

PROJECT MANUAL
FOR
STOCK DRIVE REALIGNMENT
BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016



INCLUDING ADDENDA NOS. 1 AND 2 – APRIL 30, 2016

Invitation for Bids
Instructions to Bidders
Proposal Forms
Standard Agreement
Special Provisions
Federal Provisions and Specifications
Technical Specifications

CONTRACTING AGENCY:

COUNTY OF MONO

Department of Public Works
Post Office Box 457
74 North School Street
Bridgeport, California 93517
760.932.5440

PRE-BID CONFERENCE:

11:00 a.m., Thursday, April 14, 2016
County of Mono
Department of Public Works

BID SUBMITTAL DEADLINE:

4:30 p.m., Thursday, May 12, 2016
Clerk of the Board of Supervisors
74 North School Street / P.O. Box 715
Bridgeport, California 93517

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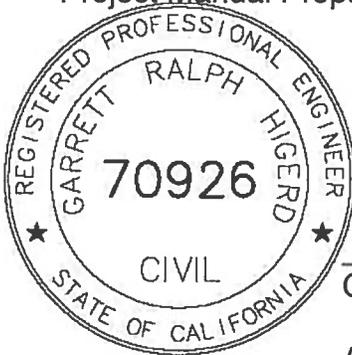
CERTIFICATION PAGE

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

Addendum No. 2

Project Manual Prepared by:



Garrett Higerd
Garrett Higerd, PE

Date: April 30, 2016

Assistant Public Works Director
County of Mono
Department of Public Works
74 North School Street
Bridgeport, California 93517

Technical Specifications Prepared by:



Reinard W. Brandley
Reinard W. Brandley, PE

Date: April 30, 2016

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(916) 652-4725

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SECTION I

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INVITATION FOR BIDS

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

Notice is hereby given that the Mono County Department of Public Works calls for bids from qualified General Engineering and Earthwork and Paving contractors for the *Stock Drive Realignment Project at Bryant Field*, as further described in the Project Manual and subject to the Federal Provisions therein. Federal Provisions include, but are not limited to: Buy American Preference; Foreign Trade Restriction; Davis-Bacon Act, Affirmative Action Requirements; Government-wide Debarment and Suspension Prohibitions, and Government-wide Requirements for a Drug-free Workplace, which are incorporated into this invitation for bids by this reference.

The Project Manual and Project Plans provide in detail the County's requirements for the project. Project documents are available on the Mono County Bid Management System. To access the system go to www.bids.monocounty.ca.gov and click on "view details" to the right of the project in the RFP/RFQ/RFB Title list. This page shows the project summary, status, bid due date, up-to-date planholders list, and supporting documents. If you would like to be added to the planholder list and receive email notices when addenda are posted, click "Click here to create a new user account." After registering your company, click "Add me to the Planholder List." You can ask questions about the project by clicking "Ask a question about this solicitation." If you would like assistance registering and using the Bid Management System, please contact us at 760.932.5440 or publicworks@mono.ca.gov.

The Contractor shall diligently prosecute the Project to completion such that the entire Project is complete, to the County's satisfaction, within forty-five (45) working days. Failure by the Contractor to meet these time frames shall subject the Contractor to liquidated damages of two thousand dollars (\$2,000) per day for each and every calendar day.

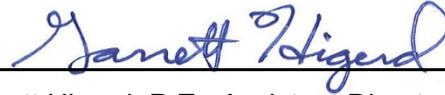
Each bid shall be made on the proposal forms contained in the Project Manual and must be accompanied by bid security in the amount of not less than 5 percent of the total bid. If this Invitation for Bids results in the award of a contract, then the successful Bidder is hereby notified that, in accordance with Sections 20104.50 and 9203 of the Public Contract Code, County shall retain 5% of all progress payments until the project is completed. However, pursuant to Section 22300 of the Public Contract Code the successful Bidder may substitute securities for any moneys withheld by the County of Mono to ensure performance under this contract.

An **optional** pre-bid conference and site visit will be held on April 14, 2016 at 11:00 a.m. at the offices of the Mono County Department of Public Works, 74 North School Street, Bridgeport, California.

A Race Neutral Annual Anticipated Disadvantaged Business Enterprise (DBE) Participation Level of 3.2% has been established by Mono County for this project. A 6.9% goal for female participation has is set by Federal law.

The County, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, DBEs 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.

Bids may be mailed to the Clerk of the Board of Supervisors, P.O. Box 715, Bridgeport, California, 93517, or delivered to the office of the Clerk of the Board of Supervisors, 74 North School Street, Bridgeport, California. In either event, to be considered, bids must be **received** by the Clerk of the Board of Supervisors no later than 4:30 p.m. on Thursday, May 12, 2016. As soon thereafter as is practicable, all bids received by the Clerk by the bid submission deadline will be taken to the Department of Public Works conference room, located on the second floor of Courthouse Annex 1, 74 North School Street, Bridgeport, and there publicly opened, read aloud, and recorded. All interested parties are invited to attend.



Garrett Higerd, P.E., Assistant Director
Mono County Department of Public Works

COUNTY OF MONO, DEPARTMENT OF PUBLIC WORKS

INSTRUCTIONS TO BIDDERS*STOCK DRIVE REALIGNMENT AT BRYANT FIELD*

Project/AIP No. 3-06-0030-10-2016

1. SECURING BID DOCUMENTS

The Project Manual (Invitation for Bids, Instructions to Bidders, Proposal Forms, Standard Agreement, Special Provisions, Federal Provisions and Specifications, and Technical Specifications) and Project Plans, all of which comprise the Contract Documents, provide in detail the County's requirements for the project. Contract documents are available on the Mono County Bid Management System. To access the system go to <http://bids.monocounty.ca.gov/> and click on "view details" to the right of the project in the RFP/RFQ/RFB Title list. This page shows the project summary, status, bid due date, up-to-date planholders list, and supporting documents. If you would like to be added to the planholder list and receive email notices when addenda are posted, click "Click here to create a new user account." After registering your company, click "Add me to the Planholder List." You can ask questions about the project by clicking "Ask a question about this solicitation." If you would like assistance registering and using the Bid Management System, please contact us at 760.932.5440 or publicworks@mono.ca.gov.

2. PRE-BID CONFERENCE

An **optional** pre-bid conference and site visit will be held at the County of Mono Department of Public Works, 74 North School Street, Bridgeport, California. The meeting is scheduled for April 14, 2016 at 11:00 a.m. Should the Department of Public Works determine there is a need to reschedule the pre-bid conference based on severe weather and/or road conditions, all plan-holders will be notified in advance.

3. INTERPRETATION OF PROJECT PLANS AND SPECIFICATIONS

- A. For information not provided in the Project Manual or the Project Plans, the bidder shall refer to the Standard Plans or Standard Specifications.
- B. Should a bidder find discrepancies in, ambiguities, or omissions from, the Project Manual and Project Plans, or should there be doubt as to their meaning, it shall at once notify the Public Works Director in writing and, should it be found necessary, a written addendum or bulletin of instructions will be sent to all plan-holders and posted online. Failure to raise such concerns prior to the submission of a bid will be deemed to waive such issues following the award of a contract.
- C. No representative of the County or its agent, or anyone else, is authorized to give oral instructions, interpretations, or explanations of the Project Manual and Project Plans, and a submission of a bid constitutes agreement by the bidder that it has placed no reliance on any such oral explanation or interpretation. However, the County or its agent may, upon inquiry by a bidder, direct the bidder's attention to the specific provisions of the Project Manual or Project Plans that cover the subject of the inquiry.

4. APPROXIMATE QUANTITIES

The quantities given in the Bid Schedule are approximate only, being given as a basis for the comparison of bids. The County does not, expressly or by implication, agree that the actual amount of work will correspond 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. The County reserves the right to increase or

decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary and as provided in Section 40 of the Federal Provisions and Specifications without in any way invalidating the unit bid prices.

5. PROPOSALS

- A. For bids to receive consideration, they shall be made in accordance with the Invitation for Bids, the Proposal Forms, and these Instructions to Bidders. All bids shall be submitted on the unaltered Proposal Forms contained in the Project Manual with all items completely filled out with typewritten or legible handwritten responses, and signatures of or on behalf of the bidder shall be in longhand. The completed Bid Proposal forms shall be without interlineations, alterations, or erasures.
- B. ALL BID SUBMITTALS SHALL REMAIN BOUND TOGETHER. Proposal Forms (contained herein on pages BD-1 through BD-42) may be separated from the Project Manual for purposes of bid submittal.
- C. Bids shall not contain any recapitulation of the work to be done. Alternative proposals will not be considered unless called for. No oral, telegraphic, or telephonic proposals or modifications will be considered. Unauthorized conditions, limitations, or provisions attached to a bid will render it informal and may cause its rejection.
- D. Bidders are advised that there is limited funding available for this project. After bid opening, the County will determine available funding; and, if it chooses to do so, will award a contract for construction of that project. For purposes of comparing bids and determining the apparent low bidder, however, the County will use the amount entered as the "Bidder's Grand Total" on page BD-5, which will be corrected if necessary to equal the sum total of the bid amounts for all items. Unit prices shall govern. Words shall govern over figures.
- E. Each bid is to be in accordance with the Contract Documents. Before submitting a bid, bidders shall carefully read this Project Manual, including the form of the Standard Agreement, and the Project Plans, and inform themselves fully as to all existing conditions and limitations, which should include a visit to the site of the work, and shall include in the bid a sum to cover the cost of all work contemplated in the Project Manual and Plans. The submission of a bid shall be conclusive evidence that the Bidder has reviewed and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and the materials to be furnished, and as to the requirements of the Project Manual and Project Plans. The submission of a bid shall also be conclusive evidence that the person signing the Proposal Form is authorized to bind or obligate the bidder to any agreement.
- F. Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the County's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his/her examination of the boring logs and other records of subsurface investigations and tests that are furnished by the County.
- G. Bidder's attention is directed to the insurance and bond requirements described below and as provided in the Standard Agreement. It is highly recommended that the bidders confer with their respective insurance carriers or brokers to determine the availability of surety bonds, insurance certificates, and endorsements as prescribed and provided herein in advance of bid submission. If an apparent low bidder fails to comply strictly with the bonding and insurance requirements, that bidder may be disqualified from award of the contract and its bid security may be forfeited. The cost of such bonds and insurance shall be included in the Bidder's bid.

- H. Each Bidder shall inform itself of, and the Bidder awarded the contract shall comply with, all federal, state, and local laws, statutes and ordinances relative to the execution of the work. This requirement includes, but is not limited to, applicable regulations concerning employment of labor, fair labor practices, equal opportunity, drug-free workplace, construction and building, Americans with Disabilities Act, protection of public and employee health and safety, environmental protection, the protection of natural resources, fire protection, burning and non-burning requirements, permits, fees, and similar subjects.
- I. Bid Forms (pages BD-1 through BD-42) and Bidder's bid security must be received in a sealed, opaque envelope clearly labeled with STOCK DRIVE REALIGNMENT PROJECT AT BRYANT FIELD printed on the outside of the envelope. Bids received unsealed or unlabeled will not be considered. Bids submitted by facsimile (fax) transmission will not be considered.
- J. County's award of a contract is conditioned upon Bidder satisfying the good faith effort requirements of 49 CFR § 26.53. As a condition of bid responsiveness, the Bidder 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. A written statement from Bidder that attests their commitment to use the DBE firm(s) listed under (1) to meet the County's project goal;
 5. If the Bidder cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder as described in Appendix A to 49 CFR Part 26.
- The successful Bidder must provide written confirmation of participation from each of the DBE firms the Bidder lists in its commitment. The Bidder must submit the DBE's written confirmation of participation within 5 days of receiving the County's notice of award.
- K. To be considered, bids must be **received** by the Clerk of the Board of Supervisors no later than 4:30 p.m. on Thursday, May 12, 2016. Bids may be mailed to the Clerk of the Board of Supervisors, P.O. Box 715, Bridgeport, California, 93517, or delivered to the office of the Clerk of the Board of Supervisors, 74 North School Street, Bridgeport, California, 93517.
- L. Bidders are advised that due to the remote nature of central Mono County, "overnight" delivery by the US Postal Service, UPS, FedEx, and other carriers is actually scheduled as a two-day delivery. Bidders should also take potential holiday mail delays into consideration.

6. MODIFICATION OF BID

A Bidder may modify its bid by written communication provided such communication is received by the Board Clerk up to, but not later than, the bid-submission deadline described above. The written communication shall not reveal the bid price but shall state the amount of addition or subtraction or other modification so that the final prices or terms will not be known by the County until the sealed bid is opened.

7. WITHDRAWAL OF BID

Bids may be withdrawn without prejudice by the Bidder up to, but not later than, the time fixed for the bid submission deadline. Such withdrawal may be made by written letter or by email or facsimile (fax) request. Such request shall be signed by an authorized representative of the Bidder. Bids so withdrawn will be returned unopened to the Bidder by the County. Bids withdrawn following bid opening shall be permitted only as allowed by the Public Contract Code or 48 Code of Federal Subpart 52.214-7(e) and

may subject the accompanying bid security to forfeiture and retention by the County as in the case of failure to execute the awarded contract as provided below. Negligence on the part of the Bidder in preparing the bid shall not empower the Bidder to withdraw the bid subsequent to the opening of bids.

8. AGREEMENT AND BONDS

- A. Bidders are required to submit, along with the Proposal Forms, a certified or cashier's check or bidder's bond in an amount of at least 5 percent (5%) of the bid made payable to the County of Mono. This security shall be given as a guarantee that the Bidder will enter into a contract if awarded the work, and may be forfeited by the Bidder and retained by the County if the Bidder refuses, neglects, or fails to enter into said contract (including a failure to provide required insurance certificates and bonds) within five calendar days after award of contract by the County.
- B. The successful Bidder will be required to furnish a labor and materials bond in an amount equal to 100 percent of the contract price, and a faithful performance bond in an amount equal to 100 percent of the contract price. In addition, the successful Bidder, as Contractor, will be required to furnish a one-year warranty bond upon project completion, pursuant to the requirements in the Standard Agreement and the Special Provisions. Only surety bonds issued by an Admitted Surety Insurer, as defined in Paragraph 11 of the Standard Agreement (sample below), will be accepted. Bonds shall be in a form acceptable to the Mono County Counsel; a sample of an acceptable form of each type of bond required is included with this Project Manual.
- C. The Contract Documents include a Standard Agreement, which the successful Bidder, as Contractor, will be required to execute, and the insurance and bonds, which he will be required to furnish.
- D. All alterations, extensions of time, extra and additional work, and other changes authorized by the County consistent with applicable provisions of the Contract Documents, may be made without securing the consent of the surety or sureties on the contract bonds.

9. OPENING OF BIDS

As soon after the bid-submission deadline as is practicable to do so, all bids received before that deadline will be taken to the Public Works conference room, located on the second floor of Courthouse Annex 1, 74 North School Street, Bridgeport, and there publicly opened, read aloud, and recorded. All interested parties are invited to attend. Any bids received after the bid-submission deadline will be returned to the bidder unopened.

10. BID EVALUATION

After all bids are opened and publicly announced, personnel from the Mono County Department of Public Works (Public Works) will evaluate the bids, identify the lowest responsive bid by a responsible Bidder, and distribute to all bidders a Notice of Intent to Award the contract to that identified Bidder along with a ranked tabulation of all bid amounts submitted. Please note, however, that the County reserves the right to reject any and all bid proposals as well as the right to waive technical deviations if such waiver is in the best interest of the County and conforms to local laws.

- A. Bid evaluation will consist of reviewing submitted bids for responsiveness, ranking the responsive bid amounts from lowest to highest, and investigating whether the apparent low Bidder, and such other Bidders as Public Works deems appropriate, is a "responsible bidder", pursuant to 49 C.F.R. 18.36(b)(8).
- B. All responsive bids will be compared on the basis of the Engineer's estimate of the quantities of work to be performed. There is limited funding available for this project, and therefore award of a contract will depend on available funding. In the event of a discrepancy between the numeric total bid written and the numeric total bid calculated, the bid amount calculated by multiplying each item

quantity by the unit price and then adding each item of the proposal shall prevail. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

- C. Investigation of bidder responsibility will involve checking the bidder's and any listed subcontractor's license status and eligibility to contract for public works, and may also include a request for Bidder references and/or insurance certificates, a request for documents demonstrating the Bidder's solvency and available resources to timely complete the work, and consideration of the Bidder's performance on any prior contracts with the County. The County reserves the right to reject the bid of any bidder that has previously failed to perform properly or to complete, on time, a contract with the County of a nature similar to this project and further reserves the right to waive any immaterial deviation or irregularity in any bid.
- D. Should Public Works personnel determine that a bid is non-responsive or a bidder is non-responsible, that determination shall be submitted to the Federal Aviation Administration (FAA) for review.

11. BID PROTEST PROCEDURE—MATERIAL DEFECTS IN SOLICITATION

A prospective bidder may formally protest the procurement on the grounds that the bid solicitation is defective if the bidder notifies Public Works in writing and before the bids are opened about what aspects of the solicitation the bidder is protesting. If necessary, the bid opening shall be delayed until the protest is satisfied (including rejection) or to allow time for the County to issue an addendum as appropriate. All bid protests based on defects in the bid solicitation shall be directed to the Mono County Department of Public Works, located at 74 North School Street, Post Office Box 457, Bridgeport, California, 93517, before the bid opening. Delivery may be by mail or hand delivery to this address or by facsimile (fax) to 760.932.5441, or by email to ghigerd@mono.ca.gov.

12. BID PROTEST PROCEDURE—IMPROPER EVALUATION OF BIDS

- A. A period for protesting the evaluation of the bids shall commence immediately upon distribution of the Notice of Intent to Award the contract, during which time any interested person or entity may file a protest in accordance with the directions below with respect to that apparent low bid, or to any other bid submitted, and/or with respect to the qualifications or responsibility of the apparent low Bidder, or of any other Bidder.
- B. Bidders who wish to lodge a protest as to the award of the contract must do so before 4:30 p.m. of the 5th business day following the notice of intent to award the contract. Bid protests must be received by the Mono County Department of Public Works, located at 74 North School Street, Post Office Box 457, Bridgeport, California, 93517, before the bid protest deadline. Delivery may be by mail or hand delivery to this address, or by facsimile (fax) to 760.932.5441, or by email to ghigerd@mono.ca.gov. Failure to timely file a written protest shall constitute a waiver of the right to protest. Untimely protests will not be accepted or considered.
- C. Bid protests must be submitted in writing to the Assistant Director of the Department of Public Works and include the following: 1) the name of the person or entity making the protest, 2) the name of the bid project, 3) a complete statement of all legal and factual grounds for the protest, 4) any documentation supporting the protestor's grounds for the protest, and 5) the form of relief requested and the legal basis for such relief.
- D. If a valid protest is timely filed, the Department of Public Works shall investigate the bid protest. The protested Bidder shall have three (3) business days to respond to the Department and to provide any information requested by the Department. The Department shall respond to the protesting party, stating its determination. The Assistant Director of the Department of Public Works shall make a recommendation to the Board of Supervisors regarding the bid protest.

- E. The protest procedure described herein must be pursued and exhausted before any person or entity may appeal to the FAA or commence litigation against the County of Mono, or any of its officers, agents, or employees related to or arising out of the award of a contract for the construction of the project to a Bidder whose winning bid could have been the subject of a protest as outlined above.

13. AWARD OR REJECTION OF BIDS

- A. After expiration of the bid protest deadline, the County may, in its discretion: Award a contract notwithstanding the filing of a bid protest; refrain from awarding a contract pending resolution of any or all bid protests; or otherwise proceed as it deems appropriate, including without limit rejecting all bids received. If it chooses to award one, the County shall award the contract to the Bidder found responsible by the County which has submitted the lowest responsive bid. Bidders are advised that should this Invitation for Bids result in the award of a contract, the contract will not be in force until it is approved and fully executed by the County and the Bidder.
- B. Payment under any contract resulting from this Invitation for Bids will be consistent with the contract agreement, a sample of which has been provided with this Invitation for Bids. Any contract awarded as a result of this Invitation for Bids will be awarded without discrimination based on race, color, religion, age, sex, sexual orientation, national origin, gender, disability, medical condition, marital status, or ancestry.
- C. Contract award, if made, **is anticipated to occur within two months after the date of bid opening but could, however, occur up to 120 days after said date**. In such an event, all Bidders will be notified in writing that additional time will be required. No bid can be withdrawn during that period unless such withdrawal is authorized under the Public Contract Code and the bid security shall remain in full force and effect. Mono County assumes no responsibility for any costs the Bidder may incur, regardless of whether or not a contract is awarded, in preparing and/or submitting a bid.
- D. The County reserves the right to cancel the award without liability to the bidder, except return of bid bond, at any time before a contract has been fully executed by all parties and is approved by the County in accordance with local and state law.

14. CONTRACT EXECUTION

- A. Accompanying the County's Notice of Award will be the Agreement, which the successful bidder will be required to execute and return, together with the required bonds and certificates of insurance, to the County within 15 calendar days following receipt of such Agreement and Notice of Award. Failure to do so shall be just cause for annulment of the contract award and forfeiture of the bid security, which shall be retained by the County as liquidated damages, and it is agreed by both parties that the bid security sum is a fair estimate of such failure. Signature by the authorized representative of both parties constitutes execution of the Agreement.
- B. In the event of failure of the lowest responsible bidder to sign and return the Agreement with acceptable evidence of bonds and insurance certificates as prescribed herein, the County may award the contract to the next lowest responsible bidder, and so forth, until a fully-executed Agreement and acceptable bonding and insurance certificates are received by the County.
- C. The bid security of all bidders will be retained by the County until an Agreement is executed by the successful bidder and evidence of bonds and insurance acceptable to the County is received, after which those bid securities, except any that may have been forfeited, will be returned to the respective bidders whose proposals they accompanied.

15. LISTING OF AND SUBSTITUTIONS OF SUBCONTRACTORS

- A. If awarded a contract, the Bidder shall perform with his own organization contract work amounting to not less than 30 percent (30%) of the original total contract price. The Bidder shall give his/her personal attention to the fulfillment of the contract and shall keep the work under his/her control. All persons engaged in the project work will be held responsible for their work, which shall be subject to the provisions of the Contract Documents.
- B. Each Bidder shall in its bid or offer, set forth the name and location of the office, shop, or mill of each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the work or improvement and the portion of the work which will be done by each subcontractor if the amount of the subcontractor's work will be in excess of one-half of one percent (0.5%), or \$10,000, whichever is greater, of the Bidder's bid.
- C. If the Bidder fails to specify a subcontractor for any portion of the work to be performed under the contract as specified above, it shall be deemed to have agreed to perform such portion itself, and it shall not be permitted to subcontract that portion of the work except under conditions hereinafter set forth.
- D. No Contractor whose bid is accepted shall, without consent of the Assistant Public Works Director, either:
 - (1) Substitute any person as subcontractor in place of the subcontractor designated in the original bid; or,
 - (2) Permit any subcontractor to be assigned or transferred or allow the work to be performed by anyone other than the original subcontractor listed in the bid; or,
 - (3) Sublet or subcontract any portion of the work in excess of one-half of one percent (0.5%) of the Bidder's bid as to which its original bid did not designate a subcontractor.
- E. Subletting or subcontracting any portion of the work as to which no subcontractor was designated in the original bid shall be permitted only in case of public emergency, necessity, or otherwise in accordance with the Public Contract Code, and then only after a finding has been made in writing, by and as public record of the Public Works Department, setting forth the facts constituting such emergency, necessity, or statutory basis for the substitution.
- F. It is the County's opinion that if haulers are used merely to convey materials and will not excavate or load the material and if they will not apply judgment as to the suitability of the material to meet project specifications, they do not need to be identified on the "List of Subcontractors" in the bid forms.

16. BIDDERS INTERESTED IN MORE THAN ONE BID

No person, firm, or corporation shall be allowed to make or file or be interested in more than one bid for the same work unless alternative bids are called for. A person, firm, or corporation who has submitted a sub-proposal to a bidder or who has quoted prices on materials to a bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other bidders.

17. COORDINATION WITH OTHER CONTRACTORS

Bidders are required to inform themselves fully of the conditions relating to construction and labor under which the work will be performed, and the Bidder must employ, as far as possible, such methods and means in the carrying out of its work as will not cause any interruptions or interference with any other contractor or the operations of the facility at which the work is being performed.

18. SUBSTITUTIONS

Throughout the Project Plans and Specifications, materials may be specified that are in short supply or that are restricted by government limitation orders. For the purpose of submitting proposals, the Bidder shall assume that the County will require all materials to be furnished as specified. No substitutions will be permitted until all sources or supplies have been exhausted and written notice is given to the Assistant Public Works Director stating such fact. Substituted materials shall have the written approval of the Assistant Public Works Director, or its authorized agent, before installation in the project.

19. CONTRACTOR'S LICENSING LAWS

- A. The successful bidder, as Contractor, will be required to furnish a valid Mono County Business License issued by the Mono County Treasurer prior to commencing the work.
- B. In order to be eligible for award of a contract for the project, a bidder must possess at least one of the following classification(s) of contractor's license: **Class A – General Engineering and/or C12 – Earthwork and Paving.**
- C. Attention is directed to the provisions of Article 4, Chapter 9, of the California Business & Professions Code concerning the licensing of contractors. All bidders, contractors, and subcontractors shall be licensed in accordance with the laws of the State of California and any bidder, contractor, or subcontractor not so licensed is subject to the penalties imposed by such laws. The contractor shall possess the appropriate licenses to cover the above advertised work.

20. LABOR REQUIREMENTS

The services and work to be provided by Contractor for this project constitute a public work within the meaning of California Labor Code Sections 1720 and 1720.3. Accordingly, and as required by Section 1771 of the California Labor Code, the successful bidder, as Contractor, and any subcontractor under it, shall pay not less than the general prevailing rate of per diem wages ("prevailing wage") specified for each craft and classification to all workers employed in the execution of the project. Copies of prevailing wages, as determined by the Director of the California Department of Industrial Relations, are available online at: www.dir.ca.gov/OPRL/DPreWageDetermination.htm and are on file at the office of the Mono County Department of Public Works, located at 74 North School Street in Bridgeport, California, and are available to any interested party upon request. These wages are not included in the Contract Documents for the project. Changes, if any, to prevailing wage rates will be available at the same locations.

Attention is directed to the Federal minimum wage rate requirements. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. The County will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question. Federal Wage Rates can be downloaded at: <http://www.wdol.gov> and are included in the Federal Provisions on page FP-26.

Any contractor or subcontractor listed in a bid proposal or awarded a contract for a public work must be registered with the California Department of Industrial Relations (DIR). The project is subject to compliance monitoring and enforcement by the DIR.

21. PROJECT SCHEDULE AND LIQUIDATED DAMAGES

The work shall be completed within forty-five (45) working days. Heavy construction will start after July 4th to ensure that construction does not impact the use of Stock Drive as a traffic detour during the Independence Day Celebration in Bridgeport. By submitting a bid proposal, Bidder acknowledges that the Bidder has fully read Sections 5.5 and 5.6 of the Special Provisions, that it has had ample opportunity to consult with legal counsel and obtain an explanation of these liquidated damage provisions, and that it is agreed by both parties that Contractor will pay Mono County the liquidated damages specified in the Special Provisions.

PROPOSAL

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

Proposal of _____ (hereinafter, "Bidder"), organized and existing under the laws of the State of California, doing business as _____ (e.g., "a partnership;" "a corporation;" "an individual"), as applicable to the County of Mono, (hereinafter, "the County"). This bid proposal consists of the attached pages BD-1 through BD-42.

In compliance with your Invitation for Bids and Instructions to Bidders, Bidder hereby proposes to perform all work for STOCK DRIVE REALIGNMENT PROJECT AT BRYANT FIELD in strict accordance with the Instructions to Bidders, Project Plans, Federal Provisions, Special Provisions, Technical Specifications, Agreement, any applicable addenda, and other Contract Documents within the time set forth therein and at prices stated on the attached Bid Schedule. Prices quoted in this proposal include, but are not limited to, the cost for all labor, materials, tools, equipment, supplies, transportation, permits, services, and applicable local, state, and/or federal taxes, fees, patent rights, and/or royalties necessary to complete the work contemplated under the Agreement.

By submission of this Bid Proposal, Bidder certifies (and in the case of a joint bid, each party thereto certifies as to his own organization) that this bid has been arrived at independently without consultation, communication, or agreement as to any matter relating to this bid with any other bidder or with any competitor.

Bidder hereby agrees to commence work under the Agreement on the date stated in the written Notice to Proceed, and to **fully complete the project within forty-five (45) working days thereafter**, pursuant to the provisions specified in the Special Provisions.

It is understood that, except for lump sum items, the quantities set forth in the Bid Schedule are approximate only and are solely for the purpose of facilitating the comparison of bids, and that the Bidder's compensation will be computed on the basis of documented final quantities in completed work, measured as specified, whether they be more or less than those shown.

Bidder's Company Name: _____

Company Address: _____

Office Telephone No.: _____ Fax No.: _____

Email Address: _____

Contractor's Calif. License No.: _____ Class: _____

Mono County Business Lic. No.: _____

Name of Company Officer: _____ Title: _____

Bidder's Signature Date

(Add seal if by a corporation)

BID SCHEDULE

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

Item No.	Estimated Quantity	Item Description and Price	Unit Price	Item Total
1	1 LS	Mobilization (GP-105) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
2	1 LS	SWPPP Submitted by Qualified SWPPP Developer (QSD) (ST-01) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
3	1 LS	Marking and Lighting of Closed Facilities (ST-02) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
4	2,100 SY	Pavement Removal (P-101) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____
5	2 Acre	Clearing (P-151) _____ Dollars and _____ Cents per Acre	\$ _____	\$ _____
6	1 Acre	Clearing and Grubbing (P-151) _____ Dollars and _____ Cents per Acre	\$ _____	\$ _____

Item No.	Estimated Quantity	Item Description and Price	Unit Price	Item Total
7	400 CY	Unclassified Excavation (P-152) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
8	250 CY	Muck Excavation (P-152) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
9	325 CY	Imported Borrow Material (P-152) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
10	20 HR	Proofroll Existing Soils _____ Dollars and _____ Cents per Hour	\$ _____	\$ _____
11	250 SY	Geogrid, Furnished and Placed (ST-03) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____
12	2,400 SY	Scarify and Recompact Six Inches of Subgrade (ST-04) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____
13	275 CY	Subbase Course (P-154) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____

Item No.	Estimated Quantity	Item Description and Price	Unit Price	Item Total
14	400 CY	Crushed Aggregate Base Course (P-209) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
15	425 Tons	Bituminous Surface Course (P-401) _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____
16	2 Tons	Bituminous Prime Coat (P-602) _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____
17	1 Ton	Bituminous Tack Coat (P-603) _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____
18	175 SF	Roadway Marking – (ST-05) _____ Dollars and _____ Cents per Square Foot	\$ _____	\$ _____
19	5 LB	Reflective Media _____ Dollars and _____ Cents per Pound	\$ _____	\$ _____
20	1,025 LF	Fence, Class D (4 strand Barbwire, Steel Posts) (F-161) _____ Dollars and _____ Cents per Linear Foot	\$ _____	\$ _____

Item No.	Estimated Quantity	Item Description and Price	Unit Price	Item Total
21	1 Each	Relocate Existing Field Gate (ST-06) _____ Dollars and _____ Cents per Each	\$ _____	\$ _____
22	60 LF	42" x 60" Corrugated Metal Pipe (CMP) (D-701) _____ Dollars and _____ Cents per Linear Foot	\$ _____	\$ _____
23	2 Each	Caltrans Standard Dwg. D89 "L" Headwall for 42" x 60" CMP (ST-07) _____ Dollars and _____ Cents per Each	\$ _____	\$ _____
TOTAL BID AMOUNT *			\$ _____	

* Mono County will use this total to compare bids and to determine the apparent low bidder.

COUNTY OF MONO, DEPARTMENT OF PUBLIC WORKS

LIST OF SUBCONTRACTORS

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

Listed hereinafter are the names and addresses of all subcontractors (both DBE and non-DBE), in accordance with Section 2-1.33C of the Standard Specifications and per Title 49, Section 26.11 of the Code of Federal Regulations, who will be employed in the completion of project work and the type of work that each will perform if the contract is awarded to the undersigned Bidder. I understand that under California Public Contract Code Section 4104, contained in the Subletting and Subcontracting Fair Practices Act (Public Contract Code §4100 et seq.) I must clearly set forth the name and address of each subcontractor who will perform work or labor or render service to me in or about the construction of the work in an amount in excess of one-half of one percent (0.5%) of my total bid, or ten thousand dollars (\$10,000), whichever is greater, and that as to any work in which I fail to do so, I agree to perform that portion myself or be subject to penalty under the Act.

- Notes:** A. In the event that more than one subcontractor is named for the same type of work, state the portion of which each will perform; provide Contractor's license number of each subcontractor.
 B. Vendors or suppliers that will be providing materials only need not be listed.
 C. If further space is required, copies of this sheet or additional sheets showing the required information, as indicated below, shall be attached hereto and made a part of the proposal.
 D. The above statement constitutes a part of the proposal and signature on the signature portion of the bid proposal constitutes signature on this statement.
 E. This listing is required in addition to listing DBE Subcontractors elsewhere in the proposal.

Firm Name & Address	Phone, Fax, & License	Annual Gross Receipts	Description of Portion of Work to be Performed	Local Agency Use Only (Certified DBE?)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		If YES list DBE #:
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>	<i>License</i>	<input type="checkbox"/> > \$15 million	Value of work: \$	Age of Firm (Yrs.)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		If YES list DBE #:
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>	<i>License</i>	<input type="checkbox"/> > \$15 million	Value of work: \$	Age of Firm (Yrs.)

Firm Name & Address	Phone, Fax, & License	Annual Gross Receipts	Description of Portion of Work to be Performed	Local Agency Use Only (Certified DBE?)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>	<i>License</i>	<input type="checkbox"/> > \$15 million	Value of work: \$	Age of Firm (Yrs.)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>	<i>License</i>	<input type="checkbox"/> > \$15 million	Value of work: \$	Age of Firm (Yrs.)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>	<i>License</i>	<input type="checkbox"/> > \$15 million	Value of work: \$	Age of Firm (Yrs.)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>	<i>License</i>	<input type="checkbox"/> > \$15 million	Value of work: \$	Age of Firm (Yrs.)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>	<i>License</i>	<input type="checkbox"/> > \$15 million	Value of work: \$	Age of Firm (Yrs.)

COUNTY OF MONO, DEPARTMENT OF PUBLIC WORKS

DBE INFORMATION

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

The bidder shall list all subcontractors who provided a quote or bid but were not selected to participate as a subcontractor on this project. This is required for compliance with Title 49, Section 26 of the Code of Federal Regulations. Photocopy this form for additional firms.

Firm Name & Address		Phone & Fax	Annual Gross Receipts	Description of Portion of Work to be Performed	Local Agency Use Only (Certified DBE?)
<i>Name</i>			<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES <input type="checkbox"/> NO If YES list DBE #:
			<input type="checkbox"/> < \$5 million		
<i>Address</i>			<input type="checkbox"/> < \$10 million		Age of Firm (Yrs.)
			<i>Fax</i>		
<i>City State ZIP</i>			<input type="checkbox"/> > \$15 million		
<i>Name</i>			<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES <input type="checkbox"/> NO If YES list DBE #:
			<input type="checkbox"/> < \$5 million		
<i>Address</i>			<input type="checkbox"/> < \$10 million		Age of Firm (Yrs.)
			<i>Fax</i>		
<i>City State ZIP</i>			<input type="checkbox"/> > \$15 million		
<i>Name</i>			<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES <input type="checkbox"/> NO If YES list DBE #:
			<input type="checkbox"/> < \$5 million		
<i>Address</i>			<input type="checkbox"/> < \$10 million		Age of Firm (Yrs.)
			<i>Fax</i>		
<i>City State ZIP</i>			<input type="checkbox"/> > \$15 million		

Firm Name & Address	Phone & Fax	Annual Gross Receipts	Description of Portion of Work to be Performed	Local Agency Use Only (Certified DBE?)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>		<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
<i>City State ZIP</i>	<i>Fax</i>	<input type="checkbox"/> < \$15 million		Age of Firm (Yrs.)
		<input type="checkbox"/> > \$15 million		
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>		<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
<i>City State ZIP</i>	<i>Fax</i>	<input type="checkbox"/> < \$15 million		Age of Firm (Yrs.)
		<input type="checkbox"/> > \$15 million		
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>		<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
<i>City State ZIP</i>	<i>Fax</i>	<input type="checkbox"/> < \$15 million		Age of Firm (Yrs.)
		<input type="checkbox"/> > \$15 million		

INSTRUCTIONS - LOCAL AGENCY BIDDER DBE INFORMATION (CONSTRUCTION CONTRACTS)

SUCCESSFUL BIDDER:

The form requires specific information regarding the construction contract: Local Agency, Location, Project Description, Total Contract Amount, Bid Date, Bidder's Name, and Contract DBE Goal.

The form has a column for the Contract Item Number and Item of Work and Description or Services to be Subcontracted or Materials to be provided by DBEs. Prime contractors shall indicate all work to be performed by DBEs including work performed by its own forces, if a DBE. The DBE shall provide a certification number to the Contractor and expiration date. Enter DBE prime and subcontractors certification number. The DBE contractors should notify the Contractor in writing with the date of the decertification if their status should change during the course of the contract. The form has a column for the Names of DBE certified contractors to perform the work (must be certified on the date bids are opened and include DBE address and phone number.

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.

There is a column for the DBE participation dollar amount. Enter the Total Claimed DBE Participation dollars and percentage amount of items of work submitted with your bid pursuant to the Special Provisions. (If 100% of item is not to be performed or furnished by the DBE, describe the exact portion of time to be performed or furnished by the DBE.) See Section "Disadvantaged Business Enterprise (DBE)," of the Special Provisions (construction contracts) to determine how to count the participation of DBE firms.

Exhibit 15-G2 must be signed and dated by the successful bidder. Also list a phone number in the space provided and print the name of the person to contact.

Form CP-CEM 2403(F) (New 10/99)

DISADVANTAGED BUSINESS ENTERPRISES (DBE) CHANGE IN CERTIFICATION STATUS REPORT

The top of the form requires specific information regarding the construction project: Contract Number, County, Route, Post Miles, the Administering Agency, the Contract Completion Date, and the Estimated Contract Amount. It requires the Prime Contractor's name and Business Address. The focus of the form is to substantiate and verify the actual DBE dollar amount paid to contractors on federally funded projects that had a changed in Certification status during the course of the completion of the contract. The two situations that are being addressed by CP-CEM 2403(F) are, if a firm certified as a DBE and doing work on the contract during the course of the project becomes Decertified, and if a non-DBE firm doing work on the contract during the course of the project becomes Certified as a DBE.

The form has a column to enter the Contract Item No (or Item Nos.) as well as a column for the Subcontractor's Name, Business Address, Business Phone, and contractor's Certification Number.

The column entitled Amount Paid While Certified will be used to enter the actual dollar value of the work performed by those contractors who meet the conditions as outlined above during the time period they are Certified as a DBE. This column on the CP-CEM-2403(F) should only reflect the dollar value of work performed while the firm was Certified as a DBE.

The column called Certification/Decertification Date (Letter attached) will reflect either the date of the Decertification Letter sent out by the Civil Rights Program or the date of the Certification Certificate mailed out by the Civil Rights Program. There is a box to check that support documentation is attached to the CP-CEM-2403 (F) form.

There is a Comments section for any additional information that may need to be provided regarding any of the above transactions.

The CEM-2403(F) has an area at the bottom where the Contractor and the Resident Engineer sign and date that the information provided is complete and correct.

There is a Comments section for any additional information that may need to be provided regarding any of the above transactions.

The CEM-2403(F) has an area at the bottom where the Contractor and the Resident Engineer sign and date that the information provided is complete and correct.

DBE INFORMATION - GOOD FAITH EFFORTS

Federal-aid Project No.: Project/AIP No. 3-06-0030-10-2016

Bid Opening Date: 4:30 p.m. on Thursday, May 12, 2016

The County of Mono has established a Race-Neutral Disadvantaged Business Enterprise (DBE) goal of 3.2% for this project. The information provided herein shows that a good faith effort was made.

Lowest, second lowest and third lowest bidders should submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the "Local Agency Bidder DBE Commitment" form indicates that the bidder has met the DBE goal.

The following items are listed in the Section entitled "Good Faith Efforts Submittal" of the Special Provisions:

- A. The 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):

<u>Publications</u>	<u>Dates of Advertisement</u>

- B. The names and dates of written 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, etc.):

<u>Names of DBEs Solicited</u>	<u>Date of Initial Solicitation</u>	<u>Follow Up Methods and Dates</u>

- C. 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.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract

- D. The 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:

- E. 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. Efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services, excluding supplies and equipment the UDBE subcontractor purchases or leases from the prime contractor or its affiliate:

G. The 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.):

Name of Agency/Organization	Method/Date of Contact	Results
-----------------------------	------------------------	---------

H. Any additional data to support a demonstration of good faith efforts (use additional sheets if necessary):

NOTE: USE ADDITIONAL SHEETS OF PAPER IF NECESSARY.

Exhibit 17-F

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

FINAL REPORT-UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES

(DBE), FIRST-TIER SUBCONTRACTORS

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

CEM-2402F (REV 02/2008)

CONTRACT NUMBER		COUNTY	ROUTE	POST MILES	FEDERAL AID PROJECT NO.	ADMINISTERING AGENCY	CONTRACT COMPLETION DATE
PRIME CONTRACTOR				BUSINESS ADDRESS			ESTIMATED CONTRACT AMOUNT \$
ITEM NO.	DESCRIPTION OF WORK PERFORMED AND MATERIAL PROVIDED	COMPANY NAME AND BUSINESS ADDRESS	DBE CERT. NUMBER	CONTRACT PAYMENTS			DATE OF FINAL PAYMENT
				NON-DBE	DBE	DATE WORK COMPLETE	
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
				\$	\$		
ORIGINAL COMMITMENT \$			TOTAL	\$	\$		
List all First-Tier Subcontractors, Disadvantaged Business Enterprises (DBEs) regardless of tier, whether or not the firms were originally listed for goal credit. If actual DBE utilization (or item of work) was different than that approved at time of award, provide comments on back of form. List actual amount paid to each entity.							

I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT

CONTRACTOR REPRESENTATIVE'S SIGNATURE		BUSINESS PHONE NUMBER	DATE
TO THE BEST OF MY INFORMATION AND BELIEF, THE ABOVE INFORMATION IS COMPLETE AND CORRECT			
RESIDENT ENGINEER'S SIGNATURE		BUSINESS PHONE NUMBER	DATE

Copy Distribution-Local Agency contracts:

Original - District Local Assistance Engineer
 (submitted with the Report of Expenditure)

Copy- FAA Program Manager

Copy- Local Agency file

FINAL REPORT – UTILIZATION OF
 DISADVANTAGED BUSINESS ENTERPRISES (DBE),
 FIRST-TIER SUBCONTRACTORS
 CEM 2402(F) (Rev. 02/2008)

The form requires specific information regarding the construction project: Contract Number, County, Route, Post Miles, Federal-aid Project No., the Administering Agency, the Contract Completion Date and the Estimated Contract Amount. It requires the prime contractor name and business address. The focus of the form is to describe who did what by contract item number and descriptions, asking for specific dollar values of item work completed broken down by subcontractors who performed the work both DBE and non-DBE work forces. DBE prime contractors are required to show the date of work performed by their own forces along with the corresponding dollar value of work.

The form has a column to enter the Contract Item No. (or Item No's) and description of work performed or materials provided, as well as a column for the subcontractor name and business address. For those firms who are DBE, there is a column to enter their DBE Certification Number. The DBE should provide their certification number to the contractor and notify the contractor in writing with the date of the decertification if their status should change during the course of the project.

