4 Drainage excavation. Drainage excavation not required.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, perform subgrade compaction as shown on the plans utilizing ASTM D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. Control strip not required.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests

verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within ±2% of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The Contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D 1557. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the Contractor for every 3,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D1557. Under all areas to be paved, the embankments shall be compacted as shown on the plans as determined by ASTM D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches which shall be prepared for a seedbed in accordance with Item T-901.

The in-place field density shall be determined in accordance with ASTM 6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches in their greatest dimensions will not be allowed in the top 12 inches of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock,

cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet (60 cm) in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. Before start of embankment, and after compaction is completed, the subgrade area shall be proof rolled with a Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 80/100/150 psi in the presence of the RPR. Apply a minimum of 25% coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch or show permanent deformation greater than 1 inch shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to depths and percentages as shown on the plans as determined by ASTM D1557. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D1557.

The material to be compacted shall be within ±2% of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the ¾ inch sieve, follow the methods in ASTM D1557. Tests for moisture content and compaction will be taken at a minimum of 3,000 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. **Smoothness.** The finished surface shall not vary more than +/- ½ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. **Grade.** The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. No direct payment will be made for topsoil.

METHOD OF MEASUREMENT

152-3.1 There will be no separate measurement for work performed under this specification. All work is considered incidental to the cost of the item requiring the work.

Stockpiled material shall not be measured for payment.

BASIS OF PAYMENT

152-4.1 Unclassified excavation. No payment shall be made for work performed under this specification. All work is considered incidental to the cost of the item requiring the work.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))

ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

Item P-153 Controlled Low-Strength Material (CLSM)

DESCRIPTION

153-1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

153-2.1 Materials.

a. Cement. Cement shall conform to the requirements of ASTM C150 Type II, or ASTM C595 Types IS, IP, IL, or IT.

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch	100
No. 200	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

MIX DESIGN

153-3.1 Proportions. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

153-4.1 Placement.

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F and rising. Mixing and placement shall stop when the air temperature is 40°F and falling or when the anticipated air or ground temperature will be 35°F or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F.

153-4.2 Curing and protection

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F, the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

153-4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

153-5.1 Measurement.

No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

BASIS OF PAYMENT

153-6.1 Payment.

No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

END OF ITEM P-153

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion of either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix. If expansion of either the coarse or fine aggregate exceeds 0.08% at 14 days,limit the alkali of the concrete to be less than or equal to 3.0 lb per cubic yard (1.8 kg per cubic meter), calculated in accordance with EB 106.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized. If expansion of either the coarse or fine aggregate exceeds 0.08% at 14 days, limit the alkali of the concrete to be less than or equal to 3.0 lb per cubic yard (1.8 kg per cubic meter), calculated in accordance with FAA EB 106.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 ½ inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
¾ inch (19 mm)	67
½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ATSM C150 Type V, or ASTM C595 Types IS, IP, IL, or IT.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751.

610-2.9 Joint filler. Not used.

610-2.10 Steel reinforcement. Reinforcing shall consist of welded steel fabric conforming to the requirements of A1064.

610-2.11 Materials for curing concrete. Curing materials shall conform to ASTM C309.

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard. The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F nor more than 100°F. The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet. Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F, follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85ºF, follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The Contractor will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

610-6.1 Concrete shall be considered incidental to the work performed and no separate payment shall be made. This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method) ASTM C1365 Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

Item P-620 Runway and Taxiway Marking

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms "paint" and "marking material" as well as "painting" and "application of markings" are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer's certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer's surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Table 1. Marking Materials

Paint[1]				Glass Beads[2]	
Type	**Color**	**Fed Std. 595 Number**	**Application Rate Maximum**	**Type**	**Application Rate Minimum**
Type I	White	37925	115 ft^2/gal	N/A	N/A
Type I	Yellow	33538 or 33655	115 ft^2/gal	Type III	10 lb/gal
Type I	Black	37038	115 ft^2/gal	N/A	N/A

[1] See paragraph 620-2.2a

[2] See paragraph 620-2.2b

a. Paint. Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type I, Gradation A .

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminates that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. A period of **30** days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings.

Preformed thermoplastic pavement markings not used.

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Reflectance shall be checked at night.

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1a The quantity of markings to be paid for shall be measured by lump sum, inclusive of surface preparation, layout, paint, and reflective media.

620-4.1b The quantity of reflective media shall not be measured separately.

BASIS OF PAYMENT

620-5.1 Payment for markings shall be made at the contract price for by lump sum. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

Payment will be made under:

Item P-620-5.1 Marking – per lump sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24	Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings
29 CFR Part 1910.1200	Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne
FED STD 595	Colors used in Government Procurement

Commercial Item Description

A-A-2886B	Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1	Standards for Airport Markings
AC 150/5320-12	Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620

APPENDIX

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Appendix

Construction Safety and Phasing Plan (CSPP)

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Jacqueline Cochran Regional Airport

CONSTRUCTION SAFETY AND PHASING PLAN

Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation

Prepared by

Mead & Hunt

March 2023

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1. OVERVIEW

This document presents the Construction Safety and Phasing Plan (CSPP) for the Runway 17-35: Electrical, Lighting, and PAPI Rehabilitation (Project) at Jacqueline Cochran Regional Airport (Airport) being performed under a Federal Aviation Administration (FAA) Airport Improvement Program (AIP) Grant Program. The Airport anticipates authorizing onsite work to commence in and complete during 2024, pending execution and approval of the grant documents by the FAA.

The objective of this CSPP is to provide a general outline of the construction safety and phasing provisions for working in or near the Air Operations Area (AOA) contained in the bid documents (Project Plan Drawings and Specifications), and to explain how those provisions will be implemented during construction.

2. PURPOSE

This CSPP provides single source procedural information for all key Project personnel to use during construction. This CSPP defines the specific responsibilities of the Airport Operator, the Contractor, Airport tenants, and the Resident Project Representative (RPR). This CSPP includes the FAA's Safety / Phasing Plan checklist that was utilized in preparing the construction documents, provisions for Airport safety and security, operational limitations on construction activities, identification of potential hazards and the impact those hazards may have on airfield and construction activities, and construction phasing requirements to minimize impact on airfield operations.

Requirements for maintaining operational safety during construction are in conformance with FAA Advisory Circular (AC) 150/5370-2G, "*Operational Safety on Airports During Construction*." The Project specific safety and phasing provisions for the Project elements are shown on the drawings.

3. CONSTRUCTION SAFETY AND PHASING RESPONSIBILITIES

A. AIRPORT OPERATOR

The Airport Operator is responsible for operational safety on the Airport at all times. The County of Riverside Transportation and Land Management Agency – Aviation Division is the Airport Operator. The Operator will issue Notice to Air Missions (NOTAMS) whenever construction activities occur in the AOA. The Operator will provide oversight of all construction activities and coordinate those activities with the Airport users (pilots) and Airport tenants. The Operator will hold weekly construction progress and safety meetings. During these meetings, operational safety will be reviewed, and an action plan will be developed, as needed, to address any discrepancies in safety that need to be corrected. The Operator shall require and approve a Safety Plan Compliance Document (SPCD) from the Contractor prior to issuing the Notice to Proceed (NTP) for Construction. The SPCD outline and a sample form are attached to this report as *Supplement 1*.

B. CONSTRUCTION CONTRACTOR

The Contractor will be determined by a competitive bidding process. The Contractor's responsibilities for safety and phasing are detailed and defined in the Project Contract Documents. The Contractor will be required to attend weekly progress and safety meetings and to correct any discrepancies. The Contractor is required to prepare and submit a completed SPCD to the Operator for approval prior to receiving the NTP for Construction.

C. AIRPORT TENANTS

The Airport will notify Airport tenants of all pending construction activities that impact them and advise the tenants of planned pavement closures and other activities in the AOA that will affect aircraft operations. Tenants will be invited to attend weekly construction progress and safety meetings when appropriate.

D. RESIDENT PROJECT REPRESENTATIVE (RPR)

As part of the inspection and quality assurance processes, the Contractor will monitor construction safety on a daily basis, utilizing the construction Project "Daily Safety Inspection Checklist" (see *Supplement 2*). As part of the Project Construction Administration Team (CA Team), the RPR will review the checklist findings and verify the corrective action implementation of any discrepancies in safety.

4. COORDINATION

A. DESIGN PROGRESS MEETINGS

Safety phasing conferences were held during the design development phases. These meetings were held to help avoid possible conflicts between construction activities and the operation of the Airport.

B. PRE-BID CONFERENCE

A Pre-bid Conference will be held to introduce the Project and Project team to the potential construction contractors. During this meeting, the team will notify potential bidders of the unique procedures and safety measures required by the contract.

C. PRE-CONSTRUCTION CONFERENCE

A Pre-Construction Conference will be held as soon as practicable after the contract has been awarded, and before issuance of the NTP. The Pre-Construction Conference participants may include: the Operator, CA Team, RPR, Airport management and operations personnel, testing laboratory representative, Contactor and subcontractor(s), Contractor's Project superintendent, Contractor's Project clerk, Airport users, utility companies, Airport Rescue and Fire Fighting (ARFF) personnel, local agencies affected by the proposed construction, and an FAA representative.

D. CONTRACTOR PROGRESS MEETINGS

Contractor progress meetings will be held weekly for the duration of construction. Operational safety will be a standing agenda item for discussion during progress meetings throughout the Project. Date, time, and location of the progress meetings will be determined at the Pre-Construction Meeting.

Contractor shall update the master Project schedule weekly, or as required, due to significant schedule changes, if they occur. For the weekly coordination meetings, Contractor shall provide a detailed weekly lookahead schedule and a three-week lookahead schedule. The one-week lookahead schedule shall include all items that require coordination with Operator staff, such as area and shutdown requests.

E. SCOPE OR SCHEDULE CHANGES

Any changes to the Project may necessitate revisions to the CSPP and may require review and approval by the Operator and the FAA.

F. FAA AIR TRAFFIC ORGANIZATION (ATO) COORDINATION

The Airport has no control tower. The Airport currently has the following facilities: Pilot Controlled Lighting, MIRL (Runway 12/30 and Runway 17/35), REIL (Runway 17, Runway 35), VASI (Runway 35), and PAPI (Runway 35, Runway 12, Runway 30). This Project will not impact FAA-maintained NAVAIDS as everything is locally owned.

G. PROJECT SUPERINTENDENT REQUIRED

At all times when construction activities are being performed on the Project, the prime Contractor must have a superintendent on-site or immediately available who is authorized to make decisions regarding the operations and safety of all personnel employed by the Contractor and subcontractors. The designated superintendent must meet with the RPR each day to coordinate activities for the day's work.

H. AIRPORT FAMILIARIZATION MEETING ON FIRST DAY OF CONSTRUCTION

Immediately prior to deploying on-site the first day of construction, the County, RPR, and Contractor's on-site representative shall meet at the Project site. Topics of discussion will include a safety briefing, general familiarization with Airport Operations, changes to contact-lists, and any issues of concern raised since the Pre-Construction meeting.