The form has two columns for the dollar value to be entered for the item work performed by the subcontractor. The Non-DBE column is used to enter the dollar value of work performed for firms who are not certified DBE.

The decision of which column to be used for entering the DBE dollar value is based on what program status the firm is certified.

Based on this DBE Program status, the following table depicts which column to be used:

DBE Program	Column to be used
If program status shows DBE only with no other programs	DBE

If a contractor performing work as a DBE on the project becomes decertified and still performs work after their decertification date, enter the total dollar value performed by this contractor under the appropriate DBE identification column.

If a contractor performing work as a non-DBE on the project becomes certified as a DBE, enter the dollar value of all work performed after certification as a DBE under the appropriate identification column.

Enter the total of each of the columns in Form CEM-2402(F).

Any changes to DBE certification must also be submitted on Form-CEM 2403(F).

Enter the Date Work Completed as well as the Date of Final Payment (the date when the prime contractor made the “final payment” to the subcontractor for the portion of work listed as being completed).

The contractor and the resident engineer sign and date the form indicating that the information provided is complete and correct.

SUBCONTRACTOR AND DBE RECORDS

The Contractor shall maintain records showing the name and business address of each first-tier subcontractor. The records shall also show the name and business address of every DBE subcontractor, DBE vendor of materials and DBE trucking company, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all of these firms. DBE prime contractors shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.

Upon completion of the contract, a summary of these records shall be prepared on “Final Report-Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors” Form CEM-2402(F) and certified correct by the Contractor or the Contractor's authorized representative, and shall be furnished to the Engineer. The form shall be furnished to the Engineer within ninety days from the date of contract acceptance. The amount of \$10,000 will be withheld from payment until a satisfactory form is submitted.

Prior to the fifteenth of each month, the Contractor shall submit documentation to the Engineer showing the amount paid to DBE trucking companies. The Contractor shall also obtain and submit documentation to the Engineer showing the amount paid by DBE trucking companies to all firms, including owner-operators, for the leasing of trucks. If the DBE leases trucks from a non-DBE, the Contractor may count only the fee or commission the DBE receives as a result of the lease arrangement.

The Contractor shall also obtain and submit documentation to the Engineer showing the truck number, owner's name, California Highway Patrol CA number, and if applicable, the DBE certification number of the owner of the truck for all trucks used during that month. This documentation shall be submitted on “Monthly DBE Trucking Verification” Form CEM-2404(F).

DBE CERTIFICATION STATUS

If a DBE subcontractor is decertified during the life of the project, the decertified subcontractor shall notify the contractor in writing with the date of decertification. If a subcontractor becomes a certified DBE during the life of the project, the subcontractor shall notify the Contractor in writing with the date of certification. The Contractor shall furnish the written documentation to the Engineer.

Upon completion of the contract, “Disadvantaged Business Enterprises (DBE) Certification Status Change” Form CEM-2403(F) indicating the DBE's existing certification status shall be signed and certified correct by the Contractor. The certified form shall be furnished to the Engineer within ninety days from the date of contract acceptance.

ACKNOWLEDGEMENTS

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

RECEIPT OF ADDENDA

The County of Mono is advised that Bidder has received the following addenda for the Contract Documents, including plans, specifications, and special provisions for the above-referenced project:

Addendum Number: Issuance Date: _____

Subject Matter: _____

If you did not receive any addenda for the above-referenced project, please initial here: _____

ACKNOWLEDGEMENT OF SITE VISIT(S)

The County of Mono is advised that I have visited the project site as acknowledged by my initials below. In doing so, I have made myself aware of the conditions that exist and have prepared the attached proposal accordingly.

Bryant Field: Yes _____ No _____

Note: This questionnaire constitutes a part of the proposal, and signature on the signature portion of the proposal constitutes signature on this questionnaire.

DISCLOSURES AND CERTIFICATIONS

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

QUESTIONNAIRE A

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

Has the Bidder, or any officer or 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 safety regulation?

Yes: _____ No: _____

If the answer is yes, please explain the circumstances in the space provided below and/or attach separate sheet(s) as necessary, with signature affixed.

QUESTIONNAIRE B

Under penalty of perjury, the Bidder shall complete the following questionnaire:

Within the past three years, has the Bidder, or any officer or employee of the Bidder who has a proprietary interest in the Bidder, ever been convicted by a court of competent jurisdiction of any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any federal or state antitrust law in connection with the bidding upon, award of, or performance of, any Public Works Contract, as defined in Section 1101, with any public entity as defined in Section 1100 of the California Public Contract Code, the Regents of the University of California or the Trustees of the California State University?

Yes: _____ No: _____

If the answer is yes, please explain the circumstances in the space provided below and/or attach separate sheet(s) as necessary, with signature affixed.

Note: This questionnaire constitutes a part of the proposal, and signature on the signature portion of the proposal constitutes signature on this questionnaire.

WORKERS' COMPENSATION CERTIFICATION

I do hereby certify that I am aware of the provisions of the California Labor Code which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of work in this contract.

NON-COLLUSION AFFIDAVIT

In accordance with Title 23 United States Code Section 112 and Section 7106 of the California Public Contract Code, the Bidder declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: This certification and affidavit constitute a part of the proposal, and signature on the signature portion of the proposal constitutes signature of this certification and affidavit. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder _____, proposed subcontractor _____, hereby certifies that it has _____, has not _____, participated in a previous Contract subject to the equal opportunity clauses required by Executive Order 10925, or Executive Order 11114, or Executive Order 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

NOTE: If the Bidder has participated in a previous Contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Bidder shall submit a compliance report on Standard Form 100, "Employee Information Report EEO-1" prior to the award of the Contract.

The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

Note: This certification constitutes a part of the proposal, and signature on the signature portion of the proposal constitutes signature of this certification.

CERTIFICATION OF NONSEGREGATED FACILITIES

The federally-assisted construction contractor certifies that it does not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies further that they will not maintain or provide for his employees any segregated facilities at any of its establishments, and that it will not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the equal opportunity clause in this contract. As used in this certification, the term “segregated facilities” means any waiting room, work areas, rest rooms and washrooms, 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 which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex or national origin, because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause, and that it will retain such certifications in its files.

Date

Signature and Title

IRS Employer Identification Number

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, she/he or any other person associated therewith in the capacity of owner, partner, director, officer manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
- Has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;
- Does not have a proposed debarment pending; and
- Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exception in the following space:

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of actions.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

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

- Checking the System for Award Management at website: <http://www.sam.gov>
- Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.
- Inserting a clause or condition in the covered transaction with the lower tier contract

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

NOTES: Providing false information may result in criminal prosecution or administrative sanction. The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this certification.

Note: This certification constitutes a part of the proposal, and signature on the signature portion of the proposal constitutes signature of this certification.

TRADE RESTRICTION CLAUSE – 49 CFR PART 30

By submission of a bid, the bidder certifies that with respect to this solicitation and any resultant contract, the bidder –

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

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

The bidder/Contractor must provide immediate written notice to the County if the bidder/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 a bidder or subcontractor:

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

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

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

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

Note: This certification constitutes a part of the proposal, and signature on the signature portion of the proposal constitutes signature of this certification.

BUY AMERICAN**Certificate of Buy American Compliance for Manufactured Products**

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 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 by:
- a) Only installing steel and manufactured products produced in the United States, or;
 - b) Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing, or;
 - c) 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 Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing US domestic product
3. To furnish US domestic product for any waiver request that the FAA rejects
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- 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 submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that support 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 may result in rejection of the proposal.
3. To faithfully comply with providing US domestic products at or above the approved US domestic content percentage as approved by the FAA.
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver - The cost of the item components and subcomponents produced in the United States is more than 60% of the cost of all components and subcomponents of the “item”. The required documentation for a type 3 waiver is:

- a) Listing of all product components and subcomponents that are not comprised of 100% US 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).
- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- c) Percentage of non-domestic component and subcomponent cost as compared to total “item” component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using US domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a type 4 of waiver is:

- a) Detailed cost information for total project using US domestic product
- b) Detailed cost information for total project using non-domestic product

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

A list of equipment certified by FAA as meeting the Buy America Preference Requirements of 49 USC 50101 is updated periodically and is available at: www.faa.gov/airports/aip/buy_american/.

Note: This certification constitutes a part of the proposal, and signature on the signature portion of the proposal constitutes signature on this certification.

NONLOBBYING CERTIFICATION OF FEDERAL AID CONTRACTS

The bidder 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 to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

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

Note: This certification constitutes a part of the proposal, and signature on the signature portion of the proposal constitutes signature of this certification.

DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

1. Type of Federal Action:

- a. contract
b. grant
c. cooperative agreement
d. loan
e. loan guarantee
f. loan insurance

2. Status of Federal Action:

- a. bid/offer/application
b. initial award
c. post-award

3. Report Type:

- a. initial
b. material change
For Material Change Only:
year quarter
date of last report

4. Name and Address of Reporting Entity

- Prime Subawardee
Tier, if known

5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:

Congressional District, if known

Congressional District, if known

6. Federal Department/Agency:

7. Federal Program Name/Description:

8. Federal Action Number, if known:

9. Award Amount, if known:

10. a. Name and Address of Lobby Entity (If individual, last name, first name, MI)

b. Individuals Performing Services (including address if different from No. 10A) (last name, first name, MI)

(attach Continuation Sheet(s) if necessary)

11. Amount of Payment (check all that apply)

- \$ actual planned

13. Type of Payment (check all that apply)

- a. retainer
b. one-time fee
c. commission
d. contingent fee
e. deferred
f. other, specify

12. Form of Payment (check all that apply):

- a. cash
b. in-kind; specify nature value

14. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:

(attach Continuation Sheet(s) if necessary)

15. Continuation Sheet(s) attached: Yes No

16.

Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signature:

Print Name:

Title:

Telephone No.: Date:

Authorized for Local Reproduction
Standard Form - LLL
Federal Use Only:

**INSTRUCTION FOR COMPLETION OF SF-LLL
DISCLOSURE OF LOBBYING ACTIVITIES**

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of covered Federal action or a material change to previous filing pursuant to Title 31 U.S.C. Section 1352.

The filing of a form is required for such payment or agreement to make payment to lobbying entity 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 a covered Federal action.

Attach a continuation sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and or has been secured to influence, the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which change occurred. Enter the date of the last, previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state, and zip code for the reporting entity. Include Congressional district if known. Check the appropriate classification of the reporting entity that designates if it is or expects to a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the first tier. Subawards include but are not limited to subcontracts, subgrants, and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee" then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal Agency making the award or loan commitment. Include at least one organization level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identification in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract grant, or loan award number, the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001".
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitments for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

11. Enter the full name of individual(s) performing services and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or plan to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed or will be expected to perform and the date(s) of any services rendered. Include all preparatory and related activity not just time spent in actual contact with Federal officials. Identify the Federal officer(s) or employee(s) contacted or the officer(s) employee(s) or Member(s) of Congress that were contacted.
15. Check whether or not a continuation sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name title and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget Paperwork Reduction Project (0348-0046). Washington D.C. 20503.

BIDDER'S QUALIFICATION STATEMENT

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

This Qualifications Statement will be used by Mono County to determine if a Bidder is qualified to do the work to be performed and therefore to find if the Bidder is a "responsible" bidder. The Qualifications Statement should be completed on behalf of the Bidder by an officer or other individual who is knowledgeable about the Bidder's past and current operations, policies, and practices. A response must be provided to each question. If a particular question does not apply, the response should state "not applicable" or "N/A". **Qualifications statements that contain missing or incomplete answers may render the proposal non-responsive.** The County reserves the right, however, to allow the bidder to submit additional information pertaining to its qualifications after the bid-submission deadline if circumstances warrant and to waive any error or defect in a Bidder's Statement.

Answers may be expanded upon by attaching additional pages. Use 8½" x 11" paper and mark each additional page with the Bidder's name and identification of the particular question to which an answer is being given. For the purposes of this Statement, the terms "company," "firm," "bidder," "proposer," and "contractor" are used interchangeably and have the same meaning.

The following documents or information must be included with your Qualifications Statement for this Bid Proposal (Existing certification and license information on file with the County and current may meet the requirements of this section subject to verification prior to award of any contract):

Insurance: Contractor must provide proof that the firm is insured at least to the limits identified in the Draft Agreement.

Licenses: Copies of all applicable and current trade licenses issued to the Contractor which legally allow the Contractor to perform the work identified for this Project.

Previous Work History: This Statement includes a form titled "Experience on Completed or Ongoing Projects." Please use this form to detail the work that the firm has performed within the last three years. A minimum of three successfully-completed highway and/or roadway rehabilitation construction projects are required. Use one page per project and reproduce copies of the form as necessary. In each project description, identify your firm as a prime contractor, subcontractor, or joint venture partner.

OSHA Violations: If at any time within the past five years the Contractor has received an OSHA serious violation, you must provide copies of the *Citation and Notification of Penalty*, signed *Settlement Agreement*, and narrative which details the specific issue(s) cited, remedial action required and taken by the Contractor, amount of fine initially imposed, and ultimate resolution.

Resumes and Organizational Chart: The Contractor must include current resumes for each Principal and key individual identified in Question 2B below. The statement must also include a copy of the firm's current Organizational Chart.

Equipment: The Contractor must provide a list of equipment that would be available for the work.

Note: This Statement constitutes a part of the proposal, and signature on the signature portion of the proposal constitutes signature on this Statement.

Evidence of Financial Responsibility: Unless submitting evidence that the Contractor is prequalified with the State Highway Division, the Contractor shall provide a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the Contractor's last fiscal year that has been certified by a public accountant.

1. GENERAL INFORMATION:

A. Type of organization: _____

If Corporation, include year and state incorporated

If Partnership, state whether general or limited

If Sole Proprietorship, include name of owner

If Joint Venture*, include name all partnering firms

(*Bidder's submitting a bid as joint venture must obtain a joint venture contractor's license before they may be awarded a contract, per Business and Professions Code §7029.1).

B. Is the firm certified as a Minority Business Enterprise (MBE) or Women Business Enterprise (WBE)?

_____ Yes (attach certification letter) _____ No

2. PERSONNEL:

A. Identify the current number of employees below:

Employee Type	Full-Time	Part-Time
Office		
Field		

B. Principals and Key Personnel: On the chart below, supply the required information. Principals and Key Personnel include proprietors, partners, directors or officers of the firm; any manager or individual who participates in overall policy-making or financial decisions of the firm; any person who makes significant financial contributions to the firm's operations; any person in a position to control and direct the firm's overall operations or any significant part of its operation (including site foremen and superintendents). Resumes for Principals and Key Personnel must be provided herewith. Use additional sheets if necessary to identify all Principals and Key Personnel.

Description	Person 1	Person 2	Person 3
Name			
Title			
% Ownership			

(Use additional sheets if necessary to identify all Principals and Key Personnel)

3. FINANCIAL INFORMATION:

A. Are there any liens outstanding against the Contractor? Yes No
(if yes, provide a detailed explanation on an attached sheet)

B. Has the Contractor, Principals or Key Personnel been party to a bankruptcy or reorganization proceeding with the last five years? Yes No
(if yes, provide a detailed explanation on an attached sheet)

C. Annual sales dollar volume of Contractor: \$ _____

A. Has the Contractor's financial responsibility since the confidential Financial statement or report was certified? Yes No

If so, qualify the public accountant's statement or report to reflect Contractor's true financial condition as of bid submission:

4. INTEGRITY OF CONTRACTOR: Please provide an explanation on an attached sheet for any of the following questions with the answer "yes".

A. During the past five years has the Contractor:

i. Been subject of a lien or claim of \$25,000 or more by a subcontractor or supplier? Yes No

ii. Failed to complete a contract? Yes No

iii. Been suspended, debarred, disqualified or otherwise declared ineligible to bid? Yes No

iv. Been defaulted on any contract? Yes No

v. Had a contract terminated? Yes No

vi. Had liquidated damages assessed against it upon completion of a contract? Yes No

vii. Been a plaintiff or defendant in any lawsuits arising out of public or private construction contracts? Yes No

B. During the past five years has the Contractor, Principals or Key Personnel:

- i. Been a plaintiff or defendant in any lawsuits arising out of public or private construction contracts? Yes No
- ii. Been the subject of an investigation involving any alleged violation of criminal law, civil antitrust law or other federal, state, or local civil law? Yes No
- iii. Been convicted after trial or by plea of any felony under state or federal law? Yes No
- iv. Entered a plea of nolo contendere to a charge of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property or violation of an antitrust law? Yes No
- v. Been the subject of an investigation of any alleged violation of federal, state, or local regulations by any public agency? Yes No
- vi. Been found to have committed a violation of any labor law or regulation including prevailing wage rates and fair labor practices? Yes No
- vii. Been found to have committed an OSHA "serious violation"? Yes No
- viii. Been found to have committed a construction-related violation of federal, state, or local environmental law or regulation? Yes No

5. BIDDING CAPABILITY AND PREVIOUS EXPERIENCE:

A. Provide a detailed narrative of the Contractor's experience and involvements in highway and/or roadway rehabilitation construction projects. Previous experience in this field of construction is necessary for the contractor to be found responsible specific to this Project. Additional information can be provided on an attached sheet.

mark if continued on attached sheet

B. Identify Contractor Specialty capabilities (check all appropriate). Bidder must have self-performing capability for each specialty selected by the Bidder.

- | | |
|---|--|
| <input type="checkbox"/> 1. Sitework | <input type="checkbox"/> 13. Conveying Systems |
| <input type="checkbox"/> 2. Concrete | <input type="checkbox"/> 14. Mechanical |
| <input type="checkbox"/> 3. Masonry | <input type="checkbox"/> 15. Electrical |
| <input type="checkbox"/> 4. Metals | <input type="checkbox"/> 16. Plumbing |
| <input type="checkbox"/> 5. Carpentry | <input type="checkbox"/> 17. HVAC |
| <input type="checkbox"/> 6. Thermal & Moisture Protection | <input type="checkbox"/> 18. Sprinkler |
| <input type="checkbox"/> 7. Doors & Windows | <input type="checkbox"/> 19. ATC |
| <input type="checkbox"/> 8. Finishes | <input type="checkbox"/> 20. Balancing |
| <input type="checkbox"/> 9. Specialties | <input type="checkbox"/> 21. Fire Alarms |
| <input type="checkbox"/> 10. Equipment | <input type="checkbox"/> 22. Security |
| <input type="checkbox"/> 11. Furnishings | <input type="checkbox"/> 23. Pre-fabricated Equipment |
| <input type="checkbox"/> 12. Special Construction | <input type="checkbox"/> 24. Qualified SWPPP Developer |
| | <input type="checkbox"/> 24. Qualified SWPPP Developer |

C. Contract Capability (determined by size of previous work and bonding capacity):

- 1. \$0 - \$10,000
- 2. \$0 - \$50,000
- 3. \$0 - \$100,000
- 4. \$0 - \$250,000
- 5. \$0 - \$500,000
- 6. \$0 - \$1,000,000
- 7. \$0 - \$5,000,000
- 8. \$0 - \$10,000,000
- 9. \$0 - >\$10,000,000

D. Use the following forms (i.e. pages BD-38 – BD-40) to describe bidder's experience on completed or ongoing projects over the last five years (a separate sheet must be completed for each project – three minimum).

PROJECT EXPERIENCE WITH HIGHWAY AND/OR AIRPORT CONSTRUCTION PROJECTS

- Project Status:
[] Project completed
[] Work in progress

- Contractor's Role*:
[] Prime Contractor
[] Subcontractor
[] Joint Venture Partner

* Entity submitting proposal is considered "Contractor"

Facility / Project Name: _____

Address of Project: _____

Project Owner: _____

Contract Amount (Contractor's Share): \$_____ Was project bonded? [] Yes [] No

% of total project performed by Contractor by Contractor's own forces: _____%

Was Contractor required to possess a Performance Bond and/or Payment Bond? [] Yes [] No

Start Date:_____ Scheduled Completion Date:_____ Actual Completion Date:_____

Construction Manager / Project Manager:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Architect / Engineer:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Reference familiar with Contractor's performance:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Description of work performed by Contractor: _____

PROJECT EXPERIENCE WITH HIGHWAY AND/OR AIRPORT CONSTRUCTION PROJECTS

- Project Status:
[] Project completed
[] Work in progress

- Contractor's Role*:
[] Prime Contractor
[] Subcontractor
[] Joint Venture Partner

* Entity submitting proposal is considered "Contractor"

Facility / Project Name: _____

Address of Project: _____

Project Owner: _____

Contract Amount (Contractor's Share): \$_____ Was project bonded? [] Yes [] No

% of total project performed by Contractor by Contractor's own forces: _____%

Was Contractor required to possess a Performance Bond and/or Payment Bond? [] Yes [] No

Start Date:_____ Scheduled Completion Date:_____ Actual Completion Date:_____

Construction Manager / Project Manager:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Architect / Engineer:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Reference familiar with Contractor's performance:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Description of work performed by Contractor: _____

PROJECT EXPERIENCE WITH HIGHWAY AND/OR AIRPORT CONSTRUCTION PROJECTS

Project Status:
[] Project completed
[] Work in progress

Contractor's Role*:
[] Prime Contractor
[] Subcontractor
[] Joint Venture Partner

* Entity submitting proposal is considered "Contractor"

Facility / Project Name: _____

Address of Project: _____

Project Owner: _____

Contract Amount (Contractor's Share): \$_____ Was project bonded? [] Yes [] No

% of total project performed by Contractor by Contractor's own forces: _____%

Was Contractor required to possess a Performance Bond and/or Payment Bond? [] Yes [] No

Start Date:_____ Scheduled Completion Date:_____ Actual Completion Date:_____

Construction Manager / Project Manager:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Architect / Engineer:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Reference familiar with Contractor's performance:

Company: _____

Address: _____

Telephone: _____ email: _____

Contact Name: _____ Title: _____

Description of work performed by Contractor: _____

BID BOND

(MINIMUM 5% OF TOTAL BID AMOUNT)

KNOW ALL BY THESE PRESENTS that we, _____
the Contractor in the contract hereto annexed, as Principal, and _____,
as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and assigns, as
set forth herein to the County of Mono (hereinafter, "Owner") in the sum of \$ _____
lawful money of the United States. Principal has submitted the accompanying bid for

STOCK DRIVE REALIGNMENT AT BRYANT FIELD

Project/AIP No. 3-06-0030-10-2016

If the Principal is awarded the contract and enters into a written contract, in the form prescribed by the
Owner, at the price designated by his bid, and files two bonds with the Owner, one to guarantee
payment for labor and materials and the other to guarantee faithful performance, in the time and manner
specified by the Owner, and carries all insurance in the type and amount which conforms to the Contract
Documents, and furnishes required certificates and endorsements thereof, then this obligation shall be
null and void; otherwise it shall remain in full force and effect.

Forfeiture of this bond shall not preclude the Owner from seeking all other remedies provided by law to
cover losses sustained as a result of the Principal's failure to do any of the foregoing.

Principal and Surety agree that if the Owner is required to engage the services of an attorney in
connection with the enforcement of this bond, each shall pay Owner's reasonable attorney's fees
incurred with or without suit.

PRINCIPAL:

Executed on: _____

By: _____

(Seal of Corporation)

Title: _____

(Attach notary acknowledgment for Contractor's authorized representative and for Attorney-in-Fact of Surety)

NOTICE: No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business
in and have an agent for service of process in California. A certified copy of Power of Attorney must be attached.

Any claims under this bond may be addressed to:

_____ (Name and address of Surety)

_____ (Name and address of Surety's agent for service of process in California, if different from above)

_____ (Telephone number of Surety's agent in Calif.)

(Attach notary acknowledgement)

SURETY

By: _____
(Attorney-in-Fact)

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SECTION II

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**AGREEMENT BETWEEN COUNTY OF MONO
AND _____ FOR
STOCK DRIVE REALIGNMENT PROJECT
AT BRYANT FIELD**

INTRODUCTION

WHEREAS, the County of Mono (hereinafter referred to as “County”) may have the need for the various construction services of [Corporation]/[[Name(s)], [an] individual[s]], doing business as [Contractor] of [City], [State] (hereinafter referred to as “Contractor”), and in consideration of the mutual promises, covenants, terms and conditions hereinafter contained, the parties hereby agree as follows:

TERMS AND CONDITIONS

1. SCOPE OF WORK

The Contractor shall furnish to the County, upon its request, those services and work set forth in Attachment A, attached hereto and by reference incorporated herein. Such services and work shall be subject to the Project Manual (Invitation for Bids, Instructions to Bidders, Proposal Forms, Standard Agreement, Special Provisions, Federal Provisions and Specifications, and Technical Specifications) and Project Plans, all of which comprise the Contract Documents. In the event of a conflict between the Federal Provisions and this agreement, the Federal Provisions shall govern. Requests by the County to the Contractor to perform under this Agreement will be made by the Director of Public Works, or an authorized representative thereof. Requests to the Contractor for work or services to be performed under this Agreement will be based upon the County's need for such services. The County makes no guarantee or warranty, of any nature, that any minimum level or amount of services or work will be requested of the Contractor by the County under this Agreement. By this Agreement the County incurs no obligation or requirement to request from Contractor the performance of any services or work at all, even if the County should have some need for such services or work during the term of this Agreement.

Services and work provided by the Contractor at the County's request under this Agreement will be performed in a manner consistent with the requirements and standards established by applicable federal, state, and county laws, ordinances, and resolutions. Such laws, ordinances, regulations, and resolutions include, but are not limited to, those that are referred to in this Agreement.

This Agreement is subject to the following Exhibits (as noted) which are attached hereto, following all referenced Attachments, and incorporated by this reference. In the event of a conflict between the terms of an attached Exhibit and this Agreement, the terms of the Exhibit shall govern:

- Exhibit 1:** General Conditions (Construction)
- Exhibit 2:** Prevailing Wages
- Exhibit 3:** Bond Requirements
- Exhibit 4:** Invoicing, Payment, and Retention
- Exhibit 5:** Trenching Requirements
- Exhibit 6:** FHWA Requirements
- Exhibit 7:** CDBG Requirements
- Exhibit 8:** HIPAA Business Associate Agreement
- Exhibit 9:** Other _____

2. TERM

The term of this Agreement shall be from [Click here to enter text.](#), [Click here to enter text.](#), unless sooner terminated as provided below.

3. CONSIDERATION

A. Compensation. County shall pay Contractor in accordance with the Schedule of Fees (set forth as Attachment B) for the services and work described in Attachment A that are performed by Contractor at County's request.

B. Travel and Per Diem. Contractor will not be paid or reimbursed for travel expenses or per diem that Contractor incurs in providing services and work requested by the County under this Agreement, unless otherwise provided for in Attachment B.

C. No Additional Consideration. Except as expressly provided in this Agreement, Contractor shall not be entitled to, nor receive, from County, any additional consideration, compensation, salary, wages, or other type of remuneration for services rendered under this Agreement. Specifically, Contractor shall not be entitled, by virtue of this Agreement, to consideration in the form of overtime, health insurance benefits, retirement benefits, disability retirement benefits, sick leave, vacation time, paid holidays, or other paid leaves of absence of any type or kind whatsoever.

D. Limit upon amount payable under Agreement. The total sum of all payments made by the County to Contractor for services and work performed under this Agreement shall not exceed [Click here to enter text](#) ., plus the amount of any change order(s) approved in accordance with authority delegated by the Board of Supervisors (hereinafter referred to as "Contract Limit"). County expressly reserves the right to deny any payment or reimbursement requested by Contractor for services or work performed that is in excess of the Contract Limit.

E. Billing and Payment. Contractor shall submit to the County, on a monthly basis, an itemized statement of all services and work described in Attachment A, which were done at the County's request. The statement to be submitted will cover the period from the first (1st) day of the preceding month through and including the last day of the preceding month. Alternatively, Contractor may submit a single request for payment corresponding to a single incident of service or work performed at the County's request. All statements submitted in request for payment shall identify the date on which the services and work were performed and describe the nature of the services and work which were performed on each day. Invoicing shall be informative but concise regarding services and work performed during that billing period. Upon finding that Contractor has satisfactorily completed the work and performed the services as requested, the County shall make payment to Contractor within 30 days of its receipt of the itemized statement. Should the County determine the services or work have not been completed or performed as requested and/or should Contractor produce an incorrect statement, the County shall withhold payment until the services and work are satisfactorily completed or performed and/or the statement is corrected and resubmitted.

If Exhibit 4 ("Invoicing, Payment, and Retention") is attached to this Agreement, then the language contained in 4 shall supersede and replace this paragraph 3.E. in its entirety.

F. Federal and State Taxes.

(1) Except as provided in subparagraph (2) below, County will not withhold any federal or state income taxes or social security from any payments made by County to Contractor under the terms and conditions of this Agreement.

(2) County shall withhold California state income taxes from payments made under this Agreement to non-California resident independent contractors when it is anticipated that total annual payments to Contractor under this Agreement will exceed one thousand four hundred ninety-nine dollars (\$1,499.00).

(3) Except as set forth above, County has no obligation to withhold any taxes or payments from sums paid by County to Contractor under this Agreement. Payment of all taxes and other assessments on such sums is the sole responsibility of Contractor. County has no responsibility or liability for payment of Contractor's taxes or assessments.

(4) The total amounts paid by County to Contractor, and taxes withheld from payments to non-California residents, if any, will be reported annually to the Internal Revenue Service and the California State Franchise Tax Board.

4. WORK SCHEDULE

Contractor's obligation is to perform, in a timely manner, those services and work identified in Attachment A that are requested by the County. It is understood by Contractor that the performance of these services and work will require a varied schedule. Contractor, in arranging his/her schedule, will coordinate with County to ensure that all services and work requested by County under this Agreement will be performed within the time frame set forth by County.

5. REQUIRED LICENSES, CERTIFICATES, AND PERMITS

Any licenses, certificates, or permits required by the federal, state, county, or municipal governments, for Contractor to provide the services and work described in Attachment A must be procured by Contractor and be valid at the time Contractor enters into this Agreement. Further, during the term of this Agreement, Contractor must maintain such licenses, certificates, and permits in full force and effect. Licenses, certificates, and permits may include, but are not limited to, driver's licenses, professional licenses or certificates, and business licenses. Such licenses, certificates, and permits will be procured and maintained in force by Contractor at no expense to the County. Contractor will provide County, upon execution of this Agreement, with evidence of current and valid licenses, certificates and permits that are required to perform the services identified in Attachment A. Where there is a dispute between Contractor and County as to what licenses, certificates, and permits are required to perform the services identified in Attachment A, County reserves the right to make such determinations for purposes of this Agreement.

6. OFFICE SPACE, SUPPLIES, EQUIPMENT, ETC

The Contractor shall provide such office space, supplies, equipment, vehicles, reference materials, support services and telephone service as is necessary for Contractor to provide the services identified in Attachment A to this Agreement. County is not obligated to reimburse or pay Contractor for any expense or cost incurred by Contractor in procuring or maintaining such items. Responsibility for the costs and expenses incurred by Contractor in providing and maintaining such items is the sole responsibility and obligation of Contractor.

7. COUNTY PROPERTY

A. Personal Property of County. Any personal property such as, but not limited to, protective or safety devices, badges, identification cards, keys, uniforms, vehicles, reference materials, furniture, appliances, etc. provided to Contractor by County pursuant to this Agreement is, and at the termination of this Agreement remains, the sole and exclusive property of the County. Contractor will use reasonable care to protect, safeguard and maintain such items while they are in Contractor's possession. Contractor will be financially responsible for any loss or damage to such items, partial or total, that is the result of Contractor's negligence.

B. Products of Contractor's Work and Services. Any and all compositions, publications, plans, designs, specifications, blueprints, maps, formulas, processes, photographs, slides, videotapes, computer programs, computer disks, computer tapes, memory chips, soundtracks, audio recordings, films, audio-visual presentations, exhibits, reports, studies, works of art, inventions, patents, trademarks, copyrights, or intellectual properties of any kind that are created, produced, assembled, compiled by, or are the result, product, or manifestation of, Contractor's services or work under this Agreement are, and at the termination of this Agreement remain, the sole and exclusive property of the County. At the termination of the Agreement, Contractor will convey possession and title to all such properties to County.

8. WORKERS' COMPENSATION

Contractor shall provide Statutory Workers' Compensation insurance coverage and Employer's Liability coverage for not less than \$1 million (\$1,000,000.00) per occurrence for all employees engaged in services or operations under this Agreement. Any insurance policy limits in excess of the specified minimum limits and coverage shall

be made available to County as an additional insured. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of County for all work performed by Contractor, its employees, agents, and subcontractors.

9. INSURANCE

A. Contractor shall procure and maintain, during the entire term of this Agreement or, if work or services do not begin as of the effective date of this Agreement, commencing at such other time as may be authorized in writing by the County Risk Manager, the following insurance (as noted) against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by Contractor, its agents, representatives, employees, or subcontractors:

- General Liability. A policy of Comprehensive General Liability Insurance which covers all the work and services to be performed by Contractor under this Agreement, including operations, products and completed operations, property damage, bodily injury (including death) and personal and advertising injury. Such policy shall provide limits of not less than \$2,000,000.00 per claim or occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit.
- Automobile/Aircraft/Watercraft Liability Insurance. A policy of Comprehensive Automobile/Aircraft/Watercraft Liability Insurance for bodily injury (including death) and property damage which provides total limits of not less than \$2,000,000.00 per claim or occurrence applicable to all owned, non-owned and hired vehicles/aircraft/watercraft. If the services provided under this Agreement include the transportation of hazardous materials/wastes, then the Automobile Liability policy shall be endorsed to include Transportation Pollution Liability insurance covering materials/wastes to be transported by Contractor pursuant to this Agreement. Alternatively, such coverage may be provided in Contractor's Pollution Liability policy.
- Professional Errors and Omissions Liability Insurance. A policy of Professional Errors and Omissions Liability Insurance appropriate to Contractor's profession in an amount of not less than \$1,000,000.00 per claim or occurrence/ \$2,000,000.00 general aggregate. If coverage is written on a claims-made form then: (1) the "retro date" must be shown, and must be before the beginning of contract work; (2) insurance must be maintained and evidence of insurance must be provided for at least five years after completion of the contract work; and (3) if coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a "retro date" prior to the contract effective date, then Contractor must purchase "extended reporting" coverage for a minimum of five years after completion of contract work.
- Pollution Liability Insurance. A policy of Comprehensive Contractors Pollution Liability coverage applicable to the work being performed and covering Contractor's liability for bodily injury (including death), property damage, and environmental damage resulting from "sudden accidental" or "gradual" pollution and related cleanup costs arising out of the work or services to be performed under this Agreement. Coverage shall provide a limit no less than \$1,000,000.00 per claim or occurrence/ \$2,000,000.00 general aggregate. If the services provided involve lead-based paint or asbestos identification/remediation, the Pollution Liability policy shall not contain lead-based paint or asbestos exclusions.

B. Coverage and Provider Requirements. Insurance policies shall not exclude or except from coverage any of the services and work required to be performed by Contractor under this Agreement. The required polic(ies) of insurance shall be issued by an insurer authorized to sell such insurance by the State of California, and have at least a "Best's" policyholder's rating of "A" or "A+". Prior to commencing any work under this agreement, Contractor shall provide County: (1) a certificate of insurance evidencing the coverage required; (2) an additional insured endorsement applying to the County of Mono, its agents, officers and employees; and (3) a notice of

cancellation or change of coverage endorsement indicating that the policy will not be modified, terminated, or canceled without thirty (30) days written notice to the County.

C. Deductible, Self-Insured Retentions, and Excess Coverage. Any deductibles or self-insured retentions must be declared and approved by Mono County. If possible, the Insurer shall reduce or eliminate such deductibles or self-insured retentions with respect to Mono County, its officials, officers, employees, and volunteers; or the Contractor shall provide evidence satisfactory to Mono County guaranteeing payment of losses and related investigations, claim administration, and defense expenses. Any insurance policy limits in excess of the specified minimum limits and coverage shall be made available to County as an additional insured.

D. Waiver of Subrogation. Contractor hereby grants to County a waiver of any right to subrogation which any insurer of Contractor may acquire against County by virtue of the payment of any loss under such insurance. Contractor shall obtain any endorsement necessary to effectuate this waiver, but this provision applies regardless of whether or not County has received a waiver of subrogation endorsement from the insurer.

E. Subcontractors. Contractor shall require and verify that all subcontractors maintain insurance (including Workers' Compensation) meeting all the requirements stated herein and that County is an additional insured on insurance required of subcontractors.

10. STATUS OF CONTRACTOR

All acts of Contractor, its agents, officers, and employees, relating to the performance of this Agreement, shall be performed as an independent contractor, and not as an agent, officer, or employee of the County. Contractor, by virtue of this Agreement, has no authority to bind or incur any obligation on behalf of, or exercise any right or power vested in, the County, except as expressly provided by law or set forth in Attachment A. No agent, officer, or employee of the County is to be considered an employee of Contractor. It is understood by both Contractor and County that this Agreement shall not, under any circumstances, be construed to create an employer-employee relationship or a joint venture. As an independent contractor:

A. Contractor shall determine the method, details, and means of performing the work and services to be provided by Contractor under this Agreement.

B. Contractor shall be responsible to County only for the requirements and results specified in this Agreement, and except as expressly provided in this Agreement, shall not be subjected to County's control with respect to the physical action or activities of Contractor in fulfillment of this Agreement.

C. Contractor, its agents, officers and employees are, and at all times during the term of this Agreement shall represent and conduct themselves as, independent contractors, and not employees of County.

11. DEFENSE AND INDEMNIFICATION

Contractor shall defend, indemnify, and hold harmless County, its agents, officers, and employees from and against all claims, damages, losses, judgments, liabilities, expenses, and other costs, including litigation costs and attorney's fees, arising out of, resulting from or in connection with, the performance of this Agreement by Contractor, or Contractor's agents, officers, or employees. Contractor's obligation to defend, indemnify, and hold the County, its agents, officers, and employees harmless applies to any actual or alleged personal injury, death, damage or destruction to tangible or intangible property, including the loss of use. Contractor's obligation under this paragraph extends to any claim, damage, loss, liability, expense, or other costs that are caused in whole or in part by any act or omission of the Contractor, its agents, employees, supplier, or anyone directly or indirectly employed by any of them, or anyone for whose acts or omissions any of them may be liable.

Contractor's obligation to defend, indemnify, and hold the County, its agents, officers, and employees harmless under the provisions of this paragraph is not limited to, or restricted by, any requirement in this Agreement for Contractor to procure and maintain a policy of insurance and shall survive any termination or expiration of this Agreement.

12. RECORDS AND AUDIT

A. Records. Contractor shall prepare and maintain all records required by the various provisions of this Agreement, federal, state, county, municipal, ordinances, regulations, and directions. Contractor shall maintain these records for a minimum of four (4) years from the termination or completion of this Agreement. Contractor may fulfill its obligation to maintain records as required by this paragraph by substitute photographs, micrographs, or other authentic reproduction of such records.

B. Inspections and Audits. Any authorized representative of County shall have access to any books, documents, papers, records, including, but not limited to, financial records of Contractor, that County determines to be pertinent to this Agreement, for the purposes of making audit, evaluation, examination, excerpts, and transcripts during the period such records are to be maintained by Contractor. Further, County has the right, at all reasonable times, to audit, inspect, or otherwise evaluate the work performed or being performed under this Agreement.

13. NONDISCRIMINATION

During the performance of this Agreement, Contractor, its agents, officers, and employees shall not unlawfully discriminate in violation of any federal, state, or local law, against any employee, or applicant for employment, or person receiving services under this Agreement, because of race, religious creed, color, ancestry, national origin, physical disability, mental disability, medical condition, marital status, sex, age, or sexual orientation. Contractor and its agents, officers, and employees shall comply with the provisions of the Fair Employment and Housing Act (Government Code section 12900, et seq.), and the applicable regulations promulgated thereunder in the California Code of Regulations. Contractor shall also abide by the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, and all administrative rules and regulations issued pursuant to said Act.

14. TERMINATION

This Agreement may be terminated by County without cause, and at will, for any reason by giving to Contractor thirty (30) calendar days written notice of such intent to terminate. Contractor may terminate this Agreement without cause, and at will, for any reason whatsoever by giving to County thirty (30) calendar days written notice of such intent to terminate.

Notwithstanding the foregoing, if this Agreement is subject to General Conditions (set forth as an Exhibit hereto), then termination shall be in accordance with the General Conditions and this paragraph 14 shall not apply.

15. ASSIGNMENT

This is an agreement for the personal services of Contractor. County has relied upon the skills, knowledge, experience, and training of Contractor as an inducement to enter into this Agreement. Contractor shall not assign or subcontract this Agreement, or any part of it, without the express written consent of the County. Further, Contractor shall not assign any moneys due or to become due under this Agreement without the prior written consent of the County.

16. DEFAULT

If the Contractor abandons the work, or fails to proceed with the work and services requested by the County in a timely manner, or fails in any way as required to conduct the work and services as required by the County, the County may declare the Contractor in default and terminate this Agreement upon five (5) days written notice to Contractor. Upon such termination by default, County will pay to Contractor all amounts owing to Contractor for services and work satisfactorily performed to the date of termination.

17. WAIVER OF DEFAULT

Waiver of any default by either party to this Agreement shall not be deemed to be a waiver of any subsequent default. Waiver or breach of any provision of this Agreement shall not be deemed to be a waiver of any other or subsequent breach, and shall not be construed to be a modification of the terms of this Agreement unless this Agreement is modified as provided in paragraph 23 below.

18. CONFIDENTIALITY

Contractor agrees to comply with various provisions of the federal, state, and county laws, regulations, and ordinances providing that information and records kept, maintained, or accessible by Contractor in the course of providing services and work under this Agreement, shall be privileged, restricted, or confidential. Contractor agrees to keep confidential, all such privileged, restricted or confidential information and records obtained in the course of providing the work and services under this Agreement. Disclosure of such information or records shall be made by Contractor only with the express written consent of the County.

19. CONFLICTS

Contractor agrees that he/she has no interest, and shall not acquire any interest, direct or indirect, that would conflict in any manner or degree with the performance of the work and services under this Agreement. Contractor agrees to complete and file a conflict-of-interest statement.

20. POST-AGREEMENT COVENANT

Contractor agrees not to use any confidential, protected, or privileged information that is gained from the County in the course of providing services and work under this Agreement, for any personal benefit, gain, or enhancement. Further, Contractor agrees for a period of two (2) years after the termination of this Agreement, not to seek or accept any employment with any entity, association, corporation, or person who, during the term of this Agreement, has had an adverse or conflicting interest with the County, or who has been an adverse party in litigation with the County, and concerning such, Contractor by virtue of this Agreement has gained access to the County's confidential, privileged, protected, or proprietary information.

21. SEVERABILITY

If any portion of this Agreement or application thereof to any person or circumstance shall be declared invalid by a court of competent jurisdiction, or if it is found in contravention of any federal, state, or county statute, ordinance, or regulation, the remaining provisions of this Agreement, or the application thereof, shall not be invalidated thereby, and shall remain in full force and effect to the extent that the provisions of this Agreement are severable.

22. FUNDING LIMITATION

The ability of the County to enter into this Agreement is based upon available funding from various sources. In the event that such funding fails, is reduced, or is modified, from one or more sources, County has the option to terminate, reduce, or modify this Agreement, or any of its terms within ten (10) days of notifying Contractor of the termination, reduction, or modification of available funding. Any reduction or modification of this Agreement effective pursuant to this provision must comply with the requirements of paragraph 23.

23. AMENDMENT

This Agreement may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties hereto, if such amendment or change order is in written form, and executed with the same formalities as this Agreement or in accordance with delegated authority therefor, and attached to the original Agreement to maintain continuity.