This is not intended as a replacement for the Pre-Construction meeting, but rather as a supplement, to verify that all on-site personnel are familiar with the Airport's procedures and the Project Construction Documents.

5. CONSTRUCTION WORK AREAS, SAFETY, AND PHASING

The Project has been divided into a Mobilization Phase and a Construction Phase. The Construction Phase has been divided into multiple "Work Areas" to separate the construction areas, and to define the sequence of work associated with the Project. A separate NTP will be issued for Mobilization and Construction. The work efforts and affected airfield areas within the AOA are detailed below. **These are also shown on the CSPP Plan Drawings.** If the Contractor fails to meet any of these time limitations, liquidated damages will be assessed as described in the Project Specifications.

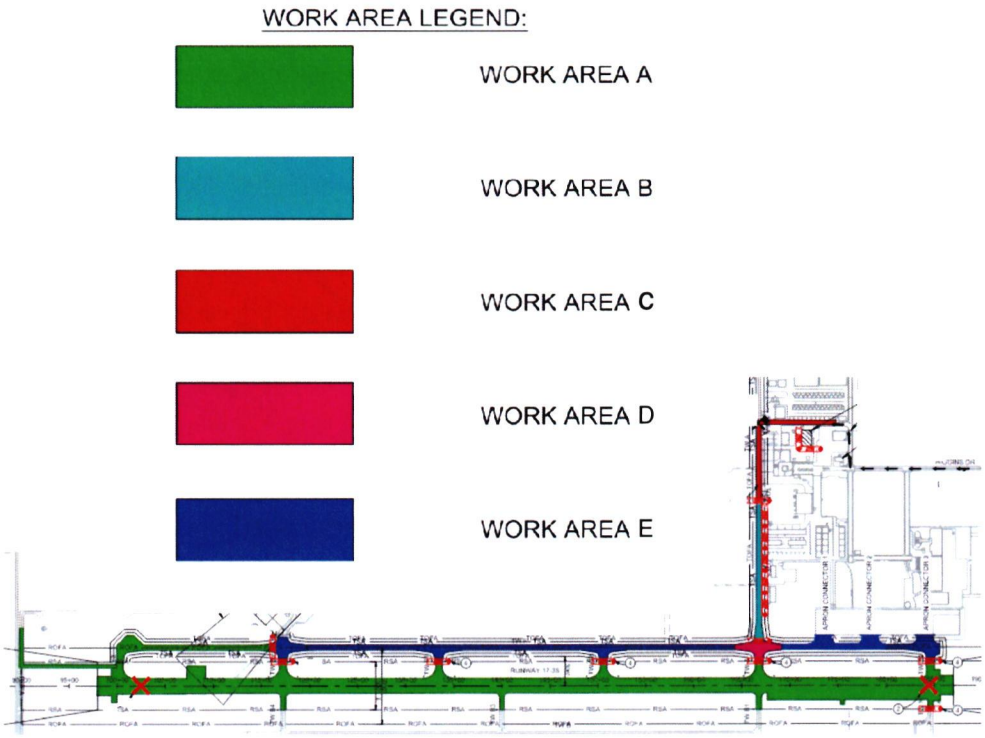
A. MOBILIZATION AND CONSTRUCTION WORK AREAS AND DURATIONS

The areas and operations affected by the construction schedule are identified in the construction drawings. Table 1, below, shows the anticipated operational impacts to the Airport throughout the duration of the Project. The Contractor is required to coordinate with the Airport prior to impacting any Airport operations. See *Supplement 3* for more details.

B. MOBILIZATION AND CONSTRUCTION WORK AREAS AND DURATIONS

The areas and operations affected by the construction schedule are identified in the construction drawings. The chart and Work Area legends below show the anticipated operational impacts to the Airport throughout the duration of the Project. The Contractor is required to coordinate with the Airport prior to impacting any Airport operations. See *Supplement 3* for more details.

PHASE	WORK AREA	DURATION	WORK	PAVEMENT CLOSURES
MOB	N/A	30 DAYS	ESTABLISH CONTRACTOR YARD, PROVIDE SUBMITTALS	NONE
0	A, B, C, D	7 DAYS CONCURRENT WITH MOBILIZATION, WORK HOURS 7 AM TO 7 PM	INVESTIGATE EXISTING CIRCUIT AND CONDUIT FOR RW 17-35, TW A, TW F, RW 35 PAPI, RW 17 VASI, AND RW 17-35 REILS.	NONE
1	B, C	7 DAYS, WORK HOURS 7 AM TO 7 PM	REMOVE CONDUCTORS, DEMOLISH CONDUITS, INSTALL CONDUITS AND CONDUCTORS	TW A (BETWEEN WARHAWK WAYAND TW F)
2	A, B, C	35 DAYS, WORK HOURS 10 PM TO 7 AM	REMOVE BASE CANS, CONDUCTOR, SIGNS AND LIGHTS, INSTALL BASE CANS, CONDUCTOR, SIGNS AND EXISTING LIGHTS	RW 17-35, TW A (RW 17-35 CONNECTOR), TW N, TW B, TW B1, TW B3, TW B4, TW D (RW 17-35 CONNECTOR), TW F (SOUTH OF D), TW F1, TW F2, TW F3, TW F4
3	A, B, C	2 DAYS (48 HOURS), WORK HOURS 7 AM TO 7 AM	REMOVE BASE CANS, CONDUCTOR, AND LIGHTS, INSTALL BASE CANS, CONDUCTOR, AND EXISTING LIGHTS	RW 17-35, TW A (RW 17-35 CONNECTOR), TW N, TW B, TW B1, TW B3, TW B4, TW D (RW 17-35 CONNECTOR), TW F (SOUTH OF D), TW F1, TW F2, TW F3, TW F4
4	A, B, C	7 DAYS, WORK HOURS 10 PM TO 7 AM	REMOVE EXISTING LIGHTS, INSTALL NEW LIGHTS	RW 17-35, TW A (RW 17-35 CONNECTOR), TW N, TW B, TW B1, TW B3, TW B4, TW D (RW 17-35 CONNECTOR), TW F (SOUTH OF D), TW F1, TW F2, TW F3, TW F4
5	A, B, C	10 DAYS, WORK HOURS 10 PM TO 7 AM	REMOVE EXISTING PAPI, VASI, AND REILS, INSTALL NEW PAPIS AND REILS	RW 17-35, TW A (RW 17-35 CONNECTOR), TW N, TW B, TW B1, TW B3, TW B4, TW D (RW 17-35 CONNECTOR), TW F (SOUTH OF D), TW F1, TW F2, TW F3, TW F4



C. APPROACH / DEPARTURE SURFACES

The dimension, location, and slope criteria for the approach/departure surfaces impacting Taxiway G are described in *Section 20 – Protection of Runway and Taxiway Safety Areas*. For this Project, the runway approach/departure surfaces are unaffected but are subject to the equipment height limitation described in *Section 21 – Other Limitations on Construction*.

6. AREAS AND OPERATIONS AFFECTED BY CONSTRUCTION

A. IDENTIFICATION OF AFFECTED AREAS

The Contractor is required to coordinate with the Airport prior to impacting any Airport operations. See *Supplement 3* for more details.

B. MITIGATION OF EFFECTS

Mitigations to runway and taxiway operations are as shown on the CSPP Plan Drawings. Of note is the concern for construction vehicles on Taxiway F and Runway 35 in the Runway 30 approach. As vehicles will penetrate the approach surface, Runway 30 will require closure to mitigate the safety risk to both air traffic and the Contractor. As both runways will be closed, this effectively shuts down the Airport during construction operations within the Runway 30 approach. The Airport will be open during the day.

7. PROTECTION OF NAVIGATION AIDS (NAVAIDS)

There will be impacts to Navigation Aids (NAVAIDS) during this Project when construction elements require the shutdown of the Runway. The contractor shall prepare lock-out/tag-out procedures that require the disabling of Runway and Taxiway lights (including edge lights, threshold lights, REILs, PAPIs and VASIs) for closed runways. In concert with the lighted X's, this is the required to ensure runway closure and avoid pilot confusion. Lock-out/tag-out will be the sole responsibility of the Contractor. The Contractor shall replace in-kind any fixtures or signage damaged by the contractor's operation.

There are specific phasing requirements related to the PAPI / VASI decommissioning and PAPI recommissioning. See Drawings and Specifications for more detailed information as the timeline for these activities is contingent on an FAA flight-check date that will not be known until construction commences.

8. CONTRACTOR ACCESS

A. LOCATION OF STOCKPILED CONSTRUCTION MATERIALS

Location of stockpiled materials and equipment storage shall be in the staging areas or as approved by the Operator. Stockpiling materials and equipment outside the staging areas shall receive prior approval from the Operator and will be subjected to the restrictions described in this paragraph. Stockpiled materials and equipment storage are not permitted within the RSA or Obstacle Free Zone (OFZ) and shall not be placed within the Object Free Area (OFA) of an operational runway. See *Section 21 – Protection of Runway and Taxiway Safety Areas* for requirements of stockpiled materials inside the Runway Object Free Area (ROFA). Stockpiles shall be restricted to a maximum height of 15 feet. Stockpiled material shall meet the requirements of *Section 9 – Wildlife Management* to prevent the stockpile location(s) from becoming wildlife attractants.

B. CONTRACTOR'S DESIGNATED REPRESENTATIVE

The Contractor shall inform its supervisors and workmen of all Airport activity and operations, as well as safety requirements and security regulations, that are inherent to the Airport. The Contractor shall conduct its construction activities to conform to both routine and emergency requirements. Throughout the course of construction, the Contractor shall designate a responsible representative to be available on a 24-hour basis.

As this Project is primarily being constructed at night with Runway 17-35 reopened during the day, Contractor must have a representative competent in the previous evening's construction and Project scheduling that can make it to the site within 2-hours for the duration of the Construction phase to address any issues during non-construction periods. The Contractor shall advise the RPR of the representative's name and telephone number. The Contractor shall comply with all current safety laws, ordinances, and regulations as they apply to this contract.

C. VEHICLE AND PEDESTRIAN OPERATIONS

1) **Construction Site Parking.**
Employees' vehicles shall be parked in the staging areas designated on the drawings. No employee vehicles will be allowed beyond the staging area limits. In areas where the staging

area is adjacent to the perimeter security fence, all vehicles shall be positioned a minimum of 10 feet away from either side of the fence.

2) **Construction Equipment Parking.**
All service and construction vehicles and/or equipment shall be parked in the staging area when not in use and shall be positioned a minimum of 10 feet away from either side of a perimeter security fence. See *Section 20 – Protection of Runway and Taxiway Safety Areas Object Free Zones, and Approach/Departure Surfaces* for further parking restrictions within safety areas and object free areas. Unless a complex setup procedure makes movement of specialized equipment infeasible, inactive equipment will not be allowed to park on a closed taxiway or runway. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the Operator must approve the request and the equipment shall be lighted in accordance with *Section 21 – Other Limitations on Construction.*

3) **Access and Haul Roads.**
The Contractor will be allowed to use only the Project security gates and haul routes shown on the drawings. Work area specific haul routes are shown on the Work Area Drawings (*Supplement 3*). Right-of-way shall be given to all emergency vehicles and aircraft sharing the haul routes with the Contractor.

Any vehicle/equipment operator requiring access to the AOA for construction will require authorization to drive on the airfield or to be escorted by a Contractor provided escort.

Any local, state, or federal permits necessary for material transport on public roads shall be obtained by the Contractor prior to the beginning of work.

Contractor must ensure all electronic gates close after accessing the site.

4) **Traffic Control Flaggers and Gate Guards.**
Traffic control personnel are necessary at all construction crossings on active airfield pavements. Traffic control personnel will be required to communicate or monitor air traffic control frequency. Every active pavement crossing shall have sweeper or vacuum equipment available to maintain a FOD-free crossing. The Contractor shall log all entering and exiting traffic. The Contractor shall staff and maintain AOA security as follows:

- The Contractor shall provide Gate Personnel at any AOA access gate used by the Contractor whenever unlocked.
- Construction traffic shall not back up or create delays nor impede access to the airfield or public roadways.
- Contractor shall keep a record of all contractor/subcontractor vehicles on site. Bills of laden, or similar items, are acceptable if they meet these general conditions and can be reproduced upon request. Items of record shall include the following:
    - Date
    - Driver's Name
    - Vehicle Number
    - Company Name

5) **Marking and Lighting of Vehicles.**
Only marked Contractor-owned or operated vehicles required for the proper execution of the work will be allowed in the work area. During daylight hours, all vehicles and equipment shall have an operating omni-directional amber flashing light and/or a 3-foot by 3-foot flag having a checkered pattern of international orange and white squares at least one foot on each side. All vehicles and equipment must be equipped with an omni-directional amber flashing light for all airfield activities between sunset and sunrise or when visibility is low. Vehicles within the airfield environment shall display company identification markings on at least one side of the vehicle. Identification must be discernable at 50-feet.

6) **Training requirement for AOA Vehicle Drivers.**
There will be no Operator led vehicle training requirements for vehicle drivers. Drivers shall comply with all items as indicated in this document and be familiar with the airport environments, boundary of operations, and all haul routes. Each driver on the Airport shall be briefed by superintendent on driving protocols and boundaries while driving on the Airport.

7) **Situational Awareness.**
Yield the right-of-way to moving aircraft, whether under tow or their own power, and to pedestrians. While driving or working on the airfield environment, there shall be no devices in or on the ears, other than those used to protect hearing or communicate company business. Yield the right-of-way to emergency vehicles displaying rotating beacons (other than amber) and/or using sirens and other audible emergency signals. In the event of an emergency, be prepared to move workers, vehicles, and equipment immediately at the direction of the Operator.

8) **Two-Way Radio Communication Procedures.**
All radio communications with the Common Traffic Advisory Frequency (CTAF) will be performed by Airport Operations. All activities within aircraft movement areas will require two-way radio communication. The Contractor's on-site foremen/lead/superintendents shall carry (or have immediately available) a VHF aviation radio. Frequencies that will be used by Operator personnel will be discussed at the pre-construction meeting.

9) **Airport Security.**
Any gates shall be closed and locked when not in use. Locks on multi-use gates shall be "daisy-chained" so that all keyed personnel have access. Failure to adhere to these requirements will result in the Contractor's lock privilege being removed by the Operator.

10) **Vehicle Escorting.**
Contractor shall be in-charge of escorting all personnel required to perform their work; escort will not be provided by the Construction Management firm, Operations, Maintenance or Operator personnel.

11) **Vehicle operations within AOA.**
- All motor vehicles that enter the AOA shall possess exhaust systems which are protected with screens, mufflers, or other devices adequate to prevent the escape of sparks or the propagation of flames.
- All vehicles (powered and non-powered) within the AOA shall be equipped with reflectors or lights on both front and rear ends and on the sides.

- All Contractor vehicles shall be equipped with operable yellow flashing beacons, beacons must be lighted during all periods of vehicle operation and while the vehicle is on the AOA. In addition, all contractor vehicles and equipment with such lights shall be operated with parking, taillights and headlights illuminated at all times while on the AOA.
- No person shall operate any motor vehicle or motorized equipment in the AOA of the Airport unless such motor vehicle or motorized equipment is in a safe and mechanically reliable condition for such operation.
- Any person operating equipment in the AOA shall, in addition to this section, abide by all existing FAA and other governmental rules and regulations.
- No person shall operate any motor vehicle or motorized equipment on the aircraft movement or non-movement areas of the Airport at a speed in excess of 20 miles per hour, or the posted speed limit, whichever is lower, and less where conditions warrant, unless otherwise specified. Designated motor vehicle drive lanes shall be utilized where provided, unless specific authorization to the contrary is given by the Engineer.
- All aircraft and emergency vehicles have priority over Contractor vehicles. Contractor vehicles shall yield right-of-way to aircraft and emergency vehicles. Contractor shall ensure that under no circumstances will any contractor or subcontractor or other vehicle associated with the job pass beneath any part of an aircraft or loading bridge or block the access to any parking gate or delay any aircraft movement.
- Vehicles shall remain within established drive lanes. It is prohibited to use runways or taxiways or adjacent field areas unless specifically indicated on the drawings. It is emphasized that the Contractor's authority to operate does not extend to active aircraft movement area, unless indicated in the drawings. The Contractor shall operate along established haul routes with prior approval of the Engineer.
- Contractor vehicles shall not deviate from approved haul routes specified on the drawings. No crossover between construction sites is allowed. To move from one construction site to another, vehicles must exit the AOA via the approved haul route and access point and re-enter through the approved access gate and haul route for the next construction site.
- Spoil covers shall be used whenever trucks are loaded and operating on Airport property. Trucks with obstructed views to the rear must have a functional back-up alarm at all times.

12) **Vehicle Operators.**
All drivers operating vehicles on Airport property must carry a valid United States driver's license on his person, appropriately endorsed for the type of equipment being operated.

9. WILDLIFE MANAGEMENT

A. TRASH

Receptacles shall be provided by the Contractor and equipped with metal, canvas, or plastic covers. Food scraps or other trash may not be disposed on the ground and must be collected and placed in the covered receptacles so as not to attract wildlife.

B. STANDING WATER

Staging areas, stockpile areas, and the work area shall be graded to drain to avoid attracting wildlife.

C. TALL GRASS AND SEEDS

Not applicable for this Project.

D. POORLY MAINTAINED FENCING AND GATES

Fences and/or gates left open and unattended can allow undesired wildlife inside the Airport perimeter fence. Refer to *Section 8 – Contractor Access* for requirements on maintaining the secured area of the Airport. Contractor personnel shall immediately notify the Operator of unwanted wildlife inside the Airport perimeter fence.

E. DISRUPTION OF EXISTING WILDLIFE HABITAT

Not applicable to this Project.

10. FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT

The Contractor will be required to ensure that the airfield environment is kept continuously free of construction debris, equipment and/or materials that might endanger or be ingested by an aircraft. Take extreme care to ensure no work-related debris or other loose items are allowed to be blown by wind or aircraft engine blast. The Contractor shall be responsible for any resulting damage to aircraft engines and/or other property arising from failure to secure and/or protect debris, tools, supplies, or other loose items. Following the requirements in *Section 9 – Wildlife Management* will help eliminate the potential for FOD. In areas that may result in the tracking of soil, sediments, or hazardous materials on the wheels of hauling equipment outside of the areas that are enclosed by erosion and silt/sediment control devices, the Contractor shall provide the means and methods to remove these materials prior to the vehicle exiting the controlled area. If water wash stations are used, the Contractor shall provide systems for the collection, treatment, and disposal of wheel wash water and accumulated sediment. Equipment operated on haul routes over existing pavements shall be kept free of material spillage and foreign matter at all times. Haul routes that are shared with aircraft operations shall be cleaned continuously by Operator approved methods.

Standby equipment is required to be onsite readily available and operational at all times throughout the Project and shall include, at a minimum, a self-propelled sweeper, and a water truck kept loaded at all times. Backup equipment will not be required to remain in an unproductive standby status and may be used for normal productive work.

Dust control shall be in conformance with any applicable State Standards and these Special Provisions. The Contractor shall provide the ways and means to prevent dust, grit and other waste products from becoming a nuisance in and around the working areas. The Contractor shall take action as necessary,

with the approval of the Operator, to reduce or eliminate such nuisance. The Contractor shall control dust during the entire Contract period, including holidays and weekends.

Application of water for controlling dust caused by construction operations or the passage of traffic through the work area(s) shall be applied as directed by the Operator at the Contractor's expense.

11. HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT

If shipments of hazardous material (including hazardous debris, contaminated soil or water, and hazardous waste) will be unloaded onto or loaded from Operator property, the Contractor shall have a qualified person available onsite when shipments are made and/or received who is current with U.S. Department of Transportation (DOT) approved training for the transportation of hazardous materials. Contractor shall properly characterize and manifest waste material leaving Operator property for disposal. When the waste reaches its final destination, the owner or operator of the designated and permitted treatment, storage, and disposal (TSD) facility shall sign the manifest and return a copy to the Operator within 35 days to confirm receipt.

Minor spills can be controlled by the first responder at the discovery of the spill. Use absorbent materials on small spills rather than hosing down or burying the spill. First responder should contain the spread of the spill, recover spilled materials, clean the contaminated area, and properly dispose of contaminated materials. For minor spills, consult product MSDSs for recommended actions for spills or container leaks. Additionally, MSDSs will provide emergency phone numbers and occupational health hazard information if needed.

Semi-significant spills can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. Notify the Operator of semi-significant spills. Spills should be cleaned up immediately. Contain the spread of the spill and notify the Project foreman immediately. If the spill occurs on paved or impermeable surfaces, clean up by using dry methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely. If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil. If the spill occurs during rain, cover the spill with tarps or other material to prevent contaminating runoff.

Significant / Hazardous Spills that cannot be controlled by personnel in the immediate vicinity must be reported to the local emergency response by dialing 911. In addition to 911, the Contractor shall notify the Operator, proper County officials and the state Emergency Services Warning Center. The services of a spills contractor or a HAZMAT team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staff have arrived at the job site. Other agencies which may need to be consulted include, but are not limited to, the Fire Department, the Public Works Department, the Highway Patrol, the City/Operator Police Department, and the Department of Toxic Substance.

Ensure that hazardous goods and materials delivered to or from the construction site meet applicable DOT labeling and placarding requirements. Upon request from the County, MSDSs should be supplied for all hazardous material being delivered to the site.

The storage and shipment of hazardous waste shall also comply with the requirements of this section.

It is emphasized, however, that although spills resulting from incidents or accidents should be responded to, securing the well-being of people comes first.