24. NOTICE

Any notice, communication, amendments, additions or deletions to this Agreement, including change of address of any party during the term of this Agreement, which Contractor or County shall be required, or may desire to make, shall be in writing and may be personally served, or sent by prepaid first-class mail or email (if included below) to the respective parties as follows:

County of Mono:

- Click here to enter text .Department
- Click here to enter text .Name
- Click here to enter text .Mailing Address
- Click here to enter text .City/State/Zip
- Click here to enter text .Email Address (optional)

Contractor:

- Click here to enter text .Name
- Click here to enter text .Mailing Address
- Click here to enter text .City/State/Zip
- Click here to enter text .Email Address (optional)

25. ENTIRE AGREEMENT

This Agreement contains the entire agreement of the parties, and no representations, inducements, promises, or agreements otherwise between the parties not embodied herein or incorporated herein by reference, shall be of any force or effect. Further, no term or provision hereof may be changed, waived, discharged, or terminated, unless executed in writing by the parties hereto.

**IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS AND SEALS
THIS ____ DAY OF _____, _____.**

COUNTY OF MONO

CONTRACTOR

By: _____

By: _____

Dated: _____

Dated: _____

Taxpayer's Identification or Social Security Number: _____

APPROVED AS TO FORM:

County Counsel

APPROVED BY RISK MANAGEMENT:

Risk Manager

ATTACHMENT A

**AGREEMENT BETWEEN COUNTY OF MONO
AND [Click here to enter text.](#)
FOR THE PROVISION OF [Click here to enter text.](#) **SERVICES****

TERM:

FROM: [Click here to enter text.](#) **TO:** [Click here to enter text.](#)

SCOPE OF WORK:

[Click here to enter text.](#)

ATTACHMENT B

**AGREEMENT BETWEEN COUNTY OF MONO
AND [Click here to enter text.](#)
FOR THE PROVISION OF [Click here to enter text.](#) SERVICES**

TERM:

FROM: [Click here to enter text.](#) **TO:** [Click here to enter text.](#)

SCHEDULE OF FEES:

[Click here to enter text.](#)

See Attachment B1, incorporated herein by this reference (optional).

EXHIBIT 2

AGREEMENT BETWEEN THE COUNTY OF MONO AND
Click here to enter text.FOR THE PROVISION OF
Click here to enter text.SERVICES

PREVAILING WAGES AS OF: Click here to enter text.

A. Determination.

The services and work to be provided by Contractor under this Agreement constitute a public work within the meaning of California Labor Code Sections 1720 and 1720.3. Accordingly, and as required by Section 1771 of the California Labor Code, Contractor and any subcontractor under him, shall pay not less than the general prevailing rate of per diem wages, and not less than the general prevailing rate of per diem wages for holiday and overtime work, to all workers employed in the execution of those services and work requested by the County as described in Attachment A of this Agreement that constitute a public work. California Labor Code Section 1771 is incorporated herein by this reference, and a copy of that Section is included at the end of this Exhibit.

B. Prevailing Wage Rate.

The general prevailing rate of per diem wages applicable to each class of worker employed in the execution of those services and work that constitute a public work under this Agreement has been determined by the Director of the California Department of Industrial Relations (hereinafter referred to as "Director"). Copies of the Director's determination are on file at the Mono County Department of Public Works office, 74 North School Street, Bridgeport, California, and are available to any interested party upon request.

C. Apprentices.

Pursuant to Section 1777.5 of the California Labor Code, properly registered apprentices performing services and work that constitute a public work, if any, shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he or she is employed, and shall be employed only at the work of the craft or trade to which he or she is registered. California Labor Code Section 1777.5 is incorporated herein by this reference, and a copy of that section is included at the end of this Exhibit.

D. Penalty for Non-Payment of Prevailing Wages.

Pursuant to Section 1775 of the California Labor Code, Contractor, and any subcontractor under him, shall, as a penalty to the County, forfeit not more than fifty dollars (\$50.00) for each calendar day, or portion thereof, for each worker paid less than the general rate of per diem wages for the performance of services and work that constitute a public work, as determined by the Director, for the work or craft for which the worker is employed in the performance of services and work provided under this Agreement that constitute a public work, except as provided by subdivision (b) of Section 1775 of the California Labor Code. California Labor Code Section 1775 is

incorporated herein by this reference, and a copy of that section is included at the end of this Exhibit.

E. Payroll Records.

Pursuant to Section 1776 of the California Labor Code, Contractor, and any subcontractor under him, shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the performance of the services and work requested by the County, as described in the Scope of Work (Attachment A) of this Agreement.

F. Inspection of Payroll Records.

Contractor, and any subcontractor under him, shall comply with each of the additional requirements set forth in California Labor Code Section 1776, regarding: (1) the form of records; (2) the provision of records upon request to the County, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the California Department of Industrial Relations; and, (3) the inspection of records by the public. California Labor Code Section 1776 is incorporated herein by this reference, and a copy of that section is included at the end of this Exhibit.

G. Posting of Prevailing Wages at Job Site.

Pursuant to California Labor Code Section 1773.2, Contractor shall post at each job site in connection with this Agreement a copy of the Director's determination of the general prevailing rate of per diem wages for each classification of worker required in the execution of those services and work requested by the County, as described in the Scope of Work (Attachment A) of this Agreement that constitute a public work.

H. Hours.

Pursuant to Section 1810 of the California Labor Code, the time of service of any worker employed by Contractor, or by any subcontractor under him, in the performance of services and work requested by the County, as described in the Scope of Work (Attachment A) of this Agreement that constitute a public work, is limited and restricted to eight hours during any one calendar day, and 40 hours during any one calendar week, except as otherwise provided by the California Labor Code.

I. Overtime.

Pursuant to California Labor Code Section 1815, the performance of services and work, as described in the Scope of Work (Attachment A) of this Agreement that constitute a public work by employees of Contractor, or employees of any subcontractor under him, in excess of eight hours per calendar day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight hours per calendar day at not less than one and one-half (1½) times the basic rate of pay. California Labor Code Section 1815 is incorporated herein by this reference, and a copy of that section is included at the end of this Exhibit.

J. Records of Hours.

Contractor, and any subcontractors under him, shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him or her in connection with the performance of the services and work requested by the County that constitute a public work, as described in the Scope of Work (Attachment A) of this Agreement. The record shall be kept open at all reasonable hours to the inspection of the County and to the Division of Labor Standards Enforcement as required by Labor Code Section 1812.

K. Penalty for Violation of Work Hours.

Pursuant to California Labor Code Section 1813, Contractor, and any subcontractors under him, shall, as a penalty to the County, forfeit twenty-five dollars (\$25.00) for each worker employed by the respective contractor or subcontractor in the execution of the services and work requested by the County that constitute a public work, as described in the Scope of Work (Attachment A) of this Agreement, for each calendar day during which the worker is required or permitted to work more than eight hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of the California Labor Code. California Labor Code Section 1813 is incorporated herein by this reference, and a copy of that section is included at the end of this Exhibit.

L. Registration with DIR and Compliance Monitoring.

Under Labor Code section 1725.5, no contractor or subcontractor may be listed in a bid proposal (with limited exceptions stated in Labor Code section 1771.1) or awarded a contract for a public works project unless registered with the Department of Industrial Relations. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

CALIFORNIA LABOR CODE:

Sections 1771, 1775, 1776, 1777.5, 1813, and 1815

§ 1771. Payment of general prevailing rate

Except for public works projects of one thousand dollars (\$1,000) or less, not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the public work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in this chapter, shall be paid to all workers employed on public works.

This section is applicable only to work performed under contract, and is not applicable to work carried out by a public agency with its own forces. This section is applicable to contracts let for maintenance work.

§ 1775. Penalties for violations

(a) (1) The contractor and any subcontractor under the contractor shall, as a penalty to the state or political subdivision on whose behalf the

contract is made or awarded, forfeit not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates as determined by the director for the work or craft in which the worker is employed for any public work done under the contract by the contractor or, except as provided in subdivision (b), by any subcontractor under the contractor.

- (2) (A) The amount of the penalty shall be determined by the Labor Commissioner based on consideration of both of the following:
- (i) Whether the failure of the contractor or subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor.
 - (ii) Whether the contractor or subcontractor has a prior record of failing to meet its prevailing wage obligations.
- (B) (i) The penalty may not be less than ten dollars (\$10) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the contractor or subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor.
- (ii) The penalty may not be less than twenty dollars (\$20) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the contractor or subcontractor has been assessed penalties within the previous three years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned.
 - (iii) The penalty may not be less than thirty dollars (\$30) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1.
- (C) When the amount due under this section is collected from the contractor or subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 against that contractor or subcontractor shall be satisfied before applying that amount to the penalty imposed on that contractor or subcontractor pursuant to this section.
- (D) The determination of the Labor Commissioner as to the amount of the penalty shall be reviewable only for abuse of discretion.
- (E) The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the contractor or subcontractor, and the body awarding the contract shall cause to be inserted in the contract a stipulation that this section will be complied with.
- (b) If a worker employed by a subcontractor on a public works project is not paid the general prevailing rate of per diem wages by the

subcontractor, the prime contractor of the project is not liable for any penalties under subdivision (a) unless the prime contractor had knowledge of that failure of the subcontractor to pay the specified prevailing rate of wages to those workers or unless the prime contractor fails to comply with all of the following requirements:

- (1) The contract executed between the contractor and the subcontractor for the performance of work on the public works project shall include a copy of the provisions of Sections 1771, 1775, 1776, 1777.5, 1813, and 1815.
 - (2) The contractor shall monitor the payment of the specified general prevailing rate of per diem wages by the subcontractor to the employees, by periodic review of the certified payroll records of the subcontractor.
 - (3) Upon becoming aware of the failure of the subcontractor to pay his or her workers the specified prevailing rate of wages, the contractor shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for work performed on the public works project.
 - (4) Prior to making final payment to the subcontractor for work performed on the public works project, the contractor shall obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages to his or her employees on the public works project and any amounts due pursuant to Section 1813.
- (c) The Division of Labor Standards Enforcement shall notify the contractor on a public works project within 15 days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a subcontractor on that public works project to pay workers the general prevailing rate of per diem wages.

§ 1776. Payroll records; retention; noncompliance; penalties; rules and regulations

(a) Each contractor and subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct.

(2) The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.

(b) The payroll records enumerated under subdivision (a) shall be certified and furnished directly to the Labor Commissioner in accordance with subdivision (a) of Section 1771.4, and shall be available for

inspection at all reasonable hours at the principal office of the contractor on the following basis:

(1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.

(2) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection or furnished upon request to a representative of the body awarding the contract and the Division of Labor Standards Enforcement of the Department of Industrial Relations.

(3) A certified copy of all payroll records enumerated in subdivision (a) shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through either the body awarding the contract or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to paragraph (2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the contractor, subcontractors, and the entity through which the request was made. The public may not be given access to the records at the principal office of the contractor.

(c) Unless required to be furnished directly to the Labor Commissioner in accordance with paragraph (3) of subdivision (a) of Section 1771.4, the certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division. The payroll records may consist of printouts of payroll data that are maintained as computer records, if the printouts contain the same information as the forms provided by the division and the printouts are verified in the manner specified in subdivision (a).

(d) A contractor or subcontractor shall file a certified copy of the records enumerated in subdivision (a) with the entity that requested the records within 10 days after receipt of a written request.

(e) Except as provided in subdivision (f), any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address, and social security number. The name and address of the contractor awarded the contract or the subcontractor performing the contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a multiemployer Taft-Hartley trust fund (29 U.S.C. Sec. 186(c)(5)) that requests the records for the purposes of allocating contributions to participants shall be marked or obliterated only to prevent disclosure of an individual's full social security number, but shall provide the last four digits of the social security number. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management Cooperation Act of 1978 (29 U.S.C.

Sec. 175a) shall be marked or obliterated only to prevent disclosure of an individual's social security number.

(f)

(1) Notwithstanding any other provision of law, agencies that are included in the Joint Enforcement Strike Force on the Underground Economy established pursuant to Section 329 of the Unemployment Insurance Code and other law enforcement agencies investigating violations of law shall, upon request, be provided nonredacted copies of certified payroll records. Any copies of records or certified payroll made available for inspection and furnished upon request to the public by an agency included in the Joint Enforcement Strike Force on the Underground Economy or to a law enforcement agency investigating a violation of law shall be marked or redacted to prevent disclosure of an individual's name, address, and social security number.

(2) An employer shall not be liable for damages in a civil action for any reasonable act or omission taken in good faith in compliance with this subdivision.

(g) The contractor shall inform the body awarding the contract of the location of the records enumerated under subdivision (a), including the street address, city, and county, and shall, within five working days, provide a notice of a change of location and address.

(h) The contractor or subcontractor has 10 days in which to comply subsequent to receipt of a written notice requesting the records enumerated in subdivision (a). In the event that the contractor or subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

(i) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section.

(j) The director shall adopt rules consistent with the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code) and the Information Practices Act of 1977 (Title 1.8 (commencing with Section 1798) of Part 4 of Division 3 of the Civil Code) governing the release of these records, including the establishment of reasonable fees to be charged for reproducing copies of records required by this section.

§ 1777.5. Employment of apprentices; wages; standards; number; apprenticeable craft or trade; exemptions; contributions

(a) Nothing in this chapter shall prevent the employment of properly registered apprentices upon public works.

- (b) Every apprentice employed upon public works shall be paid the prevailing rate of per diem wages for apprentices in the trade to which he or she is registered and shall be employed only at the work of the craft or trade to which he or she is registered.
- (c) Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards and who are parties to written apprentice agreements under Chapter 4 (commencing with Section 3070) of Division 3 are eligible to be employed at the apprentice wage rate on public works. The employment and training of each apprentice shall be in accordance with either of the following:
- (1) The apprenticeship standards and apprentice agreements under which he or she is training.
 - (2) The rules and regulations of the California Apprenticeship Council.
- (d) When the contractor to whom the contract is awarded by the state or any political subdivision, in performing any of the work under the contract, employs workers in any apprenticeable craft or trade, the contractor shall employ apprentices in at least the ratio set forth in this section and may apply to any apprenticeship program in the craft or trade that can provide apprentices to the site of the public work for a certificate approving the contractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected. However, the decision of the apprenticeship program to approve or deny a certificate shall be subject to review by the Administrator of Apprenticeship. The apprenticeship program or programs, upon approving the contractor, shall arrange for the dispatch of apprentices to the contractor. A contractor covered by an apprenticeship program's standards shall not be required to submit any additional application in order to include additional public works contracts under that program. "Apprenticeable craft or trade," as used in this section, means a craft or trade determined as an apprenticeable occupation in accordance with rules and regulations prescribed by the California Apprenticeship Council. As used in this section, "contractor" includes any subcontractor under a contractor who performs any public works not excluded by subdivision (o).
- (e) Prior to commencing work on a contract for public works, every contractor shall submit contract award information to an applicable apprenticeship program that can supply apprentices to the site of the public work. The information submitted shall include an estimate of journeyman hours to be performed under the contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to the awarding body if requested by the awarding body. Within 60 days after concluding work on the contract, each contractor and subcontractor shall submit to the awarding body, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the contract. The information under this subdivision shall be public. The apprenticeship programs shall retain this information for 12 months.
- (f) The apprenticeship program that can supply apprentices to the area of the site of the public work shall ensure equal employment and affirmative action in apprenticeship for women and minorities.

- (g) The ratio of work performed by apprentices to journeymen employed in a particular craft or trade on the public work may be no higher than the ratio stipulated in the apprenticeship standards under which the apprenticeship program operates where the contractor agrees to be bound by those standards, but, except as otherwise provided in this section, in no case shall the ratio be less than one hour of apprentice work for every five hours of journeyman work.
- (h) This ratio of apprentice work to journeyman work shall apply during any day or portion of a day when any journeyman is employed at the jobsite and shall be computed on the basis of the hours worked during the day by journeymen so employed. Any work performed by a journeyman in excess of eight hours per day or 40 hours per week shall not be used to calculate the ratio. The contractor shall employ apprentices for the number of hours computed as above before the end of the contract or, in the case of a subcontractor, before the end of the subcontract. However, the contractor shall endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the jobsite. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Chief of the Division of Apprenticeship Standards, upon application of an apprenticeship program, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification.
- (i) A contractor covered by this section that has agreed to be covered by an apprenticeship program's standards upon the issuance of the approval certificate, or that has been previously approved for an apprenticeship program in the craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the applicable apprenticeship standards, but in no event less than the 1-to-5 ratio required by subdivision (g).
- (j) Upon proper showing by a contractor that he or she employs apprentices in a particular craft or trade in the state on all of his or her contracts on an annual average of not less than one hour of apprentice work for every five hours of labor performed by journeymen, the Chief of the Division of Apprenticeship Standards may grant a certificate exempting the contractor from the 1-to-5 hourly ratio, as set forth in this section for that craft or trade.
- (k) An apprenticeship program has the discretion to grant to a participating contractor or contractor association a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the contractor from the 1-to-5 ratio set forth in this section when it finds that any one of the following conditions is met:
- (1) Unemployment for the previous three-month period in the area exceeds an average of 15 percent.
 - (2) The number of apprentices in training in the area exceeds a ratio of 1 to 5.
 - (3) There is a showing that the apprenticeable craft or trade is replacing at least one-thirtieth of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis.

- (4) Assignment of an apprentice to any work performed under a public works contract would create a condition that would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large, or the specific task to which the apprentice is to be assigned is of a nature that training cannot be provided by a journeyman.
- (l) When an exemption is granted pursuant to subdivision (k) to an organization that represents contractors in a specific trade from the 1-to-5 ratio on a local or statewide basis, the member contractors shall not be required to submit individual applications for approval to local joint apprenticeship committees, if they are already covered by the local apprenticeship standards.
- (m) (1) A contractor to whom a contract is awarded, who, in performing any of the work under the contract, employs journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council the same amount that the director determines is the prevailing amount of apprenticeship training contributions in the area of the public works site. A contractor may take as a credit for payments to the council any amounts paid by the contractor to an approved apprenticeship program that can supply apprentices to the site of the public works project. The contractor may add the amount of the contributions in computing his or her bid for the contract.
- (2) At the conclusion of the 2002-03 fiscal year and each fiscal year thereafter, the California Apprenticeship Council shall distribute training contributions received by the council under this subdivision, less the expenses of the Division of Apprenticeship Standards for administering this subdivision, by making grants to approved apprenticeship programs for the purpose of training apprentices. The funds shall be distributed as follows:
- (A) If there is an approved multiemployer apprenticeship program serving the same craft or trade and geographic area for which the training contributions were made to the council, a grant to that program shall be made.
- (B) If there are two or more approved multiemployer apprenticeship programs serving the same craft or trade and geographic area for which the training contributions were made to the council, the grant shall be divided among those programs based on the number of apprentices registered in each program.
- (C) All training contributions not distributed under subparagraphs (A) and (B) shall be used to defray the future expenses of the Division of Apprenticeship Standards.
- (3) All training contributions received pursuant to this subdivision shall be deposited in the Apprenticeship Training Contribution Fund, which is hereby created in the State Treasury. Notwithstanding Section 13340 of the Government Code, all money in the Apprenticeship Training Contribution Fund is hereby continuously appropriated for the purpose of carrying out this subdivision and to pay the expenses of the Division of Apprenticeship Standards.
- (n) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section. The stipulations shall

fix the responsibility of compliance with this section for all apprenticeable occupations with the prime contractor.

- (o) This section does not apply to contracts of general contractors or to contracts of specialty contractors not bidding for work through a general or prime contractor when the contracts of general contractors or those specialty contractors involve less than thirty thousand dollars (\$30,000).
- (p) All decisions of an apprenticeship program under this section are subject to Section 3081.

§ 1813. Forfeiture for violations; contract stipulation; report of violations

The contractor or subcontractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of this article. In awarding any contract for public work, the awarding body shall cause to be inserted in the contract a stipulation to this effect. The awarding body shall take cognizance of all violations of this article committed in the course of the execution of the contract, and shall report them to the Division of Labor Standards Enforcement.

§ 1815. Overtime

Notwithstanding the provisions of Sections 1810 to 1814, inclusive, of this code, and notwithstanding any stipulation inserted in any contract pursuant to the requirements of said sections, work performed by employees of contractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon public work upon compensation for all hours worked in excess of 8 hours per day at not less than 1-1/2 times the basic rate of pay.

EXHIBIT 3**AGREEMENT BETWEEN COUNTY OF MONO
AND [Click here to enter text.](#)
FOR THE PROVISION OF [Click here to enter text.](#) SERVICES****BOND REQUIREMENTS**

Contractor shall furnish and maintain during the entire term of this Agreement or, if work or services do not begin as of the effective date of this Agreement, commencing at such other time as may be authorized in writing by the Public Works Director or his designee after consultation with the County Risk Manager, the following bonds: 1) a labor and materials payment bond in an amount equal to one hundred percent (100%) of the contract price; 2) a faithful performance bond in an amount equal to one hundred percent (100%) of the contract price; and, 3) upon project completion and acceptance by the County, a one-year warranty bond in an amount equal to ten percent (10%) of the contract price. The bonds shall comply with the requirements of California Civil Code Section 9554 and must be issued by an “Admitted Surety Insurer.” For purposes of this Agreement, an Admitted Surety Insurer means a corporate insurer or inter-insurance exchange to which the California State Insurance Commissioner has issued a certificate of authority to transact surety insurance in California, as defined in Section 105 of the California Insurance Code. Bonds shall be in a form acceptable to the Mono County Counsel. The Attorney-in-Fact (resident agent) who executes the bonds on behalf of the surety company must attach a copy of his Power of Attorney as evidence of his authority. A notary shall acknowledge this Power of Attorney as of the date of the execution of the surety bond that it covers. If any surety becomes unacceptable to the County or fails to furnish reports as to its financial condition as requested by the County, Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the County and of persons supplying labor or materials in the prosecution of the work contemplated by this Agreement. Payment and Performance Bonds are released by the County 35 days from the date of filing of the Notice of Completion. Sample bond forms are included on the following pages.

PERFORMANCE BOND

WHEREAS, the County of Mono, acting by and through the Department of Public Works, has awarded to Contractor Click here to enter text., hereafter designated as the “Contractor”, a contract for the work described as follows:

Click here to enter text.

AND WHEREAS, the Contractor is required to furnish a bond in connection with said contract, guaranteeing the faithful performance thereof:

NOW, THEREFORE, we the undersigned Contractor and Surety are held firmly bound to the County of Mono in the sum of \$Click here to enter text. dollars (Click here to enter text.), to be paid to said County or its certain attorney, its successors and assigns: for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bound Contractor, its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the foregoing contract and any alteration thereof made as therein provided, on his or their part to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning, and shall indemnify and save harmless the County of Mono, its officers and agents, as therein stipulated, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and virtue.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by County in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this _____ day of _____, 20__.

Correspondence or claims relating to this bond should be sent to the surety at the following address:

Contractor

Name of Surety (SEAL)

By : Attorney-in-Fact

NOTE: Signatures of those executing for the surety must be properly acknowledged.

APPROVED AS TO FORM:

Mono County Counsel

SAMPLE PAYMENT BOND
(Sections 9000 et seq., Civil Code)

WHEREAS, The County of Mono, acting by and through the Department of Public Works, hereafter referred to as "Obligee", has awarded to Contractor [Click here to enter text.](#), hereafter designated as the "Principal", a contract for the work described as follows:

[Click here to enter text.](#)

AND WHEREAS, said Principal is required to furnish a bond in connection with said contract, to secure the payment of claims of laborers, mechanics, materialmen and other persons as provided by law.

NOW, THEREFORE, we the undersigned Principal and Surety are bound unto the Obligee in the sum of [Click here to enter text.](#)dollars (\$[Click here to enter text.](#)), for which payment, we bind ourselves, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if said Principal or its subcontractors shall fail to pay any of the persons named in Civil Code Section 9100, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by such claimant, or any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board for the wages of employees of the Principal and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, that the surety herein will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, the surety will pay a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of any of the persons named in Civil Code Section 9100 as to give a right of action to such persons or their assigns in any suit brought upon this bond.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

Dated: _____, 20 ____

Correspondence or claims relating to this bond should be sent to the surety at the following address:

Principal

Surety (SEAL)

By : Attorney-in-Fact

NOTE: Signatures of those executing for the surety must be properly acknowledged.

APPROVED AS TO FORM:

Mono County Counsel

**COUNTY OF MONO
DEPARTMENT OF PUBLIC WORKS
SAMPLE WARRANTY BOND**

KNOW ALL BY THESE PRESENTS that we, *Click here to enter text.*, the Contractor in the contract hereto annexed, as Principal, and, *Click here to enter text.* as Surety, are held and firmly bound unto the County of Mono in the sum of *Click here to enter text.* (\$*Click here to enter text.*) lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

Signed, Sealed, and Dated

The condition of the above obligation is that if said Principal, its successors and assigns, as Contractor in the contract for the work described herein, or its subcontractor, fails to maintain and remedy in a good workmanlike manner the work of *Click here to enter text.* such that it is free from defects in materials and workmanship for a period of one year commencing on *Click here to enter text.* (the "Maintenance Period") and shall indemnify and save harmless the County of Mono, its officers and agents, as stipulated in the contract, said Surety will pay for the same in an amount not to exceed the sum hereinabove set forth, and also in case suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court.

PROVIDED, HOWEVER, that any suit under this bond shall be commenced no later than one (1) year from the expiration date of the Maintenance Period; provided, however, that if this limitation is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law, and said period of limitation shall be deemed to have accrued and shall commence to run on the expiration date of the Maintenance Period.

Dated: _____, 20 ____

Correspondence or claims relating to this bond should be sent to the surety at the following address:

Principal

Surety (SEAL)

By : Attorney-in-Fact

NOTE: Signatures of those executing for the surety must be properly acknowledged.

APPROVED AS TO FORM:

Mono County Counsel

EXHIBIT 4

AGREEMENT BETWEEN THE COUNTY OF MONO AND
Click here to enter text.FOR THE PROVISION OF
Click here to enter text.SERVICES

INVOICING, PAYMENT AND RETENTION

3.E. (1). Invoicing and payment. Contractor shall submit to the County, not more than once per month, a payment request in the form of an itemized statement of all services and work described in the Scope of Work (Attachment A) and Contract Documents, which were done at the County's request. The statement to be submitted will cover the period from the first day of the preceding month through and including the last day of the preceding month. Alternatively, Contractor may submit a single request for payment at the conclusion of the work. All statements submitted in request for payment should identify the date on which the services and work were performed and describe the nature of the services and work which were performed on each day. Invoices shall be informative and concise regarding work performed during that billing period. If this box is checked, then invoicing shall be made in the format and according to the schedule and payment terms set forth in the Application and Certificate for Payment set forth on the following two pages.

The progress of work shall initially be determined by Contractor, but must then be approved in writing by the County. Additionally, the making of one or more progress payments shall not be construed as approval of the work performed by the Contractor. Should Contractor submit an improper payment request, the County shall, as soon as practicable, return the request to Contractor accompanied by a document setting forth the reasons why the payment request is not proper. Should the County determine the services or work have not been completed or performed as called for in the Scope of Work (Attachment A) and/or the Contract Documents and/or should Contractor submit an improper payment request, then County shall withhold payment of any disputed amount, plus those amounts authorized by Public Contract Code section 7107, until the services and work are satisfactorily completed or performed and/or the payment request is corrected and resubmitted.

Final payment (excluding retention) for work completed by the Completion Date specified in the Notice of Completion, shall be made within 35 days from the date that County records the Notice of Completion.

3.E.(2). Retention. In accordance with Sections 20104.50 and 9203 of the Public Contract Code, County shall retain 5% of each progress payment until the project is completed unless, at any time after 50 percent of the work has been completed, the Board of Supervisors finds that satisfactory progress is being made, in which case County may make any of the remaining progress payments in full for actual work completed. In accordance with Section 22300 of the Public Contract Code, Contractor may substitute securities for any moneys withheld by the County to ensure performance under this Agreement or request the County to make payments of the retention earnings directly to an escrow agent at Contractor's expense.

Retention for work completed by the Completion Date will be released within 60 days of the date the County records the Notice of Completion.

EXHIBIT 5**AGREEMENT BETWEEN THE COUNTY OF MONO AND****Click here to enter text.FOR THE PROVISION OF****Click here to enter text.SERVICES****TRENCHING**

1. As required by Labor Code Section 6705, prior to commencing excavation of any trench in excess of five feet in depth, Contractor shall submit for review and approval by the County Engineer, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer. The Plan shall be at least as effective as the protective system required by Construction Safety Orders issued by the California Division of Occupational Safety and Health.
2. Pursuant to Public Contract Code Section 7104, if Contractor undertakes the digging of a trench or other excavation that extends deeper than four feet below the surface Contractor shall promptly, and before the following conditions are disturbed, notify the Project Manager, in writing, of any:
 - (A) Material that the contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
 - (B) Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
 - (C) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
3. In the event that notice is provided pursuant to paragraph 2 above, the County will promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.
4. In the event that a dispute arises between the County and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by this Agreement, but shall proceed with all work to be performed under this Agreement. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the parties.

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SECTION III

SPECIAL PROVISIONS

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SPECIAL PROVISIONS

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*STOCK DRIVE REALIGNMENT AT BRYANT FIELD
Project/AIP No. 3-06-0030-10-2016*

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SECTION 1. SPECIFICATIONS AND PLANS

1.1 GENERAL.

Unless otherwise stated, the work embraced herein shall be done in accordance with the Contract Documents, including these Special Provisions, and the greater of the California General Prevailing Wage Rates or federal Predetermined Minimum Wage and Fringe Benefits, as established by the California Department of Industrial Relations and the U.S. Department of Labor, respectively, and in effect on the date of this contract. Copies of the California General Prevailing Wage Rates are available for review at the offices of the Mono County Department of Public Works and the Federal Predetermined Minimum Wage and Fringe Benefits can be located at <http://www.wdol.gov/> and are further referenced in the Federal Provisions of this Project Manual.

In case of conflict between these Special Provisions, Federal Provisions and Specifications, Project Plans, Technical Specifications, or other portions of the Contract Documents, including the Invitation for Bids, Instructions to Bidders, the Agreement and all its attachments, the County shall determine which provision takes precedence and will be used in lieu of such conflicting portions.

1.2 DEFINITIONS AND TERMS.

Where the following terms are used in the Contract Documents, or in any documents or other instruments pertaining to construction where these Special Provisions govern, the intent and meaning shall be interpreted as identified in the Standard Specifications and as follows:

- A. **ADMITTED SURETY INSURER (or, SURETY):** A corporate insurer or inter-insurance exchange to which the State Insurance Commissioner has issued a certificate of authority to transact surety insurance in California, as defined in Section 105 of the Insurance Code.
- B. **SURVEYOR:** The individual, partnership, firm, or corporation duly authorized by the Contractor to be responsible for verifying placement of the work and acting directly or through an authorized representative.
- C. **UNEXCUSABLE DELAY:** a delay that does not entitle the Contractor to an adjustment of the Contract Sum and does not entitle the Contractor to an adjustment of the Contract Time.

For more definitions see Section 10 of the Federal Provisions and Specifications beginning on page FP56.

SECTION 2. DESCRIPTION OF WORK

2.1 GENERAL.

The work to be done generally consists of the reconstruction of the relocation of Stock Drive and realignment of the Highway 182 intersection.

Additionally, this project includes other items or details that must be performed, placed, constructed, or installed in accordance with Bid & Contract Documents, including the Project Manual and Project Plans and the Special Provisions and the Federal Provisions and the Technical Specifications.

Tasks performed in completing the project shall follow generally-accepted practices for the construction industry and shall meet the minimum requirements and guidelines established by federal, state, and local agencies. Work tasks shall be coordinated with the Mono County Department of Public Works.

2.2 SITE LOCATION.

The work will take place at Bryant Field Airport in Bridgeport, California.

2.3 SITE GEOLOGY AND SOILS.

Geology or soils investigation was performed as part of this project and is available to contractors upon request.

2.4 SITE ACCESS, USE OF PREMISES, AND HOURS OF WORK.

- A. Work shall be limited to the hours between 7:00 am and 7:00 pm daily, including weekends and holidays.
- B. Unless otherwise provided, the Contractor accepts full control of any vehicles, equipment, material, or other property delivered to the site in the performance of services and work for the Project. The Contractor is solely responsible for ensuring the security and protection of such vehicles, equipment, materials, property, and Work. The County accepts no responsibility for the security, safety, or liability of said vehicles, equipment, material, property, or, until final acceptance, the Work. The Contractor understands that the project site is a public area and, as such, there may be vandalism or obstructions, protrusions, and undesirable materials on and under the ground surface that may result in damage to the Contractor's vehicles, equipment, materials, project work, or other property.
- C. Authorized representatives or agents of the Engineer and County, state, or federal government shall have the right to enter the project site at any time during execution of the Work for any purpose that will not unreasonably interfere with the Contractor's use, including, but not limited to, the conduct of its own business, facility inspection, or inspection to ensure compliance with the terms and conditions of the Project.

2.5 OTHER PROJECTS.

The Contractor is advised that other projects may be taking place at the site at the same time as this Project. The Contractor will make every effort to coordinate his work with that of other contractors.

2.6 PROTECTION OF PROPERTY.

The Contractor shall take all reasonable precautions to preserve and protect all on-site and surrounding public and private property to prevent damage of all kinds to existing structures, signs, fences, gates, roads, drainage facilities, monitoring wells, equipment, utilities, vegetation and the environment arising from the execution of this Contract, unless otherwise called for on Project Plans or in these Special Provisions. In addition, the Contractor shall be responsible for the preservation and protection of all land monuments and property markers.

The Contractor shall replace, repair, and/or be responsible for any damage or injury to property of any character during the prosecution of the Work, resulting from any act, omission, neglect, or misconduct in the Contractor's 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 is completed and accepted. Repairs or replacement required as a result of such damage shall be performed to the County's satisfaction and at no additional cost to the County.

It is the Contractor's responsibility to identify and document any property or site damage that exists prior to the start of construction. If undocumented damage is discovered by the County that could have been caused as a result of the Contractor's presence, it will be the Contractor's responsibility to repair the damage to the County's satisfaction without cost to the County. If the Contractor does not repair the damage to the County's satisfaction, the County has the right, after 48 hours of written notification, to repair the damage and charge the Contractor for all expenses associated with the repair.

The Contractor shall be responsible for the safety of all persons at or near the project site as it pertains to the Project. The Contractor shall provide signage, temporary protective fencing, or covering over any open trenching, excavation, or other hazardous situation arising from the execution of the Work, to keep out unauthorized persons, at no additional cost to the County.

2.7 ENVIRONMENTAL PROTECTION.

The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. All necessary precautions shall be taken to prevent pollution of streams, drainage channels, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter. Any fuel or lubricants stored on-site shall be in appropriate and secure containers provided with secondary containment.

2.8 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES.

Should the Contractor encounter materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe, and shall immediately cease work in the affected area and immediately report the condition to the Engineer in writing.

In accordance with Section 25914.1 of the Health and Safety Code, all such removal of asbestos or hazardous substances, including any exploratory work to identify and determine the extent of such asbestos or hazardous substance, will be performed by separate contract.

2.9 ARCHAEOLOGICAL AND HISTORICAL FINDINGS.

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

Should the Engineer 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 modification (change order or supplemental agreement).

SECTION 3. PROPOSAL REQUIREMENTS AND CONDITIONS

3.1 GENERAL.

The bidder's attention is directed to the provisions in Section 1, pages IB-3 – 11 of this Project Manual, entitled "Instructions to Bidders" and these special provisions for the requirements and conditions which the bidder must observe in the preparation of and submission of the bid.

3.2 BID BOND.

The bidder's bond shall conform to the bond form shown on pages BD-41 – 42 of this Project Manual and shall be properly filled out and executed. The bidder's bond form included in this Project Manual may be used.

3.3 ACKNOWLEDGEMENTS, DISCLOSURES, CERTIFICATIONS, AFFIDAVITS.

The bidder's attention is directed to the pages BD-20 – 32 of this Project Manual, which shall be submitted as required by paragraph 5 of "Instructions to Bidders". In conformance with State and federal law, a Noncollusion Affidavit is included in the Proposal (BD-22).

Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower-tier sub-recipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents. A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included on pages BD-29 of this Project Manual. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included in the Project Manual. Signing the Bid Proposal shall constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding \$100,000. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

- (1) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered federal action; or
- (2) A change in the person(s) or individual(s) influencing or attempting to influence a covered federal action; or
- (3) A change in the officer(s), employee(s), or member(s) contacted to influence or attempt to influence a covered Federal Action.

3.4 DISADVANTAGED BUSINESS ENTERPRISE (DBE).

The Contractor, sub-recipient 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 Title 49 CFR (Code of Federal Regulations), Part 26 in the award and administration of US 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 County deems appropriate. Each subcontract signed by the bidder must include this assurance.

The Contractor, sub-recipient or subcontractor shall take necessary and reasonable steps to ensure that race-neutral DBEs have the opportunity to participate in the contract (49 CFR 26).

It is the bidder's responsibility to verify that the DBE firm is certified at date of bid opening. For a list of DBEs certified by the California Unified Certification Program, go to:

http://www.dot.ca.gov/hq/bep/find_certified.htm

3.5 GOOD FAITH EFFORTS SUBMITTAL

If it has not met the DBE goal, it is strongly recommended, but not required, that the bidder complete and submit the "DBE Information - Good Faith Efforts," Exhibit 15-H form with the bid showing that it made adequate good faith efforts to meet the goal. Only good faith efforts directed towards obtaining participation by DBEs will be considered. However, pursuant to the FAA's interpretation of *Western States Paving Co. v. State of Washington Dept. of Transportation*, 407 F. 3d 983 (9th Cir. 2005), a bidder's failure to meet the DBE goal or demonstrate good faith efforts does not prohibit award of this contract to that bidder.

3.6 POST-BID SUBMITTALS.

Failure of the bidder to fulfill the requirements of the Contract Documents for submittals required to be furnished after bid opening, including but not limited to escrowed bid documents, where applicable, may subject the bidder to a determination of the bidder's responsibility in the event it is the apparent low bidder on future public works contracts.

3.7 VETERAN'S PREFERENCE.

With respect to the employment of labor, preference shall be given to Veterans of the Vietnam era and disable veterans as defined in Section 47112 of Title 49, United States Code. This preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates and does not apply to executive, administrative, and supervisory positions.

SECTION 4. CONTRACT REQUIREMENTS

4.1 SUBCONTRACTING.

No subcontract releases the Contractor from the contract or relieves the Contractor of its responsibility for a subcontractor's work.

If the Contractor violates Pub Cont Code § 4100 et seq., the County of Mono may exercise the remedies provided under Pub Cont Code § 4110. The County of Mono may refer the violation to the Contractors State License Board as provided under Pub Cont Code § 4111.

The Contractor shall perform work equaling at least 30 percent of the value of the original total bid with the Contractor's own employees and equipment, owned or rented, with or without operators.

Each subcontract must comply with the contract.

Each subcontractor must have an active and valid State contractor's license with a classification appropriate for the work to be performed (Bus & Prof Code, § 7000 et seq.).

The Contractor shall submit copies of subcontracts upon request by the Engineer. Before subcontracted work starts, the Contractor shall submit a Subcontracting Request form to the Engineer. The Contractor shall not use a debarred contractor; a current list of debarred contractors is available at the Department of Industrial Relations web site at: <http://www.dir.ca.gov/dlse/debar.html>

Upon request by the Engineer, the Contractor shall immediately remove and not again use a subcontractor who fails to prosecute the Work satisfactorily.

Each subcontract and any lower-tier subcontract that may in turn be made shall include the "Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors" located in the

Federal Provisions within this Project Manual. Payment for subcontracted work involved will be withheld from progress payments due or to become due, until correction is made. Failure to comply may result in termination of the contract.

4.2 PERFORMANCE OF SUBCONTRACTORS

The subcontractors listed by the Contractor in Project Manual shall list therein the name and address of each subcontractor to whom the bidder proposes to subcontract portions of the work in an amount in excess of one-half of one percent of the total bid or \$10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The bidder's attention is invited to other provisions of the Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

4.3 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS.

A prime contractor or subcontractor shall pay any subcontractor not later than 7 days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The 7 days is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over 30 days may take place only for good cause and with the County's prior written approval. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanctions and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

4.4 PROMPT PAYMENT OF WITHHELD FUNDS TO SUBCONTRACTORS.

Any retainage kept by the prime contractor or by a subcontractor must be paid in full to the earning subcontractor in 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment may take place only for good cause and with the County's prior written approval. Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

4.5 REQUIRED SUBCONTRACT AND MATERIAL SUPPLY CONTRACT PROVISION.

All contracts valued at more than \$10,000 between the General Contractor and its subcontractors and suppliers shall include a provision that the subcontractors and suppliers shall be bound to the Contractor to the same extent that the Contractor is bound to the County by all terms and provisions of this Contract.

SECTION 5. PROJECT SCHEDULE

5.1 GENERAL.

The Contractor will be considered to have received constructive notice that the contract is awarded by the County on the date that a timely written Notice to Proceed is sent by email to the Contractor.

For the purposes of determining the Contractor's compliance with the time limits for completion of the Project pursuant to the Contract Documents, the Contractor's first Working Day shall be deemed to be the date specified in the Notice to Proceed, at which time the Contract Time begins.

The Contractor shall diligently prosecute the Project to completion such that the entire Project is complete, to the County's satisfaction, within forty-five (45) working days. Failure by the Contractor to meet these time frames shall subject the Contractor to liquidated damages as specified herein.

5.2 PRE-CONSTRUCTION CONFERENCE.

Prior to Contractor mobilization, a pre-construction conference will be held at a location, date, and time to be determined by the County for the purpose of discussing with the Contractor the scope of work, Project Plans, Technical Specifications, Special Provisions, CQA Plan, existing conditions, coordination with disposal site operations, equipment and material storage locations, materials testing and construction quality assurance, and all essential matters pertaining to the prosecution of and the satisfactory completion of the Project as required. The Contractor's representative at this conference shall include all major superintendents for the work and may include subcontractors.

5.3 PROSECUTION AND PROGRESS.

The Contractor shall submit a progress schedule for the Engineer's approval within 10 calendar days after the date of the Notice to Award. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the Work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the Project in accordance with and within the time set forth in the Contract Documents.

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

5.4 ORDER OF WORK.

The project site is located in a climate that can experience freezing temperatures throughout the year. While determination of the means, methods, techniques, sequences, and procedures of construction are the responsibility of the Contractor, such sequencing and procedures must bear climatic conditions in mind. Work shall be scheduled and protected such that inclement weather does not damage the Work or result in a hazardous condition.

5.5 LIQUIDATED DAMAGES, GENERAL.

The County expects the Contractor to perform its responsibilities and tasks as specified in these Contract Documents. The expectation is reasonable, within normally acceptable business practices, and in the best interest of the County and its residents. The Contractor acknowledges that the County, in entering this Agreement, has considered and relied on the Contractor's representations as to its ability and commitment to quality and timeliness of service; that the provision of reliable and timely services is of utmost importance to the County; and that the County will suffer damages if the Contractor fails to fulfill its obligations under the Contract. The Contractor acknowledges that it is and will be impractical and extremely difficult to ascertain and determine the exact amount of damages that the County will suffer and that liquidated or actual damages attach and will be payable from any funds due to the Contractor.

The liquidated damages described in Section 5.6 below, represent the projected financial loss and expenditures that may occur as a result of Contractor non-performance, including financial loss as a

result of project delays. The County and Contractor agree that the liquidated damages provided for herein do not represent a penalty; rather, the liquidated damages represent a good faith effort by the County and Contractor to establish a reasonable estimate of the damages that will be incurred by the County in the circumstances described, considering all of the circumstances existing on the date of contract award, including the relationship of the sums to the range of harm to the County that reasonably could be anticipated and the anticipation that proof of actual damages would be costly or inconvenient.

This provision for liquidated damages for delay shall in no manner affect the County's right to terminate the Contract or the Contractor's right to perform the Contract as provided elsewhere in the Contract Documents. The County's exercise of the right to terminate shall not release the Contractor from its obligation to pay said liquidated damages in the amount set out in Section 5.6, below.

5.6 LIQUIDATED DAMAGES, SPECIFIED.

The Contractor shall pay to the County of Mono the sum of two thousand dollars (\$2,000) per day for each and every calendar day's delay in finishing the Project to the County's satisfaction later than 45 working days after the first Working Day. This sum is calculated based on the following recommended liquidated damages formula located in the Caltrans Local Assistance Procedures Manual at page 12-20, which is available online at http://www.dot.ca.gov/hq/LocalPrograms/lam/prog_p/lapmcomplete-2-2012.pdf.

However, if such conditions of non-performance continue, they may amount to a material breach for which the County may pursue recovery of actual losses resulting from the Contractor's failure to perform, and the County expressly reserves this right.

The County shall notify the Contractor in writing, for any default specified herein, and such liquidated damages shall be paid by the Contractor within thirty (30) calendar days of the County's notice. The Contractor's failure to pay the assessed liquidated damages within the designated time frame may be deemed by the County as a breach of contract.

SECTION 6. PROJECT ADMINISTRATION

6.1 CONTRACTOR REPRESENTATION.

The County will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented in person by either a qualified, competent Superintendent or by another designated, qualified, competent representative who is duly authorized to receive and execute orders of the Engineer. The Superintendent shall be satisfactory to the County and shall not be changed except with the express written consent of the County unless the Superintendent proves to be unsatisfactory to the Contractor or ceases to be in its employ.

All communications given to the Superintendent or other authorized representative shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. An authorized representative of the Contractor shall be available for emergency telephone communications from the County on a 24-hour, seven days per week basis during the performance of the Work.

6.2 CONTRACTOR PERSONNEL.

The Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him or her. The Contractor shall ensure that all workers have sufficient skill and experience necessary to properly perform the work assigned to them and that workmanship shall be of the best trade practice, regardless of the quality of materials. 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. The Contractor shall provide, at all times, sufficient and competent labor to carry on the work properly and ensure completion of each part in accordance with the Project Plans, these Special Provisions, the QAP Plan, and the approved schedule.

An employee of the Contractor or subcontractor who is deemed by the County to be incompetent, disorderly, or otherwise objectionable shall be promptly removed by the Contractor and not reemployed on the Work.

6.3 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 Documents.

All equipment 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 be such that no injury to previously-completed work, adjacent property, or existing facilities will result from its use.

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

6.4 PARTIAL PAYMENTS.

See Article 90-07 of the FAA General Provisions.

6.5 TERMINATION BY CONTRACTOR.

Subject to below Section 6.11, below, the Contractor shall have the right to terminate the Contract only upon the occurrence of one of the following:

1. Provided that County has not commenced reasonable action to remove any order of a court within the 90 day period, the Work is stopped for 90 consecutive days, through no act or fault of Contractor, any Subcontractor, or any employee or agent of Contractor or any Subcontractor, due to an issuance of an order of a court or other public authority having jurisdiction or due to an act of government, such as a declaration of a national emergency making material unavailable.
2. The County fails to perform any material obligation under the Contract Documents and fails to cure such default within 30 days, or County has not commenced to cure such default within 30 days where such cure will require a reasonable period beyond 30 days and diligently prosecutes the same to completion, after receipt of notice from Contractor stating the nature of such default(s).

Upon occurrence of one of the events listed above, the Contractor may, upon 10 days additional notice to County and Engineer, and provided that the condition giving rise to Contractor's right to terminate is continuing, terminate the Contract.

Upon termination by Contractor, County will pay to Contractor the sum determined by Section 6.12 of these Special Provisions. Such payment will be the sole and exclusive remedy to which Contractor is entitled in the event of termination of the Contract by Contractor pursuant to this section; and Contractor will be entitled to no other compensation or damages and expressly waives the same.

6.6 TERMINATION BY COUNTY FOR CAUSE.

The County will have the right to terminate, in whole or in part, the Contract or the Contractor's right to perform the Contract for cause at any time after the occurrence of any of the following events:

1. Contractor becomes insolvent or files for relief under the bankruptcy laws of the United States.
2. Contractor makes a general assignment for the benefit of its creditors or fails to pay its debts as the same become due.
3. A receiver is appointed to take charge of Contractor's property.
4. The commencement or completion of any Work activity on the critical path is more than 6 days behind the date set forth in the Contract Schedule for such Work activity as a result of an Unexcusable Delay.
5. Contractor abandons the Work.

Upon the occurrence of any of the following events and subject to the clause entitled "Force Majeure", the County will have the right to terminate the Contract for cause or the Contractor's right to perform the Contract for cause if the Contractor fails to promptly commence to cure such default and diligently prosecute such cure within 10 days after notice from the County, or within such longer period of time as is reasonably necessary to complete such cure:

1. Contractor persistently or repeatedly refuses or fails to supply skilled supervisory personnel, an adequate number of properly skilled workers, proper materials, or necessary equipment to prosecute the Work in accordance with the Contract Documents.
2. Contractor fails to make prompt payment of amounts properly due Subcontractors after receiving payment from County.
3. Contractor disregards Applicable Code Requirements.
4. Contractor persistently or materially fails to execute the Work in accordance with the Contract Documents.
5. Contractor is in default of any other material obligation under the Contract Documents.
6. Contractor persistently or materially fails to comply with applicable safety requirements.

Upon any of the occurrences referred to above the County may, at its election and by notice to the Contractor, terminate the Contract and take possession of the Project site and all materials, supplies, equipment, tools, and construction equipment and machinery thereon owned by Contractor; accept the assignment of any or all of the subcontracts; and then complete the Work by any method County may deem expedient. If requested by County, Contractor shall remove any part or all of Contractor's materials, supplies, equipment, tools, and construction equipment and machinery from the Project site within 7 days of such request; and if Contractor fails to do so, County may remove or store, and after 90 days sell, any of the same at Contractor's expense.

If the Contract or Contractor's right to perform is terminated by the County as provided in this section, the Contractor shall not be entitled to receive any further payment until the expiration of 35 days after Final Completion and acceptance of all Work by County.

If the unpaid balance of the Contract Sum exceeds the cost of completing the Work, including all additional costs and expenses made necessary thereby, including costs for County staff time, plus all losses sustained, including any liquidated damages provided under the Contract Documents, such excess shall be paid to Contractor. If such costs, expenses, losses, and liquidated damages exceed the unpaid balance of the Contract Sum, Contractor shall pay such excess to County.

No termination or action taken by the County after termination shall prejudice any other rights or remedies of the County provided by law or by the Contract Documents upon such termination; and the County may proceed against the Contractor to recover all losses suffered by County.

Termination of the Contract does not relieve the surety of its obligation for any just claims arising out of the work performed.

6.7 TERMINATION BY COUNTY FOR CONVENIENCE.

The County may, at its option, terminate this Contract, in whole or from time to time in part, at any time by giving notice to Contractor. Upon such termination, the Contractor agrees to waive any claims for damages, including loss of anticipated profits, on account thereof; and, as the sole right and remedy of the Contractor, the County shall pay the Contractor in accordance with this Section, below.

Upon receipt of notice of termination under this Section 6.12, Contractor shall, unless the notice directs otherwise, do the following:

1. Immediately discontinue the Work to the extent specified in the notice.
2. Place no further orders or subcontracts for materials, equipment, services, or facilities, except as may be necessary for completion of such portion of the Work as is not discontinued.
3. Promptly cancel, on the most favorable terms reasonably possible, all subcontracts to the extent they relate to the performance of the discontinued portion of the Work.
4. Thereafter, do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment on the Project site or in transit thereto.

Upon such termination, the obligations of the Contract shall continue as the portion of Work already performed and, subject to Contractor's obligations under Section 6.11 above, as to bona fide obligations assumed by the Contractor prior to the date of termination. However, termination of the Contract does not relieve the surety of its obligation for any just claims arising out of the work performed.

Upon such termination, the County shall pay to Contractor the sum of the following:

1. The amount of the Contract Sum allocable to the portion of the Work properly performed by Contractor as of the date of termination, less sums previously paid to Contractor.
2. Plus previously unpaid costs of any items delivered to the Project Site that were fabricated for subsequent incorporation in the Work.
3. Plus any proven losses with respect to materials and equipment directly resulting from such termination.
4. Plus reasonable demobilization costs.
5. Plus reasonable costs of preparing a statement of the aforesaid costs, expenses, and losses in connection with such termination.

The above payment shall be the sole and exclusive remedy to which the Contractor is entitled in the event of termination of the Contract by the County pursuant to this Section 6.12; and the Contractor will be entitled to no other compensation or damages and expressly waives same.

6.8 FORCE MAJEURE.

Except for defaults of subcontractors at any tier, the Contractor shall not be liable for any excess costs if the failure to perform the Contract arises from causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include, but are not limited to:

1. Acts of God or of the public enemy, and
2. Acts of the federal or State government in either its sovereign or contractual capacity.

If the failure to perform is caused by the default of a subcontractor at any tier, and if the cause of the default is beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either, the Contractor shall not be liable for any excess costs for failure to perform.

6.9 RESOLUTION OF CONSTRUCTION CLAIMS.

All public works claims of three hundred seventy-five thousand dollars (\$375,000.00) or less which arise between County and Contractor under this Contract shall be governed by Article 1.5 (commencing with Section 20104) of the Public Contract Code. Section 20104.2 of the Public Contract Code provides: For any claim subject to this article, the following requirements apply:

1. The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.
2. For claims of less than fifty thousand dollars (\$50,000.00), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimant.
3. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
4. The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.
5. For claims of over fifty thousand dollars (\$50,000.00) and less than or equal to three hundred seventy-five thousand dollars (\$375,000.00), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimant.
6. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
7. The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.
8. If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

9. If, following the meet and confer conference, the claim or any portion remains in dispute, the claimant may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

Section 20104.4 of the Public Contract Code provides: The following procedures are established for all civil actions filed to resolve claims subject to this article:

1. Within 60 days, but no earlier than 30 days, following the filing of responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.
2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141. 11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.
3. Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by State or County funds.
4. In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

Section 20104.6 of the Public Contract Code provides:

1. No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the Contract.
2. In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

SECTION 7. MATERIALS

7.1 MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

Wherever, in the Contract Documents, a particular brand or make of item is specified, the Contractor shall comply strictly with the specifications and recommendations of that manufacturer as to the

installation and/or application of that particular item. This requirement shall be met with respect to the specifications and recommendations of the manufacturer of an "or equal" item approved by the Engineer and installed or applied by Contractor.

7.2 REFERENCE TO SPECIFICATIONS AND TRADE NAMES.

Where American Society for Testing Materials (ASTM) or other specifications or standards are mentioned, it shall be understood that the materials or methods mentioned therewith shall conform to all requirements of the same that are in effect on the date of bid submission.

Where the trade name of a product or the name of a product or the name of a manufacturer appears, it shall be understood to specify the product so identified or its "Approved Equal." The words "Or Equal" or "Approved Equal" shall mean equal in the opinion of, and approval by, the Engineer. Any substitutions for products or manufacturers mentioned in the Contract Documents shall be submitted by the Contractor to the County for approval within 14 calendar days following the Award of Contract.

SECTION 8. CONSTRUCTION DETAILS

8.1 ORDER OF WORK.

The location where Project improvements are to be constructed will be exposed to public traffic. The Contractor shall conduct operations so that conditions do not exist that would create a nuisance, hazard, or other damage. Appropriate safety measures, warning devices and protective devices shall be implemented to protect all workers, the traveling public, and the work.

8.2 SANITARY, HEALTH, AND SAFETY PROVISIONS.

The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of its employees as may be necessary to comply with the requirements of the State and local Health Department, or of other bodies or tribunals having jurisdiction.

Attention is directed to federal, State, and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to that worker's health or safety.

The Engineer and County shall have **no** responsibility for job site safety. The Contractor and his subcontractors must execute their daily work in accordance with the latest edition of the Occupational Safety and Health Administration (OSHA).

8.3 CONSTRUCTION SITE NUISANCE.

The Contractor shall maintain preventative controls of blowing dust, noise, and other nuisances from construction work. No dogs or other animals are allowed within the project limits.

8.4 PUBLIC CONVENIENCE AND SAFETY.

The Contractor shall provide temporary protective fencing, barriers, and/or covering over any open trenching or excavation arising from the execution of this Contract, to keep out unauthorized persons, at no additional cost to the County. The cost for providing signage, barriers, or any other items associated with public convenience and safety shall be the sole responsibility of the Contractor and no additional payment will be allowed therefor.

8.5 CONSTRUCTION EQUIPMENT.

The Contractor shall take all necessary precautions for safe operation of its equipment and the protection of the public from injury and damage from such equipment. When not being used (including at night and on weekends), all equipment shall be removed from the runway and stored in the Contractor's Storage Area. No equipment shall be stored within 150 feet of the runway centerline.

8.6 PERMITS.

The Contractor shall give all notices as required and comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the Project Plans and Technical Specifications are at variance therewith, the Contractor shall notify the County promptly in writing, of any necessary changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the County, the Contractor shall bear all costs arising therefrom. Copies of permits shall be furnished to the County.

SECTION 9. OPERATIONS AND SAFETY

9.1 TEMPORARY CONTRACTOR FACILITIES.

At a minimum, the Contractor shall provide chemical toilets for use by contractor and subcontractor employees. Chemical toilets shall be regularly serviced to maintain a clean and odorless facility.

The Contractor's storage area is shown on the Construction Safety and Phasing Plan in Appendix A of this Project Manual.

The County will not be responsible for providing telephone, electrical, water, sewer, or any other temporary utility for use by the Contractor.

The Contractor shall remove all equipment, materials, and rubbish from the work areas which it occupies and shall leave the areas in a clean, safe and presentable condition.

9.2 BORROW, DISPOSAL AND MATERIAL SITES.

The operation of any borrow or disposal sites used by the Contractor to produce or dispose of materials for this project shall comply with the requirements of the contract documents. All provisions for water pollution, air pollution, and sound control that apply within the limits of the contract shall apply to all borrow or disposal sites utilized by the Contractor.

Full compensation for complying with the requirements for borrow, disposal and material sites in this section shall be considered as included in the contract prices paid for the items of work which require the use of the sites and no additional compensation will be allowed therefor.

9.3 WATER SUPPLY.

The Contractor is responsible for making its own arrangements to obtain an adequate supply of water required for the proper construction of this project in accordance with the contract documents. The Contractor shall be responsible for all costs associated with obtaining construction water. If the Contractor uses non-potable water on the project, the sources and discharge of non-potable water shall meet the California Department of Health Services water reclamation criteria and the requirements of the Lahontan Regional Water Quality Control Board.

If used, non-potable water shall not be conveyed in tanks or drain pipes which will be used to convey potable water. There shall be no connection between non-potable water supplies and potable water supplies. Non-potable water supply, tanks, pipes, and other conveyances of non-potable water shall be labeled, "NON-POTABLE WATER—DO NOT DRINK."

Full compensation for developing a water supply, loading, and transporting water, labeling as specified, and dust control and moisture-conditioning on the project site shall be considered included in the prices paid for the various Contract Items of work involving the use of water and no additional compensation will be allowed therefor.

The Contractor shall, whenever possible and not in conflict with the above requirements, minimize the use of water during construction of the project. Watering equipment shall be kept in good working order; water leaks shall be repaired promptly; and washing of equipment, except when necessary for safety or for the protection of equipment, shall be discouraged.

When ordered by the Engineer, a dust palliative conforming to the provisions of Section 18, "Dust Palliative," of the Standard Specifications shall be used to control dust on this project. No direct payment shall be made for dust palliative. Payment for dust palliative shall be included in the cost of other work.

9.4 EXISTING FACILITIES.

The Contractor shall be responsible for protecting all existing structures and facilities from damage as a result of the Contractor's activities. Any damage resulting from the Contractor's operations shall be repaired immediately, at the Contractor's expense.

9.5 RELATIONS WITH CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE It is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any stream, river, or lake without first notifying the Department of Fish and Game, unless the project or activity is noticed and constructed in accordance with all conditions imposed under Fish and Game Code Section 1601.

As the project is designed to be completed without any impacts or adverse disturbance to local water bodies or any of the associated flows, wetland habitat areas, or other waters of the state, no permit has been required. The Contractor is responsible to complete the project without any impacts or adverse disturbance to Bridgeport Reservoir, any of the associated flows, wetland habitat areas or other waters of the state.

9.6 HAULING ROUTES ON AIRPORT PROPERTY.

In order to avoid confusion with aircraft and vehicles during the construction and to avoid damage to the existing pavement and to the adjacent lands, the Contractor's equipment shall be restricted to certain hauling routes as shown on the Construction Layout and Safety Plan. The road will be open to the Contractor at all times throughout construction. If the Contractor should find that it is desirable to improve this road, he may do so but will receive no payment for any improvements that he may make. It shall be the responsibility of the Contractor to provide adequate safeguards, including flaggers, so that the operation of the Airport will not be hindered. In addition, it shall be the responsibility of the Contractor to repair any damage caused by his equipment to these paved areas. Vehicle loads shall not exceed legal highway load limits.

9.7 CONTRACTOR'S STORAGE AREA.

The proposed location has been shown on the Construction Layout and Safety Plan for the Contractor's

storage and office area. All Contractor equipment and material stockpiles shall be stored a minimum of 600 feet from the heliport or 65 feet from the edge of the apron. It shall be the responsibility of the Contractor to determine the availability of water, power, gas, and electricity for this area. He shall make all necessary arrangements to provide these services to meet his requirements.

At completion of the contract, the Contractor shall remove all plant, equipment, stockpiles, etc., from the work area. Contractor shall restore all storage and office areas and service roads to the original condition prior to any work in the area. Contractor shall not receive any separate payment for any of this restoration or clean up.

9.8 MARKING OF CONSTRUCTION EQUIPMENT.

All construction equipment shall display orange and white checkered flags, 3'x3'. These flags shall be located on the equipment as to be plainly visible to all aircraft. No equipment shall be parked on or over the paved area of the airfield or within the runway protection zone. Parking areas for equipment will be designated by the Project Engineer.

9.9 AIRCRAFT RIGHT OF WAY AND ACCESS.

Aircraft shall at all times have the right of way. Aircraft shall have access to all airport facilities at all times. All aircraft shall at all times be protected from all equipment, materials, and dust. Contractor will be required to initiate effective dust control measures as needed at no additional cost to Owner.

AVIATION SAFETY REQUIREMENTS DURING CONSTRUCTION (AC 150/5370-2F) – An Airport Construction Safety and Phasing Plan (CSPP) has been prepared to outline all safety issues related to the proposed construction. This CSPP for Bryant Field is included in these specifications as Appendix A. The Contractor will be required to submit all reports designated in the CSPP and implement all safety measures set forth in this plan.

A. SAFETY PLAN COMPLIANCE DOCUMENT – Prior to issuance of Notice to Proceed by the Owner, the Contractor shall complete a Safety Plan Compliance Document (SPCD) detailing how he/she will comply with the Construction Safety and Phasing Plan (CSPP). The 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.

This SPCD shall be submitted to the Owner for approval prior to start of construction and shall include the following:

-
- (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 Cables and Controls.** Discuss specific methods proposed to protect cables and controls.

 - (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.

 - (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 equipment and methods for control of FOD, including construction debris and dust.

(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) Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.

(15) Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.

(16) Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

B. GENERAL SAFETY REQUIREMENTS

Throughout the construction project, the following safety and operational practices shall be observed:

- Operational safety shall be a standing agenda item during progress meetings throughout the construction project.
- The contractor and airport operator shall perform onsite inspections throughout the project, with immediate remedy of any deficiencies, whether caused by negligence, oversight, or project scope change.

- Contractor, sub-contractor, and supplier employees or any other unauthorized persons must be restricted from entering or remaining in airport area that would be hazardous.
- The contracting officer, airport operator, or other designated airport representative may order the contractor to suspend operations; move personnel, equipment, and materials to a safe location; and stand by until aircraft use is completed.

C. CONSTRUCTION MAINTENANCE AND FACILITIES MAINTENANCE

Before beginning any construction activity, the contractor must, through the airport operator, give notice (using the Notice to Airmen (NOTAM) System) of proposed location, time, and date of commencement of construction. Upon completion of work and return of all such areas to standard conditions, the contractor must, through the airport operator, verify the cancellation of all notices issued via the NOTAM System. Throughout the duration of the construction project, the contractor must:

- Be aware of and understand the safety problems and hazards described in AC 150/5370-2, *Operational Safety on Airports During Construction*.
- Conduct activities so as not to violate any safety standards contained in AC 150/5370-2 or any of the references therein.
- Inspect all construction and storage areas as often as necessary to be aware of conditions.
- Promptly take all actions necessary to prevent or remedy any unsafe or potentially unsafe conditions as soon as they are discovered.

D. APPROACH CLEARANCE TO RUNWAYS

Runway thresholds must provide an unobstructed approach surface ratio over equipment and materials. (See Appendix 2 of AC 150/5300-13, Airport Design).

E. CLOSED RUNWAY MARKINGS AND LIGHTING

No closed runway marking will be required during the construction of this project.

F. HAZARDOUS AREA MARKING AND LIGHTING

Hazardous areas will be marked with barricades as shown on the plans. The markings restrict access and make hazards obvious to aircraft, personnel, and vehicles. During periods of low visibility and at night, identify hazardous areas with suitable lighted barricades with flashing red lights having at least five (5) candelas effective intensity for night marking. The hazardous area marking and lighting shall be supplied by the contractor, and are depicted on the plans. There will be no separate payment for hazardous area marking and lighting.

G. VEHICLE OPERATION MARKING AND CONTROL

- (1) It may be desirable to clearly identify the vehicles for control purposes by either assigned initials or numbers that are prominently displayed on each side of the vehicle. The identification symbols should be a minimum 8-inch, block-type characters of a contrasting color, and easy to read. They may be applied either by using tape or a water-soluble paint to facilitate removal. Magnetic signs are also acceptable. In addition, all vehicles must display identification media as specified in the approved security plan.
- (2) Employee parking shall be as shown on the Construction Layout and Safety Plan and designated by the engineer.
- (3) Access to the job site shall be as shown on the Construction Layout and Safety Plan and as designated by the engineer.

H. LIMITATIONS ON CONSTRUCTION

Additional limitations on construction shall include:

- (1) Prohibit open-flame welding or torch cutting operations unless adequate fire safety precautions are provided and these operations have been authorized by the engineer.
- (2) Prominently mark open trenches, excavations, and stockpiled materials at the construction site with alternating orange and white flags and light these obstacles during hours of restricted visibility and darkness.
- (3) Marking and lighting of closed, deceptive, and hazardous areas on airports, as appropriate.
- (4) Constrain stockpiled material to prevent its movement as a result of the maximum anticipated aircraft blast and forecast wind conditions.

I. RADIO COMMUNICATIONS

Vehicular traffic located in or crossing an active movement area must have a working two-way radio in contact with the local Unicom frequency - 122.9 MH - or be escorted by a flag person (in radio contact with Unicom). The driver, through personal observation, should confirm that no aircraft is approaching the vehicle position. Construction personnel may operate in a movement area without two-way radio communication provided a NOTAM is issued closing the area and that the area is properly marked to prevent incursions. Contractor shall monitor Unicom radio on frequency 122.8. Continuous monitoring is required.

J. DEBRIS

Waste and loose material must not be placed in active movement areas. Materials tracked onto these areas must be removed continuously during the work project.

9.10 PHASING PLAN.

The Contractor shall be required to prepare the phasing plan in order to maximize his efficiency, while addressing certain constraints imposed by Airport operations. Prior to beginning any operations on site, the Contractor shall prepare a detailed written and graphic phasing plan indicating how he intends to perform the work. Such plan must address work areas, haul routes, staging areas, and a schedule at a minimum. Costs for these items shall be incidental to other items of work and no separate payment will be made.

This plan must be approved by the Owner and Engineer prior to the Contractor beginning any work other than mobilization on-site. The Contractor shall maintain a copy of this schedule on the project site. This schedule shall be updated and submitted to the Engineer for approval weekly.

9.11 STAGING AREAS.

The Contractor shall use onsite staging areas as shown on the Project Drawings or as directed by the Owner.

SECTION 10. PROGRESS MEETINGS

10.1 WEEKLY PROGRESS MEETINGS.

The Engineer will conduct Progress Meetings at regularly scheduled times convenient for all parties involved. Progress Meetings are in addition to specific meetings held for other purposes, such as coordination meetings. Discussions will address administrative and technical issues of concern, determining resolutions, and development of deadlines for resolution within allowable time frames.

10.2 ATTENDEES.

As may be required by the Engineer, in addition to representatives of Mono County and the Contractor, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by individuals directly involved with the Contract and authorized to conclude matters relating to progress.

10.3 AGENDA. The agenda shall include:

- A. Review and correct or approve minutes of the previous Progress meeting prepared by the Engineer. The meeting minutes will document issues of significance including submittals, schedules, quality control, safety, problems encountered, and the assignment of responsibilities for future action.
- B. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the Project.
- C. Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
- D. Review the present and future needs of each entity present, including such item
 - (1) Interface Requirements
 - (2) Time
 - (3) Sequences
 - (4) Deliveries
 - (5) Off-Site Fabrication Problems
 - (6) Access

- (7) Site Utilization
- (8) Submittals
- (9) Requests for Information
- (10) Non-Compliance Notices
- (11) Temporary Facilities and Services
- (12) Hours of Work
- (13) Resource Allocation
- (14) Hazards and Risks
- (15) Housekeeping
- (16) Quality and Work Standards
- (17) Safety Issues
- (18) Change Orders
- (19) Documentation of Information for Payment Requests

The Engineer will record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

SECTION 11. PROJECT CLOSEOUT

11.1 RECORD DRAWINGS.

The Contractor shall maintain a set of accurate record drawings during the course of the project. Any project work completed that varies from the plans as issued shall be legibly noted on the Record Drawings in red ink. Both text and line work shall be used to reflect the changes. At the completion of the project and prior to final payment, the record drawings shall be delivered to the County and, upon receipt, be maintained as the property of the County.

11.2 COSTS.

Any costs associated with project maintenance and/or project closeout procedures shall be incidental to the project and included in the bid.

11.3 SUBSTANTIAL COMPLETION.

The count of days charged against the contract period for a project or a phase of the project will be discontinued when the project or phase of a project is considered by the Owner and/or Engineer to be substantially complete or as otherwise approved by the Owner and/or Engineer. The project or phase of a project will be considered to be substantially complete when all bid items have been constructed and the project is open for use by the Owner. Substantial completion may be determined by the Owner and/or Engineer even though there may be discrepancies in the work that require correction before final acceptance.

11.4 DISCREPANCY LIST.

The Owner and/or Engineer will maintain a list of discrepancies that need to be completed by the Contractor before the project can be considered to be complete. Items may be added to or removed from the discrepancy list by the Owner and/or Engineer until such time that the project has been determined to be complete (see Federal General Provision 50-15).

11.5 PROJECT MAINTENANCE. The Contractor shall be responsible to maintain all improvements and disturbed areas associated with the project for the duration of the project (see Federal General

Provision 50-12 and 50-13). Maintenance of improvements and disturbed areas includes correction of any damage as a result of accidents, weather, or other unforeseen events. The Contractor may request a release from maintenance upon substantial completion of the project or portion of the project. A written request for the release from project maintenance shall be submitted by the Contractor for consideration and approval by the Owner and/or Engineer.

11.6 RETENTION OF PAYMENT.

A 5-percent retention of payment will be withheld by the Owner and/or Engineer on all pay requests until the final payment has been made. Final payment on the project will be the release of the retention and will be made by the Owner 30-days after the Notice of Completion has been recorded with the County Clerk. The Contractor may request that the retention be reduced to 5-percent when more than 50-percent of the project has been completed. A written request for a reduction in retainage shall be submitted by the Contractor for consideration and approval by the Owner and/or Engineer. After 95-percent of the work has been completed, the Owner and/or Engineer may consider reducing the percentage of retention below 5-percent depending on the value of the remaining work to be performed.

11.7 NOTICE OF COMPLETION.

The Notice of Completion will be issued and recorded with the County Clerk after the final inspection has been performed by the Owner and/or Engineer to determine that all items of work have been successfully performed; all discrepancies in the work have been corrected; all lien releases have been received from the Contractor for themselves and their subcontractors, service providers, and suppliers; and any discrepancies with the certified payrolls have been resolved. The retention withheld from payment will be released 30-days after the Notice of Completion has been recorded with the County Clerk.

11.8 GUARANTEE.

In addition to guarantees required elsewhere, Contractor agrees that all work and materials provided under this contract are guaranteed for a period of one (1) year against defects of any kind or nature and that any defective work or materials resulting from Contractor negligence will be repaired or replaced by Contractor forthwith upon notification by County. The Contractor shall furnish a warranty bond in the amount of ten percent (10%) of the contract price with a corporate surety approved by the County. The warranty bond shall be furnished and approved prior to final payment and release and shall remain in effect for the duration of the guarantee period to insure the repair or replacement of defective work or materials.

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SECTION III

FEDERAL PROVISIONS & SPECIFICATIONS

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FEDERAL PROVISIONS AND SPECIFICATIONS

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(ISSUED JANUARY 29, 2016)

CONTRACT PROVISIONS

A1 ACCESS TO RECORDS AND REPORTS

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

A2 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: 24.6%

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 Bridgeport, Mono County, California.

A3 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 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

The contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the FAA 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.

A bidder or offeror must complete and submit the Buy America certification included herein with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

A5 GENERAL CIVIL RIGHTS PROVISIONS

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

This provision binds the contractor and subtier contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

A6 CIVIL RIGHTS – TITLE VI ASSURANCE**Title VI Solicitation Notice:**

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

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. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
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 of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

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

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

- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*).

A7 CLEAN AIR AND WATER POLLUTION CONTROL

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

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

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on

such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

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

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

3. Withholding for Unpaid Wages and Liquidated Damages.

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

4. Subcontractors.

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

A9 COPELAND "ANTI-KICKBACK" ACT

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

A10 DAVIS-BACON REQUIREMENTS

1. Minimum Wages

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

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

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

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and

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

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

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

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

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

2 Withholding.

The Federal Aviation Administration or the sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic,

including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records.

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

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (*e.g.*, the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the

case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

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

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;

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

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

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

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

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

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a

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

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with

the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

5. Compliance with Copeland Act Requirements.

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

6. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance With Davis-Bacon and Related Act Requirements.

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

9. Disputes Concerning Labor Standards.

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

and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

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

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

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

A11 DEBARMENT AND SUSPENSION

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT

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

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

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

1. Checking the System for Award Management at website: <http://www.sam.gov>
2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract

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

A12 DISADVANTAGED BUSINESS ENTERPRISE

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

Prompt Payment (§26.29) - The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 7 days from the receipt of each

payment the prime contractor receives from Mono County. The prime contractor agrees further to return retainage payments to each subcontractor within 7 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 Mono County. This clause applies to both DBE and non-DBE subcontractors.

A13 TEXTING WHEN DRIVING

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

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

A14 ENERGY CONSERVATION REQUIREMENTS

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

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

EQUAL OPPORTUNITY CLAUSE

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

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

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

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

(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

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

(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however,* That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

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

1. As used in these specifications:

- a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
- c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

d. "Minority" includes:

- (1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);
- (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
- (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
- (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse

the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

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

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

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

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

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

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

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

- n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.
10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the

implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A16 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

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

The contractor 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

A17 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

CERTIFICATION REGARDING LOBBYING

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

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in

connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

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

A18 PROHIBITION of SEGREGATED FACILITIES

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

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

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

A19 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

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

A20 PROCUREMENT OF RECOVERED MATERIALS

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

- a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or,
- b) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

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

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

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

A21 RIGHT TO INVENTIONS

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

A22 SEISMIC SAFETY

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

A23 TERMINATION OF CONTRACT**Termination for Convenience (Construction & Equipment Contracts)**

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy

of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

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

Owner agrees to pay Contractor for:

- a) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
- b) 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;
- c) reasonable and substantiated claims, costs and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
- d) reasonable and substantiated expenses to the contractor directly attributable to Owner's termination action

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

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

Termination for Default (Construction)

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

A24 TRADE RESTRICTION CERTIFICATION

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

- a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (U.S.T.R.);

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

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

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

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

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

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

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

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

A25 VETERAN'S PREFERENCE

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

DEPARTMENT OF LABOR WAGE DETERMINATION

General Decision Number: CA160031 04/01/2016 CA31

Superseded General Decision Number: CA20150031

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

Counties: Inyo, Kern and Mono Counties in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS.

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/08/2016
1	01/15/2016
2	01/22/2016
3	02/19/2016
4	02/26/2016
5	03/04/2016
6	04/01/2016

ASBE0005-001 07/01/2015

INYO AND KERN

	Rates	Fringes
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 25.38	16.81
Insulator/asbestos worker (Includes the application of all insulating materials, protective coverings,		

coatings & finishes to all
types of mechanical systems).....\$ 36.74 19.49

ASBE0005-005 06/29/2015

INYO AND KERN

Rates Fringes

Asbestos Removal
worker/hazardous material
handler (Includes
preparation, wetting,
stripping, removal,
scrapping, vacuuming, bagging
and disposing of all
insulation materials from
mechanical systems, whether
they contain asbestos or not)....\$ 18.06 10.57

ASBE0016-003 01/01/2014

MONO

Rates Fringes

Asbestos Workers/Insulator
(Includes the application of
all insulating materials,
protective coverings,
coatings, and finishes to all
types of mechanical systems).....\$ 44.05 18.62

BOIL0092-005 10/01/2012

INYO AND KERN

Rates Fringes

BOILERMAKER.....\$ 41.17 28.27

BOIL0549-003 01/01/2013

MONO COUNTY

Rates Fringes

BOILERMAKER.....\$ 38.37 31.32

* BRCA0004-005 05/01/2015

Rates Fringes

BRICKLAYER; MARBLE SETTER.....\$ 36.59 13.50

*The wage scale for prevailing wage projects performed in

Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine Palms, Needles and 1-15 corridor (Barstow to the Nevada State Line) will be Three Dollars (\$3.00) above the standard San Bernardino/Riverside County hourly wage rate

BRCA0018-010 09/01/2013

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 26.59	10.34
TERRAZZO WORKER/SETTER.....	\$ 33.63	11.13

BRCA0018-011 06/01/2014

	Rates	Fringes
TILE LAYER.....	\$ 35.14	14.33

BRCA0018-012 06/01/2014

KERN

	Rates	Fringes
MARBLE FINISHER.....	\$ 28.45	11.38
TILE FINISHER.....	\$ 23.78	9.84

CARP0409-002 07/01/2008

	Rates	Fringes
Diver		
(1) Wet.....	\$ 663.68	9.82
(2) Standby.....	\$ 331.84	9.82
(3) Tender.....	\$ 323.84	9.82
(4) Assistant Tender.....	\$ 299.84	9.82

Amounts in "Rates' column are per day

* CARP0409-005 07/01/2015

	Rates	Fringes
Drywall		
DRYWALL INSTALLER/LATHER....	\$ 40.40	15.03
STOCKER/SCRAPPER.....	\$ 10.00	7.17

* CARP0409-006 07/01/2015

	Rates	Fringes
CARPENTER		
(01) Carpenter, cabinet installer, insulation installer, floor worker		

and acoustical installer.....\$ 39.83	11.58
(02) Millwright.....\$ 40.90	11.58
(03) Piledrivermen; Derrick barge; Bridge or Dock Carpenter; Heavy framer; Rockslinger; Rock Bargeman; Scowman.....\$ 40.53	11.58
(04) Shingler (Commercial).\$ 36.91	11.58
(05) Table Power Saw Operator.....\$ 36.88	11.58
(06) Pneumatic Nailer or Power Stapler.....\$ 37.03	11.58
(07) Roof Loader of Shingles (Commercial).....\$ 25.84	11.58
(08) Saw Filer.....\$ 36.87	11.58
(09) Scaffold Builder.....\$ 28.55	11.58

FOOTNOTE: Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal lagging is used in conjunction with steel H-Beams driven or placed in pre-drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

ELEC0428-001 12/01/2015

Rates Fringes

CABLE SPLICER

China Lake Naval Weapons Center, Edwards AFB.....\$ 47.67	20.62
Remainder of Kern County....\$ 41.42	20.44

ELECTRICIAN

China Lake Naval Weapons Center, Edwards AFB.....\$ 43.90	20.51
Remainder of Kern County....\$ 37.65	20.32

ELEC0428-003 12/28/2015

COMMUNICATIONS AND SYSTEMS WORK

KERN COUNTY

Rates Fringes

Communications System

Installer.....\$ 30.96	12.79
Technician.....\$ 30.83	11.17

SCOPE OF WORK:

Installation, testing, service and maintenance of systems utilizing the transmission and/or transference of voice, sound, vision and digital for commercial, educational, security and entertainment purposes for the following: TV

monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call systems, radio page, school intercom and sound, burglar alarms, fire alarm (see last paragraph below) and low voltage master clock systems in commercial buildings. Communication Systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding all other data systems or multiple systems which include control function or power supply; excluding installation of raceway systems, conduit systems, line voltage work, and energy management systems. Does not cover work performed at China Lake Naval Ordnance Test Station. Fire alarm work shall be performed at the current inside wireman total cost package.

 ELEC0441-004 02/09/2016

	Rates	Fringes
ELECTRICIAN (TRANSPORTATION SYSTEMS, TRAFFIC SIGNALS & STREET LIGHTING)		
Cable Splicer/Fiber Optic		
Splicer.....	\$ 42.94	17.09
Electrician.....	\$ 42.34	17.07
Technician.....	\$ 31.76	16.75

SCOPE OF WORK: Electrical work on public streets, freeways, toll-ways, etc, above or below ground. All work necessary for the installation, renovation, repair or removal of Intelligent Transportation Systems, Video Surveillance Systems (CCTV), Street Lighting and and Traffic Signal work or systems whether underground or on bridges. Includes dusk to dawn lighting installations and ramps for access to or egress from freeways, toll-ways, etc. Intelligent Transportation Systems shall include all systems and components to control, monitor, and communicate with pedestrian or vehicular traffic, included but not limited to: installation, modification, removal of all Fiber optic Video System, Fiber Optic Data Systems, Direct interconnect and Communications Systems, Microwave Data and Video Systems, Infrared and Sonic Detection Systems, Solar Power Systems, Highway Advisory Radio Systems, highway Weight and Motion Systems, etc. Any and all work required to install and maintain any specialized or newly developed systems. All cutting, fitting and bandaging of ducts, raceways, and conduits. The cleaning, rodding and installation of "fish and pull wires". The excavation, setting, leveling and grouting of precast manholes, vaults, and pull boxes including ground rods or grounding systems, rock necessary for leveling and drainagae as well as pouring of a concrete envelope if

needed.

JOURNEYMAN TRANSPORTATION ELECTRICIAN shall perform all tasks necessary to install the complete transportation system. JOURNEYMAN TECHNICIAN duties shall consist of: Distribution of material at job site, manual excavation and backfill, installation of system conduits and raceways for electrical, telephone, cable television and communication systems. Pulling, terminating and splicing of traffic signal and street lighting conductors and electrical systems including interconnect, detector loop, fiber optic cable and video/data.

 ELEC0477-001 06/30/2014

INYO AND MONO

	Rates	Fringes
ELECTRICIAN.....	\$ 47.50	3%+19.78
CABLE SPLICER: \$1.00 above Electrician.		
TUNNEL WORK: 10% above Electrician.		

 ELEC1245-001 06/01/2015

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 52.85	15.53
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 42.21	14.32
(3) Groundman.....	\$ 32.28	14.03
(4) Powderman.....	\$ 47.19	14.60

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

 ELEV0018-001 01/01/2015

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 49.90	28.38

FOOTNOTE:
 PAID VACATION: Employer contributes 8% of regular hourly

rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
 PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

 ENGI0012-003 07/06/2015

Rates Fringes

OPERATOR: Power Equipment
 (All Other Work)

GROUP 1.....	\$ 39.95	23.35
GROUP 2.....	\$ 40.73	23.35
GROUP 3.....	\$ 41.02	23.35
GROUP 4.....	\$ 42.51	23.35
GROUP 5.....	\$ 41.86	23.35
GROUP 6.....	\$ 41.83	23.35
GROUP 8.....	\$ 42.84	23.35
GROUP 9.....	\$ 42.19	23.35
GROUP 10.....	\$ 42.96	23.35
GROUP 11.....	\$ 42.31	23.35
GROUP 12.....	\$ 43.13	23.35
GROUP 13.....	\$ 43.23	23.35
GROUP 14.....	\$ 43.26	23.35
GROUP 15.....	\$ 43.34	23.35
GROUP 16.....	\$ 43.46	23.35
GROUP 17.....	\$ 43.63	23.35
GROUP 18.....	\$ 43.73	23.35
GROUP 19.....	\$ 43.84	23.35
GROUP 20.....	\$ 43.96	23.35
GROUP 21.....	\$ 44.13	23.35
GROUP 22.....	\$ 44.23	23.35
GROUP 23.....	\$ 44.34	23.35
GROUP 24.....	\$ 44.46	23.35
GROUP 25.....	\$ 44.63	23.35

OPERATOR: Power Equipment
 (Cranes, Piledriving &
 Hoisting)

GROUP 1.....	\$ 41.30	23.35
GROUP 2.....	\$ 42.08	23.35
GROUP 3.....	\$ 42.37	23.35
GROUP 4.....	\$ 42.51	23.35
GROUP 5.....	\$ 42.73	23.35
GROUP 6.....	\$ 42.84	23.35
GROUP 7.....	\$ 42.96	23.35
GROUP 8.....	\$ 43.13	23.35
GROUP 9.....	\$ 43.30	23.35
GROUP 10.....	\$ 44.30	23.35
GROUP 11.....	\$ 45.30	23.35
GROUP 12.....	\$ 46.30	23.35
GROUP 13.....	\$ 47.30	23.35

OPERATOR: Power Equipment
 (Tunnel Work)

GROUP 1.....	\$ 41.80	23.35
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GROUP 2.....	\$ 42.58	23.35
GROUP 3.....	\$ 42.87	23.35
GROUP 4.....	\$ 43.01	23.35
GROUP 5.....	\$ 43.23	23.35
GROUP 6.....	\$ 43.34	23.35
GROUP 7.....	\$ 43.46	23.35

PREMIUM PAY:

\$3.75 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS**POWER EQUIPMENT OPERATORS CLASSIFICATIONS**

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling

(above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or

similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity); Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder - Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu.

yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth-moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self-loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote-control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar

types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM.

Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a thin strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the

Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

 ENGI0012-004 08/01/2015

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman.....	\$ 49.50	23.60
(2) Dredge dozer.....	\$ 43.53	23.60
(3) Deckmate.....	\$ 43.42	23.60
(4) Winch operator (stern winch on dredge).....	\$ 42.87	23.60
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 42.33	23.60
(6) Barge Mate.....	\$ 42.94	23.60

 IRON0377-002 01/01/2016

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 27.58	20.64
Ornamental, Reinforcing and Structural.....	\$ 34.00	29.20

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland, Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0220-002 08/01/2015

KERN COUNTY

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 37.04	16.78
GROUP 2.....	\$ 37.36	16.78
GROUP 3.....	\$ 38.82	16.78
GROUP 4.....	\$ 38.51	16.78
LABORER		
GROUP 1.....	\$ 31.39	16.78
GROUP 2.....	\$ 31.94	16.78
GROUP 3.....	\$ 32.94	16.78
GROUP 4.....	\$ 34.04	16.78
GROUP 5.....	\$ 34.39	16.78

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house

laborer; Traffic control by any method; Window cleaner;
Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic,

conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabletender; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller); Bull gang mucker, track person; Concrete crew, including rodder and spreader

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LABO0220-005 07/01/2014

KERN COUNTY

	Rates	Fringes
Brick Tender.....	\$ 29.12	15.78

LABO0300-005 01/01/2016

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 30.43	16.07

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LABO0345-001 07/01/2014

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 34.79	17.92
GROUP 2.....	\$ 33.84	17.92
GROUP 3.....	\$ 30.30	17.92

FOOTNOTE: GUNITE PREMIUM PAY: Workers working from a Bosn'n's Chair or suspended from a rope or cable shall receive 40 cents per hour above the foregoing applicable classification rates. Workers doing gunite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis. Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0" above base level and which work must be performed in whole or in part more than 75'-0" above base level, that work performed above the 75'-0" level shall be compensated for at 35 cents per hour above the applicable classification wage rate.

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LABO0783-001 08/01/2015

INYO AND MONO COUNTIES

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 37.04	16.78
GROUP 2.....	\$ 37.36	16.78
GROUP 3.....	\$ 38.82	16.78
GROUP 4.....	\$ 38.51	16.78
LABORER		
GROUP 1.....	\$ 31.39	16.78
GROUP 2.....	\$ 31.94	16.78

GROUP 3.....	\$ 32.49	16.78
GROUP 4.....	\$ 34.04	16.78
GROUP 5.....	\$ 34.39	16.78

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein;

Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabetender; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller); Bull gang mucker, track person; Concrete crew, including rodder and spreader;

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer

house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LABO0783-004 07/01/2014

INYO AND MONO COUNTIES

	Rates	Fringes
Brick Tender.....	\$ 29.12	15.78

LABO1184-001 08/01/2015

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 32.60	12.16
(2) Vehicle Operator/Hauler.	\$ 32.77	12.16
(3) Horizontal Directional Drill Operator.....	\$ 34.62	12.16
(4) Electronic Tracking Locator.....	\$ 36.62	12.16
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 33.76	15.04
GROUP 2.....	\$ 35.06	15.04
GROUP 3.....	\$ 37.07	15.04
GROUP 4.....	\$ 38.81	15.04

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the

application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

PAIN0036-009 10/01/2015

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 32.05	16.82

PAIN0036-021 07/01/2015

INYO AND MONO COUNTIES

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Journeyman Painter.....	\$ 26.41	12.83
(2) Repaint.....	\$ 24.19	12.83
(4) All other work.....	\$ 26.41	12.83
(5) Industrial.....	\$ 32.02	12.83

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.
HIGH IRON & STEEL:

Aerial towers, towers, radio towers, smoke stacks, flag poles (any flag poles that can be finished from the ground with a ladder excluded), elevated water towers, steeples and domes in their entirety and any other extremely high and hazardous work, cooning steel, bos'n chair, or other similar devices, painting in other high hazardous work shall be classified as high iron & steel

PAIN0169-002 01/01/2015

	Rates	Fringes
GLAZIER.....	\$ 34.83	19.75

PAIN1247-001 01/01/2016

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 29.85	14.01

 PLAS0200-007 08/05/2015

	Rates	Fringes
PLASTERER.....	\$ 38.44	13.77

U.S. MARINE CORPS-PICKLE MEADOW & MOUNTAIN WARFARE TRAINING CENTER:
 \$3.00 additional per hour.

 PLAS0500-002 07/01/2015

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 32.30	20.65

 PLUM0345-001 07/01/2014

	Rates	Fringes
PLUMBER		
Landscape/Irrigation Fitter.	\$ 29.27	19.75
Sewer & Storm Drain Work....	\$ 33.24	17.13

 PLUM0460-002 07/01/2013

	Rates	Fringes
PLUMBER (Plumber, Pipefitter, Steamfitter, Refrigeration)		
0 to 40 miles radius from 6718 Meany Avenue in Bakersfield.....	\$ 40.57	22.84
40 to 75 miles radius.....	\$ 45.07	22.84
75 miles to 100 miles radius.....	\$ 47.57	22.84
over 100 miles radius.....	\$ 51.07	22.84

FOOTNOTE: Work from a swinging scaffold, swinging basket, spider or from a bosun chair: 10% above the regular rate of pay for that day.

 ROOF0027-001 09/01/2014

	Rates	Fringes
ROOFER.....	\$ 26.37	12.68

FOOTNOTE: Work with pitch, pitch base of pitch impregnated products or any material containing coal tar pitch, on any

building old or new, where both asphalt and pitches are used in the application of a built-up roof or tear off: \$2.00 per hour additional.

SFCA0669-007 01/01/2016

	Rates	Fringes
SPRINKLER FITTER.....	\$ 35.57	20.27

SHEE0105-003 01/01/2016

LOS ANGELES (South of a straight line drawn between Gorman and Big Pines)and Catalina Island, INYO, KERN (Northeast part, East of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

	Rates	Fringes
SHEET METAL WORKER		
(1) Commercial - New Construction and Remodel work.....	\$ 41.26	25.38
(2) Industrial work including air pollution control systems, noise abatement, hand rails, guard rails, excluding aritechtrual sheet metal work, excluding A-C, heating, ventilating systems for human comfort...	\$ 41.26	25.38

SHEE0105-004 01/01/2016

KERN (Excluding portion East of Hwy 395) & LOS ANGELES (North of a straight line drawn between Gorman and Big Pines including Cities of Lancaster and Palmdale) COUNTIES

	Rates	Fringes
SHEET METAL WORKER.....	\$ 31.53	25.24

TEAM0011-002 07/01/2015

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 28.24	25.24
GROUP 2.....	\$ 28.39	25.24
GROUP 3.....	\$ 28.52	25.24
GROUP 4.....	\$ 28.71	25.24
GROUP 5.....	\$ 28.74	25.24
GROUP 6.....	\$ 28.77	25.24

GROUP 7.....	\$ 29.02	25.24
GROUP 8.....	\$ 29.27	25.24
GROUP 9.....	\$ 29.47	25.24
GROUP 10.....	\$ 29.77	25.24
GROUP 11.....	\$ 30.27	25.24
GROUP 12.....	\$ 30.70	25.24

WORK ON ALL MILITARY BASES:

PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB, El Centro Naval Facility, Fort Irwin, Marine Corps Logistics Base at Nebo & Yermo, Mountain Warfare Training Center, Bridgeport, Point Arguello, Point Conception, Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and

the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

SECTION 10. DEFINITION OF TERMS

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

10-01 AASHTO. The American Association of State Highway and Transportation Officials, the successor association to AASHO.

10-02 ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

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 IMPROVEMENT PROGRAM (AIP). A grant-in-aid program, administered by the Federal Aviation Administration (FAA).

10-05 AIR OPERATIONS AREA (AOA). For the purpose of these specifications, 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.

10-06 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; and airport buildings and facilities located in any of these areas, and includes a heliport.

10-07 ASTM INTERNATIONAL (ASTM). Formerly known as the American Society for Testing and Materials (ASTM).

10-08 AWARD. The Owner's notice to the successful bidder of the acceptance of the submitted bid.

10-09 BIDDER. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

10-10 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.

10-11 CALENDAR DAY. Every day shown on the calendar.

10-12 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 the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

10-13 CONTRACT. The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: Advertisemet; Contract Form; Proposal; Performance

Bond; Payment Bond; any required insurance certificates; Specifications; Plans; and any addenda issued to bidders.

10-14 CONTRACT ITEM (PAY ITEM). A specific unit of work for which a price is provided in the contract.

10-15 CONTRACT TIME. The number of 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.

10-16 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.

10-17 CONTRACTOR'S LABORATORY. The contractor's quality control organization in accordance with the Contractor Quality Control Program.

10-18 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.

10-19 DRAINAGE SYSTEM. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

10-20 ENGINEER/PROJECT ENGINEER. The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering inspection of the contract work and acting directly or through an authorized representative.

10-21 EQUIPMENT. All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

10-22 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 Engineer to be necessary to complete the work within intended scope of the contract as previously modified.

10-23 FAA. The Federal Aviation Administration of the U. S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his or her duly authorized representative.

10-24 FEDERAL SPECIFICATIONS. The Federal Specifications and Standards, Commercial Item Descriptions, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.

10-25 FORCE ACCOUNT. Force account work is planning, engineering, or construction work done by the Sponsor's employees.

10-26 INSPECTOR. An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

10-27 INTENTION OF TERMS. Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of the like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer 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, 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.

10-28 LABORATORY. The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer. Also referred to as "Engineer's Laboratory" or "quality assurance laboratory."

10-29 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.

10-30 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 percent of the total amount of the awarded contract. All other items shall be considered minor contract items.

10-31 MATERIALS. Any substance specified for use in the construction of the contract work.

10-32 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.

10-33 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.

10-34 PASSENGER FACILITY CHARGE (PFC). Per 14 CFR Part 158 and 49 USC § 40117, a PFC is a "charge imposed by a public agency on passengers enplaned at a commercial service airport it controls."

10-35 PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.

10-36 PAYMENT BOND (LABOR AND MATERIAL BOND). The approved form of security furnished by the Contractor and his or her surety as a guaranty that Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.

10-37 PERFORMANCE BOND. The approved form of security furnished by the Contractor and his or her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

10-38 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.

10-39 PROJECT. The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

10-40 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.

10-41 PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract if his or her proposal is accepted by the Owner.

10-42 RUNWAY. The area on the airport prepared for the landing and takeoff of aircraft.

10-43 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.

10-44 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.

10-45 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; flexible and rigid pavements; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

10-46 SUBGRADE. The soil that forms the pavement foundation.

10-47 SUPERINTENDENT. The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

10-48 SUPPLEMENTAL AGREEMENT. A written agreement between the Contractor and the Owner covering: 1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract, or 2) work that is not within the scope of the originally awarded contract.

10-49 SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds which are furnished to the Owner by the Contractor.

10-50 TAXIWAY. For the purpose of this document, the term taxiway means 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.

10-51 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.

10-52 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 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 a working day.

SECTION 20. PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 ADVERTISEMENT (Invitation For Bids). The Owner has published the advertisement at such places and at such times as are required by local law or ordinances.

20-02 QUALIFICATION OF BIDDERS. Each bidder shall furnish the Owner satisfactory evidence of his or her competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available. In addition, each bidder shall furnish the Owner satisfactory evidence of his or her financial responsibility. Such 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 his or her 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 he or she is prequalified with the State Highway Division and is on the current "bidder's list" of the state in which the proposed work is located. Such evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

Each bidder shall submit "evidence of competency" and "evidence of financial responsibility" to the Owner at the time of bid opening.

20-03 CONTENTS OF PROPOSAL FORMS. The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans, specifications, and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

20-04 ISSUANCE OF PROPOSAL FORMS. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be 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 hereinafter provided in Subsection 40-02 titled ALTERATION OF WORK AND QUANTITIES of Section 40 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 as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

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

20-07 PREPARATION OF PROPOSAL. The bidder shall submit his/her proposal on the forms furnished by the Owner. All blank spaces in the proposal forms 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 for which they propose to do 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 sign the proposal correctly and in ink. If the proposal is made by an individual, his or her 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 under the laws of which 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 his or her 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 Sponsor's invitation for bid. It is the Sponsor'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 49 CFR § 18.36(b)(8). 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 which 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.

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 GUARANTY. Each separate proposal shall be accompanied by a certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the Owner.

20-11 DELIVERY OF PROPOSAL. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 WITHDRAWAL OR REVISION OF PROPOSALS. 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 or by fax, email 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.

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 email 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 Subsection 20-04 titled ISSUANCE OF PROPOSAL FORMS of this section.

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. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.

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

(a) If the proposal is irregular as specified in Subsection 20-09 titled IRREGULAR PROPOSALS of Section 20.

(b) If the bidder is disqualified for any of the reasons specified in Subsection 20-14 titled DISQUALIFICATION OF BIDDERS of Section 20.

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 within 120 calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

Award of the contract shall be made by the Owner to the lowest qualified bidder whose proposal conforms to the cited requirements of the owner.

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 subsection 30-07 APPROVAL OF CONTRACT of this section.

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 subsection 30-01 titled CONSIDERATION OF PROPOSALS of this section. 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 subsection 30-05 titled REQUIREMENTS OF CONTRACT BONDS of this section.

30-05 REQUIREMENTS OF CONTRACT BONDS. At this 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 subsection 30-05 titled REQUIREMENTS OF CONTRACT BONDS of this section, within 15 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 15 calendar day period specified in Subsection 30-06 titled 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 liquidation of damages to the Owner.

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 and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations that do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations that are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. 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.

Supplemental agreements shall be approved by the FAA and shall include all applicable Federal contract provisions for procurement and contracting required under AIP. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds.

40-03 OMITTED ITEMS. The Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. 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 Subsection 90-04 titled PAYMENT FOR OMITTED ITEMS of Section 90.

40-04 EXTRA WORK. Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called "Extra Work". Extra work that is within the general scope of the contract shall be covered by written change order. Change orders for such 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 Engineer's opinion, is necessary for completion of such extra work.

When determined by the Engineer to be in the Owner's best interest, the Engineer may order the Contractor to proceed with Extra Work as provided in the subsection 90-05 titled PAYMENT FOR EXTRA WORK of Section 90. 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 the subsection 10-48 titled SUPPLEMENTAL AGREEMENT of Section 10.

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.

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 his or her own operations and the operations of all subcontractors as specified in the subsection 80-04 titled LIMITATION OF OPERATIONS of Section 80. 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 the subsection 70-15 titled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section 70.

b. With respect to his or her 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.

c. When the contract requires the maintenance of vehicular traffic on 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 such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall be responsible for the repair 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.

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 Engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract.

Except as provided in Subsection 40-07 titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, 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 either embankment or waste, the Contractor may at his or her option either:

- (a) Use such material in another contract item, providing such use is approved by the Engineer 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 Engineer; 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 Engineer's approval in advance of such use.

Should the Engineer 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 his or her own 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 Engineer 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 his/her 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 such property Owner.

SECTION 50. CONTROL OF WORK

50-01 AUTHORITY OF THE ENGINEER. The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. The Engineer shall decide all questions that may arise as to the interpretation of the specifications or plans relating to the work. The Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for under the contract.

The Engineer does not have to authority to accept pavements that do not conform to FAA 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 Engineer 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 his or her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the Engineer will advise the Owner of his or her determination that the affected work be accepted and remain in place. In this event, the Engineer 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. The Engineer's determination and recommended contract price adjustments will be based on sound engineering judgement and such tests or retests of the affected work as are, in the Engineer's opinion, needed. Changes in the contract price shall be covered by contract change order or supplemental agreement as applicable.

If the Engineer 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 Engineer's written orders.

For the purpose of this subsection, 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 Engineer'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 Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Engineer with the authority, after consultation with the F.A.A., to use sound engineering judgment in his or her determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans, and specifications.

The Engineer 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. 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 standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the Engineer 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, he/she shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

50-04 COOPERATION OF CONTRACTOR. The Contractor will be supplied with five copies each of the plans and specifications. The Contractor shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the Engineer and his or her 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 his or her 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 Engineer or his/her authorized representative.

50-05 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 so as 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 his/her contract and shall protect and save 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 his or her work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. Contractor shall join his or her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-06 CONSTRUCTION LAYOUT AND STAKES.

The Engineer shall establish horizontal and vertical control only. The Contractor must establish all layout required for the construction of the work. Such stakes and markings as the Engineer may set for either their own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or their employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.

The Contractor will be required to furnish all lines, grades and measurements from the control points necessary for the proper execution and control of the work contracted for under these specifications.

The Contractor must give copies of survey notes to the Engineer for each area of construction and for each placement of material as specified to allow the Engineer to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. All surveys must be provided to the Engineer prior to commencing work items that will cover or disturb the survey staking as set by the Contractor's surveyor. Survey(s) and notes shall be provided in the following format(s): Point File compatible with AutoCAD. 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 the contract documents, for this labor, materials, or other expenses therewith. The cost thereof shall be included in the price of the bid for the various items of the Contract.

Construction Staking and Layout includes but is not limited to:

- a. Clearing and Grubbing perimeter staking
- b. Rough Grade slope stakes at 100-foot (30-m) stations
- c. Drainage Swales slope stakes and flow line blue tops at 50-foot (15-m) stations

Subgrade blue tops at 25-foot (7.5-m) stations and 25-foot (7.5-m) offset distance (maximum) for the following section locations:

- a) Runway – minimum five (5) per station
- b) Taxiways – minimum three (3) per station
- c) Holding apron areas – minimum three (3) per station
- d) Roadways – minimum three (3) per station

Base Course blue tops at 25-foot (7.5-m) stations and 25-foot (7.5-m) offset distance (maximum) for the following section locations:

- a) Runway – minimum five (5) per station
- b) Taxiways – minimum three (3) per station
- c) Holding apron areas – minimum three (3) per station

Pavement areas:

- a) Edge of Pavement hubs and tacks (for stringline by Contractor) at 100-foot (30-m) stations.
- b) Between Lifts at 25-foot (7.5-m) stations for the following section locations:
 - (1) Runways – each paving lane width
 - (2) Taxiways – each paving lane width
 - (3) Holding areas – each paving lane width
- c) After finish paving operations at 50-foot (15-m) stations:
 - 1. All paved areas – Edge of each paving lane prior to next paving lane
- d) Shoulder and safety area blue tops at 50-foot (15-m) stations and at all break points with maximum of 50-foot (15-m) offsets.
- e) Fence lines at 100-foot (30-m) stations minimum.
- f) Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, Visual Approach Slope Indicators (VASIs), Precision Approach Path Indicators (PAPIs), Runway End Identifier Lighting (REIL), Wind Cones, Distance Markers (signs), pull boxes and manholes.
- g) Drain lines, cut stakes and alignment on 25-foot (7.5-m) stations, inlet and manholes.
- h) Painting and Striping layout (pinned with 1.5 inch PK nails) marked for paint Contractor. (All nails shall be removed after painting).
- i) Laser, or other automatic control devices, shall be checked with temporary control point or grade hob at a minimum of once per 400 feet (120 m) per pass (that is, paving lane).

The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor.

Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer without additional cost to the Owner.

50-07 AUTOMATICALLY CONTROLLED EQUIPMENT. Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period of 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

50-08 AUTHORITY AND DUTIES OF INSPECTORS. Inspectors shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors are authorized to notify the Contractor or his or her representative 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 Engineer 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 Engineer 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 completed and detailed inspection.

If the Engineer requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portion 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.

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

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 which does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in Subsection 50-02 titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

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 Subsection 70-14 titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

No removal work made under provision of this subsection shall be done without lines and grades having been established by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as established by the Engineer, 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 Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs incurred by the Owner from any monies due or to become due 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 which 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 shall be responsible for all damage done by his or her hauling equipment and shall correct such damage at his/her own expense.

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 Subsection 50-12 titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer 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 Engineer'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 deducted from monies due or to become due 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 Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the Engineer 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 Engineer 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 Engineer 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 Engineer will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with and execute such instructions. 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 Engineer 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 Engineer in writing of his or her 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 Engineer 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 Engineer 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 Engineer 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 COST REDUCTION INCENTIVE. The provisions of this subsection will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.

On projects with original contract amounts in excess of \$100,000, the Contractor may submit to the Engineer, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

Not eligible for cost reduction proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

- (a) A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each;
- (b) An itemization of the contract requirements that must be changed if the proposal is adopted;
- (c) A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes;
- (d) A statement of the time by which a change order adopting the proposal must be issued;
- (e) A statement of the effect adoption of the proposal will have on the time for completion of the contract; and
- (f) The contract items of work affected by the proposed changes, including any quantity variation attributable to them.

The Contractor may withdraw, in whole or in part, any cost reduction proposal not accepted by the Engineer, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the Engineer to consider any cost reduction proposal which may be submitted.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the cost reduction proposal has been issued. If a change order has not been issued by the date upon which the Contractor's cost reduction proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such cost reduction proposal shall be deemed rejected.

The Engineer shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the Engineer may disregard the contract bid prices if, in the Engineer's judgement such prices do not represent a fair measure of the value of the work to be performed or deleted.

The Owner may require the Contractor to share in the Owner's costs of investigating a cost reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a cost reduction proposal from accounts payable to the Contractor under the contract.

If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by a contract change order which shall specifically state that it is executed pursuant to this subsection. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted and shall include any conditions upon which the Engineer's approval is based. The change order shall also set forth the estimated net savings attributable to the cost reduction proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.

The Contractor's 50 percent share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the work.

Acceptance of the cost-reduction proposal and performance of the cost reduction work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.

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 complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the Engineer's option, materials may be approved at the sources of supply before delivery is started. 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 conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the Contractor shall furnish such equipment that is:

a. Listed in Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, and Addendum that is in effect on the date of advertisement; and,

b. Produced by the manufacturer as listed in the Addendum cited above for the certified equipment part number.

The following airport lighting equipment is required for this contract and is to be furnished by the Contractor in accordance with the requirements of this subsection:

Equipment Name	Cited FAA Spec.	Effective FAA A.C. or Approval Letter for Equipment & Manufacturer
None		

60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS. Unless otherwise designated all materials used in the work shall be inspected, tested and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer 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 Engineer, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests 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, will be made by and at the expense of the Engineer.

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,

including the Contractor's representative at his or her request. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the Engineer. 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 Engineer.

The Contractor shall employ a testing organization to perform all Contractor required Quality Control tests. The Contractor shall submit to the Engineer resumes on all testing organizations and individual persons who will be performing the tests. The Engineer will determine if such persons are qualified. All the test data shall be reported to the Engineer after the results are known. A legible, handwritten copy of all test data shall be given to the Engineer 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 Engineer showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 CERTIFICATION OF COMPLIANCE. The Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance 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.

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 Engineer.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "brand name," 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.

Should the Contractor propose to furnish an "or equal" material or assembly the Contractor shall furnish the manufacturer's certificate of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

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

60-04 PLANT INSPECTION. The Engineer or his or her 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 his acceptance of the material or assembly.

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

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

(b) The Engineer 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 Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located 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 Engineer 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'S FIELD OFFICE AND LABORATORY. An Engineer's Field office is not required.

60-06 STORAGE OF MATERIALS. Materials shall be so stored as 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 Engineer. 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, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Engineer. 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 Engineer 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 his or her entire 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 Engineer.

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 Engineer 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.

SECTION 70. LEGAL RELATIONS 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 his or her 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 notice 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) is indicated as follows:

Not applicable.

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 Engineer.

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 Engineer, 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 AID PARTICIPATION. For Airport Improvement Program (AIP) contracts, the United States Government has agreed to reimburse the Owner for some portion of the contract costs. Such reimbursement is made from time to time upon the Owner's request to the FAA. In

consideration of the United States Government's (FAA's) agreement with the Owner, the Owner has included provisions in this contract pursuant to the requirements of Title 49 of the United States Code (USC), and the Rules and Regulations of the FAA that pertain to the work.

As required by the USC, the contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the USC, the rules and regulations implementing the USC, or this contract shall be construed as making the Federal Government 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 shall provide and maintain in a neat, sanitary condition such accommodations for the use of his or her employees as may be necessary to comply with the requirements of the state and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, state, and local laws, rules, and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions which are unsanitary, hazardous, or dangerous to his or her health or safety.

70-07 PUBLIC CONVENIENCE AND SAFETY. The Contractor shall control his/her operations and those of his/her 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 his or her own operations and those of his or her subcontractors and all suppliers in accordance with Subsection 40-05 titled MAINTENANCE OF TRAFFIC of Section 40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in Subsection 80-04 titled LIMITATION OF OPERATIONS of Section 80 hereinafter.

70-08 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS. The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated. Unless otherwise specified, barricades, warning signs, and markings for hazards that are in the air operations area (AOA) shall be a maximum of 18 inches high. Unless otherwise specified, barricades shall be spaced not more than 4 feet apart. Barricades, warning signs, and markings shall be paid for under subsection 40-05.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices.

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of Advisory Circular (AC) 150/5340-1L, Standards for Airport Markings.

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stockpiles, and Contractor's parked construction equipment that may be

hazardous to the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to AC 150/5370-2F, Operational Safety on Airports During Construction.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to AC 150/5370-2F.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work that requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their removal is directed by the Engineer.

Open-flame type lights shall not be permitted.

70-09 USE OF EXPLOSIVES. The use or storage of explosives is not permitted on this Airport.

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 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 shall have 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 nonexecution thereof by the Contractor, the Contractor shall restore, at his/her own 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 he or she shall make good such damage or injury in an acceptable manner.

70-11 RESPONSIBILITY FOR DAMAGE CLAIMS. The Contractor shall indemnify and save harmless the Engineer and the Owner and their officers, 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 his or her contract as may be considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his or her 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 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. Should it be 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 shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his or her own estimate of the difficulties involved in arranging his or her work to permit such beneficial occupancy by the Owner as described below:

SHOWN ON THE PLANS

Upon completion of any portion of the work listed above, such portion shall be accepted by the Owner in accordance with Subsection 50-14 titled PARTIAL ACCEPTANCE.

No portion of the work may be opened by the Contractor for public use until ordered by the Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Engineer, 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 provisions 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 his or her expense.

The Contractor shall make his or her 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 or delay or increased cost due to opening a portion of the contract work.

Contractor shall be required to conform to safety standards contained in AC 150/5370-2F (see Special Provisions).

Contractor shall refer to the approved Construction Safety and Phasing Plan (CSPP) to identify barricade requirements and other safety requirements prior to opening up sections of work to traffic.

70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK. Until the Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Subsection 50-14 titled PARTIAL ACCEPTANCE of Section 50, 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 nonexecution 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 governmental 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 his or her 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 vegetable growth against injury.

70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS. As provided in Subsection 70-04 titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section, 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 his or her 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 and the owners are indicated as follows:

Not applicable.

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 his or her plan of operations. Such notification shall be in writing addressed to THE PERSON TO CONTACT as provided hereinbefore in this subsection and Subsection 70-04 titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section. A copy of each notification shall be given to the Engineer.

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 his or her 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 his or her 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 Engineer.

The Contractor's failure to give the two day's 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 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 Engineer 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 Engineer 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 his or her surety.

70-15.1 FAA FACILITIES AND CABLE RUNS. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

- a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.
- b. The Contractor shall notify FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the Airport Owner a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.
- c. If execution of the project work requires a facility outage, the Contractor shall contact the above named FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.
- d. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.
- e. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

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, his or her authorized representatives, or any official 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 his or her surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his/her 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, bitumens, 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 his or her 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 Engineer. The Engineer 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 Subsection 40-04 titled EXTRA WORK of Section 40 and Subsection 90-05 titled PAYMENT FOR EXTRA WORK of Section 90. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Subsection 80-07 titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 80.

SECTION 80. PROSECUTION 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 Engineer.

The Contractor shall provide copies of all subcontracts to the Engineer. The Contractor shall perform, with his organization, an amount of work equal to at least 30 percent of the total contract cost.

Should the Contractor elect to assign his or her 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.

80-02 NOTICE TO PROCEED. The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract within 10 days of the date set by the Engineer in the written notice to proceed, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin. The Contractor shall not commence any actual construction 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 his or her progress schedule for the Engineer's approval within 10 days after the effective date of the notice to proceed. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. 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 Engineer's request, submit a revised schedule for completion of the work within the contract time and modify his or her 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 Engineer at least 24 hours in advance of resuming operations.

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

80-04 LIMITATION OF OPERATIONS. The Contractor shall control his or her operations and the operations of his or her 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 his/her operations within an AOA of the airport, the work shall be coordinated with airport operations (through the Engineer) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the Engineer and until the necessary temporary marking and associated lighting is in place as provided in Subsection 70-08 titled BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS of Section 70.

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 hereinafter specified; immediately obey all instructions to vacate the AOA; 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 the satisfactory conditions are provided. The following AOA 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:

<u>AOA</u>	<u>Time Periods AOA Can be Closed</u>	<u>Type of Communications Required When Working in AOA</u>	<u>Control Authority</u>
Runways Taxiways, & Aprons	*	Two-Way Radio Tuned to 123.075	Airport Manager

*See Special Conditions Article (8).

Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction (See Special Provisions).

80-04.1 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION. All Contractors' operations shall be conducted in accordance with the project Construction Safety and Phasing Plan (CSPP) and the provisions set forth within the current version of Advisory Circular 150/5370-2. 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 Safety Plan Compliance Document 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 that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP unless approved in writing by the Owner or Engineer.

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 Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or subcontractor employing such

person, and shall not be employed again in any portion of the work without approval of the Engineer.

Should the Contractor fail to remove such persons or person, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the Engineer 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 be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from 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 others are authorized by the Engineer. 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 Engineer 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 Engineer 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 Engineer 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 subsection.

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 as the Owner may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the execution of the work, or for such time as is 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 Engineer's order to suspend work to the effective date of the Engineer's order to resume the work. Claims for such compensation shall be filed with the Engineer within the time period stated in the Engineer's order to resume work. The Contractor shall submit with his or her claim information substantiating the amount shown on the claim. The Engineer 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, for suspensions made at the request of the Owner, or for any other delay provided for in the contract, plans, or specifications.

If it should become 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 working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

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

(a) CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his or her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).

The Engineer shall base his or her weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least 6 hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The Engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in Subsection 50-15 titled FINAL ACCEPTANCE of Section 50.

(5) The Contractor will be allowed one week in which to file a written protest setting forth his or her objections to the Engineers' weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in Subsection 20-05 titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, 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 contract time shall not consider either the cost of work

or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

(b) 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 nonwork 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.

(c) When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his or her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, the Contractor may at any time prior to the expiration of the contract time as extended, make a written request to the Owner for an extension of time setting forth the reasons the Contractor believes will justify the granting of his or her request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the supporting documentation justify the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Owner may extend the time for completion by a change order that adjusts the contract time. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

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 Subsection 80-07 titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum specified in the proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his or her 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 his/her contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
Total Project	\$2,000/calendar day	45 working 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 waiver 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 his or her 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 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 prosecution 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 judgement to stand against him 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 Engineer consider the Contractor in default of the contract for any reason above, the Engineer 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 Engineer 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 Engineer 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 Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his or her responsibilities for the completed work nor shall it relieve his or her 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 Engineer 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 his/her work in such a manner as to ensure safety and a minimum of hindrance to flight operations. All Contractor equipment and material stockpiles shall be stored a minimum of 250 feet from the centerline of an active runway. No equipment will be allowed to park within the approach area of an active runway at any time. No equipment shall be within 250 feet of an active runway at any time.

SECTION 90. MEASUREMENT AND PAYMENT

90-01 MEASUREMENT OF QUANTITIES. All work completed under the contract will be measured by the Engineer, or his/her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

The method of measurement and computations to be used in determination of quantities of materials 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 meter) 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 Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

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 said items are placed.

In computing volumes of excavation the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized steel 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.

The term "ton" will mean the short ton consisting of 2,000 pounds (907 kilograms) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Engineer. 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 Engineer directs, and each truck shall bear a plainly legible identification mark.

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.

When requested by the Contractor and approved by the Engineer 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 Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon (liter) or ton (kilogram). When measured by volume, such volumes will be measured at 60 degrees F (16 degrees C) or will be corrected to the volume at 60 degrees F (16 degrees C) using ASTM D 1250 for asphalts or ASTM D 633 for tars.

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 bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton (kg) or hundredweight (km).

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.

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.

Rental of equipment will be measured by the time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the Engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in Subsection 90-05 titled PAYMENT FOR EXTRA WORK of this section.

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 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.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector 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 one-tenth of one percent 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.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 kilogram) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales "overweighing" (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighing-accuracy test will be reduced by the percentage of error in excess of one-half of one percent.

In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

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.

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 Engineer. 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 Subsection 70-18 titled NO WAIVER OF LEGAL RIGHTS of Section 70.

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 Subsection 40-02 titled ALTERATION OF WORK AND QUANTITIES of Section 40 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 his or her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 PAYMENT FOR OMITTED ITEMS. As specified in Subsection 40-03 titled OMITTED ITEMS of Section 40, the Engineer 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 Engineer 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 Engineer'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 Engineer'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 Engineer'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 and amount of such costs.

90-05 PAYMENT FOR EXTRA WORK. Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 40, 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 Engineer, of the value of the work performed and materials complete and in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection 90-07 titled PAYMENT FOR MATERIALS ON HAND of this section. No partial payment will be made when the amount due the Contractor since the last estimate amounts to less than five hundred dollars.

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. The Owner must ensure prompt and full payment of retainage from 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.

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 until the final payment is made, except as may be provided (at the Contractor's option) in the subsection 90-08 titled PAYMENT OF WITHHELD FUNDS of this section. The balance of the amount payable, less all previous payments, shall be certified for payment. Should the Contractor exercise his or her option, as provided in the subsection 90-08 titled PAYMENT OF WITHHELD FUNDS of this section, no such percent retainage shall be deducted.

When at least 95% of the work has been completed, the Engineer 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 Engineer 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 Subsection 90-09 titled ACCEPTANCE AND FINAL PAYMENT of this section.

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 Engineer at or on an approved site.

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

(c) The Contractor has furnished the Engineer 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 so stored or stockpiled.

(e) The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at anytime 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 his or her 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 subsection.

90-08 PAYMENT OF WITHHELD FUNDS. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in subsection 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 Subsection 50-15 titled FINAL ACCEPTANCE of Section 50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer 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 Engineer 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 Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Engineer'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 Subsection 50-16 titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, and after the Engineer's receipt of the project closeout documentation required in subsection 90-11 PROJECT CLOSEOUT, 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 payment 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 Subsection 50-16 titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50 or under the provisions of this subsection, 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 1 year from the date of final acceptance of the work. If the Owner takes possession of any part of the work before final acceptance, this

warranty shall continue for a period of 1 year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work.

(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:

(1) The Contractor's failure to conform to contract requirements; or

(2) 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 1 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 PROJECT CLOSEOUT. Approval of final payment to the Contractor is contingent upon completion and submittal of the following items. The final payment will not be approved until the engineer 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 clean up in accordance with subsection 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 subcontractor, 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.
- (k) Security for Construction Warranty
- (l) Equipment commissioning documentation submitted, if required.
- (m) All Quality Control Reports. A separate summary of all test data shall be prepared for each material tested and shall include all test data, including failed tests and what corrective action was taken and retests to confirm final acceptance as specified in Section 100 of the specifications. All required record drawings, as-built drawings or as-constructed drawings

SECTION 100. CONTRACTOR QUALITY CONTROL PROGRAM.

100-01 GENERAL. When the specification requires a Contractor Quality Control Program, the Contractor shall establish, provide, and maintain an effective Quality Control Program 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 herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

- a. Adequately provide for the production of acceptable quality materials.
- b. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
- c. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the preconstruction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

Paving projects over \$250,000 shall have a Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, contractor, subcontractors, testing laboratories, and Owner's representative and the FAA prior to or at start of construction. The workshop shall address QC and QA requirements of the project specifications. The Contractor shall coordinate with the Airport and the Engineer on time and location of the QC/QA workshop.

100-02 DESCRIPTION OF PROGRAM.

a. General Description. The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program 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 quality control.

b. Quality Control Program. The Contractor shall describe the Quality Control Program in a written document that shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the

Engineer for review at least 7 calendar days before the start of operations. The Contractor's Quality Control Plan and Quality Control testing laboratory must be approved in writing by the Engineer prior to the Notice to Proceed (NTP).

The Quality Control Program shall be organized to address, as a minimum, the following items:

- a. Quality control organization;
- b. Project progress schedule;
- c. Submittals schedule;
- d. Inspection requirements;
- e. Quality control testing plan;
- f. Documentation of quality control activities; and
- g. Requirements for corrective action when quality control and/or acceptance criteria are not met.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

100-03 QUALITY CONTROL ORGANIZATION. The Contractor's Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 100-03a and 100-3b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall consist of the following minimum personnel:

a. Program Administrator. The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of 5 years experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

Additional qualifications for the Program Administrator shall include at least 1 of the following requirements:

- (1) Professional engineer with 1 year of airport paving experience.

- (2) Engineer-in-training with 2 years of airport paving experience.
- (3) An individual with 3 years of highway and/or airport paving experience acceptable to the Engineer, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.
- (4) Construction Materials Technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).
- (5) Highway Materials Technician certified at Level III by NICET.
- (6) Highway Construction Technician certified at Level III by NICET.
- (7) A NICET certified Engineering Technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem.

b. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsmen with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the Program Administrator 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 Section 100-06.
- (2) Performance of all quality control tests as required by the technical specifications and Section 100-07.
- (3) Performance of density tests for the Engineer when required by the technical specifications

Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing Levels. The Contractor shall provide sufficient qualified quality control 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 Quality Control Program shall state where different technicians will be required for different work elements.

100-04 PROJECT PROGRESS SCHEDULE. The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

100-05 SUBMITTAL SCHEDULE. The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

- a. Specification item number;
- b. Item description;
- c. Description of submittal;
- d. Specification paragraph requiring submittal; and
- e. Scheduled date of submittal.

100-06 INSPECTION REQUIREMENTS. Quality control 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 Section 100-07.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature work. These shall include the following minimum requirements:

a. During plant operation for material production, quality control test results and periodic inspections shall be utilized 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 Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized.

b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized 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 Program shall document how these and other quality control functions will be accomplished and used.

100-07 QUALITY CONTROL TESTING PLAN. As a part of the overall Quality Control Program, the Contractor shall implement a quality control 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 quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The 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., Plant Mix Bituminous Pavements);
- c. Test type (e.g., gradation, grade, asphalt content);
- d. Test standard (e.g., ASTM or 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); and
- g. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by Section 100-08.

100-08 DOCUMENTATION. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required 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 Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control 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) Review of quality control tests; and
- (7) Safety inspection.

The daily inspection reports shall identify inspections 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 quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

b. Daily Test Reports. The Contractor shall be responsible for establishing a system which will record all quality control 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; and
- (9) Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

100-09 CORRECTIVE ACTION REQUIREMENTS. The Quality Control Program 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 Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of 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 utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

100-10 SURVEILLANCE BY THE ENGINEER. All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

100-11 NONCOMPLIANCE.

a. The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or his or her authorized representative to the Contractor or his or her authorized representative at the site of the work, shall be considered sufficient notice.

b. In cases where quality control activities do not comply with either the Contractor's Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:

- (1) Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.
- (2) Order the Contractor to stop operations until appropriate corrective action is taken.

SECTION 105. MOBILIZATION

105-1 DESCRIPTION. This item shall consist of work and operations, 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.

105-1.1 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.
- All posters and notices required by the State of California.

These notices must remain posted until final acceptance of the work by the Owner.

105-2 BASIS OF MEASUREMENT AND PAYMENT. Based upon the contract lump sum price for “Mobilization” partial payments will be allowed as follows:

- a. With first pay request, 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 90-11, the final 10%.

SECTION 110. METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

110-01 GENERAL. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (\bar{X}) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index, Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

IT IS THE INTENT OF THIS SECTION TO INFORM THE CONTRACTOR THAT, IN ORDER TO CONSISTENTLY OFFSET THE CONTRACTOR'S RISK FOR MATERIAL EVALUATED, PRODUCTION QUALITY (USING POPULATION AVERAGE AND POPULATION STANDARD DEVIATION) MUST BE MAINTAINED AT THE ACCEPTABLE QUALITY SPECIFIED OR HIGHER. IN ALL CASES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PRODUCE AT QUALITY LEVELS THAT WILL MEET THE SPECIFIED ACCEPTANCE CRITERIA WHEN SAMPLED AND TESTED AT THE FREQUENCIES SPECIFIED.

110-02 METHOD FOR COMPUTING PWL. The computational sequence for computing the PWL is as follows:

- a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.
- b. Locate the random sampling position within the subplot in accordance with the requirements of the specification.
- c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.

- d. Find the sample average (\bar{X}) for all subplot values within the lot by using the following formula:

$$\bar{X} = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

Where:

\bar{X} = Average of all subplot values within a lot

x_1, x_2 = Individual subplot values

n = Number of sublots

- e. Find the standard deviation S_n by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \dots + d_n^2) / (n-1)]^{1/2}$$

Where:

S_n = standard deviation of the number of sub-lot values in the set

d_1, d_2 = deviations of the individual sub-lot values $X_1, X_2 \dots$ from the average

value \bar{X} that is $d_1 = (x_1 - \bar{X}), d_2 = (x_2 - \bar{X}) \dots d_n = (x_n - \bar{X})$

n = number of sub-lots

- f. For **single sided specification limits (that is, L only)**, compute the Lower Quality Index Q_L by use of the following formula.

$$Q_L = (\bar{X} - L) / S_n$$

Where:

L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L , using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For **double sided specification limits (that is, L and U)**, compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / S_n \quad \text{and} \quad Q_U = (U - X) / S_n$$

Where:

L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U , using the column appropriate to the total number (n) measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U . Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where:

P_L = percent within lower specification limit

P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project
Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density

1. Density of four random cores taken from Lot A.

A-1	96.60
A-2	97.55
A-3	99.30
A-4	98.35

n = 4

2. Calculate average density for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$$

$$X = 97.95 \text{ percent density}$$

3. Calculate the standard deviation for the lot.

$$S_n = [(96.60-97.95)^2 + (97.55-97.95)^2 + (99.30-97.95)^2 + (98.35-97.95)^2] / 4 - 1]^{1/2}$$

$$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$$

$$S_n = 1.15$$

4. Calculate the Lower Quality Index Q_L for the lot. ($L=96.3$)

$$Q_L = (X - L) / S_n$$

$$Q_L = (97.95-96.30) / 1.15$$

$$Q_L = 1.4348$$

5. Determine PWL by entering Table 1 with $Q_L = 1.44$ and $n = 4$.

$$PWL = 98$$

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

$$A-1 \quad 5.00$$

$$A-2 \quad 3.74$$

$$A-3 \quad 2.30$$

$$A-4 \quad 3.25$$

2. Calculate the average air voids for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$$

$$X = 3.57 \text{ percent}$$

3. Calculate the standard deviation S_n for the lot.

$$S_n = [(3.57-5.00)^2 + (3.57-3.74)^2 + (3.57-2.30)^2 + (3.57-3.25)^2 / 4 - 1]^{1/2}$$

$$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$$

$$S_n = 1.12$$

4. Calculate the Lower Quality Index Q_L for the lot. ($L=2.0$)

$$Q_L = (X - L) / S_n$$

$$Q_L = (3.57 - 2.00) / 1.12$$

$$Q_L = 1.3992$$

5. Determine P_L by entering Table 1 with $Q_L=1.40$ and $n=4$.

$$P_L = 97$$

6. Calculate the Upper Quality Index Q_U for the lot. ($U=5.0$)

$$Q_U = (U - X) / S_n$$

$$Q_U = (5.00 - 3.57) / 1.12$$

$$Q_U = 1.2702$$

7. Determine P_U by entering Table 1 with $Q_U = 1.27$ and $n = 4$.

$$P_U = 93$$

8. Calculate Air Voids PWL

$$PWL = (P_L + P_U) - 100$$

$$PWL = (97 + 93) - 100 = 90$$

EXAMPLE OF OUTLIER CALCULATION (REFERENCE ASTM E178)**Project:** Example Project**Test Item:** Item P-401, Lot A.**A. Outlier Determination for Mat Density.**

1. Density of four random cores taken from Lot A arranged in descending order.
A-3 = 99.30
A-4 = 98.35
A-2 = 97.55
A-1 = 96.60
2. Use $n=4$ and upper 5% significance level of to find the critical value for test criterion = 1.463.
3. Use average density, standard deviation, and test criterion value to evaluate density measurements.
 - a. For measurements greater than the average:
If $(\text{measurement} - \text{average})/(\text{standard deviation})$ is less than test criterion, then the measurement is not considered an outlier
For A-3, check if $(99.30 - 97.95) / 1.15$ is greater than 1.463.
Since 1.174 is less than 1.463, the value is not an outlier.
 - b. For measurements less than the average:
If $(\text{average} - \text{measurement})/(\text{standard deviation})$ is less than test criterion, then the measurement is not considered an outlier.