Good housekeeping practices should be utilized during equipment fueling and maintenance operations. Inspect fueling equipment for leaks prior to dispensing. Fueling operations shall be continuously attended while dispensing fuel. To allow adequate time for containment in the event of a spill, fueling and maintenance operations shall not be performed within 50-feet of a storm drain, inlet, ditch, surface water, wetland, etc.

12. NOTIFICATION OF CONSTRUCTION ACTIVITIES

A. RESPONSIBLE REPRESENTATIVES / POINTS OF CONTACT:

Name	Representing	Office	Cell
Edgar Ocampo	TRM Airport	(951) 538-5164	
Daniel Vasquez	TRM Airport	(951) 212-0496	
TBD	RPR	TBD	

Additional points of contact will be provided at the Pre-Construction Meeting.

B. NOTICES TO AIR MISSIONS (NOTAM):

Only the Operator may initiate or cancel a NOTAM on the Airport. Points of contact for issuing NOTAMS are as follows:

- Primary Contact (24 hours) – Edgar Ocampo
- Alternate Contact – Daniel Vasquez

C. EMERGENCY CONTACT INFORMATION:

- Emergency: DIAL 911
- California Poison Center: 1-800-222-1222
- California Poison Center: 1-800-222-1222
- California State Warning Center (CalOES): 916-845-8911

Any emergency requiring contact to these numbers shall also be immediately reported to Edgar Ocampo.

D. COORDINATION WITH ARFF PERSONNEL:

The proposed Project does not deactivate waterlines or hydrants. If during this Project it becomes necessary to block or close emergency services routes, alternate airfield emergency routes will be established. This Project is anticipated to include the use of hazardous materials normally associated with heavy highway construction, including materials related to the maintenance of equipment, asphalt paving operations, electrical equipment, and related items.

E. NOTIFICATION OF THE FAA:

1) **Part 77.**

The Project will affect navigable airspace, therefore, the Operator will file an FAA 7460-1, Notice of Proposed Construction or Alteration, for the Project. Any equipment, (cranes, graders, other equipment) used by the Contractor that exceeds the height limitation in *Section 21 – Other Limitations on Construction* must also have a 7460-1 Airspace Evaluation and Determination prior to use.

2) **NAVAIDs.**
For emergency (short notice) notification about impacts to both Airport owned and FAA owned NAVAIDs, Contractor shall have the Operator contact Edgar Ocampo.

3) **FAA owned/maintained facilities.**
No FAA-owned NAVAIDs will be affected by this Project.

F. INSPECTION REQUIREMENTS:

1) **Daily Inspections.**
Inspections should be conducted by the Contractor at least daily but more frequently, if necessary, to ensure conformance with the CSPP. These areas shall be maintained in accordance with *Section 10 – Foreign Object Debris Management.* The Operator will have the final authority in determining if the area is suitable for aircraft use. *Supplement 2* contains a safety inspection checklist that may be used by the Contractor or Operator.

2) **Final Inspections**
A final inspection shall be conducted by the Operator and Engineer prior to the commissioning of any newly constructed areas open to air traffic. The Operator will have the final authority in determining if the area is suitable for aircraft use. *Supplement 2* contains a safety inspection checklist that may be used by the Contractor or Operator.

13. UNDERGROUND UTILITIES

Contractor must notify the Underground Service Alert (Southern California) by calling either 8-1-1 or 800-422-4133 (https://www.digalert.org), and any other owners of underground utilities within the construction area or within affected public right-of-way or easements, in advance of the commencement of excavation activities. Also, notify the Operator when the call is being initiated so the Operator can provide information to Airport utilities as well.

Contractor shall not cross electrical or communication cables unless protected by approved means. In the event of interruption to field-located utility services as a result of the work, promptly notify the Operator first, and then the proper authority. Cooperate with said authority in restoring service as promptly as possible. If required, the Contractor shall install suitable temporary service until permanent repair is completed.

14. PENALTIES

The Contractor is responsible for maintaining security during construction as detailed herein. The Operator is subject to fines up to $20,000 or as determined by Federal agencies for security violations. The Contractor shall be responsible for any fines caused by his failure to observe the security requirements contained herein or required by the SPCD. Violations will be cause for the Project to be stopped and Project safety procedures evaluated. Contractor calendar days will continue to be charged,

even if the Operator ceases construction operations. The Operator will decide if and when work will continue. Enforcement of these regulations will be by the Operator and/or Airport Operations Staff.

Violations of the driving regulations may be cause for the Project to be stopped and Project safety procedures evaluated. The Operator will decide if and when work will continue. The Operator will decide if the infringing individual or party will be allowed to continue working at the Airport. Enforcement of these regulations will be by the Operator, Police and/or Airport Operations Staff.

15. SPECIAL CONDITIONS

Low visibility conditions will trigger specific safety mitigation actions outlined in this CSPP. For the purposes of this Project, low visibility conditions will exist when the prevailing visibility is less than 1 statute mile and/or the runway visual range (RVR) is less than 6,000 feet. The Operator will notify the Contractor when these conditions exist so adequate safety measures can be taken by the Contractor.

Various circumstances, such as an aircraft accident, security breach, or other unforeseen event may require suspension of the construction. The Operator will notify the Contractor when suspension of the work will be required. *See Section 12 – Notification of Construction Activities* for emergency contact information.

A vehicle / pedestrian deviation (VPD) is any entry or movement in the movement area by a vehicle or pedestrian that has not been authorized by the Operator. In the event of a VPD, the Operator reserves the right to suspend the work, or any portion thereof, and continue suspension until the completion of any investigation or evaluation by the Operator and full compliance with any corrective measures reasonably required of the Operator has been completed. In addition, the Operator may require the Contractor to provide to the Operator a written plan, satisfactory to the Operator, to demonstrate the Contractor's ability to prevent future violations. See *Section 8 – Contractor Access* for vehicle and pedestrian operations and two-way radio communication requirements.

16. RUNWAY AND TAXIWAY VISUAL AIDS

A. GENERAL

1) **Temporarily Closed Runways.**
Temporarily closed runways are identified in the work area plan drawings and *identified in Section 5 – Phasing.* **Runway 17-35 will be closed nightly, and then it will be reopened on a daily basis.** Low-profile barricades will be used to delineate areas that aircraft and personnel may not travel beyond. Painted X's will not be utilized to avoid confusion over which area is closed. Lighted X's will be utilized at each end of the runway; maintenance and fueling for generators shall be the responsibility of the Contractor.

2) **Temporarily Closed Taxiways.**
Temporarily closed taxiways are identified in the work area plan drawings and identified in *Section 5 – Phasing.* For individual taxiway closures, the Project proposes placing low profile, water-filled barricades to delineate areas that aircraft and personnel may not travel beyond. Barricades will be located no closer than the Object Free Area of a movement area. Painted X's will not be utilized. Lighted barricades will be utilized as necessary.

3) **Lighting and Visual NAVAIDs.**
As this is an electrical replacement job, NAVAIDs will be heavily affected as shown in the CSPP drawings.

17. MARKING AND SIGNS FOR ACCESS ROUTES

The Contractor shall place traffic control signs and/or devices, as appropriate, to advise traffic of construction operations and hauling. Signs and/or devices shall conform to the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD), current edition. Contractor shall prepare any City/County required Traffic Control Plan and pay all fees associated with the plan.

Any temporary markings that are installed by the Contractor shall not interfere with existing Airport signs and shall not confuse pilots.

18. HAZARD MARKING AND LIGHTING

Before starting work, provide and have available all signs, barricades, and lights necessary for protection of the work. Install and maintain adequate warning signs and lighted barricades to protect property and personnel in the work area. Barricades shall be weighted or anchored to prevent overturning from wind or aircraft engine blast.

Contractor is responsible for placing and maintaining barricades, including replacing batteries as needed. Barricades are not permitted in any active safety area. Barricades located within a runway or TOFA and/or on aprons must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights. Low-profile barricades shall be spaced a maximum of 4 feet apart unless otherwise directed by the Operator.

Additionally, the Contractor shall provide candle stick barricades, as required, to barricade hazardous areas. See the *Special Provisions for Airport Construction* in the Project Specification Book for requirements on barricades, delineators, and radios.

Open trenches, excavations, or obstructions not being actively worked shall be marked with lighted and weighted barricades which can be seen from a reasonable distance.

19. WORK ZONE LIGHTING FOR NIGHTTIME CONSTRUCTION

Site lighting via portable lights shall be situated to project downward and not toward a runway or any runway approach. Low profile barricades shall have two red flashing beacons per barricade and all vehicles are required to have a flashing orange beacon. A lighted 'X' over the numerals at each end is required to close a runway at night.

If it is necessary to leave specialized equipment on a closed taxiway at night, the Airport must approve the request for the equipment to be lighted. Equipment shall not be left on a closed runway at night.

20. PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS

A. RUNWAY SAFETY AREA (RSA)

No construction may occur within the existing RSA while the runway is open for aircraft operations. Open trenches or excavations are not permitted within the RSA while the runway is open. If possible, backfill trenches before the runway is opened. If the runway must be opened before excavations are backfilled, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft (100,000-pound wheel loading) operating on the runway to cross the trench without damage to the aircraft. Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the County, and light them with red lights during hours of restricted visibility or darkness. Soil erosion must be controlled to maintain RSA standards; that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations; and be capable, under dry conditions, of supporting the occasional passage of aircraft without causing structural damage to the aircraft. The ground surface within the RSA will not have edges exceeding 3 inches unless the runway is closed. The RSAs are depicted on the Work Area Plan Drawings contained in *Supplement 3*.

1) **Runway Object Free Area (ROFA).**
Construction, including excavations, may be permitted within the ROFA; however, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the ROFA requires submittal of a 7460-1 form and County approval. The ROFA's are depicted on the Work Area Plan Drawings contained in *Supplement 3*.

2) **Taxiway Safety Area (TSA).**
No construction may occur in the TSA while the taxiway is open to aircraft operations. Open trenches or excavations are not permitted within the TSA while the taxiway is open. If possible, backfill trenches before the taxiway is opened. If the taxiway must be opened before excavations are backfilled, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operations of the heaviest aircraft operating on the taxiway to cross the trench without damage to the aircraft. Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the Operator, and light them with red lights during hours of restricted visibility or darkness. The ground surface within the TSA shall not have edges exceeding 3 inches unless the taxiway is closed. Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and be capable, under dry conditions, of supporting the occasional passage of aircraft without causing structural damage to the aircraft. The TSAs are depicted on the Work Area Plan Drawings contained in *Supplement 3*.

3) **Taxiway Object Free Area (TOFA).**
No construction will be allowed within the TOFA while the taxiway is open to aircraft operations. Contractor shall delineate TOFA with low-profile barricades. Method shall be acceptable to Operator and shall assist in preventing construction equipment from entering the TOFA when taxiway is closed. The TOFAs are depicted on the Work Area Plan Drawings contained in *Supplement 3*.

4) **Obstacle Free Zone (OFZ)**
Personnel, material, and/or equipment may not penetrate the OFZ while the runway is open to aircraft operations. The runway OFZ is depicted on the Work Area Plan Drawings contained in *Supplement 3*.