For A-1, check if $(97.95 - 96.60) / 1.15$ is greater than 1.463.
Since 1.435 is less than 1.463, the value is not an outlier.

Note: In this example, a measurement would be considered an outlier if the density were:

Greater than $(97.95 + 1.463 \times 1.15) = 99.63\%$
OR
less than $(97.95 - 1.463 \times 1.15) = 96.27\%$.

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4716	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1191	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9672	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9325	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5583	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4354	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4031	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1613	0.1592	0.1575	0.1566
55	0.1806	0.1500	0.1408	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0792	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0792	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1408	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1592	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4031	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4354	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5583	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9325	-0.9281	-0.9258	-0.9241

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9672	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1191	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4716	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

**** END OF SECTION ****

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SECTION III

TECHNICAL SPECIFICATIONS

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TECHNICAL SPECIFICATIONS

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*STOCK DRIVE REALIGNMENT AT BRYANT FIELD
Project/AIP No. 3-06-0030-10-2016*

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Item P-101 Surface Preparation

DESCRIPTION

101-1.1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable drawings.

EQUIPMENT

101-2.1 All equipment shall be specified here and in the following paragraphs or approved by the Engineer. The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.

a. Concrete pavement. Not applicable.

b. Asphalt concrete pavement. Asphalt concrete pavement to be removed shall be cut to the full depth of the bituminous material around the perimeter of the area to be removed. The pavement shall be removed so the joint for each layer of pavement replacement is offset 1 foot (30 cm) from the joint in the preceding layer. This does not apply if the removed pavement is to be replaced with concrete or soil. If the material is to be wasted on the airport site, it shall meet the following gradation:

GRADATION REQUIREMENTS	
Sieve Size	Percent Passing
1½ inch	100
1 inch	60-100
½ inch	40-80
No. 4	30-55
No. 16	15-35
No. 50	5-20
No. 200	2-8

101-3.2 Preparation of joints and cracks. Not applicable.

101-3.3 Removal of paint and rubber. Not applicable.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair. Not applicable.

101-3.5 Cold milling. Not applicable.

101-3.6. Preparation of asphalt pavement surfaces. Not applicable.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the Engineer. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement. Not applicable.

101-3.9 Preparation of Cracks in Flexible Pavement. Not applicable.

METHOD OF MEASUREMENT

101-4.1 Pavement removal. The unit of measurement for pavement removal shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P 101-5.1 Pavement Removal - per square yard

MATERIAL REQUIREMENTS

ASTM D6690 Standard Specification For Joint And Crack Sealants, Hot Applied, For Concrete And Asphalt Pavements

END OF ITEM P-101

Item P-151 Clearing and Grubbing

DESCRIPTION

151-1.1 This item shall consist of clearing or clearing and grubbing, including the disposal of materials, for all areas within the limits designated on the plans or as required by the Engineer.

a. Clearing shall consist of the cutting and removal of all trees, stumps, brush, logs, hedges, the removal of fences and other loose or projecting material from the designated areas. The grubbing of stumps and roots will not be required.

b. Clearing and grubbing shall consist of clearing the surface of the ground of the designated areas of all trees, stumps, down timber, logs, snags, brush, undergrowth, hedges, heavy growth of grass or weeds, fences, structures, debris, and rubbish of any nature, natural obstructions or such material which in the opinion of the Engineer is unsuitable for the foundation of strips, pavements, or other required structures, including the grubbing of stumps, roots, matted roots, foundations, and the disposal from the project of all spoil materials resulting from clearing and grubbing.

CONSTRUCTION METHODS

151-2.1 General. The areas denoted on the plans to be cleared or cleared and grubbed shall be staked on the ground by the Engineer. The clearing and grubbing shall be done at a satisfactory distance in advance of the grading operations.

All spoil materials removed by clearing or by clearing and grubbing shall be disposed outside the Airport's limits at the Contractor's responsibility, unless otherwise directed by the Engineer.

As far as practicable, waste concrete and masonry shall be placed on slopes of embankments or channels. When embankments are constructed of such material, this material shall be placed in accordance with requirements for formation of embankments. Any broken concrete or masonry that cannot be used in construction and all other materials not considered suitable for use elsewhere, shall be disposed of by the Contractor. In no case shall any discarded materials be left in windrows or piles adjacent to or within the airport limits. The manner and location of disposal of materials shall be subject to the approval of the Engineer and shall not create an unsightly or objectionable view. When the Contractor is required to locate a disposal area outside the airport property limits, the Contractor shall obtain and file with the Engineer permission in writing from the property owner for the use of private property for this purpose.

Blasting shall not be allowed

The removal of existing structure and utilities required to permit orderly progress of work shall be accomplished by local agencies, unless otherwise shown on the plans. Whenever a telephone or telegraph pole, pipeline, conduit, sewer, roadway, or other utility is encountered and must be removed or relocated, the Contractor shall advise the Engineer who will notify the proper local authority or owner to secure prompt action.

151-2.2 Clearing. The Contractor shall clear the staked or indicated area of all objectionable materials. Trees unavoidably falling outside the specified clearing limits must be cut up, removed, and disposed of in a satisfactory manner. To minimize damage to trees that are to be left standing, trees shall be felled toward the center of the area being cleared. The Contractor shall preserve and protect from injury all trees not to be removed. The trees, stumps, and brush shall be cut flush with the original ground surface. The grubbing of stumps and roots will not be required.

Fences shall be removed and disposed of as directed by the Engineer. Fence wire shall be neatly rolled and the wire and posts stored on the airport if they are to be used again, or stored at a location designated by the Engineer if the fence is to remain the property of a local owner or authority.

151-2.3 Clearing and grubbing. In areas designated to be cleared and grubbed, all stumps, roots, buried logs, brush, grass, and other unsatisfactory materials shall be removed, except where embankments exceeding 3-1/2 feet (105 cm) in depth will be constructed outside of paved areas. For embankments constructed outside of paved areas, all unsatisfactory materials shall be removed, but sound trees, stumps, and brush can be cut off flush with the original ground and allowed to remain. Tap roots and other projections over 1-1/2 inches (38 mm) in diameter shall be grubbed out to a depth of at least 18 inches (0.5 m) below the finished subgrade or slope elevation.

Any buildings and miscellaneous structures that are shown on the plans to be removed shall be demolished or removed, and all materials shall be disposed of by removal from the site. The cost of removal is incidental to this item. The remaining or existing foundations, wells, cesspools, and like structures shall be destroyed by breaking down the materials of which the foundations, wells, cesspools, etc., are built to a depth at least 2 feet (60 cm) below the existing surrounding ground. Any broken concrete, blocks, or other objectionable material that cannot be used in backfill shall be removed and disposed of at the Contractor's expense. The holes or openings shall be backfilled with acceptable material and properly compacted.

All holes under embankment areas remaining after the grubbing operation shall have the sides of the holes flattened to facilitate filling with acceptable material and compacting as required in Item P-152. The same procedure shall be applied to all holes remaining after grubbing in areas where the depth of holes exceeds the depth of the proposed excavation.

METHOD OF MEASUREMENT

151-3.1 The quantities of clearing or clearing and grubbing as shown by the limits on the plans or as ordered by the Engineer shall be the number of acres (square meters) or fractions thereof, of land specifically cleared or cleared and grubbed.

BASIS OF PAYMENT

151-4.1 Payment shall be made at the contract unit price per acre for clearing. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

151-4.2 Payment shall be made at the contract unit price per acre for clearing and grubbing. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

- | | |
|----------------|----------------------------------|
| Item P-151-4.1 | Clearing - per acre |
| Item P-151-4.2 | Clearing and grubbing - per acre |

END OF ITEM P-151

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, which is not otherwise classified and paid for under one of the following items.

b. Muck excavation. Muck excavation shall consist of the removal and disposal of deposits or mixtures of soils and organic matter not suitable for foundation material. Muck shall include materials that will decay or produce subsidence in the embankment. It may consist of decaying stumps, roots, logs, humus, or other material not satisfactory for incorporation in the embankment.

c. Drainage excavation. Drainage excavation shall consist of all excavation made for the primary purpose of drainage and includes drainage ditches, such as intercepting, inlet or outlet ditches; temporary levee construction; or any other type as shown on the plans.

d. Borrow excavation. Borrow excavation shall consist of approved material required for the construction of embankments or for other portions of the work in excess of the quantity of usable material available from required excavations. Borrow material shall be obtained from areas designated by the Engineer within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport boundaries.

152-1.3 Unsuitable excavation. Any material 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 Engineer.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be completely cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the Engineer. All unsuitable material shall be disposed of in waste areas shown on the plans. All waste areas shall be graded to allow positive drainage of the area and of adjacent areas. The surface elevation of waste areas shall not extend above the surface elevation of adjacent usable areas of the airport, unless specified on the plans or approved by the Engineer.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the Engineer notified per subsection 70-20. At the direction of the Engineer, 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.

Those areas outside of the limits of the pavement areas where the top layer of soil material has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches (100 mm), to loosen and pulverize the soil.

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 Engineer, who shall arrange for their removal if necessary. The Contractor, at his or her 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.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the Engineer has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. 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 Engineer. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

When the volume of the excavation exceeds that required to construct the embankments to the grades indicated, the excess shall be used to grade the areas of ultimate development or disposed as directed by the Engineer. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

The grade shall be maintained so that the surface is well drained at all times. When necessary, temporary drains and drainage ditches shall be installed to intercept or divert surface water that may affect the work.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the Engineer 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 so that it can be measured for payment as specified in paragraph 152-3.3.

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 (300 mm) below the subgrade or to the depth specified by the Engineer. 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. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for Unclassified Excavation. 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. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans.

c. Overbreak. Overbreak, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the Engineer. All overbreak shall be graded or removed by the Contractor and disposed of as directed by the Engineer. The Engineer shall determine if the displacement of such material was unavoidable and his or her decision shall be final. Payment will not be made for the removal and disposal of overbreak that the Engineer determines as avoidable. Unavoidable overbreak 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 someone other than the Contractor; for example, the utility unless otherwise shown 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 Engineer. All foundations thus excavated shall be backfilled with suitable material and compacted as specified.

e. Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 6 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D 1557. The material to be compacted shall be within $\pm 2\%$ of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils).

The in-place field density shall be determined in accordance with ASTM D1556 or 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. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade. The finished grading operations, conforming to the typical cross-section, shall be completed and maintained at least 1,000 feet (300 m) ahead of the paving operations or as directed by the Engineer.

All loose or protruding rocks on the back slopes of cuts shall be pried loose or otherwise removed to the slope finished grade line. 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 Engineer.

Blasting shall not be allowed.

f. Proof rolling. After compaction is completed, the subgrade area shall be proof rolled with a heavy pneumatic-tired roller having four or more tires abreast, each tire loaded to a minimum of 30,000 pounds (13.6 metric tons) and inflated to a minimum of 125 psi (0.861 MPa) in the presence of the Engineer. Apply a minimum of 3 coverage, or as specified by the Engineer, to all paved 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 (25 mm) or show permanent deformation greater than 1 inch (25 mm) shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications.

152-2.3 Borrow excavation. Borrow areas within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed by the Engineer.

When borrow sources are outside the boundaries of the airport property, it shall be the Contractor's responsibility to locate and obtain the borrow sources, subject to the approval of the Engineer. The Contractor shall notify the Engineer at least 15 days prior to beginning the excavation so necessary measurements and tests can be made. All borrow pits shall be opened up to expose the various strata of acceptable material to allow obtaining a uniform product. All unsuitable material shall be disposed of by the Contractor. Borrow pits shall be excavated to regular lines to permit accurate measurements, and they shall be drained and left in a neat, presentable condition with all slopes dressed uniformly.

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating for drainage ditches such as intercepting; inlet or outlet ditches; for temporary levee construction; or for any other type as designed or as shown on the plans. The work shall be performed in sequence with the other construction. Intercepting ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the Engineer. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of embankment area. Where an embankment is to be constructed to a height of 4 feet (1.2 m) or less, 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 (150 mm) and shall then be compacted as indicated in paragraph 152-2.6. When the height of fill is greater than 4 feet (1.2 m), sod not required to be removed shall be thoroughly disked and recompacted to the density of the surrounding ground before construction of embankment.

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 (300 mm) 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.

152-2.6 Formation of embankments. Embankments shall be formed in successive horizontal layers of not more than 8 inches (200 mm) in loose depth for the full width of the cross-section, unless otherwise approved by the Engineer.

The layers shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the Engineer. 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 because of 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 layer shall be within $\pm 2\%$ of optimum moisture content before rolling to obtain the prescribed compaction. To achieve a uniform moisture content throughout the layer, the material shall be moistened or aerated as necessary. Samples of all embankment materials for testing, both before and after placement and compaction, will be taken for each 1,000 square yards of material placed per layer. Based on these tests, the Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

Rolling operations shall be continued until the embankment is compacted to not less than 95% of maximum density for noncohesive soils, and 90% of maximum density for cohesive soils as determined by ASTM D1557. Under all areas to be paved, the embankments shall be compacted to a depth of 6 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D 1557.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches (100 mm).

The in-place field density shall be determined in accordance with ASTM D1556 or 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 Engineer's presence and provide the test results upon completion to the Engineer for acceptance.

Compaction areas shall be kept separate, and no layer shall be covered by another layer 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 layer is placed. Layer placement shall begin in the deepest portion of the embankment fill. As placement progresses, the layers shall be constructed approximately parallel to the finished pavement grade line.

When rock and other embankment material are excavated at approximately the same time, the rock shall be incorporated into the outer portion of the embankment and the other material shall be incorporated under the future paved areas. Stones or fragmentary rock larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 6 inches (150 mm) of the subgrade. Rockfill shall be brought up in layers as specified or as directed by the Engineer and the finer material shall be used to fill the voids with forming a dense, compact mass. Rock or boulders shall not be disposed of outside the excavation or embankment areas, except at places and in the manner designated on the plans or by the Engineer.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in layers of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in layers not exceeding 2 feet (60 cm) in thickness. Each layer shall be leveled and smoothed with suitable equipment by distribution of spalls and

finer fragments of rock. The layer shall not be constructed above an elevation 4 feet (1.2 m) below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in layers, 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.

152-2.7 Finishing and protection of subgrade. After the subgrade is substantially complete, the Contractor shall remove any soft or other unstable material over the full width of the subgrade that will not compact properly. All low areas, holes or depressions in the subgrade shall be brought to grade with suitable select material. 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.

Grading of the subgrade shall be performed so that it will drain readily. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes. All ruts or rough places that develop in the completed subgrade shall be graded and recompacted.

No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been approved by the Engineer.

152-2.8 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.

152-2.9 Tolerances. In those areas upon which a subbase or base course is to be placed, the top of the subgrade shall be of such smoothness that, when tested with a 12-foot (3.7-m) straightedge applied parallel and at right angles to the centerline, it shall not show any deviation in excess of 1/2 inch (12 mm), or shall not be more than 0.05 feet (15 mm) from true grade as established by grade hubs. Any deviation in excess of these amounts shall be corrected by loosening, adding, or removing materials; reshaping; and recompacting.

On safety areas, intermediate and other designated areas, the surface shall be of such smoothness that it will not vary more than 0.10 feet (3 mm) from true grade as established by grade hubs. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.10 Topsoil. A minimum of 4 inches of topsoil including all grass, duff, roots and soil, shall be stockpiled for future use in areas designated on the plans or by the Engineer.

METHOD OF MEASUREMENT

152-3.1 The quantity of excavation to be paid for shall be the number of cubic yards measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

152-3.2 Borrow material shall be paid for on the basis of the number of cubic yards measured in its original position at the borrow pit.

152-3.3 Not applicable.

152-3.4 For payment specified by the cubic yard, measurement for all excavation or embankment shall be computed by the average end area method. The end area is that bound by the original ground line established by field cross-sections and the final theoretical pay line established by excavation or embankment cross-sections shown on the plans, subject to verification by the Engineer. After completion of all excavation or embankment operations and prior to the placing of base or subbase material, the final

excavation or embankment shall be verified by the Engineer by means of field cross-sections taken randomly at intervals not exceeding 500 linear feet (150 m).

BASIS OF PAYMENT

152-4.1 “Unclassified excavation” payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.2 “Muck Excavation” payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.3 “Borrow Excavation” payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

- Item P-152-4.1 Unclassified Excavation - per cubic yard
- Item P-152-4.2 Muck Excavation - per cubic yard
- Item P-152-4.3 Borrow Excavation - per cubic yard

TESTING REQUIREMENTS

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 D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

END OF ITEM P-152

Item P-154 Subbase Course

DESCRIPTION

154-1.1 This item shall consist of a subbase course composed of granular materials constructed on a prepared subgrade or underlying course in accordance with these specifications, and in conformity with the dimensions and typical cross-section shown on the plans.

MATERIALS

154-2.1 Materials. The subbase material shall consist of hard durable particles or fragments of granular aggregates. This material will be mixed or blended with fine sand, clay, stone dust, or other similar binding or filler materials produced from approved sources. This mixture must be uniform and shall comply with the requirements of these specifications as to gradation, soil constants, and shall be capable of being compacted into a dense and stable subbase. The material shall be free from vegetative matter, lumps or excessive amounts of clay, and other objectionable or foreign substances. Pit-run material may be used, provided the material meets the gradation requirements specified.

Gradation Requirements

Sieve designation (square openings) as per ASTM C136 and ASTM D422	Percentage by weight passing sieves
3 inch (75 mm)	100
No. 10 (2.0 mm)	20-100
No. 40 (0.450 mm)	5-60
No. 200 (0.075 mm)	0-8

The portion of the material passing the No. 40 (0.450 mm) sieve shall have a liquid limit of not more than 25 and a plasticity index of not more than six (6) when tested in accordance with ASTM D4318.

The material finer than 0.02 mm shall be limited to a maximum of 3% and the maximum allowable material passing the No. 200 sieve shall be reduced from 0-8% to 0-5%. Testing per ASTM D422 will be required for the percentage passing the 0.02 mm particle size once per lot.

154-2.2 Sampling and testing. Material used on the project shall be sampled per ASTM D75 and tested per ASTM C136 and ASTM C117. Results shall be furnished to the Engineer by the Contractor prior to the start of construction and once per day during construction.

CONSTRUCTION METHODS

154-3.1 General. The subbase course shall be placed where designated on the plans or as directed by the Engineer. The material shall be shaped and thoroughly compacted within the tolerances specified.

Granular subbases which, due to grain sizes or shapes, are not sufficiently stable to support the construction equipment without movement, shall be mechanically stabilized to the depth necessary to provide stability as directed by the Engineer. The mechanical stabilization shall include the addition of a fine-grained medium to bind the particles of the subbase material sufficiently to furnish a bearing strength, so the course will not deform under construction equipment traffic. The addition of the binding medium to the subbase material shall not increase the soil constants of that material above the specified limits.

154-3.2 Operation in pits. The subbase material shall be obtained from pits or sources that have been approved by the Engineer. The material in the pits shall be excavated and handled to produce a uniform and satisfactory product. All work involved in clearing and stripping pits and handling unsuitable material encountered shall be performed by the Contractor. The cost of this work is incidental to this item.

154-3.3 Preparing underlying course. Prior to constructing the subbase course, clean the underlying course or subgrade of all foreign substances. The surface of the underlying course or subgrade shall meet specified compaction and surface tolerances. Correct ruts, or soft yielding spots, in the underlying courses and subgrade areas having inadequate compaction and deviations of the surface from the specified requirements by loosening and removing soft or unsatisfactory material and by adding approved material, reshaping to line and grade, and recompacting to specified density requirements. For cohesionless underlying courses or subgrades containing sands or gravels, as defined in ASTM D2487, the surface shall be stabilized prior to placement of the overlying course. Accomplish stabilization by mixing the overlying course material into the underlying course, and compacting by approved methods. The stabilized material shall be considered as part of the underlying course and shall meet all requirements for the underlying course. The finished underlying course shall not be disturbed by traffic or other operations and shall be maintained in a satisfactory condition until the overlying course is placed. The course shall be checked and accepted by the Engineer before placing and spreading operations are started.

To protect the subgrade and to ensure proper drainage, the spreading of the subbase shall begin along the centerline of the pavement on a crowned section or on the high side of pavements with a one-way slope.

154-3.4 Materials acceptance in existing condition. When the entire subbase material is in a uniform and satisfactory condition at approximately the required moisture content, the approved material may be moved directly to the spreading equipment for placing. The material may be obtained from gravel pits, stockpiles, or may be produced from a crushing and screening plant with proper blending. The materials from these sources shall meet the requirements for gradation, quality, and consistency. The intent of the specifications is to secure materials that will not require further mixing. The moisture content of the material shall be approximately that required to obtain maximum density. Any minor deficiency or excess in moisture content may be corrected by surface sprinkling or by aeration. Some mixing or aeration may be required prior to rolling to obtain the required moisture content. Blading or dragging, if necessary, shall be performed to obtain a smooth uniform surface true to line and grade.

154-3.5 Plant mixing. When materials from several sources will be blended and mixed, the subbase material shall be processed in a central or travel mixing plant. The subbase material, together with any blended material, shall be thoroughly mixed with the required amount of water. After the mixing is complete, the material shall be transported to and spread on the underlying course without undue loss of moisture content.

154-3.6 General methods for placing. The subbase course shall be constructed in layers of not less than 3 inches (75 mm) nor more than 8 inches (200 mm) of compacted thickness. The subbase material shall be deposited and spread evenly to a uniform thickness and width. The material, as spread, shall be of uniform gradation with no pockets of fine or coarse materials. The subbase, unless otherwise permitted by the Engineer, shall not be spread more than 2,000 square yards (1700 sq m) in advance of the rolling. Any necessary sprinkling shall be kept within this limit. No material shall be placed in snow or on a soft, muddy, or frozen course.

When more than one layer is required, the construction procedure described here shall apply similarly to each layer.

During the placing and spreading, sufficient caution shall be exercised to prevent the incorporation of subgrade, shoulder, or foreign material in the subbase course mixture.

154-3.7 Finishing and compacting. After spreading or mixing, the subbase material shall be thoroughly compacted by rolling and sprinkling, when necessary. Sufficient rollers shall be furnished to adequately handle the rate of placing and spreading of the subbase course.

The field density of the compacted material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the subbase material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D 1556 or 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. The moisture content of the material at the start of compaction shall be within $\pm 2\%$ of the optimum moisture content. All testing shall be done by the Contractor's laboratory in the presence of the Engineer, and density test results shall be furnished upon completion to the Engineer for acceptance determination.

The course shall not be rolled when the underlying course is soft or yielding or when the rolling causes undulation in the subbase. When the rolling develops irregularities that exceed 3/8 inch (9 mm) when tested with a 12 feet (3.7 m) straightedge, the irregular surface shall be loosened and then refilled with the same kind of material as that used in constructing the course and again rolled as required above.

Along places inaccessible to rollers, the subbase material shall be tamped thoroughly with mechanical or hand tampers.

Sprinkling during rolling, if necessary, shall be by equipment approved by the Engineer. Water shall not be added in manner or quantity that allows free water to reach the underlying layer and cause it to become soft.

154-3.8 Surface tolerance. The surface of the top layer shall show no deviations in excess of 3/8 inch (9 mm) when tested with a 12-foot (3.7-m) straightedge. Take measurements in successive positions parallel to the centerline of the area to be paved. Measurements shall also be taken perpendicular to the centerline at 50 foot intervals. Correct deviations exceeding this amount by removing material and replacing with new material, or by reworking existing material and compacting it to meet these specifications.

154-3.9 Thickness control. The completed thickness of the course(s) shall be in accordance with the thickness and grade indicated on the drawings. The completed course shall not be more than 1/2 inch (12 mm) deficient in thickness nor more than 1/2 inch (12 mm) above or below the established grade. Where any of these tolerances are exceeded, correct such areas by scarifying, adding new material of proper gradation or removing material, and compacting, as directed. Where the measured thickness is 1/2 inch (12 mm) or more thicker than shown, the course will be considered as conforming with the specified thickness requirements plus 1/2 inch (12 mm). The average job thickness shall be the average of the job measurements as specified above but within 1/4 inch (6 mm) of the thickness shown. The thickness of the completed subbase course shall be determined by survey.

154-3.10 Protection. Work on subbase course shall not be conducted during freezing temperatures nor when the subgrade is wet. When the subbase material contains frozen material or when the underlying course is frozen, the construction shall be stopped. The Contractor shall protect and maintain the subgrade from yielding until the subbase is accepted.

154-3.11 Maintenance. The Contractor shall maintain the completed course in a satisfactory condition until accepted by the Engineer.

METHOD OF MEASUREMENT

154-4.1 Subbase course shall be measured by the number of cubic yards of subbase course material placed, compacted, and accepted in the completed course. The quantity of subbase course material shall be measured in final position by means of average end areas on the complete work computed from elevations to the nearest 0.01 foot (3 mm). On individual depth measurements, thicknesses more than 1/2 inch (12

mm) in excess of that shown on the plans shall be considered as the specified thickness plus 1/2 inch (12 mm) in computing the yardage for payment. Subbase materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

154-5.1 Payment shall be made at the contract unit price per cubic yard for subbase course. This price shall be full compensation for furnishing all materials; for all preparation, hauling, and placing of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-154-5.1 Subbase Course - per cubic yard

TESTING REQUIREMENTS

ASTM C117	Standard Test Method for Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D422	Standard Test Method for Particle-Size Analysis of Soils
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 (2,700 kN-m/m ³))
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D4253	Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

END OF ITEM P-154

Item P-156 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control**DESCRIPTION**

156-1.1 This item shall consist of temporary control measures as shown on the plans or as ordered by the Engineer during the life of a contract to control water pollution, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

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 design, 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

156-2.1 Grass. Grass that will not compete with the grasses sown later for permanent cover per Item T-901 shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

156-2.2 Mulches. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials per Item T-908. Mulches shall not create a wildlife attractant.

156-2.3 Fertilizer. Fertilizer shall be a standard commercial grade and shall conform to all Federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

156-2.4 Slope drains. Slope drains may be constructed of pipe, fiber mats, rubble, Portland cement concrete, bituminous concrete, or other materials that will adequately control erosion.

156-2.5 Silt fence. The silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

156-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the Engineer before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

156-3.1 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 Engineer shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

156-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules 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 Engineer.

156-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. 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.

Where erosion may be a problem, clearing and grubbing operations should be scheduled and performed so that grading operations and permanent erosion control features can follow immediately if project conditions permit; otherwise, temporary erosion control measures may be required.

The Engineer shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the Engineer.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the Engineer. 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 Engineer, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The Engineer may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor during the construction period.

Whenever construction equipment must cross watercourses at frequent intervals, temporary structures should be provided.

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.

156-3.4 Installation, maintenance and removal of silt fences. Silt fences shall extend a minimum of 16 inches (41 cm) and a maximum of 34 inches (86 cm) above the ground surface. Posts shall be set no more than 10 feet (3 m) on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch (300-mm) overlap and securely sealed. A trench shall be excavated approximately 4 inches (100 mm) deep by 4 inches (100 mm) wide on the upslope side of the silt fence. The trench shall be backfilled and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of silt that accumulates during construction and prior to establishment of permanent erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the Engineer.

METHOD OF MEASUREMENT

156-4.1 Not applicable.

156-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

156-5.1 Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the Engineer will be paid for in accordance with Section 90-05 Payment for Extra work.

MATERIAL REQUIREMENTS

ASTM D6461	Standard Specification for Silt Fence Materials
AC 150/5200-33	Hazardous Wildlife Attractants

END OF ITEM P-156

Item P-209 Crushed Aggregate Base Course

DESCRIPTION

209-1.1 This item consists of a base course composed of crushed aggregate base constructed on a prepared course in accordance with these specifications and in conformity to the dimensions and typical cross-sections shown on the plans.

MATERIALS

209-2.1 Crushed aggregate base. Crushed aggregate shall consist of clean, sound, durable particles of crushed stone and crushed gravel, and shall be free from coatings of clay, silt, organic material, or other objectionable materials. Aggregates shall contain no clay lumps or balls. Fine aggregate passing the No. 4 (4.75 mm) sieve shall consist of fines from the coarse aggregate crushing operation. If necessary, fine aggregate may be added to produce the correct gradation. The fine aggregate shall be produced by crushing stone or gravel that meet the coarse aggregate requirements for wear and soundness.

The coarse aggregate portion, defined as the material retained on the No. 4 (4.75 mm) sieve, shall not have a loss of greater than 45% when tested per ASTM C131. The sodium sulfate soundness loss shall not exceed 12%, or the magnesium sulfate soundness loss shall not exceed 18%, after five cycles, when tested in accordance with ASTM C88. The aggregate shall contain no more than 15%, by weight, of flat, elongated, or flat and elongated particles per ASTM D4791. A flat particle is one having a ratio of width to thickness greater than 3; an elongated particle is one having a ratio of length to width greater than three (3). The aggregate shall have at least 90% by weight of particles with at least two fractured faces and 100% with at least one fractured face per ASTM D5821. The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

a. Sampling and testing for initial aggregate base requirements. Samples shall be taken by the Contractor in the presence of the Engineer. Material shall meet the requirements in paragraph 209-2.1 and 209-2.2. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

209-2.2 Gradation requirements. The gradation of the aggregate base material shall meet the requirements of the gradation given in the following table when tested per ASTM C117 and ASTM C136. The gradation shall be well graded from coarse to fine as defined by ASTM D2487 and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa. The fraction of material passing the No. 200 (0.075 mm) sieve shall not exceed one-half the fraction passing the No. 40 (0.45 mm) sieve.

The material finer than 0.02 mm shall be limited to a maximum of 3% and the maximum allowable material passing the No. 200 sieve shall be reduced from 0-8% to 0-5%. Testing per ASTM D422 will be required for the percentage passing the 0.02 mm particle size once per lot.

Requirements For Gradation Of Aggregate Base

Sieve Size	Design Range Percentage by Weight	Contractor's Final Gradation	Job Control Grading Band Tolerances for Contractor's Final Gradation Percent
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Sieve Size	Design Range Percentage by Weight	Contractor's Final Gradation	Job Control Grading Band Tolerances for Contractor's Final Gradation Percent
2 inch (50 mm)	100		0
1-1/2 inch (38 mm)	95-100		±5
1 inch (25 mm)	70-95		±8
3/4 inch (19 mm)	55-85		±8
No. 4 (4.75 mm)	30-60		±8
No. 40 (0.45 mm)	10-30		±5
No. 200 (0.075 mm)	0-8		±3

The “Job Control Grading Band Tolerances for Contractor’s Final Gradation” in the table shall be applied to “Contractor’s Final Gradation” to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

a. Sampling and testing for gradation. Gradation tests shall be performed by the Contractor per ASTM C136 and sieve analysis on material passing the No. 200 sieve (75 mm) per ASTM C117. The Contractor shall take at least two aggregate base samples per lot to check the final gradation. Sampling shall be per ASTM D75. The lot will be consistent with the lot size used for density. The samples shall be taken from the in-place, un-compacted material in the presence of the Engineer. Sampling points and intervals will be designated by the Engineer.

CONSTRUCTION METHODS

209-3.1 Preparing underlying subgrade and/or subbase. The underlying subgrade and/or subbase shall be checked and accepted by the Engineer before base course placing and spreading operations begin. Re-proof rolling of the subgrade or proof rolling of the subbase in accordance with P-152, at the Contractor’s expense, may be required by the Engineer if the Contractor fails to ensure proper drainage or protect the subgrade and/or subbase. Any ruts or soft, yielding areas due to improper drainage conditions, hauling, or any other cause, shall be corrected before the base course is placed. To ensure proper drainage, the spreading of the base shall begin along the centerline of the pavement on a crowned section or on the high side of the pavement with a one-way slope.

209-3.2 Production. The aggregate shall be uniformly blended and, when at a satisfactory moisture content per paragraph 209-3.4, the approved material may be transported directly to the spreading equipment.

209-3.3 Placing. The aggregate base material shall be placed on the prepared underlying subgrade and/or subbase and compacted in layers to the thickness shown on the plans. Work shall progress without interruption. The material shall be deposited and spread in lanes in a uniform layer without segregation to such loose depth that, when compacted, the layer shall have the specified thickness. The aggregate base course shall be constructed in layers of uniform thickness of not less than 3 inches (75 mm) nor more than 6 inches (150 mm) of compacted thickness. The aggregate as spread shall be of uniform grading with no pockets of fine or coarse materials. The aggregate, unless otherwise permitted by the Engineer, shall not be spread more than 2,000 square yards (1700 sq m) in advance of the rolling. Any necessary sprinkling shall be kept within these limits. Care shall be taken to prevent cutting into the underlying layer during spreading.

No material shall be placed in snow or on a soft, muddy, or frozen course. The aggregate base material shall be spread by spreader boxes or other approved devices. This equipment shall have positive thickness controls that spread the aggregate in the required amount to avoid or minimize the need for hand manipulation. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

When more than one layer is required, the construction procedure described herein shall apply similarly to each layer.

209-3.4 Compaction. Immediately after completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade. The moisture content of the material during placing operations shall be within ± 2 percentage points of the optimum moisture content as determined by 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 per ASTM D6938.

209-3.5 Acceptance sampling and testing for density. Aggregate base course shall be accepted for density on a lot basis. A lot will consist of one day's production if it does not exceed 2,400 square yards (2000 sq m). A lot will consist of one-half day's production if a day's production consists of between 2,400 and 4,800 square yards (2000 and 4000 sq m). The Contractor's laboratory shall perform all density tests in the Engineer's presence and provide the test results upon completion daily to the Engineer for acceptance.

Each lot shall be divided into two equal sublots. One test shall be made for each subplot and shall consist of the average of two random locations for density determination. Sampling locations will be determined by the Engineer on a random basis per ASTM D3665.

Each lot will be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens. The specimens shall be compacted and tested per ASTM D1557. The in-place field density shall be determined per ASTM D1556 or 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. If the specified density is not attained, the entire lot shall be reworked and/or recompacted and two additional random tests made at the Contractor's expense. This procedure shall be followed until the specified density is reached.

209-3.6 Surface tolerances. After the course has been compacted, 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 (75 mm), reshaped and recompacted to grade, until the required smoothness and accuracy are obtained and approved by the Engineer. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8 inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Accuracy. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +0 and -1/2 inch (12 mm) of the specified grade.

209-3.7 Thickness control. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) of the specified thickness as determined by depth tests taken by the Contractor in the presence of the Engineer. Tests shall be taken at intervals representing no more than 300 square yards (250 sq m) per test. Sampling locations will be determined by the Engineer per ASTM D3665. Where the thickness is deficient by more than 1/2 inch (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material of proper gradation, and the material shall be blended and recompacted to grade. Additional test holes may be required to identify the limits of deficient areas. The Contractor shall replace, at his expense, base material where depth tests have been taken.

209-3.8 Protection. Perform construction when the atmospheric temperature is above 35°F (2°C). When the temperature falls below 35°F (2°C), protect all completed areas by approved methods against detrimental effects of freezing. Correct completed areas damaged by freezing, rainfall, or other weather conditions to meet specified requirements. When the aggregates contain frozen materials or when the underlying course is frozen or wet, the construction shall be stopped. Hauling equipment may be routed over completed portions of the base course, provided no damage results. Equipment shall be routed over the full width of the base course to avoid rutting or uneven compaction. The Engineer will stop all hauling over completed or partially completed base course when, in the Engineer's opinion, such hauling is causing damage. Any damage to the base course shall be repaired by the Contractor at the Contractor's expense.

209-3.9 Maintenance. The Contractor shall maintain the base course in a satisfactory condition until the full pavement section is completed and accepted by the Engineer. The surface shall be kept clean and free from foreign material and properly drained at all times. Maintenance shall include immediate repairs to any defects and shall be repeated as often as necessary to keep the area intact. Any base course that is not paved over prior to the onset of winter shall be retested to verify that it still complies with the requirements of this specification. Any area of base course that is damaged shall be reworked or replaced as necessary to comply with this specification.

Equipment used in the construction of an adjoining section may be routed over completed base course, if no damage results and the equipment is routed over the full width of the base course to avoid rutting or uneven compaction.

The Contractor shall remove all survey and grade hubs from the base courses prior to placing any bituminous surface course.

METHOD OF MEASUREMENT

209-4.1 The quantity of crushed aggregate base course will be determined by measurement of the number of cubic yards of material actually constructed and accepted by the Engineer as complying with the plans and specifications. Base materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit price per cubic yard for crushed aggregate base course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-209-5.1 Crushed Aggregate Base Course - per cubic yard

TESTING REQUIREMENTS

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75- μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D422	Standard Test Method for Particle-Size Analysis of Soils
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 D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

END OF ITEM P-209

ITEM P-401 HOT MIX ASPHALT (HMA) PAVEMENTS**Description**

401-1.1 This item shall consist of pavement courses composed of mineral aggregate and an approved asphalt cement binder (asphalt binder) mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished and approved before placement of the next course.

Materials

401-2.1 AGGREGATE. Aggregates shall consist of crushed stone or crushed gravel crushed slag, screenings, natural sand and mineral filler-as required. The aggregates should be free of ferrous sulfides, such as pyrite, that would cause “rust” staining that can bleed through pavement markings. The portion retained on the No. 4 sieve is coarse aggregate. The portion passing the No. 4 sieve and retained on the No. 200 sieve is fine aggregate and the portion passing the No. 200 sieve is mineral filler.

(a) **Coarse Aggregate.** Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the bituminous material and be free from organic matter and other deleterious substances. The percentage of wear shall not be greater than 40 percent when tested in accordance with ASTM C 131. Sodium sulfate soundness loss shall not exceed 12 percent, or the magnesium sulfate soundness loss shall not exceed 18-percent, after five cycles, when tested in accordance with ASTM C 88. Clay lumps and friable particles shall not exceed 1.0% when tested in accordance with ASTM C142.

Aggregate shall contain at least 75 percent by weight of individual pieces having two or more fractured faces and 85 percent having at least one fractured face. The area of each face shall be equal to at least 75 percent of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between planes of fractures shall be at least 30 degrees to count as two fractured faces. Fractured faces shall be obtained by crushing.

The aggregate shall not contain more than a total of 8 percent, by weight, of flat particles, elongated particles, and flat and elongated particles, when tested in accordance with ASTM D 4791 with a value of 5:1.

(b) **Fine Aggregate.** Fine aggregate shall consist of clean, sound, durable, angular shaped particles produced by crushing stone, slag, or gravel that meets requirements for wear and soundness specified for coarse aggregate. The aggregate particles shall be free from coatings of clay, silt, or other objectionable matter

Fine aggregate, including any blended material for the fine aggregate, shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.

The soundness loss shall not exceed 10% when sodium sulfate is used or 15% when magnesium sulfate is used, after five cycles, when tested per ASTM C88.

Clay lumps and friable particles shall not exceed 1.0%, by weight, when tested in accordance with ASTM C142.

Natural (non-manufactured) sand may be used to obtain gradation of aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this specification. The fine aggregate shall not contain more than 15 percent natural sand by weight of total aggregates. If used, the natural sand shall meet the requirements of ASTM D 1073 and shall have a plasticity index of not more than 6 and a liquid limit not more than 25 when tested in accordance with ASTM D 4318.

The aggregate shall have sand equivalent values of 45 or greater when tested in accordance with ASTM D 2419.

(c) **Sampling.** ASTM D75 shall be used in sampling coarse and fine aggregate, and ASTM C183 shall be used in sampling mineral filler.

401-2.2 MINERAL FILLER. If filler, in addition to that naturally present in the aggregate, is necessary, it shall meet requirements of ASTM D 242.

401-2.3 ASPHALT CEMENT BINDER. Asphalt cement binder shall conform to ASTM D6373 Performance Grade PG 64-28. A certificate of compliance from the manufacturer shall be included with the mix design submittal.

The supplier's certified test report with test data indicating grade certification for the asphalt binder shall be provided to the Engineer for each load at the time of delivery to the mix plant. A certified test report with test data indicating grade certification for the asphalt binder shall also be provided to the Engineer for any modification of the asphalt binder after delivery to the mix plant and before use in the HMA.

401-2.4 PRELIMINARY MATERIAL ACCEPTANCE. Prior to delivery of materials to the job site, the Contractor shall submit certified test reports to the Engineer for the following materials:

(a) **Coarse Aggregate.**

- (1) Percent of wear.
- (2) Soundness.
- (3) Clay lumps and friable particles.
- (4) Percent Fractured Faces
- (5) Flat and Elongated Particles

(b) **Fine Aggregate.**

- (1) Liquid limit and Plasticity index.
- (2) Soundness
- (3) Clay lumps and friable particles.
- (4) Percent natural sand
- (5) Sand equivalent.

(c) **Mineral Filler.**

(d) **Asphalt Binder** – Test results for asphalt binder shall include temperature/viscosity charts for mixing and compaction temperatures.

The certifications shall show the appropriate ASTM tests for each material, the test results, and a statement that the material meets the specification requirement.

The Engineer may request samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

401-2.5 ANTI-STRIPPING AGENT. Any anti-stripping agent or additive, if required, shall be heat stable, shall not change the asphalt cement viscosity beyond specifications, shall contain no harmful ingredients, shall be added in recommended proportion by approved method, and shall be a material approved by the Department of Transportation of the State of California.

Composition

401-3.1 COMPOSITION OF MIXTURE. The HMA mix shall be composed of a mixture of well-graded aggregate, filler and anti-strip agent if required, and asphalt binder. The several aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets grading requirements of the job mix formula (JMF).

401-3.2 JOB MIX FORMULA. (JMF) No hot-mixed asphalt (HMA) for payment shall be produced until a job mix formula (JMF) has been approved in writing by the Engineer. The asphalt mix-design and JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 401-3.4. The HMA shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. ASTM D6926 shall be used for preparation of specimens using the

manually held and operated hammer for the mix design procedure. ASTM D6927 shall be used for testing for Marshall stability and flow.

If material variability exceeds the standard deviations indicated, the JMF and subsequent production targets shall be based on a stability greater than shown in Table 1 and the flow shall be targeted close to the mid-range of the criteria in order to meet the acceptance requirements.

Tensile strength ratio (TSR) of the composite mixture, as determined by ASTM D4867, shall not be less than 75 when tested at a saturation of 70-80% or an anti-stripping agent shall be added to the HMA, as necessary, to produce a TSR of not less than 75 when tested at a saturation of 70-80%. If an anti-strip agent is required, it shall be provided by the Contractor at no additional cost to the Owner.

The JMF shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates currently being produced.

The submitted JMF shall be stamped or sealed by the responsible professional Engineer and shall include the following items as a minimum:

- a. Percent passing each sieve size for total combined gradation, individual gradation of all aggregate stockpiles and percent by weight of each stockpile used in the job mix formula.
- b. Percent of asphalt cement.
- c. Asphalt performance grade and type of modifier if used.
- d. Number of blows per side of molded specimen.
- e. Laboratory mixing temperature.
- f. Laboratory compaction temperature.
- g. Temperature-viscosity relationship of the PG asphalt cement binder showing acceptable range of mixing and compaction temperatures; and for modified binders include supplier recommended mixing and compaction temperatures.
- h. Plot of the combined gradation on a 0.45 power gradation curve.
- i. Graphical plots of stability, flow, air voids, voids in the mineral aggregate, and unit weight versus asphalt content.
- j. Specific Gravity and absorption of each aggregate.
- k. Percent natural sand.