5) **Runway approach/departure surfaces**
When runway is open, all personnel, material, and/or equipment must remain clear of the threshold siting surfaces (approach and departure surfaces).

21. OTHER LIMITATIONS ON CONSTRUCTION

A. PROHIBITIONS

- Open flame welding or torches are prohibited unless fire safety precautions are provided, and the Airport operator has approved their use.
- Electric blasting caps are prohibited on or within 1,000-feet of the Airport property.
- Flare pots are prohibited within the AOA.
- Texting while driving is prohibited.
- Speed limit is 15 mph for all vehicles and equipment, unless otherwise posted.

B. RESTRICTIONS

- Construction equipment that extends 15 feet or more above ground level shall be cleared through the Operator prior to moving onto site. When cranes are used, an FAA-approved, 3-foot orange and white checkered flag and a solid red light shall be mounted at the highest point on the crane. Equipment that may be lowered readily shall be lowered at night, during reduced daytime visibility, and during other periods of storage to comply with the 15-foot height limitation.
- If directed by the Operator, construction equipment that cannot be lowered below the 15-foot height limitation shall be lighted at night and during periods of reduced daytime visibility. Light shall be mounted on the highest point of equipment; shall be omni-directional; and shall consist of, as a minimum, one 100-watt bulb enclosed within an aviation red lens. Also, for daytime operations, mount an FAA-approved three-foot square orange and white checkered flag at the highest point.
- During daylight hours with severe visibility problems or heavy fog, cranes shall not operate. The Operator will determine when visibility problems exist and will coordinate and designate requirements for position and location of flag and light.
- Construction sequence, duration, and time limitations can be found in *Section 6 – Areas and Operations Affected by Construction* and the Work Area Plan Drawings.

22. SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

The SPCD shall detail how the Contractor will comply with the CSPP. This shall include all Project specific Construction Safety Plan details not included in the CSPP, including construction equipment heights, any applicable hazard management requirements, and contact information for the Contractor's safety

management staff responsible for monitoring the CSPP and SPCD during construction. The SPCD shall be a supplement to, and enhancement of, the Project CSPP. See *Supplement 1* for requirements of the SPCD.

The SPCD must include a statement that the Contractor understands the operational safety requirements of the CSPP and an assertion that the Contractor will not deviate from the approved CSPP and SPCD without written approval from the Operator. Any construction operation, activity, or practice proposed by the Contractor that does not conform to the CSPP and SPCD will require a revision to those documents. The revised CSPP and SPCD must be submitted to FAA for review and approval prior to performing any activities that are not in compliance with a previously approved CSPP.

Copies of the approved CSPP and SPCD must be available on-site at all times. The Contractor shall ensure all construction personnel are familiar with safety procedures and regulations applicable to construction on the Airport. At least one of the Contractor's safety management staff must be on-site whenever active construction is ongoing to act as a point of contact and immediate response coordinator to correct any construction-related activity that may adversely affect the operational safety of the Airport.

Supplement 1

Safety Plan Compliance Document Requirements and Sample Form

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SAFETY PLAN COMPLIANCE DOCUMENT OUTLINE

The Safety Plan Compliance Document (SPCD) should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the Project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, "I, Name of Contractor, have read the Title of Project CSPP, approved on Date, and will abide by it as written and with the following additions as noted:"). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, "No supplemental information," should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

(1) Coordination. Discuss details of proposed safety meetings with the Airport operator and with contractor employees and subcontractors.

(2) Phasing. Discuss proposed construction schedule elements, including:

(a) Duration of each phase.

(b) Daily start and finish of construction, including "night only" construction.

(c) Duration of construction activities during:

(i) Normal runway operations.

(ii) Closed runway operations.

(iii) Modified runway "Aircraft Reference Code" usage.

(3) Areas and operations affected by the construction activity. These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.

(4) Protection of NAVAIDs. Discuss specific methods proposed to protect operating NAVAIDs.

(5) Contractor access. Provide the following:

(a) Details on how the contractor will maintain the integrity of the Airport security fence (gate guards, daily log of construction personnel, and other).

(b) Listing of individuals requiring driver training (for certificated airports and as requested).

(c) Radio communications.

(i) Types of radios and backup capabilities.

(ii) Who will be monitoring radios.

(iii) Whom to contact if the ATCT cannot reach the contractor's designated person by radio.

(d) Details on how the contractor will escort material delivery vehicles.

(e) Details on how the contractor will familiarize and brief construction vehicles entering the Airport.

(6) Wildlife management. Discuss the following:

(a) Methods and procedures to prevent wildlife attraction.

(b) Wildlife reporting procedures.

(7) Foreign Object Debris (FOD) management. Discuss the following:

(a) Equipment and methods for control of FOD, including construction debris and dust.

(b) Inspection and removal of debris at end of each day's work.

(8) Hazardous material (HAZMAT) management. Discuss equipment and methods for responding to hazardous spills.

(9) Notification of construction activities. Provide the following:

(a) Contractor points of contact.

(b) Contractor emergency contact.

(c) Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.

(d) Batch plant details, including 7460-1 submittal.

(10) Inspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.

(11) Underground utilities. Discuss proposed methods of identifying and protecting underground utilities.

(12) Penalties. Penalties should be identified in the CSPP and should not require an entry in the SPCD.

(13) Special conditions. Discuss proposed actions for each special condition identified in the CSPP.

(14) Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:

(a) Equipment and methods for covering signage and airfield lights.

(b) Equipment and methods for temporary closure markings (paint, fabric, other).

(c) Temporary orange construction signs.

(d) Types of temporary Visual Guidance Slope Indicators (VGSI).

(15) Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.

(16) Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.

(17) Work zone lighting for nighttime construction (if applicable). Discuss proposed equipment, locations, aiming, and shielding to prevent interference with air traffic control and aircraft operations.

(18) Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:

(a) Equipment and methods for maintaining Taxiway Safety Area standards.

(b) Equipment and methods to ensure the safe passage of aircraft where Taxiway Safety Area or Taxiway Object Free Area standards cannot be maintained.

(c) Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.

(19) Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

CONTRACTOR'S

SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

(AC 150/5370-2G)

Sample of SPCD – Contractor may use this form if so chooses.

Project Information

Airport and Sponsor: Jacqueline Cochran Regional Airport, Thermal, CA, Riverside County

Description of Project: Runway 17-35 Electrical, Lighting, and PAPI Rehabilitation

Type of Work: _____

FAA Project Manager: _____ Phone: _____

Airport Operator Contact: _____ Phone: _____

Contractor's Information

Prime Contractor: _____

Address: _____

Contractor Contact: _____ Phone: _____

Contractor's Responsibility

In accordance with Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5370-2G, *Operational Safety During Airport Construction,* an SPCD for a project must be submitted to the FAA and to the Airport Operator for review and approval prior to the issuance of a Notice-to-Proceed for Construction. The SPCD shall be prepared in a detailed written and graphical format that identifies the timing and methodology for the Contractor's compliance with the Project's Construction Safety and Phasing Plan (CSPP).

The Contractor shall comply with all provisions contained herein and provide the following Project-specific complementary and supplemental information to the FAA-approved Construction Safety and Phasing Plan:

1. Contractor shall have copies of the CSPP and SPCD available at all times for reference by the Airport Operator and its representatives, and by Contractor's and subcontractor's employees.

   Location(s) of CSPP and SPCD: _____

2. Provide contact information for the person responsible for initiating and coordinating an immediate response to correct any construction-related activity that may adversely affect the operational safety of the Airport. Project will require 24-hour coverage.

   Point of Contact: _____ Phone: _____

3. Provide list of Contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD whenever active construction is ongoing.

   Contact Person: _____ Phone: _____

   Contact Person: _____ Phone: _____

   Contact Person: _____ Phone: _____

   Contact Person: _____ Phone: _____

4. Contractor shall conduct inspections at least once daily, and more frequently if necessary to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards. A Construction Project Daily Safety Inspection Checklist is attached.

5. Describe details of Contractor's plan to restrict movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate and as specified in the CSPP. Include the appropriate plan sheets to identify timing and/or location of control measures: [***Contractor to insert detailed description.]***

6. Describe details of Contractor's plan to ensure that no employees of Contractor, subcontractors, suppliers, or other persons enter any part of the Air Operations Area (AOA) unless authorized. [***Contractor to insert detailed description***.]

7. Provide a description and schedule of anticipated operation for all Contractor equipment over 15 feet in height (e.g. cranes, concrete pumps, other similarly tall equipment) and heights of stockpiles and haul routes when different from what is shown on previously filed CSPP. [***Contractor to insert detailed equipment list/stockpile heights as applicable.]***

   (As necessary, the Contractor must coordinate with the Airport Operator for the purpose of filing a supplemental submittal of FAA Form 7460-1 to the FAA for determination of whether or not an aeronautical study must be conducted prior to allowing tall equipment operations to begin.)

8. Provide a description of Contractor's plan to ensure that construction personnel are familiar with the safety procedures and regulations on the Airport, the CSPP, and the SPCD. [***Contractor to insert detailed description.]***

SPCD Amendment

The SPCD shall be amended when there is a construction practice proposed by the Contractor that does not conform to the CSPP and SPCD and may impact the Airport's operational safety. This will require a revision to the CSPP and SPCD and re-coordination with the Airport Operator and the FAA in advance.

Statement of Certification

I certify that we understand the operational safety requirements of the CSPP and assert that we will not deviate from the approved CSPP and SPCD unless written approval is granted by the Airport Operator and FAA.

Print Name: _____ Title: _____

Signature: _____ Date: _____

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Supplement 2

Daily Safety Inspection Checklist

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CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Potentially Hazardous Conditions

Item	Action Required	or	None
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.			☐
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.			☐
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.			☐
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.			☐
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.			☐
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and approach zones.			☐
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.			☐
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.			☐

Item	Action Required	or	None
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.			☐
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.			☐
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.			☐
Obliterated or faded temporary markings on active operational areas.			☐
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.			☐
Failure to issue, update, or cancel NOTAMs about airport or other construction related airport conditions.			☐
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.			☐
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport building.			☐
Lack of radio communications with construction vehicles in airport movement areas.			☐
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.			☐
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.			☐
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.			☐

Item	Action Required	or	None
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).			☐
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.			☐
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.			☐
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring and place it in conduit or bury it.			☐
Site burning, which can cause possible obscuration.			☐
Construction work taking place outside designated work areas and out of phase.			☐

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Supplement 3

Work Area Plan Drawings

See Engineering Plan Set

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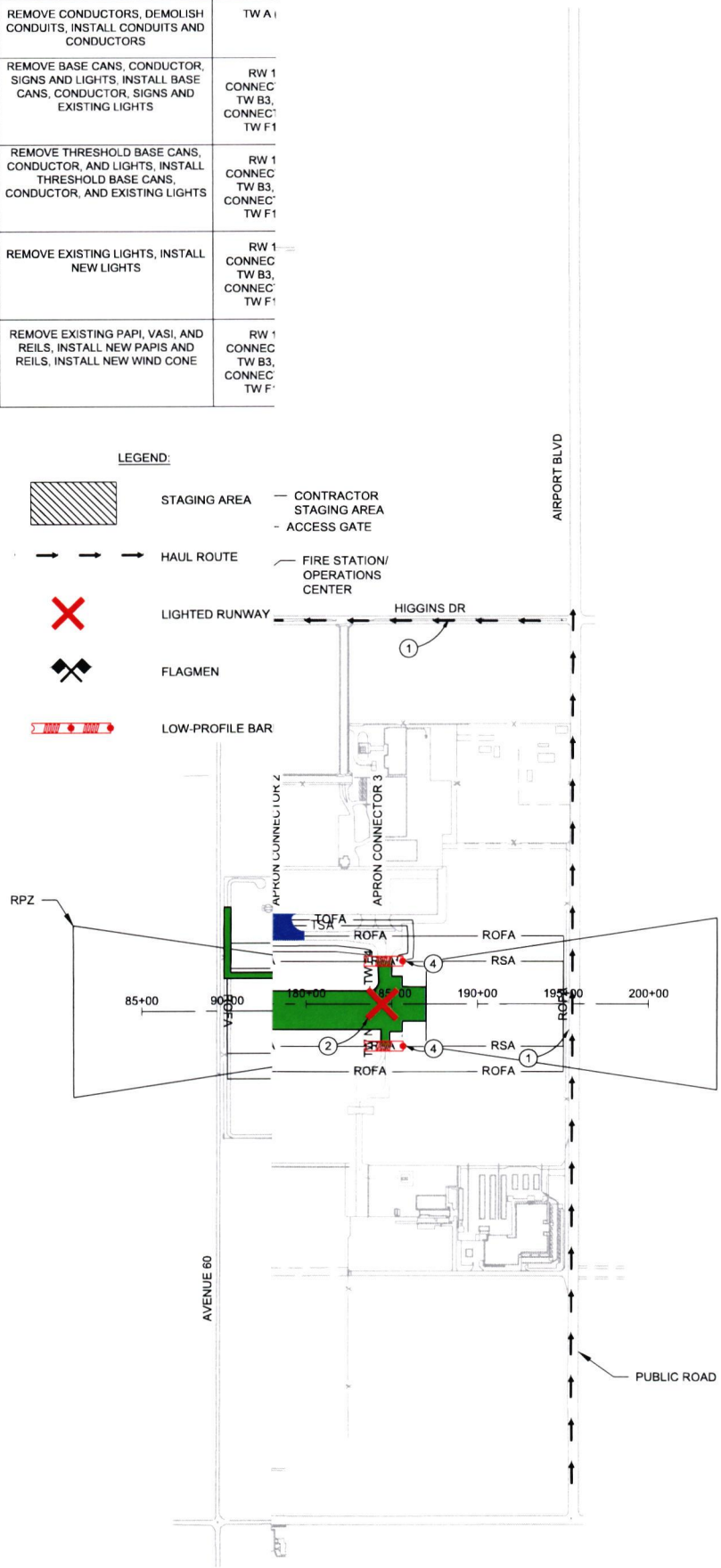
PHASE	WORK AREA	DURATION	WORK	PAVE
MOB	N/A	30 DAYS (MON.-SUN.)	ESTABLISH CONTRACTOR YARD, PROVIDE SUBMITTALS	
0	A, B, C, D	7 DAYS CONCURRENT WITH MOBILIZATION, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	INVESTIGATE EXISTING CIRCUIT AND CONDUIT FOR RW 17-35, TW A, TW F, RW 35 PAPI, RW 17 VASI, AND RW 17-35 REILS	
1	B, C	7 DAYS, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	REMOVE CONDUCTORS, DEMOLISH CONDUITS, INSTALL CONDUITS AND CONDUCTORS	TW A
2	A, D	35 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE BASE CANS, CONDUCTOR, SIGNS AND LIGHTS, INSTALL BASE CANS, CONDUCTOR, SIGNS AND EXISTING LIGHTS	RW 1 CONNEC TW B3, CONNEC TW F1
3	A	2 DAYS (48 HOURS), WORK HOURS 7 AM TO 7 AM (MON.-SUN.)	REMOVE THRESHOLD BASE CANS, CONDUCTOR, AND LIGHTS, INSTALL THRESHOLD BASE CANS, CONDUCTOR, AND EXISTING LIGHTS	RW 1 CONNEC TW B3, CONNEC TW F1
4	A, B, C, D	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING LIGHTS, INSTALL NEW LIGHTS	RW 1 CONNEC TW B3, CONNEC TW F1
5	A	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING PAPI, VASI, AND REILS, INSTALL NEW PAPIS AND REILS, INSTALL NEW WIND CONE	RW 1 CONNEC TW B3, CONNEC TW F

WORK AREA LEGEND:

- WORK AREA A
- WORK AREA B
- WORK AREA C
- WORK AREA D

LEGEND:

- STAGING AREA — CONTRACTOR STAGING AREA
- ACCESS GATE
- (1) HAUL ROUTE — FIRE STATION/ OPERATIONS CENTER
- (2) LIGHTED RUNWAY
- (3) FLAGMEN
- (4) LOW-PROFILE BAR



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Ontario, CA 91761
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JACQUELINE COCHRAN REGIONAL AIRPORT RUNWAY 17-35 ELECTRIC, LIGHTING, AND PAPI REHABILITATION

56-850 Higgins Dr
Thermal, CA 92274

M&H NO.: 3172800-212036.01
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SHEET CONTENTS
CONSTRUCTION SAFETY AND PHASING PLAN OVERALL

SHEET NO. 5 of 56

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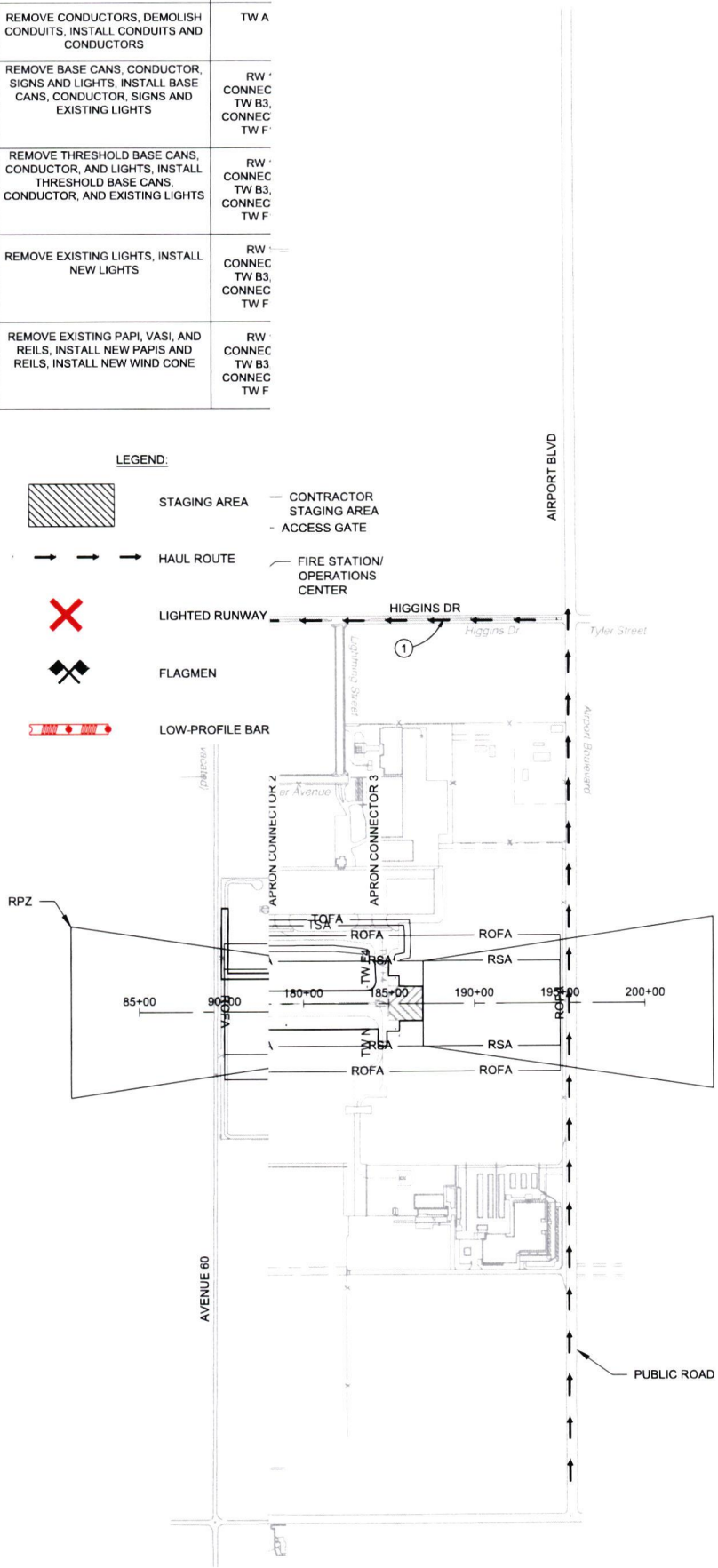
PHASE	WORK AREA	DURATION	WORK	PAVE
MOB	N/A	30 DAYS (MON.-SUN.)	ESTABLISH CONTRACTOR YARD, PROVIDE SUBMITTALS	
0	A, B, C, D	7 DAYS CONCURRENT WITH MOBILIZATION, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	INVESTIGATE EXISTING CIRCUIT AND CONDUIT FOR RW 17-35, TW A, TW F, RW 35 PAPI, RW 17 VASI, AND RW 17-35 REILS.	
1	B, C	7 DAYS, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	REMOVE CONDUCTORS, DEMOLISH CONDUITS, INSTALL CONDUITS AND CONDUCTORS	TW A
2	A, D	35 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE BASE CANS, CONDUCTOR, SIGNS AND LIGHTS, INSTALL BASE CANS, CONDUCTOR, SIGNS AND EXISTING LIGHTS	RW CONNEC TW B3, CONNEC TW F
3	A	2 DAYS (48 HOURS), WORK HOURS 7 AM TO 7 AM (MON.-SUN.)	REMOVE THRESHOLD BASE CANS, CONDUCTOR, AND LIGHTS, INSTALL THRESHOLD BASE CANS, CONDUCTOR, AND EXISTING LIGHTS	RW CONNEC TW B3, CONNEC TW F
4	A, B, C, D	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING LIGHTS, INSTALL NEW LIGHTS	RW CONNEC TW B3, CONNEC TW F
5	A	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING PAPI, VASI, AND REILS, INSTALL NEW PAPIS AND REILS, INSTALL NEW WIND CONE	RW CONNEC TW B3 CONNEC TW F

WORK AREA LEGEND:

- WORK AREA A
- WORK AREA B
- WORK AREA C
- WORK AREA D

LEGEND:

- STAGING AREA — CONTRACTOR STAGING AREA
- ACCESS GATE
- (1) HAUL ROUTE — FIRE STATION/ OPERATIONS CENTER
- (2) LIGHTED RUNWAY
- (3) FLAGMEN
- (4) LOW-PROFILE BAR



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CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 1

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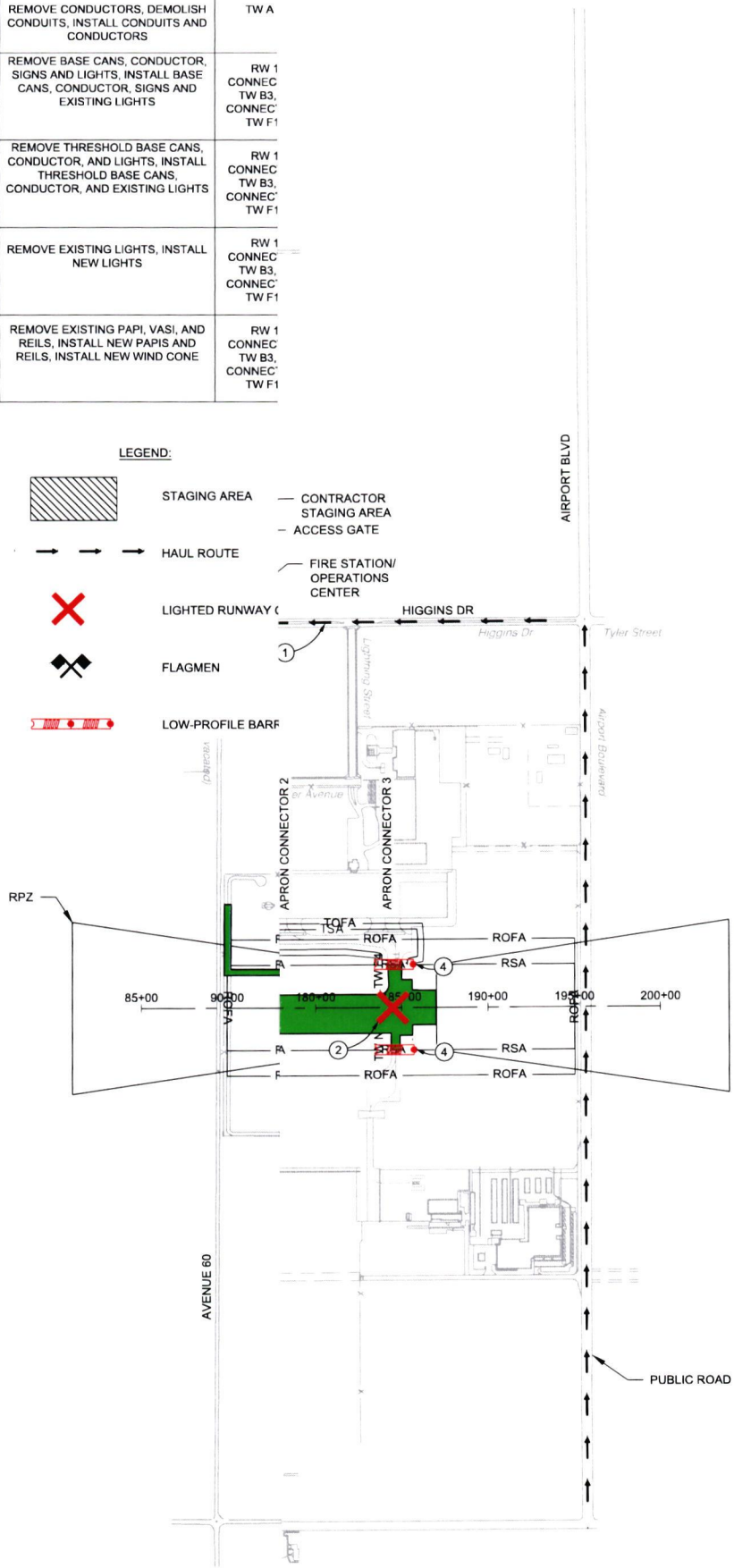
PHASE	WORK AREA	DURATION	WORK	PAVE
MOB	N/A	30 DAYS (MON.-SUN.)	ESTABLISH CONTRACTOR YARD, PROVIDE SUBMITTALS	
0	A, B, C, D	7 DAYS CONCURRENT WITH MOBILIZATION, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	INVESTIGATE EXISTING CIRCUIT AND CONDUIT FOR RW 17-35, TW A, TW F, RW 35 PAPI, RW 17 VASI, AND RW 17-35 REILS	
1	B, C	7 DAYS, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	REMOVE CONDUCTORS, DEMOLISH CONDUITS, INSTALL CONDUITS AND CONDUCTORS	TW A
2	A, D	35 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE BASE CANS, CONDUCTOR, SIGNS AND LIGHTS, INSTALL BASE CANS, CONDUCTOR, SIGNS AND EXISTING LIGHTS	RW 1 CONNEC TW B3, CONNEC TW F1
3	A	2 DAYS (48 HOURS), WORK HOURS 7 AM TO 7 AM (MON.-SUN.)	REMOVE THRESHOLD BASE CANS, CONDUCTOR, AND LIGHTS, INSTALL THRESHOLD BASE CANS, CONDUCTOR, AND EXISTING LIGHTS	RW 1 CONNEC TW B3, CONNEC TW F1
4	A, B, C, D	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING LIGHTS, INSTALL NEW LIGHTS	RW 1 CONNEC TW B3, CONNEC TW F1
5	A	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING PAPI, VASI, AND REILS, INSTALL NEW PAPIS AND REILS, INSTALL NEW WIND CONE	RW 1 CONNEC TW B3, CONNEC TW F1

WORK AREA LEGEND:

- WORK AREA A
- WORK AREA B
- WORK AREA C
- WORK AREA D

LEGEND:

- STAGING AREA
- (1) HAUL ROUTE
- (2) LIGHTED RUNWAY
- (3) FLAGMEN
- (4) LOW-PROFILE BARR



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CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 2

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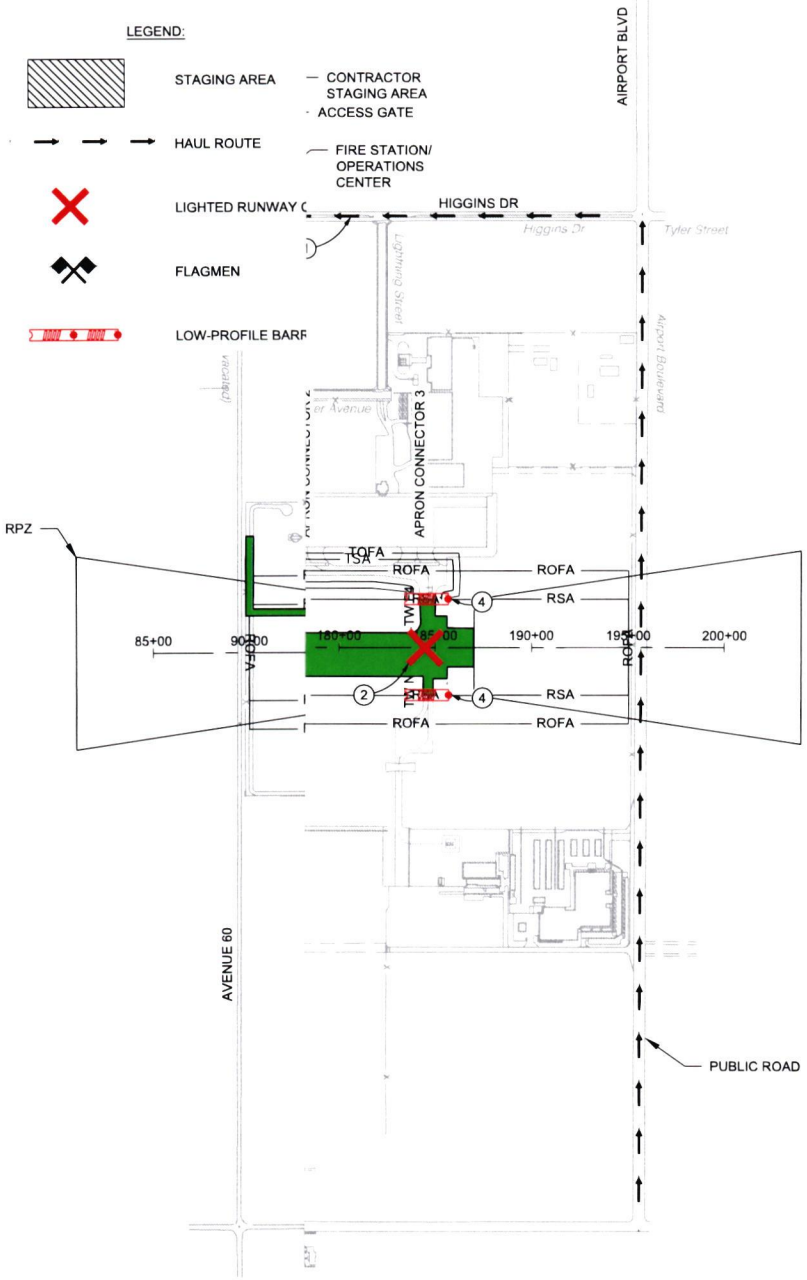
PHASE	WORK AREA	DURATION	WORK	PAVEM
MOB	N/A	30 DAYS (MON.-SUN.)	ESTABLISH CONTRACTOR YARD, PROVIDE SUBMITTALS	
0	A, B, C, D	7 DAYS CONCURRENT WITH MOBILIZATION, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	INVESTIGATE EXISTING CIRCUIT AND CONDUIT FOR RW 17-35, TW A, TW F, RW 35 PAPI, RW 17 VASI, AND RW 17-35 REILS.	
1	B, C	7 DAYS, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	REMOVE CONDUCTORS, DEMOLISH CONDUITS, INSTALL CONDUITS AND CONDUCTORS	TW A (
2	A, D	35 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE BASE CANS, CONDUCTOR, SIGNS AND LIGHTS, INSTALL BASE CANS, CONDUCTOR, SIGNS AND EXISTING LIGHTS	RW 1 CONNECT TW B3, CONNECT TW F1,
3	A	2 DAYS (48 HOURS), WORK HOURS 7 AM TO 7 AM (MON.-SUN.)	REMOVE THRESHOLD BASE CANS, CONDUCTOR, AND LIGHTS, INSTALL THRESHOLD BASE CANS, CONDUCTOR, AND EXISTING LIGHTS	RW 1 CONNECT TW B3, CONNECT TW F1,
4	A, B, C, D	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING LIGHTS, INSTALL NEW LIGHTS	RW 1 CONNECT TW B3, CONNECT TW F1,
5	A	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING PAPI, VASI, AND REILS, INSTALL NEW PAPIS AND REILS, INSTALL NEW WIND CONE	RW 1 CONNECT TW B3, CONNECT TW F1