- l.** Percent fractured faces.
- m.** Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- n.** Tensile Strength Ratio (TSR).
- o.** Anti-strip agent (if required).
- p.** Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

The Contractor shall submit to the Engineer the results of verification testing of three (3) asphalt samples prepared at the optimum asphalt content. The average of the results of this testing shall indicate conformance with the JMF requirements specified in Tables 1 and 3.

When the project requires asphalt mixtures of differing aggregate gradations, a separate JMF and the results of JMF verification testing shall be prepared for each mix.

The JMF for each mixture shall be in effect until a modification is approved in writing by the Engineer. Should a change in sources of materials be made, a new JMF must be prepared within 15 days and approved by the Engineer in writing before the new material is used. After the initial production JMF has been approved by the Engineer and a new or modified JMF is required for whatever reason, the subsequent cost of the Engineer’s approval of the new or modified JMF will be borne by the Contractor. There will be no time extension given or considerations for extra costs associated with the stoppage of production paving or restart of production paving due to the time needed for the Engineer to approve the initial, new or modified JMF.

TABLE 1. MARSHALL DESIGN CRITERIA	
Test Property	Design Criteria
Number of Blows	75
Stability, Minimum Pounds	2,150
Flow ¹ , 0.01 in.	10-16
Target Air Voids (percent)	3.5
Percent Voids in Mineral Aggregate, Minimum	See Table 2

¹The flow requirement is not applicable for Polymer Modified Asphalts.

TABLE 2. MINIMUM PERCENT VOIDS IN MINERAL AGGREGATE (VMA)	
Aggregate (See Table 3)	Minimum VMA
Gradation 1	14%

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 3 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 3 represent the limits that shall determine the suitability of aggregate for use from the sources of supply; be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

TABLE 3. AGGREGATE – HMA PAVEMENTS	
Size	Gradation 1
1 inch	100
3/4 inch	76-98
1/2 inch	66-86
3/8 inch	57-77
No. 4	40-60
No. 8	26-46
No. 16	17-37
No. 30	11-27
No. 50	7-19
No. 100	6-16
No. 200	3-6
Asphalt Percent:	
Stone or Gravel	4.5-7.0

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

401-3.3 RECLAIMED ASPHALT PAVEMENT (RAP). RAP shall not be used.

401-3.4 JOB MIX FORMULA (JMF) LABORATORY. The laboratory used to develop the JMF shall be accredited in accordance with ASTM D3666. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the JMF must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.

401-3.5 TEST SECTION. Prior to full production, the Contractor shall prepare and place a quantity of HMA according to the job mix formula. The amount of HMA shall be sufficient to construct a test section 300 feet long and 20 feet wide placed in two lanes, with a longitudinal cold joint, and shall be of the same depth specified for the construction of the course which it represents. A cold joint for this test section is an exposed construction joint at least 4 hours old or whose mat has cooled to less than 160° F. The cold joint must be cut back using the same procedure that will be used during production in accordance with 401-4.13. The underlying grade or pavement structure upon which the test section is to be constructed shall be the same as the remainder of the course represented by the test section. The equipment used in the construction of the test section shall be the same type and weight to be used on the remainder of the course represented by the test section.

The test section shall be evaluated for acceptance as a single lot in accordance with the acceptance criteria in paragraph 401-5.1 and 401-5.2. The test section shall be divided into equal sublots. As a minimum the test section shall consist of three (3) sublots.

The test section shall be considered acceptable if: 1) stability, flow, mat density, air voids, and joint density are 90% or more within limits, 2) gradation and asphalt content are within the action limits specified in paragraphs 401-6.5a and 5b, and 3) the voids in the mineral aggregate are within the limits of Table 2.

If the initial test section should prove to be unacceptable, the necessary adjustments to the job mix formula, plant operation, placing procedures, and/or rolling procedures shall be made. A second test section shall then be placed. If the second test section also does not meet specification requirements, both sections shall be removed at the Contractor's expense. Additional test sections, as required, shall be constructed and evaluated for conformance to the specifications. Any additional sections that are not acceptable shall be removed at the Contractor's expense. Full production shall not begin until an acceptable test section has been constructed and accepted in writing by the Engineer. Once an acceptable test section has been placed, payment for the initial test section and the section that meets specification requirement shall be made in accordance with paragraph 401-8.1.

Job mix control testing shall be performed by the Contractor at the start of plant production and in conjunction with the calibration of the plant for the JMF. If aggregates produced by the plant do not satisfy the gradation requirements or produce a mix that meets the JMF, it will be necessary to reevaluate and redesign the mix using plant-produced aggregates. Specimens shall be prepared and the optimum asphalt content determined in the same manner as for the original JMF tests.

Contractor will not be allowed to place the test section until the Contractor Quality Control Program, showing conformance with the requirements of Paragraph 401-6.1, has been approved, in writing, by the Engineer.

Construction Methods

401-4.1 WEATHER LIMITATIONS. The HMA shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. Temperature requirements may be waived by the Engineer, if requested; however, all other requirements including compaction shall be met.

TABLE 4. SURFACE TEMPERATURE LIMITATIONS OF UNDERLYING COURSE		
Mat Thickness	Base Temperature (Minimum)	
	Deg. F	Deg. C
3 inches or greater	40	4
Greater than 2 inches but less than 3 inches.	45	7

401-4.2 HMA PLANT. Plants used for preparation of HMA shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M 156 with the following changes:

Requirements for all plants include:

(a) **Truck Scales.** The HMA shall be weighed on approved scales furnished by the Contractor, or on certified public scales at Contractor's expense. Scales shall be inspected and sealed as often as the Engineer deems necessary to assure their accuracy. Scales shall conform to requirements of the F.A.A. General Provisions, Section 90-01.

In lieu of scales, and as approved by the Engineer, HMA weight may be determined by the use of an electronic weighing system equipped with an automatic printer that weighs the total HMA production and as often thereafter as requested by the Engineer.

(b) **Testing Facilities.** The Contractor shall ensure laboratory facilities are provided at the plant for the use of the Engineer. The lab shall have sufficient space and equipment so that both testing representatives (Engineer's and Contractor's) can operate efficiently. The lab shall meet the requirements of ASTM D 3666, including all necessary equipment, materials, calibrations, current reference standards to comply with the specifications and masonry saw with diamond blade for trimming pavement cores and samples.

The plant testing laboratory shall have a floor space area of not less than 200 sq ft, with a ceiling height of not less than 7-½ feet. The laboratory shall be weather tight, sufficiently heated in cold weather, air-conditioned in hot weather to maintain temperatures for testing purposes of 70 °F +/- 5 °F. The plant testing laboratory shall be located on the plant site to provide an unobstructed view, from one of its windows, of the trucks being loaded with the plant mix materials. In addition, the facility shall include the minimum:

- (1) Adequate artificial lighting
- (2) Electrical outlets sufficient in number and capacity for operating the required testing equipment and drying samples.
- (3) A minimum of two (2) Underwriter's Laboratories approved fire extinguishers of the appropriate types and class.
- (4) Work benches for testing.
- (5) Desk with chairs and file cabinet.
- (6) Sanitary facilities convenient to testing laboratory
- (7) Exhaust fan to outside air.
- (8) Sink with running water, attached drain board and drain capable of handling separate material

Failure to provide the specified facilities shall be sufficient cause for disapproving HMA plant operations.

Laboratory facilities shall be kept clean, and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control activities. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

(c) **Inspection of Plant.** The Engineer, or Engineer's authorized representative, shall have access, at all times, to all parts of the plant for checking adequacy of equipment; inspecting operation of the plant; verifying weights, proportions, and material properties; and checking temperatures maintained in preparation of mixtures.

(d) **Storage Bins and Surge Bins.** The HMA stored in storage and surge bins shall meet the same requirements as HMA loaded directly into trucks and may be permitted under the following conditions:

- (1) Stored in surge bins for period of time not to exceed three (3) hours,
- (2) Stored in insulated storage bins for a period of time not to exceed 8 hours.

If the Engineer determines that there is an excessive amount of heat loss, segregation or oxidation of the HMA due to temporary storage, no temporary storage will be allowed.

401-4.3 HAULING EQUIPMENT. Trucks used for hauling HMA shall have tight, clean, and smooth metal beds. To prevent the HMA from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the Engineer. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

401-4.3.1 MATERIAL TRANSFER VEHICLE (MTV). Material transfer vehicles are not required.

401-4.4 HMA PAVERS. HMA pavers shall be self-propelled units with an activated heated screed capable of spreading and finishing courses of HMA material that will meet specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface.

The paver shall have a receiving hopper of sufficient capacity to permit a uniform spreading operation. The hopper shall be equipped with a distribution system to place the HMA uniformly in front of the screed without segregation. The screed or strike-off assembly shall effectively produce a finished surface of required evenness and texture without tearing, shoving, or gouging the mixture.

If, during construction, it is found that the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued and satisfactory equipment shall be provided by the Contractor.

401-4.4.1 AUTOMATIC GRADE CONTROLS. The HMA paver shall be equipped with a control system capable of automatically maintaining the specified screed elevation. The control system shall be automatically actuated from either a reference line and/or through a system of mechanical sensors or sensor-directed mechanisms or devices that will maintain the paver screed at a predetermined transverse slope and at the proper elevation to obtain the required surface. The transverse slope controller shall be capable of maintaining the screed at the desired slope within ± 0.1 percent.

The controls shall be capable of working in conjunction with any of the following attachments:

- Ski-type device of not less than 30 feet in length.
- Taut steel wire line set to grade.
- Short ski or shoe.
- Laser control.

401-4.5 ROLLERS. Rollers of the vibratory, steel wheel, and pneumatic-tired type shall be used. They shall be in good condition, capable of operating at slow speeds to avoid displacement of the HMA. The number, type, and weight of rollers shall be sufficient to compact the HMA to the required density while it is still in a workable condition.

All rollers shall be specifically designed and suitable for compacting HMA concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used. Depressions in pavement surfaces caused by rollers shall be repaired by the Contractor at their own expense.

The use of equipment which causes crushing of the aggregate will not be permitted.

401-4.6 DENSITY DEVICE. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall also supply a qualified technician during all paving operations to calibrate the gauge and obtain accurate density readings for all new HMA. These densities shall be supplied to the Engineer upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.7 PREPARATION OF ASPHALT BINDER. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt binder to the mixer at a uniform temperature. The temperature of unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325° F. when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350° F. when added to the aggregate.

401-4.8 PREPARATION OF MINERAL AGGREGATE. The aggregate for the HMA shall be dried and heated. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350° F. when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

401-4.9 PREPARATION OF HMA. The aggregates and the asphalt binder shall be weighed or metered and introduced into mixer in amounts specified by the JMF.

The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining percentage of coated particles described in ASTM D 2489 for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95 percent of coated particles. For continuous mix plants, minimum mixing time shall be determined by dividing weight of its contents at operating level by the weight of mixture delivered per second by the mixer. The moisture content of all HMA upon discharge shall not exceed 0.5 percent.

401-4.10 PREPARATION OF THE UNDERLYING SURFACE. Immediately before placing the HMA, the underlying course shall be cleaned of all dust and debris. A prime coat or tack coat shall be applied in accordance with Item P-602 or P-603, if shown on the plans.

401-4.11 LAYDOWN PLAN, TRANSPORTING, PLACING, AND FINISHING. Prior to the placement of the HMA, the Contractor shall prepare a laydown plan for approval by the Engineer. This is to minimize the number of cold joints in the pavement. The laydown plan shall include the sequence of paving laydown by stations, width of lanes, temporary ramp locations, and laydown temperature. The laydown plan shall also include estimated time of completion for each portion of the work (that is, milling, paving, rolling, cooling, etc.). Modifications to the laydown plan shall be approved by the Engineer.

The HMA shall be transported from mixing plant to the site in vehicles conforming to requirements of Section 401-4.3. Deliveries shall be scheduled so that placing and compacting of HMA is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until material has been compacted, as specified, and allowed to cool to atmospheric temperature.

The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose for the first lift of all runway and taxiway pavements. Successive lifts of HMA surface course may be placed using a ski, or laser control per paragraph 401-4.4.1, provided grades of the first lift of HMA surface course meet the tolerances of paragraphs 401-5.2b(6) as verified by a survey. Contractor shall survey each lift of HMA surface course and certify to Engineer that every lot of each lift meets the grade tolerances of paragraph 401-5.2b(6) before the next lift can be placed.

The initial placement and compaction of the HMA shall occur at a temperature suitable for obtaining density, surface smoothness and other specified requirements, but not less than 250° F.

Edges of existing HMA pavement abutting the new work shall be saw cut and carefully removed as shown on the drawings and coated with asphalt tack coat before new material is placed against it.

Upon arrival, the HMA shall be spread to full width by an approved HMA paver. It shall be struck off in a uniform layer of such depth that, when work is completed, it shall have the required thickness and shall conform to grade and contour indicated on the plans. The speed of the paver shall be regulated to eliminate pulling and tearing of HMA mat.

Unless otherwise permitted, placement of the HMA shall begin along the centerline of a crowned section or on the high side of areas with a one-way slope. Each lane of paving shall be complete from one end to the other before the next lane is started. The HMA shall be placed in consecutive adjacent strips having a minimum width of 10 feet, except where edge lanes require less width to complete the area. Additional screed sections shall not be attached to widen paver to meet the minimum lane width requirements specified above unless additional auger sections are added to match. Longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one (1) foot; however, the joint in the top surface course shall be at the centerline of crowned pavements. Paving operations shall be scheduled so no transverse joints are made except for unscheduled breakdowns. Transverse joints in one course shall be offset by at least ten (10) feet from transverse joints in the previous course.

Transverse joints in adjacent lanes shall be offset a minimum of 10 feet.

On areas where irregularities or unavoidable obstacles make use of mechanical spreading and finishing equipment impractical, the HMA may be spread and luted by hand tools.

Areas of segregation in the surface course, as determined by the Engineer, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of 2 inches deep. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet long.

401-4.12 COMPACTION OF HMA. After placing, the HMA shall be thoroughly and uniformly compacted by power rollers. The surface shall be compacted as soon as possible when the HMA has attained sufficient stability so that rolling does not cause undue displacement, cracking or shoving. Sequence of rolling operations and type of rollers used shall be at discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any displacement occurring as a result of reversing direction of the roller, or from any other cause, shall be corrected at once.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained. To prevent adhesion of the HMA to the roller, the wheels shall be equipped with a scraper and kept properly moistened, but excessive water will not be permitted.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power driven tampers. Tampers shall weigh not less than 275 pounds, have a tamping plate width not less than 15 inches, be rated at not less than 4,200 vibrations per minute, and be suitably equipped with a standard tamping plate wetting device.

Any HMA that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

401-4.13 JOINTS. The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid HMA except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods all contact surfaces shall be coated with an asphalt tack coat before placing any fresh HMA against the joint.

Longitudinal joints which have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°F (80°C); or are irregular, damaged, uncompacted or otherwise defective shall be cut back 3 inches (75 mm) to 6 inches (150 mm) to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material shall be removed from the project. Asphalt tack coat or other product approved by the Engineer shall be applied to the clean, dry joint, prior to placing any additional fresh HMA against the joint. Any laitance produced from cutting joints shall be removed by vacuuming and washing. The cost of this work shall be considered incidental to the cost of the HMA.

401-4.14 SAW-CUT GROOVING. Not applicable.

401-4.15 DIAMOND GRINDING. When required, diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive. The saw blades shall be assembled in a cutting head mounted on a machine designed specifically for diamond grinding that will produce the required texture and smoothness level without damage to the pavement. The saw blades shall be 1/8-inch (3-mm) wide and there shall be a minimum of 55 to 60 blades per 12 inches (300 mm) of cutting head width; the actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Each machine shall be capable of cutting a path at least 3 feet (0.9 m) wide. Equipment that causes ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted. The depth of grinding shall not exceed 1/2 inch (13mm) and all areas in which diamond grinding has been performed will be subject to the final pavement thickness tolerances specified. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. Areas that have been ground will be sealed with a P-608 surface treatment as directed by the Engineer. It may be necessary to seal a larger area to avoid surface treatment creating any conflict with runway or taxiway markings.

401-4.16 NIGHTTIME PAVING REQUIREMENTS. There will be no nighttime paving during this project.

Material Acceptance

401-5.1 ACCEPTANCE SAMPLING AND TESTING. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Engineer at no cost to the Contractor except that coring and profilograph testing as required in this section shall be completed and paid for by the Contractor.

Testing organizations performing these tests except profilograph shall be accredited in accordance with ASTM D3666. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for quality control sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction. All equipment in Contractor furnished laboratories shall be calibrated by an independent testing organization prior to the start of operations at the Contractor's expense.

(a) **Hot Mixed Asphalt.** Plant-produced HMA shall be tested for stability, flow, and air voids on a lot basis. Sampling shall be from material deposited into trucks at the plant or from trucks at the job site. Samples shall be taken in accordance with ASTM D 979.

A standard lot shall be equal to one day's production or 2,000 tons whichever is smaller. If the day's production is expected to exceed 2,000 tons, but less than 4,000 tons, the lot size shall be 1/2 day's production. If the day's production exceeds 4,000 tons, the lot size shall be an equal sized fraction of the day's production, but shall not exceed 2,000 tons.

Where more than one plant is simultaneously producing HMA for the job, the lot sizes shall apply separately for each plant.

(1) Sampling. Each lot will consist of four equal sub-lots. Sufficient HMA for preparation of test specimens for all testing will be sampled by the Engineer on a random basis, in accordance with the procedures contained in ASTM D 3665. Samples will be taken in accordance with ASTM D 979.

The sample of HMA shall be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to stabilize to compaction temperature. The compaction temperature of the specimens shall be as specified in the JMF.

(2) Testing. Sample specimens shall be tested for stability and flow in accordance with ASTM D 6927. Air voids will be determined by the Engineer in accordance with ASTM D 3203. One set of laboratory compacted specimens will be prepared for each sub-lot in accordance with ASTM D 6926 at the number of blows required by paragraph 401-3.2, Table 1. Each set of laboratory compacted specimens will consist of three test specimens prepared from the same sample. The manual hammer specified in ASTM D 6926 shall be used.

Prior to testing, the bulk specific gravity of each test specimen shall be measured by the Engineer in accordance with ASTM D 2726, using the procedure for laboratory-prepared thoroughly dry specimens for use in computing air voids and pavement density.

For air voids determination, the theoretical maximum specific gravity of the mixture shall be measured one time for each subplot in accordance with ASTM D 2041. The value used in the voids computation for each sub-lot shall be based on the theoretical maximum specific gravity measurement for the subplot.

The stability and flow for each sub-lot shall be computed by averaging the results of all test specimens representing that sub-lot.

(3) Acceptance. Acceptance of plant produced HMA for stability, flow and air voids shall be determined by the Engineer in accordance with the requirements of paragraph 401-5.2b.

(b) **In Place HMA.** HMA placed in the field shall be tested for mat and joint density on a lot basis. A standard lot shall be equal to one day's production or 2,000 tons (1814 metric tons) whichever is smaller. If the day's production is expected to exceed 2,000 tons (1814 metric tons), but less than 4,000 tons (3628 metric tons), the lot size shall be 1/2 day's production. If the day's production exceeds 4,000 tons (3628 metric tons), the lot size shall be an equal sized fraction of the day's production, but shall not exceed 2,000 tons (1814 metric tons).

(1) Mat Density. The lot size shall be the same as that indicated in paragraph 401-5.1.a and shall be divided into four equal sub-lots. One core of finished, compacted HMA shall be taken by the Contractor from each sub-lot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Cores for mat density shall not be taken closer than one foot from a transverse or longitudinal joint.

(2) Joint Density. The lot size shall be the total length of longitudinal joints constructed by a lot of HMA as defined in paragraph 401-5.1(a). The lot shall be divided into four equal sub-lots. One core of finished, compacted HMA shall be taken by the Contractor from each sub-lot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. All cores for joint density shall be centered on the joint. The minimum core diameter for joint density determination shall be 5 inches.

(3) Sampling. Samples shall be neatly cut with a diamond core drill bit. Samples will be taken in accordance with ASTM D 979. The minimum diameter of the sample shall be five (5) inches. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The Contractor shall furnish all tools, labor, and materials for cutting samples, cleaning, and filling the cored pavement. Cored pavement shall be cleaned and core holes shall be filled in a manner acceptable to the Engineer and within one day after sampling. Laitance produced by the coring operation shall be removed immediately.

The top most lift of HMA shall be completely bonded to the underlying layer. If any of the cores reveal that the surface is not bonded to the layer immediately below the surface, then additional cores shall be taken as directed by the Engineer in accordance with paragraph 401-5.1(b) to determine the extent of any delamination. All delaminated areas shall be completely removed by milling to the limits and depth specified by the Engineer, and replaced as directed by the Engineer at no additional cost.

(4) Testing. The bulk specific gravity of each cored sample will be measured by the Engineer in accordance with ASTM D 2726. Samples will be taken in accordance with ASTM D 979. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each sub-lot sample by the average bulk specific gravity of all laboratory prepared specimens for the lot, as determined in paragraph 401-5.1a(2). The bulk specific gravity used to

determine the joint density at joints formed between different lots shall be the lowest of the bulk specific gravity values from the two different lots.

(5) **Acceptance.** Acceptance of field placed HMA for mat density will be determined by the Engineer in accordance with the requirements of paragraph 401-5.2(b)(1). Acceptance for joint density will be determined in accordance with the requirements of paragraph 401-5.2(b)(3).

(c) **Partial Lots.** When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot or when the Contractor and Engineer agree in writing to allow overages or other minor tonnage placements to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.

The last batch produced where production is halted will be sampled and its properties shall be considered as representative of the particular sub-lot from which it was taken. In addition, an agreed to minor placement will be sampled, and its properties shall be considered as representative of the particular subplot from which it was taken. Where three sub-lots are produced, they shall constitute a lot. Where one or two sub-lots are produced, they shall be incorporated into the next lot and the total number of sub-lots shall be used in the acceptance plan calculation, that is, $n = 5$ or $n = 6$, for example. Partial lots at the end of asphalt production on the project shall be included with the previous lot. The lot size for field placed material shall correspond to that of the plant material, except that in no cases less than (3) cored samples shall be obtained, that is, $n = 3$.

401-5.2 ACCEPTANCE CRITERIA.

(a) **General.** Acceptance will be based on the following characteristics of the HMA and completed pavement as well as the implementation of the Contractor's Quality Control Program and test results:

- (1) Air voids
- (2) Mat density
- (3) Joint density
- (4) Thickness
- (5) Smoothness
- (6) Grade
- (7) Stability
- (8) Flow

Mat density and air voids will be evaluated for acceptance in accordance with paragraph 401-5.2(b)(1). Stability and flow will be evaluated for acceptance in accordance with paragraph 401-5.2(b)(2). Joint density will be evaluated for acceptance in accordance with paragraph 401-5.2(b)(3).

Thickness will be evaluated by the Engineer for compliance in accordance with paragraph 401-5.2(b)(4). Acceptance for smoothness will be based on the criteria contained in paragraph 401-5.2(b)(5). Acceptance for grade will be based on the criteria contained in paragraph 401-5.2(b)(6).

The Engineer may at any time reject and require the Contractor to dispose of any batch of HMA which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer, and if it can be demonstrated in the laboratory, in the presence of the Engineer, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

(b) **Acceptance Criteria.**

(1) Mat Density and Air Voids. Acceptance of each lot of plant produced material for mat density and air voids shall be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. Acceptance and payment for the lot shall be determined in accordance with paragraph 401-8.1.

(2) Stability and Flow. Acceptance of each lot of plant produced HMA for stability and flow shall be based on the PWL. If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. If the PWL is less than 90 percent, the Contractor shall determine the reason and take corrective action. If the PWL is below 80 percent, the Contractor must stop production until the reason for poor stability and/or flow has been determined and adjustments to the HMA are made.

(3) Joint Density. Acceptance of each lot of plant produced HMA for joint density shall be based on the PWL. If the PWL of the lot equals or exceeds 90 percent, the lot shall be considered acceptable. If the PWL is less than 90 percent, the Contractor shall evaluate reason and act accordingly. If the PWL is below 80 percent, the Contractor shall stop production until the reason for poor compaction can be determined. If the PWL is less than 71 percent, the pay factor for the lot used to complete the joint shall be reduced by 5 percentage points. This lot pay factor reduction shall be incorporated and evaluated in accordance with paragraph 401-8.1.

(4) Thickness. Thickness of each lift of surface course shall be evaluated by the Engineer for compliance to the requirements shown on the plans. Measurements of thickness shall be made by the Engineer using the cores extracted for each sub-lot for density measurement. The maximum allowable deficiency at any point shall not be more than ¼ inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, shall not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or subplot shall be corrected by the Contractor at his/her expense by removing the deficient area and replacing with new pavement. The Contractor, at his/her expense, may take additional cores as approved by the Engineer to circumscribe the deficient area.

(5) Smoothness. The final surface shall be free from roller marks. After the final rolling, but not later than 24 hours after placement, the surface of each lot shall be tested in both longitudinal and transverse directions for smoothness to reveal all surface irregularities exceeding the tolerances specified. The Contractor shall furnish paving equipment and employ methods that produce a surface for each pavement lot having an average profile index meeting the requirements of paragraph 401-8.1d when evaluated with a profilograph; and the finished surface course of the pavement shall not vary more than 1/4 inch (6mm) when evaluated with a 12-foot (3.7m) straightedge. When the surface course smoothness exceeds specification tolerances which

cannot be corrected by diamond grinding of the surface course, full depth removal and replacement of surface course corrections shall be to the limit of the longitudinal placement. Corrections involving diamond grinding will be subject to the final pavement thickness tolerances specified. The Contractor shall apply a surface treatment per Item P-608 or P-609 to all areas that have been subject to grinding as directed by the Engineer.

(a) *Transverse measurements.* Transverse measurements will be taken for each lot placed. Transverse measurements will be taken perpendicular to the pavement centerline each 50 feet (15m) or more often as determined by the Engineer.

(i) Testing shall be continuous across all joints, starting with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Smoothness readings will not be made across grade changes or cross slope transitions; at these transition areas, the straightedge position shall be adjusted to measure surface smoothness and not design grade or cross slope transitions. The amount of surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between these two high points. High spots on final surface course > 1/4 inch (6mm) in transverse direction shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The area corrected by grinding should not exceed 10% of the total area and these areas shall be retested after grinding.

(ii) The joint between lots shall be tested separately to facilitate smoothness between lots. The amount of surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface, with half the straightedge on one side of the joint and the other half of the straightedge on the other side of the joint. Measure the maximum gap between the straightedge and the pavement surface in the area between these two high points. One measurement shall be taken at the joint every 50 feet (15m) or more often if directed by the Engineer. Deviations on final surface course > 1/4 inch (6mm) in transverse direction shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. Each measurement shall be recorded and a copy of the data shall be furnished to the Engineer at the end of each days testing.

(b) *Longitudinal measurements.* Longitudinal measurements will be taken for each lot placed. Longitudinal tests will be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6m) or greater.

(i) *Longitudinal Short Sections.* Longitudinal Short Sections are when the longitudinal lot length is less than 200 feet (60m) and areas not requiring a profilograph. When approved by the Engineer, the first and last 15 feet (4.5m) of the lot can also be considered as short sections for smoothness. The finished surface shall not vary more than 1/4 inch (6mm) when evaluated with a 12-foot (3.7m) straightedge. Smoothness readings will not be made across grade changes or cross slope transitions; at these transition areas, the straightedge position shall be

adjusted to measure surface smoothness and not design grade or cross slope transitions. Testing shall be continuous across all joints, starting with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. The amount of surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between these two high points. Deviations on final surface course > 1/4 inch (6mm) in longitudinal direction will be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The area corrected by grinding should not exceed 10% of the total area and these areas shall be retested after grinding.

(ii) Profilograph Testing. Profilograph testing shall be performed by the contractor using approved equipment and procedures as described as ASTM E1274. The equipment shall utilize electronic recording and automatic computerized reduction of data to indicate “must grind” bumps and the Profile Index for the pavement using a 0.2 inch (5 mm) blanking band. The bump template must span one inch (25 mm) with an offset of 0.4 inches (10 mm). The profilograph must be calibrated prior to use and operated by a factory or State DOT approved operator. Profilograms shall be recorded on a longitudinal scale of one inch (25 mm) equals 25 feet (7.5 m) and a vertical scale of one inch (25 mm) equals one inch (25 mm). A copy of the reduced tapes shall be furnished to the Engineer at the end of each days testing.

The pavement must have an average profile index meeting the requirements of paragraph 401-8.1d. High spots, or “must grind” spots, on final surface course in longitudinal direction shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The area corrected by grinding should not exceed 10% of the total area and these areas shall be retested after grinding.

Where corrections are necessary, second profilograph runs shall be performed to verify that the corrections produced an average profile index of 15 inches (38 cm) per mile or less. If the initial average profile index was less than 15 inches (38 cm), only those areas representing greater than 0.4 inch (10 mm) deviation will be re-profiled for correction verification.

(6) Grade. Grade shall be evaluated on the first day of placement and then, as a minimum, every half day to allow adjustments to paving operations if measurements do not meet specification requirements. The Contractor must submit the survey data to the Engineer by the following day after measurements have been taken.

The finished surface of the pavement shall not vary from the gradeline elevations and cross sections shown on the plans by more than 3/4 inch. Finished grade of each lot will be determined by running levels at intervals of 50 feet or less longitudinally and breaks in grade transversely (not to exceed 50 feet) to determine the elevation of the completed pavement. The Contractor shall pay the cost of surveying of the level runs that shall be performed by a licensed surveyor. The documentation, stamped and signed by a licensed surveyor, shall be provided by the Contractor to the Engineer. The lot size shall be 2,000 square yards.

When more than 15% of all the measurements within a lot are outside the specified tolerance, or if any one shot within the lot deviates 3/4 inch or more from planned grade, the Contractor shall remove the deficient area to the depth of the final course plus 1/2 inch of pavement and replace with new material. Skin patching shall not be permitted. Isolated high points may be ground off provided the course thickness complies with the thickness specified on the plans. The surface of the ground pavement shall have a texture consisting of grooves between 0.090 and 0.130 inches wide. The peaks and ridges shall be approximately 1/32 inch higher than the bottom of the grooves. The pavement shall be left in a clean condition. The removal of all of the slurry resulting from the grinding operation shall be continuous. The grinding operation should be controlled so the residue from the operation does not flow across other lanes of pavement. High point grinding will be limited to 15 square yards. Areas in excess of 15 square yards will require removal and replacement of the pavement in accordance with the limitations noted above. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

c. **Percentage of Material Within Specification Limits (PWL).** The PWL shall be determined in accordance with procedures specified in Section 110 of the F.A.A. General Provisions. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 5.

TABLE 5. MARSHALL ACCEPTANCE LIMITS FOR STABILITY, FLOW, AIR VOIDS, DENSITY		
Test Property	Pavements Designed for Aircraft Gross Weight Greater Than 60,000 Lbs. or Tire Pressure Greater Than 100 psi	
Number of Blows	75	
	Specification Tolerance	
	L	U
Stability, minimum pounds	1,800	--
Flow, 0.01-inch	8	18*
Air voids total mix (percent)	2.0	5.0
Surface Course Mat Density, percent	96.3	--
Base Course Mat Density, percent	95.5	--
Joint Density, percent	93.3	--
* Upper flow limit requirements do not apply for any mix with a polymer-modified binder (where the difference between the upper and lower temperature number is 90°F (32°C) or greater).		

d. Outliers. All individual tests for mat density and air voids shall be checked for outliers (test criterion) in accordance with ASTM E 178, at a significance level of 5 percent. Outliers shall be discarded, and the PWL shall be determined using the remaining test values.

The criteria in Table 5 are based on production processes which have a variability with the following standard deviations: Surface Course Mat Density (%), 1.30; Base Course Mat Density (%), 1.55; Joint Density (%), 2.1.

The Contractor should note that (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 98 percent with 1.30% or less variability; (2) 90 PWL is achieved when consistently producing a base course with an average mat density of at least 97.5 percent with 1.55% or less variability, and (3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 96 percent with 2.1% or less variability.

401-5.3 RESAMPLING PAVEMENT FOR MAT DENSITY

(a) **General.** Resampling of a lot of pavement will only be allowed for mat density and then only if the Contractor requests same, in writing, within 48 hours after receiving the written test results from the Engineer. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-5.1b and 401-5.2(b)(1). Only one resampling per lot will be permitted.

(1) A redefined PWL shall be calculated for the resampled lot. The number of tests used to calculate the redefined PWL shall include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

(b) **Payment for Resampled Lots.** The redefined PWL for a resampled lot shall be used to calculate the payment for that lot in accordance with Table 6.

(c) **Outliers.** Check for an outlier in accordance with ASTM E 178, at a significance level of 5 percent.

401-5.4 LEVELING COURSE. Not applicable.

Contractor Quality Control

401-6.1 GENERAL. The Contractor shall develop a Quality Control Program in accordance with Section 100 of the F.A.A. General Provisions. The program shall address all elements that affect the quality of the pavement including, but not limited to:

- (a) Mix Design
- (b) Aggregate Grading
- (c) Quality of Materials
- (d) Stockpile Management

- (e) Proportioning
- (f) Mixing and Transportation
- (g) Placing and Finishing
- (h) Joints
- (i) Compaction
- (j) Surface smoothness
- (k) Personnel
- (l) Laydown plan

The Contractor shall perform quality control sampling, testing, and inspection during all phases of the work and shall perform them at a rate sufficient to ensure that the work conforms to the contract requirements, and at minimum test frequencies required by paragraph 401-6.3 and Section 100 of the F.A.A. General Provisions. As a part of the process for approving the Contractor's plan, the Engineer may require the Contractor's technician to perform testing of samples to demonstrate an acceptable level of performance.

No partial payment will be made for materials that are subject to specific quality control requirements without an approved plan.

401-6.2 CONTRACTOR TESTING LABORATORY. The testing laboratory shall meet the requirements of ASTM D 3666 including all necessary equipment, materials, and current reference standards to comply with the specifications.

401-6.3 QUALITY CONTROL TESTING. The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved Quality Control Program. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A Quality Control Testing Plan shall be developed as part of the Quality Control Program.

(a) **Asphalt Content.** A minimum of two asphalt content tests shall be performed per lot in accordance with ASTM D 2172 if the correction factor in ASTM D 6307 is greater than 1.0. The asphalt content for the lot will be determined by averaging the test results.

(b) **Gradation.** Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with ASTM D 5444, ASTM C 136 (Dry Sieve), and ASTM C 117.

(c) **Moisture Content of Aggregate.** The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C 566.

(d) **Moisture Content of HMA.** The moisture content of the HMA shall be determined once per lot in accordance with ASTM D 1461.

(e) **Temperatures.** Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the HMA at the plant, and the HMA at the job site.

(f) **In-Place Density Monitoring.** The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D 2950.

(g) **Additional Testing.** Any additional testing that the Contractor deems necessary to control the process may be performed at the Contractor's option.

(h) **Monitoring.** The Engineer reserves the right to monitor any or all of the above testing.

401-6.4 SAMPLING. When directed by the Engineer, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

401-6.5 CONTROL CHARTS. The Contractor shall maintain linear control charts both for individual measurements and range (that is, difference between highest and lowest measurements) for aggregate gradation, asphalt content, and voids in mineral aggregate (VMA). The VMA for each subplot will be calculated and monitored by the Quality Control laboratory.

Control charts shall be posted in a location satisfactory to the Engineer and shall be kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the Engineer may suspend production or acceptance of the material.

(a) **Individual Measurements.** Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

CONTROL CHART LIMITS FOR INDIVIDUAL MEASUREMENTS		
Sieve	Action Limit	Suspension Limit
3/4 inch	±6%	±9%
1/2 inch	±6%	±9%
3/8 inch	±6%	±9%
No. 4	±6%	±9%
No. 16	±5%	±7.5%
No. 50	±3%	±4.5%
No. 200	±2%	±3%
Asphalt Content	±0.45%	±0.70%
VMA	-1.0%	-1.5%

(b) **Range.** Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

CONTROL CHART LIMITS BASED ON RANGE (Based on n = 2)	
Sieve	<i>Suspension Limits</i>
1/2 inch	11 percent
3/8 inch	11 percent
No. 4	11 percent
No. 16	9 percent
No. 50	6 percent
No. 200	3.5 percent
Asphalt Content	0.8 percent

(c) **Corrective Action.** The Quality Control Program shall indicate the appropriate action that shall be taken when the process is believed to be out of tolerance. The QC Program shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

- (1) One point falls outside the Suspension Limit line for individual measurements or range; or

(2) Two points in a row fall outside the Action Limit line for individual measurements.

401-6.6 QUALITY CONTROL REPORTS. The Contractor shall maintain records and shall submit reports of quality control activities daily, in accordance with the Contractor Quality Control Program described in F.A.A. General Provisions, Section 100.

Method of Measurement

401-7.1 MEASUREMENT. HMA shall be measured by the number of tons of HMA used in the accepted work. Recorded batch weights or truck scale weights will be used to determine basis for the tonnage.

Basis of Payment

401-8.1 PAYMENT. Payment for a lot of HMA meeting all acceptance criteria as specified in Paragraph 401-5.2 shall be made based on results of tests for smoothness, mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1c for mat density and air voids and 401-8.1c for smoothness, subject to the limitation that:

a. The total project payment for plant mix bituminous concrete pavement shall not exceed 106 percent of the product of the contract unit price and the total number of tons of HMA used in the accepted work (See Note 1 under Table 6).

b. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

c. **Basis of adjusted payment.** The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100% or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and air voids are less than 100%. If PWL for joint density is less than 71 percent then the lot pay factor shall be reduced by 5% but be no higher than 95%.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1. Payment in excess of 100% for accepted lots of HMA shall be used to offset payment for accepted lots of bituminous concrete pavement that achieve a lot pay factor less than 100%.

TABLE 6. PRICE ADJUSTMENT SCHEDULE¹	
Percentage of Material Within the Specification Limit (PWL)	Lot Pay Factor (Percent of Contract Unit Price)
96-100	106
90-95	PWL + 10
75-89	0.5 PWL + 55
55-74	1.4 PWL – 12
Below 55	Reject ²

¹Although it is theoretically possible to achieve a pay factor of 106 percent for each lot, actual payment above 100 percent shall be subject to the total project payment limitation specified in paragraph 401-8.1.

²The lot shall be removed and replaced. However, the Engineer may decide to allow the rejected lot to remain. In that case, if the Engineer and Contractor agree in writing, that lot shall not be removed, and it will be paid for at 50 percent of the contract price AND THE TOTAL PROJECT PAYMENT SHALL BE REDUCED BY THE AMOUNT WITHHELD FOR THE REJECTED LOT.

d. Profilograph smoothness. When the final average profile index (subsequent to any required corrective action) does not exceed 7 inches per mile (18 cm per 1.6 km), payment will be made at the contract unit price for the completed pavement. If the final average profile index (subsequent to any required corrective action) exceeds 7 inches per mile (18 cm per 1.6 km), but does not exceed 15 inches per mile (38 cm per 1.6 m), the Contractor may elect to accept a contract unit price adjustment in lieu of reducing the profile index.

HMA placed above the specified grade plus tolerances shall not be included in the quantities for payment.

(b) **Payment.** Payment will be made under:

Bituminous Surface Course (P-401) - per Ton

Testing Requirements

ASTM C 29	Unit Weight and Voids in Aggregate
ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	Material Finer Than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 127	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
ASTM C 131	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 183	Sampling and the Amount of Testing of Hydraulic Cement
ASTM C 566	Total Moisture Content of Aggregate by Drying
ASTM D 75	Practice for Sampling Aggregates
ASTM D 979	Standard Practice for Sampling Bituminous Paving Mixtures
ASTM D 1073	Fine Aggregate for Bituminous Paving Mixtures
ASTM D 2172	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D 1461	Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D 2041	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D 2419	Sand Equivalent Value of Soils and Fine Aggregate
ASTM D 2489	Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D 2726	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens

Testing Requirements (Continued)

ASTM D 2950	Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D 3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D 3665	Random Sampling of Construction Materials
ASTM D 3666	Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials
ASTM D 4125	Asphalt Content of Bituminous Mixtures by the Nuclear Method
ASTM D 4791	Flat Articles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D 4867	Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D 5444	Mechanical Size Analysis of Extracted Aggregate
ASTM D6084	Standard Test Method for Elastic Recovery of Bituminous Materials by Ductilometer
ASTM D 6307	Asphalt Content of Hot-Mix Asphalt by Ignition Method
ASTM D 6752	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D 6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D 6927	Marshall Stability and Flow of Bituminous Mixtures
ASTM E11	Woven Wire Test Sieve Cloth and Test Sieves
ASTM E 178	Practice for Dealing with Outlying Observations
ASTM E1274	Measuring Pavement Roughness Using a Profilograph
AASHTO T 30	Mechanical Analysis of Extracted Aggregate
AASHTO T110	Moisture or Volatile Distillates in Hot Mix Asphalt (HMA)

Testing Requirements (Continued)

AASHTO T275	Bulk Specific Gravity (Gmb) of Compacted Hot Mix Asphalt (HMA) Using Paraffin-Coated Specimens
AASHTO M156	Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
AASHTO T329	Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
Asphalt Institute Handbook MS-26	Asphalt Binder
The Asphalt Institute's Manual No. 2 (MS-2)	Mix Design Methods for Asphalt Concrete

Material Requirements

ASTM D 242	Mineral Filler for Bituminous Paving Mixtures
ASTM D 946	Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D 3381	Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D 4552	Classifying Hot-Mix Recycling Agents
ASTM D6373	Performance Graded Asphalt Binder

**** END OF SECTION P-401 ****

ITEM P-602 BITUMINOUS PRIME COAT**Description**

602-1.1 This item shall consist of an application of bituminous material on the prepared base course in accordance with this specification and in reasonably close conformity to the lines shown on the plans.

Materials

602-2.1 BITUMINOUS MATERIAL. The bituminous material shall be an emulsified asphalt indicated in ASTM D3628 as a bituminous application for prime coat appropriate to local conditions or as designated by the Engineer.

Construction Methods

602-3.1 WEATHER LIMITATIONS. The prime coat shall be applied only when the existing surface is dry, when atmospheric temperature is 50°F or above, and the temperature has not been below 35°F (2°C) for the 12 hours prior to application, and when the weather is not foggy or rainy. These temperature requirements may be waived, but only when so directed by the Engineer.

602-3.2 EQUIPMENT. The equipment used by the Contractor shall include a self-powered pressure bituminous material distributor and equipment for heating bituminous material.

Provide a distributor with pneumatic tires of such size and number that the load produced on the base surface does not exceed 65.0 psi of tire width to prevent rutting, shoving or otherwise damaging the base, surface or other layers in the pavement structure. Design and equip the distributor to spray the bituminous material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 2.0 gallons per square yard, with a pressure range of 25 to 75 psi and with an allowable variation from the specified rate of not more than $\pm 5\%$, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying bituminous material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the bituminous material during the heating process. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner.

A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.

602-3.3 APPLICATION OF BITUMINOUS MATERIAL. Immediately before applying the prime coat, the full width of surfaces to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The bituminous material shall be uniformly applied with a bituminous distributor at the rate of 0.15 to 0.30 gallons per square yard depending on the base course surface texture. The type of bituminous material and application rate shall be approved by the Engineer prior to application.