WORK AREA LEGEND:

- WORK AREA A
- WORK AREA B
- WORK AREA C
- WORK AREA D

LEGEND:

- STAGING AREA
- (1) HAUL ROUTE
- (2) LIGHTED RUNWAY C
- (3) FLAGMEN
- (4) LOW-PROFILE BARR



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CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 3

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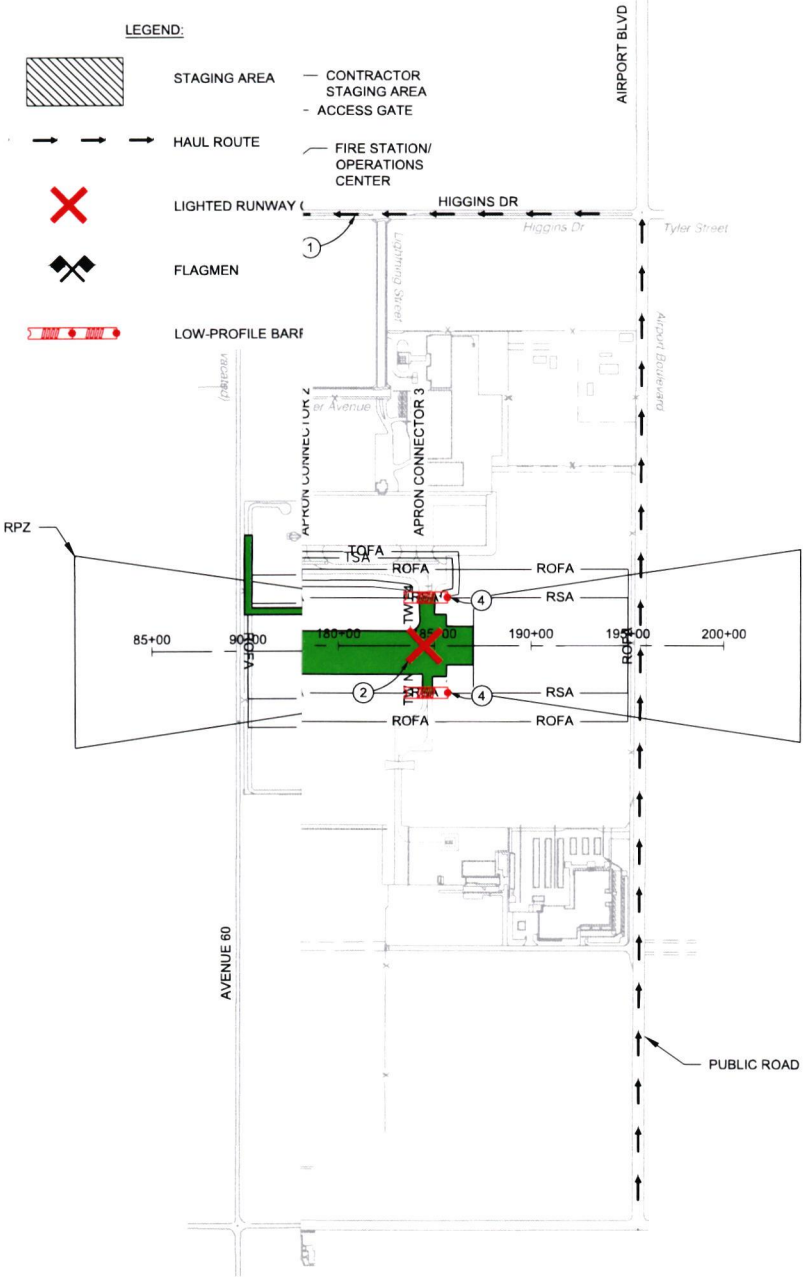
PHASE	WORK AREA	DURATION	WORK	PAVEI
MOB	N/A	30 DAYS (MON.-SUN.)	ESTABLISH CONTRACTOR YARD, PROVIDE SUBMITTALS	
0	A, B, C, D	7 DAYS CONCURRENT WITH MOBILIZATION, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	INVESTIGATE EXISTING CIRCUIT AND CONDUIT FOR RW 17-35, TW A, TW F, RW 35 PAPI, RW 17 VASI, AND RW 17-35 REILS.	
1	B, C	7 DAYS, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	REMOVE CONDUCTORS, DEMOLISH CONDUITS, INSTALL CONDUITS AND CONDUCTORS	TW A (
2	A, D	35 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE BASE CANS, CONDUCTOR, SIGNS AND LIGHTS, INSTALL BASE CANS, CONDUCTOR, SIGNS AND EXISTING LIGHTS	RW 1 CONNECT TW B3, CONNECT TW F1
3	A	2 DAYS (48 HOURS), WORK HOURS 7 AM TO 7 AM (MON.-SUN.)	REMOVE THRESHOLD BASE CANS, CONDUCTOR, AND LIGHTS, INSTALL THRESHOLD BASE CANS, CONDUCTOR, AND EXISTING LIGHTS	RW 1 CONNECT TW B3, CONNECT TW F1
4	A, B, C, D	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING LIGHTS, INSTALL NEW LIGHTS	RW 1 CONNECT TW B3, CONNECT TW F1
5	A	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING PAPI, VASI, AND REILS, INSTALL NEW PAPIS AND REILS, INSTALL NEW WIND CONE	RW 1 CONNECT TW B3, CONNECT TW F1

WORK AREA LEGEND:

- WORK AREA A
- WORK AREA B
- WORK AREA C
- WORK AREA D

LEGEND:

- STAGING AREA
- ① HAUL ROUTE
- ② LIGHTED RUNWAY (
- ③ FLAGMEN
- ④ LOW-PROFILE BARF



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CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 4

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PHASE	WORK AREA	DURATION	WORK	PAVEM
MOB	N/A	30 DAYS (MON.-SUN.)	ESTABLISH CONTRACTOR YARD, PROVIDE SUBMITTALS	
0	A, B, C, D	7 DAYS CONCURRENT WITH MOBILIZATION, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	INVESTIGATE EXISTING CIRCUIT AND CONDUIT FOR RW 17-35, TW A, TW F, RW 35 PAPI, RW 17 VASI, AND RW 17-35 REILS.	
1	B, C	7 DAYS, WORK HOURS 7 AM TO 7 PM (MON.-SUN.)	REMOVE CONDUCTORS, DEMOLISH CONDUITS, INSTALL CONDUITS AND CONDUCTORS	TW A (E
2	A, D	35 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE BASE CANS, CONDUCTOR, SIGNS AND LIGHTS, INSTALL BASE CANS, CONDUCTOR, SIGNS AND EXISTING LIGHTS	RW 17 CONNECT TW B3, T CONNECT TW F1,
3	A	2 DAYS (48 HOURS), WORK HOURS 7 AM TO 7 AM (MON.-SUN.)	REMOVE THRESHOLD BASE CANS, CONDUCTOR, AND LIGHTS, INSTALL THRESHOLD BASE CANS, CONDUCTOR, AND EXISTING LIGHTS	RW 17 CONNECT TW B3, T CONNECT TW F1,
4	A, B, C, D	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING LIGHTS, INSTALL NEW LIGHTS	RW 17 CONNECT TW B3, T CONNECT TW F1,
5	A	7 DAYS, WORK HOURS 10 PM TO 7 AM (MON.-SUN.)	REMOVE EXISTING PAPI, VASI, AND REILS, INSTALL NEW PAPIS AND REILS, INSTALL NEW WIND CONE	RW 17 CONNECT TW B3, T CONNECT TW F1,

WORK AREA LEGEND:

- WORK AREA A
- WORK AREA B
- WORK AREA C
- WORK AREA D

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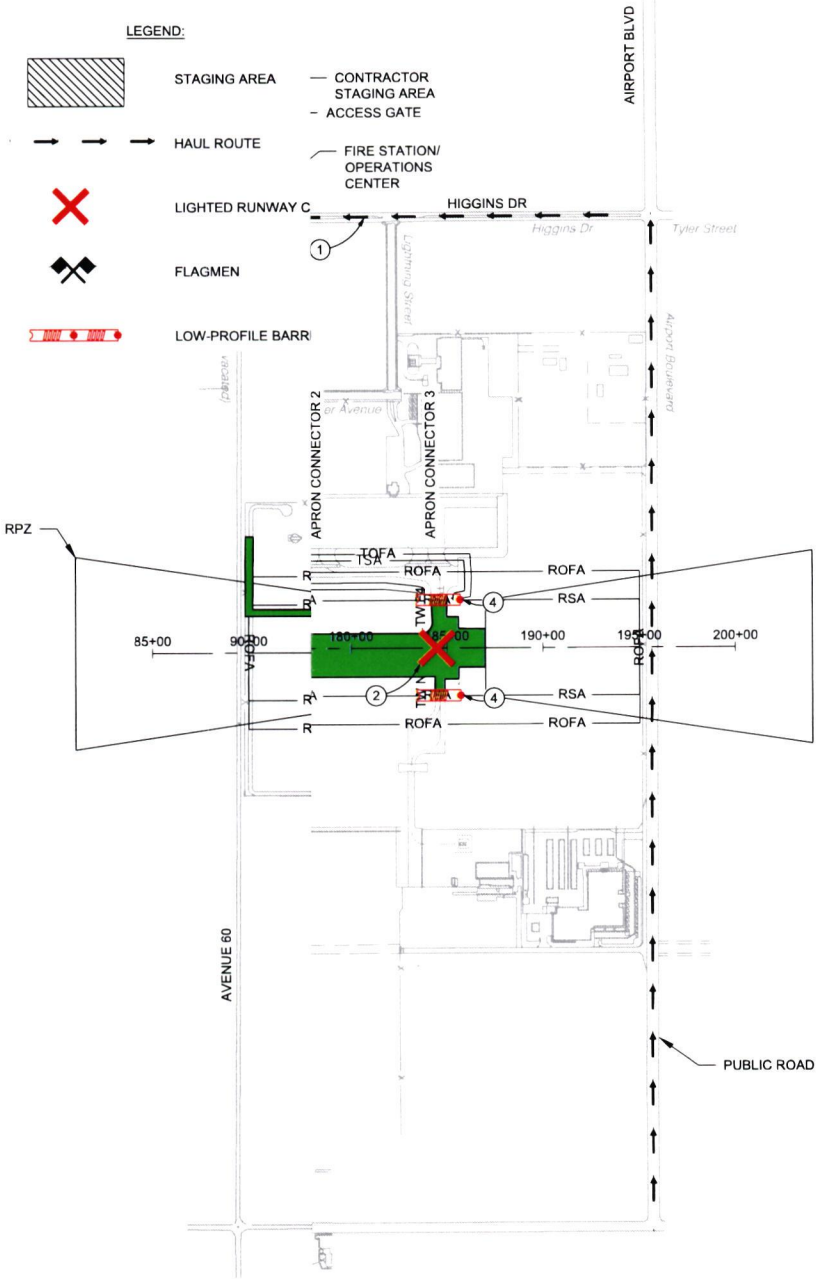

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