Following application of the bituminous material and prior to application of the succeeding layer of pavement, allow the bituminous coat to cure and to obtain evaporation of any volatiles or moisture. Maintain the coated surface until the succeeding layer of pavement is placed, by protecting the surface against damage and by repairing and recoating deficient areas. Allow the prime coat to cure without being disturbed for a period of at least 48 hours or longer, as may be necessary to attain penetration into the treated course. Furnish and spread enough sand to effectively blot up and cure excess bituminous material. Keep traffic off surfaces freshly treated with bituminous material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

602-3.4 TRIAL APPLICATIONS. Before providing the complete bituminous coat, the Contractor shall apply three lengths of at least 100 feet for the full width of the distributor bar to evaluate the amount of bituminous material that can be satisfactorily applied with the equipment. Apply three different trial application rates of bituminous materials within the application range specified in paragraph 602-3.3. Other trial applications will be made using various amounts of material as deemed necessary by the Engineer.

602-3.5 BITUMINOUS MATERIAL CONTRACTOR’S RESPONSIBILITY. The Contractor shall provide a statement of source and character of the proposed bituminous material which must be submitted to and approved by the Engineer before any shipment of bituminous materials to the project. The Contractor shall furnish vendor’s certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The test reports shall be provided to and approved by the Engineer before the bituminous material is applied. If the bituminous material does not meet the specifications, it shall be replaced at the Contractor’s expense. Furnishing the vendor’s certified test report for the bituminous material shall not be interpreted as basis for final acceptance.

602-3.6 FREIGHT AND WEIGH BILLS. The Contractor shall submit waybills and delivery tickets during the progress of the work. Before the final estimate is allowed, file with the Engineer certified waybills and certified delivery tickets for all bituminous materials used in the construction of the pavement covered by the contract. Do not remove bituminous material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

Method of Measurement

602-4.1 The bituminous material for prime coat shall be measured by the ton. The bituminous material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of bituminous material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the bituminous material is necessary. Water added to emulsified asphalt will not be measured for payment.

Basis of Payment

602-5.1 Payment shall be made at the contract unit price or per ton for bituminous prime coat. This price shall be full compensation for furnishing all materials and for all preparation, delivering, and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item P-602-5.1 Bituminous Prime Coat (P-602) - per Ton

Testing Requirements

ASTM D1250 Standard Guide for Use of the Petroleum Measurement Tables

Material Requirements

ASTM D977 Standard Specification for Emulsified Asphalt
ASTM D2028 Standard Specification for Cutback Asphalt (Rapid-Curing Type)
ASTM D2397 Standard Specification for Cationic Emulsified Asphalt
ASTM D3628 Standard Practice for Selection and Use of Emulsified Asphalts

**** END OF SECTION P-602 ****

ITEM P-603 BITUMINOUS TACK COAT**Description**

603-1.1 This item shall consist of preparing and treating a bituminous or concrete surface with bituminous material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

Materials

603-2.1 BITUMINOUS MATERIALS. The bituminous material shall be an emulsified asphalt indicated in ASTM D3628 as a bituminous application for tack coat appropriate to local conditions or as designated by the Engineer.

Construction Methods

603-3.1 WEATHER LIMITATIONS. Tack coat shall be applied only when the existing surface is dry and atmospheric temperature is above 50° F., the temperature has not been below 35° F. for the 12 hours prior to application, and when the weather is not foggy or rainy. Temperature requirements may be waived, but only when directed by the Engineer.

603-3.2 EQUIPMENT. Contractor shall provide equipment for heating and applying bituminous materials.

Provide a distributor with pneumatic tires of such size and number that the load produced on the base surface does not exceed 65.0 psi of tire width to prevent rutting, shoving or otherwise damaging the base, surface or other layers in the pavement structure. Design and equip the distributor to spray the bituminous material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 2.0 gallons per square yard, with a pressure range of 25 to 75 psi and with an allowable variation from the specified rate of not more than $\pm 5\%$, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying bituminous material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the bituminous material during the heating process. If the distributor is not equipped with an operable quick shut off valve, the tack operations shall be started and stopped on building paper. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner.

A power broom and/or power blower suitable for cleaning the surfaces to which the bituminous tack coat is to be applied shall be provided.

603-3.3 APPLICATION OF BITUMINOUS MATERIAL. Immediately before applying tack coat, the full width of surface to be treated shall be swept with a power broom and/or airblasted to remove all loose dirt and other objectionable material.

Emulsified asphalt shall be diluted by the addition of an equal amount of water prior to loading into the bituminous distributor when directed by the Engineer. Emulsified asphalt shall be applied to prepared surfaces far enough in advance of the paving operations to ensure that all water has evaporated before any bituminous mixture is placed on tacked surfaces.

The bituminous material including vehicle shall be uniformly applied with a bituminous distributor at the rate of 0.05 to 0.10 gallon per square yard depending on condition of existing surface. The type of bituminous material and application rate shall be approved by the Engineer prior to application.

After application of the tack coat, the surface shall be allowed to cure without being disturbed for such period of time as may be necessary to permit drying and setting of the tack coat. This period shall be determined by the Engineer. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed.

603-3.4 BITUMINOUS MATERIAL - CONTRACTOR'S RESPONSIBILITY. The Contractor shall provide a statement of source and character of the proposed bituminous material which must be submitted and approved by the Engineer before any shipment of bituminous materials to the project.

Contractor shall furnish vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The test reports shall be provided to and approved by the Engineer before the bituminous material is applied. If the bituminous material does not meet the specifications, it shall be replaced at the Contractor's expense. Furnishing of vendor's certified test report for bituminous material shall not be interpreted as a basis for final acceptance.

603-3.5 FREIGHT AND WEIGH BILLS. The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the Engineer certified waybills and certified delivery tickets for all bituminous materials used in the construction of the pavement covered by the contract. Do not remove bituminous material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

Method of Measurement

603-4.1 Bituminous material for tack coat shall be measured by the ton. Water added to emulsified asphalt will not be measured for payment. The bituminous material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of bituminous material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the bituminous material is necessary. Water added to emulsified asphalt will not be measured for payment.

Basis of Payment

603-5.1 Payment shall be made at the contract unit price per ton of bituminous tack coat. Payment will be made for the bituminous material only. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-603-5.1	Bituminous Tack Coat	-	per Ton
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Material Requirements

ASTM D633	Standard Volume Correction Table for Road Tar
ASTM D977	Standard Specification for Emulsified Asphalt
ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2028	Standard Specification for Cutback Asphalt (Rapid-Curing Type)
ASTM D2397	Standard Specification for Cationic Emulsified Asphalt
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

**** END OF SECTION P-603 ****

Item P-610 Structural Portland Cement Concrete**DESCRIPTION**

610-1.1 This item shall consist of plain or reinforced structural portland cement concrete (PCC), prepared and constructed in accordance with these specifications, at the locations and of the form and dimensions shown on the plans. This specification shall be used for all structural and miscellaneous concrete including signage bases.

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 Engineer 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 and Coarse aggregates to be used in all concrete shall be evaluated and tested by the Contractor for alkali-aggregate reactivity in accordance with both ASTM C1260 and C1567. Aggregate and mix proportion reactivity tests shall be performed for each project.

(1) Coarse and fine aggregate shall be tested separately in accordance with ASTM C1260. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.10% at 28 days (30 days from casting).

(2) Combined coarse and fine aggregate shall be tested in accordance with ASTM C1567, modified for combined aggregates, using the proposed mixture design proportions of aggregates, cementitious materials, and/or specific reactivity reducing chemicals. If lithium nitrate is proposed for use with or without supplementary cementitious materials, the aggregates shall be tested in accordance with Corps of Engineers (COE) CRD C662. If lithium nitrate admixture is used, it shall be nominal 30% \pm 0.5% weight lithium nitrate in water.

(3) If the expansion of the proposed combined materials test specimens, tested in accordance with ASTM C1567, modified for combined aggregates, or COE CRD C662, does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion of the proposed combined materials test specimens is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33. The Engineer may consider and reserve final approval of other State classification procedures addressing aggregate durability.

Coarse aggregate shall be well graded from coarse to fine and shall meet the following gradation shown in the table below when tested per ASTM C136.

GRADATION FOR COARSE AGGREGATE							
Sieve Designation (Square Openings)	Percentage by Weight Passing Sieves						
	2"	1½"	1"	¾"	½"	⅜"	No. 4
No. 4 to ¾-inch	--	--	100	90-100	--	20-55	0-10
No. 4 to 1 inch	--	100	90-100	--	25-60	--	0-10
No. 4 to 1½ inch	100	95-100	--	35-70	--	10-30	0-5

610-2.2.1 Aggregate susceptibility to durability (D) cracking. Aggregates that have a history of D-cracking shall not be used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet the requirements of ASTM C33.

The fine aggregate shall be well graded from fine to coarse and shall meet the requirements of the table below when tested in accordance with ASTM C136:

Gradation For Fine Aggregate

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
¾ inch (9 mm)	100
No. 4 (4.75 mm)	95-100
No. 16 (1.18 mm)	45-80
No. 30 (0.60 mm)	25-55
No. 50 (0.30 mm)	10-30
No. 100 (0.15 mm)	2-10

Blending will be permitted, if necessary, to meet the gradation requirements for fine aggregate. Fine aggregate deficient in the percentage of material passing the No. 50 mesh sieve may be accepted, if the deficiency does not exceed 5% and is remedied by the addition of pozzolanic or cementitious materials other than Portland cement, as specified in paragraph 610-2.6, Admixtures, in sufficient quantity to produce the required workability as approved by the Engineer.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C 150, Type II Portland cement.

If aggregates are deemed innocuous when tested in accordance with paragraph 610-2.1.a.1 and accepted in accordance with paragraph 610-2.1.a.3, higher equivalent alkali content in the cement may be allowed if approved by the Engineer and FAA. If cement becomes partially set or contains lumps of caked cement, it shall be rejected. Cement salvaged from discarded or used bags shall not be used.

The Contractor shall furnish vendors' certified test reports for each carload, or equivalent, of cement shipped to the project. The report shall be delivered to the Engineer before use of the cement is granted. All test reports shall be subject to verification by testing sample materials received for use on the project.

610-2.5 Water. The water used in concrete shall be fresh, clean and potable; free from injurious amounts of oils, acids, alkalies, salts, organic materials or other substances deleterious to concrete.

610-2.6 Admixtures and supplementary cementitious material. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the Engineer 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 Engineer 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. 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 for use in mitigating alkali-silica reactivity shall have a Calcium Oxide (CaO) content of less than 13%.

610-2.7 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751 or D1752.

610-2.8 Joint filler. Not applicable.

610-2.9 Steel reinforcement. Reinforcing shall consist of reinforcing steel conforming to ASTM A615 or welded steel wire fabric conforming to the requirements of ASTM A1064.

610-2.10 Materials for curing concrete. Curing materials shall conform to:

- | | |
|--|------------|
| (a) Waterproof Paper | ASTM C 171 |
| (b) Clear or White Polyethylene Sheeting | ASTM C 171 |
| (c) White Pigmented Liquid Membrane-Forming Compounds for Curing Concrete, Type 2, Class B | ASTM C 309 |

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 Engineer.

610-3.2 Concrete composition. The concrete shall develop a compressive strength of 3,000 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 cement per cubic yard (280 kg per cubic meter). The concrete shall contain 5% of entrained air, $\pm 1\%$, as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Acceptance sampling and testing. Concrete for each structure will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The concrete shall be sampled in accordance with ASTM C172. Concrete cylindrical compressive strength specimens shall be made in accordance with ASTM C31 and tested in accordance with ASTM C39. The Contractor shall cure and store the test specimens under such conditions as directed by the Engineer. The Engineer will make the actual tests on the specimens at no expense to the Contractor.

610-3.4 Qualifications for concrete testing service. Perform concrete testing by an approved laboratory and inspection service experienced in sampling and testing concrete. Testing agency must meet the requirements of ASTM C1077 or ASTM E329.

610-3.5 Proportioning and measuring devices. When package cement is used, the quantity for each batch shall be equal to one or more whole sacks of cement. The aggregates shall be measured separately by weight. If aggregates are delivered to the mixer in batch trucks, the exact amount for each mixer charge

shall be contained in each batch compartment. Weighing boxes or hoppers shall be approved by the Engineer and shall provide means of regulating the flow of aggregates into the batch box so the required, exact weight of aggregates is obtained.

610-3.6 Consistency. The consistency of the concrete shall be determined by the slump test specified in ASTM C143.

610-3.7 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.

610-3.8 Mixing conditions. 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 (4°C) without permission of the Engineer. If permission 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 (10°C) nor more than 100°F (38°C). 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 shall not be permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.9 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the Engineer. 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. The forms shall not be removed until at least 30 hours after concrete placement for vertical faces, walls, slender columns, and similar structures. Forms supported by falsework under slabs, beams, girders, arches, and similar construction shall not be removed until tests indicate the concrete has developed at least 60% of the design strength.

610-3.10 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.

610-3.11 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.

610-3.12 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 Engineer. 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 (1.5 m). 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.

610-3.13 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309, Guide for Consolidation of Concrete. Where bars meeting ASTM A775 or A934 are used, the vibrators shall be equipped with rubber or non-metallic vibrator heads. Furnish a spare, working, vibrator on the job site whenever concrete is placed. Consolidate concrete slabs greater than 4 inches (100 mm) in depth with high frequency mechanical vibrating equipment supplemented by hand spading and tamping. Consolidate concrete slabs 4 inches (100 mm) or less in depth by wood tampers, spading, and settling with a heavy leveling straightedge. Operate internal vibrators with vibratory element submerged in the concrete, with a minimum frequency of not less than 6000 cycles per minute when submerged. Do not use vibrators to transport the concrete in the forms. Penetrate the previously placed lift with the vibrator when more than one lift is required. Use external vibrators on the exterior surface of the forms when internal vibrators do not provide adequate consolidation of the concrete. Vibrators shall be manipulated to work the concrete thoroughly around the reinforcement and embedded fixtures and into corners and angles of the forms. The vibration at any point shall be of sufficient duration to accomplish compaction but shall not be prolonged to where segregation occurs. Concrete deposited under water shall be carefully placed in a compact mass in its final position by means of a tremie or other approved method and shall not be disturbed after placement.

610-3.14 Construction joints. If the placement of concrete is suspended, necessary provisions shall be made for joining future work before the placed concrete takes its initial set. For the proper bonding of old and new concrete, provisions shall be made for grooves, steps, reinforcing bars or other devices as specified. The work shall be arranged so that a section begun on any day shall be finished during daylight of the same day. Before depositing new concrete on or against concrete that has hardened, the surface of the hardened concrete shall be cleaned by a heavy steel broom, roughened slightly, wetted, and covered with a neat coating of cement paste or grout.

610-3.15 Expansion joints. Expansion joints shall be constructed at such points and dimensions as indicated on the drawings. The premolded filler shall be cut to the same shape as the surfaces being joined. The filler shall be fixed firmly against the surface of the concrete already in place so that it will not be displaced when concrete is deposited against it.

610-3.16 Defective work. Any defective work discovered after the forms have been removed, which in the opinion of the Engineer cannot be repaired satisfactorily, shall be immediately removed and replaced at the expense of the Contractor. Defective work shall include deficient dimensions, or bulged, uneven, or honeycomb on the surface of the concrete.

610-3.17 Surface finish. 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. Mortar finishing shall not be permitted, nor shall dry cement or sand-cement mortar be spread over the concrete during the finishing of horizontal plane surfaces.

The surface finish of exposed concrete shall be a rubbed finish. If forms can be removed while the concrete is still green, the surface shall be wetted and then rubbed with a wooden float until all irregularities are removed. If the concrete has hardened before being rubbed, a carborundum stone shall be used to finish the surface. When approved, the finishing can be done with a finishing machine.

610-3.18 Curing and protection. All concrete shall be properly cured and protected by the Contractor. The concrete shall be protected from the weather, flowing water, and from defacement of any nature during the project. The concrete shall be cured by covering with an approved material as soon as it has sufficiently hardened. Water-absorptive coverings shall be thoroughly saturated when placed and kept saturated for at least three (3) days following concrete placement. All curing mats or blankets shall be sufficiently weighted or tied down to keep the concrete surface covered and to prevent the surface from being exposed to air currents. Wooden forms shall be kept wet at all times until removed to prevent opening of joints and drying

out of the concrete. Traffic shall not be allowed on concrete surfaces for seven (7) days after the concrete has been placed.

610-3.19 Drains or ducts. Drainage pipes, conduits, and ducts that are to be encased in concrete shall be installed by the Contractor before the concrete is placed. The pipe shall be held rigidly so that it will not be displaced or moved during the placing of the concrete.

610-3.20 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), the Contractor shall provide satisfactory methods and means to protect the mix from injury by freezing. The aggregates, or water, or both, shall be heated to place the concrete at temperatures between 50°F and 100°F (10°C and 38°C).

Calcium chloride may be incorporated in the mixing water when directed by the Engineer. Not more than 2 pounds (908 grams) of Type 1 nor more than 1.6 pounds (726 grams) of Type 2 shall be added per bag of cement. After the concrete has been placed, the Contractor shall provide sufficient protection such as cover, canvas, framework, heating apparatus, etc., to enclose and protect the structure and maintain the temperature of the mix at not less than 50°F (10°C) until at least 60% of the designed strength has been attained.

610-3.21 Hot weather placing. Concrete shall be properly placed and finished with procedures previously submitted. The concrete-placing temperature shall not exceed 90°F when measured in accordance with ASTM C1064. Cooling of the mixing water and aggregates, or both, may be required to obtain an adequate placing temperature. A retarder meeting the requirements of paragraph 610-2.6 may be used to facilitate placing and finishing. Steel forms and reinforcement shall be cooled prior to concrete placement when steel temperatures are greater than 120°F (50°C). Conveying and placing equipment shall be cooled if necessary to maintain proper concrete-placing temperature. Submit the proposed materials and methods for review and approval by the Engineer, if concrete is to be placed under hot weather conditions.

610-3.22 Filling joints. All joints that require filling shall be thoroughly cleaned, and any excess mortar or concrete shall be cut out with proper tools. Joint filling shall not start until after final curing and shall be done only when the concrete is completely dry. The cleaning and filling shall be done with proper equipment to obtain a neat looking joint free from excess filler.

METHOD OF MEASUREMENT

610-4.1 Not Applicable.

BASIS OF PAYMENT

610-5.1 Not Applicable.

TESTING REQUIREMENTS

ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C138	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1567	Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregates (Accelerated Mortar-Bar Method)
ASTM E329	Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection
U.S. Army Corps of Engineers (USACE) Concrete Research Division (CRD) C662	Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials, Lithium Nitrate Admixture and Aggregate (Accelerated Mortar-Bar Method)

MATERIAL REQUIREMENTS

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A185	Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C94	Standard Specification for Ready-Mixed 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 C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

ITEM F-161 WIRE FENCE WITH STEEL POSTS (Class D FENCE)

Description

161-1.1 This item covers the requirements for furnishing materials and constructing new wire fences and gates with steel posts in accordance with the details included herein and as shown on the plans. The class of fence to be erected shall be Class D, four strands of barbed wire, as indicated on the plans and in the bid proposal.

Materials

161-2.1 WIRE.

a. Barbed wire (zinc-coated). Zinc-coated barbed wire shall be 2-strand twisted No. 12-1/2 gauge galvanized steel wire with 4-point barbs of No. 14 gauge galvanized steel wire. All wire shall conform to ASTM A121, Type A. The barbs shall be spaced approximately 5 inches (125 mm) apart.

b. Barbed wire (copper-covered). Copper-covered steel barbed wire shall conform to ASTM A121, Type A.

c. Barbed wire (aluminum-coated). Aluminum-coated steel barbed wire shall be 2-strand twisted No. 12-1/2 gauge. The 4-point barbs of No. 14 gauge aluminum-coated steel wire shall be spaced approximately 5 inches (125 mm) apart. The steel wire shall have a tensile strength of between 60,000 and 80,000 pounds per square inch (413 400 and 551 200 kPa) and the aluminum coating shall have a minimum weight of 0.30 ounces per square foot (0.07 kg/m²) of wire surface on the No. 12-1/2 gauge line wire and 0.25 ounces per square foot (0.06 kg/m²) of wire surface on the No. 14 gauge barbs.

d. Bracing wire (zinc-coated). Wire used for cable bracing shall be No. 9 smooth galvanized soft wire.

161-2.2 FENCE POSTS, GATES, RAILS, BRACES, AND ACCESSORIES. These items, when specified, shall conform to the requirements of Federal Specification RR-F-191 and shall be zinc-coated.

161-2.3 CONCRETE. Concrete shall be of a commercial grade a minimum 28-day compressive strength of 2500 psi.

Construction Methods

161-3.1 GENERAL. The fence shall be constructed in accordance with the details on the plans and as specified here using new materials. All work shall be performed in a workmanlike manner satisfactory to the Engineer. Before starting work or at the request of the Contractor, the Engineer shall establish and mark the property line or fence line. The Contractor shall span the opening below the fence with barbed wire at all locations where it is not practical to conform the fence to the general contour of the ground surface because of natural or manmade features such as drainage

ditches. The new fence shall be permanently tied to the terminals of existing fences whenever required by the Engineer. The finished fence shall be plumb, taut, true to line and ground contour, and complete in every detail. When directed, the Contractor shall stake down the woven wire fence at several points between posts.

The Contractor shall arrange the work so that construction of the new fence will immediately follow the removal of existing fences. The length of unfenced section at any time shall not exceed 300 feet (90 m). The work shall progress in this manner and at the close of the working day the newly constructed fence shall be tied to the existing fence.

161-3.2 CLEARING FENCE LINE. The site of the fence shall be sufficiently cleared of obstructions, and surface irregularities. The fence line shall be graded so that the fence will conform to the general contour of the ground. The fence line shall be cleared to a minimum width of 5 feet (1.5 m) on each side of the centerline of the fence. This clearing shall consist of the removal of all stumps, brush, rocks, trees, or other obstructions that will interfere with proper construction of the fence. Stumps within the cleared area of the fence shall be grubbed or excavated. The bottom of the fence shall be placed a uniform distance above ground, as specified in the plans. When shown on the plans or as directed by the Engineer, the existing fences which interfere with the new fence location shall be removed by the Contractor as a part of the construction work unless such removal is listed as a separate item in the bid schedule. All holes remaining after post and stump removal shall be refilled with suitable soil, gravel, or other suitable material and compacted with tampers.

The work shall include the handling and disposal of all material cleared, excavated or removed, regardless of the type, character, composition, or condition of such material encountered.

161-3.3 INSTALLING POSTS. All posts shall be spaced as shown on the plans. Corner, brace, anchor, end, and gate posts shall be set in concrete as shown on the plans. The top of the concrete shall be slightly above the ground surface, trowel finished, and sloped to drain. Post holes of full depth and size for the concrete shall be provided. All line posts may be either driven or set in dug holes to a depth of 3 feet (1 m). All post setting shall be done carefully and to true alignment. Dirt removed for placing posts, anchor bars, flanges, etc., shall be replaced, tamped, and leveled. When posts are driven, care shall be exercised to prevent marring or buckling of the posts. Damaged posts shall be replaced at the Contractor's expense. No extra compensation will be made for rock excavation.

161-3.4 BRACING. All corner, anchor, end, and gate posts shall be braced as shown on the plans. Anchor posts shall be set at approximately 500 feet (150 meters) intervals and braced to the adjacent posts.

161-3.5 INSTALLING WIRE. All barbed wire and woven wire shall be placed on the side of the post away from the airport, or as directed by the Engineer, at the height indicated on the plans. The woven wire shall be carefully stretched and hung without sag and with true alignment. Care shall be taken not to stretch the wire so tightly that it will break in cold weather or pull up corner and brace posts. All horizontal wires shall be fastened securely to each post by fasteners or clips designed for use with the posts furnished. The woven wire shall be wrapped around end, corner, and gate posts, and the ends of all horizontal wires shall be tied with snug, tight twists. The wire shall be secured to prevent slipping up and down the post. Barbed wire strands shall be stretched and each strand secured to each post to prevent slipping out of line or becoming loose. At end, corner, and gate posts the barbed wire shall be securely wrapped and anchored once about the post from outside and secured against slipping by tying the ends with snug, tight twists. However, on

spans of less than 100 feet (30 m) both ends of the span need not be wrapped around the posts. The bottom wire of the woven wire fencing shall clear the ground by not more than 4 inches (100 mm) or less than one inch (25 mm) at any place.

161-3.6 SPLICING WIRE. Splices in barbed and woven wire will be permitted if made with an approved galvanized bolt-clamp splice or a wire splice made as follows: The ends of each wire shall be carried 3 inches (75 mm) past the splice tool and wrapped around the other wire for at least six turns in opposite directions. After the tool is removed, the space occupied by it shall be closed by pulling the ends together. The unused ends of the wire shall be cut close to make a neat, workmanlike job.

161-3.7 INSTALLING GATES. The gates shall be hung on gate fittings as shown on the plans. They shall be attached in such a manner that the gate cannot be lifted off the hinges. Gates shall be erected to swing in the direction indicated and shall be provided with gate stops, as specified or as shown on the plans. Gates shall be erected at locations shown on the plans.

161-3.8 EXISTING FENCE CONNECTIONS. Wherever the new fence joins an existing fence, either at a corner or at the intersection of straight fence lines, a corner or anchor post shall be set at the junction and braced and anchored the same as herein described for corner posts.

If the connection is made at other than the corner of the new fence, the last span of the old fence shall contain a brace span.

161-3.9 CLEANING UP. The Contractor shall remove from the vicinity of the completed work all tools, buildings, equipment, etc., used during construction. All disturbed areas shall be seeded ~~per T-901~~.

161-3.10 RELOCATE EXISTING GATE. The existing field gate in the location shown on the plans shall be removed and relocated to the new location shown on the plans in accordance with the details shown. The gate shall be installed as set forth in Item 161-3.7 of this specification.

Method of Measurement

161-4.1 Fences, Class D (Steel Posts), shall be measured in place from outside to outside of end posts or corner posts and shall be the length of fence actually constructed, except for the space occupied by the gates.

161-5.1 Payment shall be made at the contract unit price per linear foot for Class D wire fence. This price shall be full compensation for furnishing all materials and for all preparation, erection, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Fence, Class D (4 strand Barbwire, Steel Posts) (F-161)	-	per linear foot
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Material Requirements

- ASTM A116 Standard Specification for Metallic-Coated, Steel Woven Wire Fence Fabric
- ASTM A121 Standard Specification for Metallic-Coated Carbon Steel Barbed Wire
- FAA-STD-019 Lightning and Surge Protection, Grounding, Bonding and Shielding Requirements for Facilities and Electronic Equipment
- FED SPEC RR-F-191/Gen
Fencing, Wire, and Post Metal (and Gates, Chain-link Fence Fabric, and Accessories) (General Specification)

END OF ITEM F-161

ITEM D-701 PIPE FOR STORM DRAINS AND CULVERTS

Description

701-1.1 This item shall consist of the construction of pipe culverts and storm drain pipes in accordance with these specifications, and in reasonably close conformity with lines and grades as shown on the plans.

Materials

701-2.1 Materials shall meet the requirements shown on the plans and specified below.

701-2.2 PIPE. The pipe shall be of the type called for on the plans and shall be in accordance with the following appropriate requirements:

Corrugated Metal Pipe (CMP) – Corrugated metal pipe shall conform to the requirements of ASTM A760, Corrugated Steel Pipe, Metallic – Coated for Sewers and Drains.

701-2.3 CONCRETE. Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi at 28 days and shall conform to the requirements of ASTM C94.

701-2.4 RUBBER GASKETS. Not Applicable.

701-2.5 JOINT MORTAR. Joint mortar for concrete pipe shall consist of one part Portland cement and two parts sand. Portland cement shall conform to requirements of ASTM C 150, Type I. Sand shall conform to requirements of ASTM C 144.

701-2.6 JOINT FILLERS. Not applicable.

701-2.7 PLASTIC GASKETS. Not applicable

701-2.8 CONTROLLED LOW-STRENGTH MATERIAL (CLSM). CLSM is not allowed.

Construction Methods

701-3.1 EXCAVATION. The width of pipe trench shall be sufficient to permit satisfactory jointing of pipe and thorough tamping of bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus six inches on each side. Trench walls shall be approximately vertical.

The Contractor shall comply with all current Federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are

strictly adhered to. The width of the trench shall be sufficient to permit satisfactorily jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail. The trench bottom shall be shaped to fully and uniformly support the bottom quadrant of the pipe.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 12 inches or one-half inch for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The width of the excavation shall be at least one foot greater than the horizontal outside diameter of the pipe. The excavation below grade shall be backfilled with selected fine compressible material, such as silty clay or loam, and lightly compacted in layers not over 6 inches in uncompacted depth to form a uniform but yielding foundation.

Where a firm foundation is not encountered at grades established; due to soft, spongy, or other unstable soil, unstable soils shall be removed and replaced with approved granular material for the full trench width. The Engineer shall determine depth of removal necessary. The granular material shall be compacted to provide adequate support for pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 BEDDING. The pipe bedding shall conform to the class specified on the plans. The bedding surface for the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe. The pipe bedding shall conform to Class B, consisting of a bed of granular material having a thickness of at least six inches below the bottom of the pipe and extending up around the pipe for a depth of not less than 30 percent of the pipe's vertical outside diameter. The layer of bedding material shall be shaped to fit the pipe for at least 10 percent of the pipe's vertical diameter and shall have recesses shaped to receive the bell of bell and spigot pipe. The bedding material shall be sand or select sandy soil, with 100% passing a 3/8 inch sieve and not more than 10% passing a No. 200 sieve.

701-3.3 LAYING PIPE. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segments of pipe shall be in contact with bedding throughout its full length. Bell or groove ends of pipes shall be placed facing upgrade.

701-3.4 JOINING PIPE. The concrete pipe shall be either bell and spigot or tongue and groove. The method of joining pipe sections shall be so the ends are fully entered and the inner surfaces are reasonably flush and even.

The joints in concrete pipe shall be thoroughly wetted before mortar or grout is applied.

701-3.5 BACKFILLING. The pipes shall be inspected before any backfill is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense.

When the top of the pipe is below the top of the trench, the backfill shall be compacted in layers not exceeding six inches (150 mm) on both sides of the pipe. Care shall be exercised to thoroughly compact the backfill material under the haunches of the pipe. Material shall be brought up evenly on both sides of the pipe.

Method of Measurement

701-4.1 The length of each size and class of pipe shall be measured in linear feet of pipe in place, completed, and approved. It shall be measured along the centerline of the pipe from end or inside face of structure to the end of inside face of structure, whichever is applicable. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

Basis of Payment

701-5.1 Payment will be made at the contract unit price per linear foot for each size, class, and type of pipe. These prices shall be full compensation for saw cutting and removal of existing pipe, furnishing all materials and for all preparation, excavation, and installation of these materials, backfill, and surfacing; and for all labor, equipment, tools, and incidentals necessary to complete the item. No separate payment will be made for bedding or backfill materials or for dewatering pipe trenches.

Payment will be made under:

42" x 60" Corrugated Metal Pipe (CMP) (D-701)	-	per Linear Foot
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Testing Requirements

ASTM D 1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort

Material Requirements

ASTM A 36 Structural Steel

ASTM A 153 Zinc Coating (Hot-Dip) on Iron and Steel Hardware

ASTM A 760 Corrugated Steel Pipe, Metallic- Coated for Sewers and Drains

ASTM C 144 Aggregate for Masonry Mortar

ASTM C 150 Portland Cement

ASTM C 506 Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe

**** END OF SECTION ****

ITEM ST-01 STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

01-1.0 GENERAL. The Contractor is required to hire a Qualified SWPPP Developer (QSD) to develop and submit for approval a Storm Water Pollution Prevention Plan (SWPPP), which includes not only the attachments but an Erosion Control Plan. The objectives of the SWPPP as stated in Section A of the State Water Resources Control Board Order No. 2010-0014-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity are:

- To identify pollutant sources that may affect the quality of discharges of storm water associated with construction activity (storm water discharge) from the construction site, and
- To identify, construct, and implement storm water pollution prevention measures (control practices) to reduce pollutants in storm water discharges from the construction site both during and after construction is completed.

Therefore, the SWPPP to be developed by the Contractor's Qualified SWPPP Developer (QSD) shall identify the Best Management Practices (BMPs), which are required for the Contractor's operations to meet these objectives. BMPs are measures or practices used to reduce the amount of pollution entering surface water and the storm sewer collection system. BMPs may take the form of a process, activity, or physical structure. The SWPPP shall describe in detail the methods used to comply with those BMPs.

THE PLAN MUST BE APPROVED BY THE ENGINEER PRIOR TO ANY CLEARING, GRADING OR EXCAVATION WORK. Acceptance of the plan does not preclude the Contractor from responsibility for taking the proper actions to prevent contaminants and/or sediments from leaving the construction site should any unforeseen circumstances occur. The Contractor shall take immediate action if directed by the Engineer, or if the Contractor observes contaminants and/or sediments entering any surface or groundwater drainage, to prevent further storm water from entering the drainage.

To aid the Contractor in the preparation of the SWPPP, the SWRCB Order No. 2010-0014-DWQ can be found at the State of California Water Resources Control Board, Storm Water Program website at http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml. The SWPPP Template and Attachments are provided at the State of California Department of Transportation, Storm Water and Pollution Control website at <http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm> and should be followed by the Contractor during preparation of the SWPPP. Supporting information to be provided by the Owner for use by the Contractor during preparation of the SWPPP includes a topographic base map and a site map. Provision for Post-Construction Storm Water Management (Section A; Item 10) and Maintenance, Inspection and Repair (Section A; Item 11) shall be addressed by the Owner for incorporation into the Contractor's "approved" SWPPP.

The SWPPP shall include the following Mitigations identified by the Initial Study and Mitigated Negative Declaration:

HWQ-1 (BMPs)

1. Restore all temporary impact areas upstream and downstream of the culverts and headwalls to pre-Project conditions.
2. Keep vehicles and equipment from disturbing adjacent wetland and channel areas outside the work zone with exclusion fencing.
3. If any equipment has been used in a different watershed prior to use for Project activities, it shall be pressure washed prior to use in the Project area to ensure it is free of mud and debris that could harbor and transport non-native, invasive species.
4. Permittee shall not allow water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities to enter a streambed, or be placed in locations that may be subjected to high storm flows.
5. Spoil sites shall not be located within a streambed, or locations that may be subjected to high storm flows, where spoil shall be washed back into a streambed, or where it will impact streambed habitat and riparian vegetation.
6. Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil or other petroleum products, or any other substances which could be hazardous to wildlife resources resulting from Project related activities shall be prevented from contaminating the soil and/or entering a streambed. These materials, placed within or where they may enter a streambed by Permittee or any party working under contract or with the permission of Permittee, shall be removed immediately.
7. No broken concrete, cement, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or washings thereof, oil or petroleum products, or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into a streambed. When operations are completed, any excess materials or debris shall be removed from the work area.
8. All equipment or vehicles driven and/or operated within or adjacent to a streambed shall be checked daily and maintained as need to prevent deleterious material leaks. An emergency spill kit will be at the Project site at all times during Project construction.
9. No equipment maintenance shall be done within or near any streambed where petroleum products or other pollutants from the equipment may enter these areas under any flow.
10. All surface waters will be diverted away from areas undergoing grading, construction, filling, vegetation removal, and/or any other similar construction activity.
11. Work within the stream channel will only occur during dry weather conditions. Should inclement weather occur, all work within the channel will stop and all equipment and materials will be removed from the channel.

- BIO-2** Project shall not use erosion control materials potentially harmful to wildlife species, such as monofilament netting (erosion control matting) or similar material, within and adjacent to CDFW jurisdictional areas. All fiber rolls, straw wattles, and/or hay bales utilized within and adjacent to the Project site shall be free of nonnative plant materials. Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves.
- CR-1** Prior to project commencement, temporary construction fencing shall be placed in front of the buildings located on APN 08-111-13 (VHC parcel) for the purposes of complete avoidance of the resources during project implementation.
- CR-2** All construction staging shall be located on the north side of Stock Drive in order to ensure complete avoidance of the resources present on APN 08-111-13.
- BIO-4** All disturbed areas excluding the road and road shoulder shall be revegetated with the native seed mix specified in Table 1 after being scarified, disked, and topsoil stockpiled per P-152.

REVEGETATION SPECIFICATIONS

Fertilizer

- A. Slow-release organic fertilizer shall consist of material (Biosol 6-1-3 or equivalent) containing no more than 10% total nitrogen of which no more than 1.5% is in mineral form.
- B. Fertilizer shall be applied to the soil surface at a rate of 1,000 pounds per acre and incorporated into the soil to a depth of no more than two inches (2") by raking or other approved methods.
- C. All fertilizer bags shall be stored on site in an orderly fashion for inspection to confirm that the specified fertilizer amounts were applied.

Seed

- A. The seed mix described in Table 1 shall be used for all soil-revegetation areas.
- B. **Seed must be approved in writing prior to application.** Seed labels from the seed bags must be submitted to verify correct species and application rates. Seed tags must include: name of testing laboratory; date of test; species and bulk weights; test results showing percentages of purity, germination and weed content; weed-free certification. All seed shall be ordered pre-mixed.
- C. Seed shall be spread by hand or hand applicator evenly across treatment areas then raked in so that seed is covered by a minimum of ¼ inch and a maximum ½ inch of soil. Hydroseed application is allowed but seed rate shall be increased to account for potential reduction in germination potential (see seed rate tables).

- D. The Contractor is responsible to determine the bulk weight application rates for seed that correspond to the specified Pure Live Seed (PLS) rate in these specifications (Table 1)

Table 1: seed mix and rates for hand-seeding

Species	Common name	Pounds Per Acre (Pure Live Seed)	%
<i>Elymus cinereus</i>	Basin Wildrye	10	20%
<i>B. carinatus var. marginatus</i>	V&O Short Brome	10	20%
<i>Elymus triticoides</i>	Alkali Rye	5	10%
<i>Elymus elymoides</i>	Squirelltail	25	50%
	Total	50	

Method

- A. Apply fertilizer to disturbed areas requiring revegetation when the subsoil is being scarified to disrupt the hardpan.
- B. Spread stockpiled topsoil where the old Stock Drive roadbed has been removed (like a mulch).
- C. After October 15th, broadcast and rake the seed.

Included in this item is the installation, monitoring, and implementation of all measures included in the approved SWPPP during construction of this project.

01-2.0 METHOD OF MEASUREMENT AND BASIS OF PAYMENT. The Contractor will be paid separately for the preparation of the SWPPP at the lump sum price bid for this work. The lump sum price bid shall include all materials, equipment, time, and other work required to complete the item. The lump sum price bid shall include all materials, equipment, time, and other work required to prepare the SWPPP and to implement and monitor all measures required in the approved SWPPP.

Payment will be made under:

SWPPP Submitted by Qualified SWPPP
 Developer (QSD) (ST-01) - Lump Sum

ITEM ST-02 MARKING AND LIGHTING OF CLOSED FACILITIES**Description**

02-1.0 GENERAL. The construction of this project requires certain areas of the road to be closed to traffic. Closure of these areas shall be in accordance with construction plans. Marking and lighting of this closed road and traffic control shall meet the requirements of Chapter 4, Section 12 of the Caltrans Construction Manual, and shall include flaggers, barricades, and traffic cones as specified in Section 12-3.02. Marking of the Contractor's Storage and Stockpile Area shall be in accordance with these specifications and F.A.A. Advisory Circular No. 150/5340-1L, "Standards for Airport Markings."

02-2.0 CLOSED FACILITY MARKING. Any area that is closed for air or vehicular traffic shall have lighted barricades placed across the pavement. These barricades must be maintained in good condition at all times during the closure or they shall be repaired or replaced as directed by the Engineer.

All closed airport area structures shall be securely fastened or weighted to prevent displacement by high winds or jet blast. Maximum height of structures used on the airfield pavements, except for flags, shall be eighteen inches.

When the Contractor is working in a closed area, he may move the barricades during his operations, but they must be replaced at the end of the working day and when work is not being performed in the area.

Closure marking on structures shall be placed as directed by the Engineer.

02-3.0 BARRICADES. In accordance with the construction schedule, the Contractor shall outline probable access to construction areas and block access to work areas by use of suitable barricades. On all airfield pavement, except for flags, no part of the barricade or light shall extend eighteen (18) inches above the paved surface. Maximum spacing between barricades shall be four (4) feet. Lights shall be flashing red and have at least five (5) candelas effective intensity for night marking. Barricades shall be painted alternate orange and white diagonal striping. These lighted barricades shall remain in place until such time as the new construction is open to traffic.

Barricades for the road closures shall be Category 1 as specified in section 12-3.02, Barricades, of the Caltrans Standard Specifications and Sheet A-73C of the Standard Plans.

02-4.0 METHOD OF MEASUREMENT AND BASIS OF PAYMENT. Method of measurement and basis of payment for marking and lighting of closed facilities shall be Lump Sum. This lump sum price shall be full compensation for furnishing all labor, materials, tools, and incidentals necessary to perform this item of work, including flaggers and furnishing, placing, maintaining, and removal or barricades and traffic cones at the end of the project.

Payments will be made for marking and lighting of closed facilities on a monthly basis with the monthly progress payments. The percentage of marking and lighting of closed facilities payment made will be equal to the percentage of total project, completed, as determined by the Engineer.

Payment will be made under:

Marking and Lighting of Closed Facilities (ST-02)	-	Lump Sum
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**** END OF SECTION ****

ITEM ST-03 GEOGRID

Description

03-1.1 Many at the subsoils under the existing pavement section are loose saturated silty fine sands. These materials are subject to instability under repeated loading. This item covers the treatment of these loose saturated soils in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

Materials

03-2.1 GEOGRID. Geogrid shall be TriAx TX140 geogrid as manufactured by Tensar International, or approved equal. The geogrid shall be placed on the bottom of the subexcavation made for unstable subgrades if required and shall be continuous over the length of the excavation. Each geogrid section shall overlap the adjoining section by a minimum of six inches (6”).

Construction Methods

03-3.1 UNSTABLE SUBGRADE SOILS – If areas to be paved weave under equipment operations due to unstable subgrade soils the Contractor, under the direction of the Resident Engineer, shall proceed in the following manner:

- Excavate and stockpile existing subbase course materials.
- Excavate unstable material.
- Place geogrid at bottom of excavation and backfill excavation with Subbase Course (Item P-154) and compact to 90% relative density as determined by ASTM D 1557.
- Place specified pavement section.

Payment for backfilling with subbase course and compacting the materials will be made under Item P-154, Subbase Course.

Method of Measurement

03-4.1 Treatment of unstable subgrade materials, including excavation and hauling to the disposal area, will be paid per cubic yard under Unclassified Excavation in Item P-152.

03-4.2 The quantity of geogrid furnished and placed in the bottom of excavation made in areas where unsuitable subgrade soils are excavated shall be the number of square yards of geogrid furnished and placed, measured in its final position.

03-4.3 Measurement for all materials will not include the quantity of material excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

Basis of Payment

03-5.1 For geogrid furnished and placed, payment shall be made at the contract unit price per square yard, measured in its final position. This price shall be full compensation for furnishing all labor, materials, tools, equipment, hauling, placing and incidentals necessary to complete the item.

Payment will be made under:

Geogrid, Furnished and Placed (ST-03) - per Square Yard

**** END OF SECTION ****

ITEM ST-04 SCARIFY AND RECOMPACT

Description

04-1.1 This item covers the scarifying and recompacting of 6 inches of subgrade in the excavation areas in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

Construction Methods

04-2.1 SCARIFY AND RECOMPACT SUBGRADE. After the excavation has been completed, 6 inches of subgrade shall be scarified and recompacted to a dry density in excess of 95 percent of maximum dry density obtained in the ASTM D 1557 test.

Where embankments are to be constructed in the pavement section, the area to receive embankment shall be broken up by plowing or scarifying to a minimum depth of six inches, moistened or aerated, and recompacted to not less than 95 percent of the maximum dry density as determined by ASTM D 1557. In areas where less than 6 inches of fill is to be placed to bring section to subgrade elevation the upper 6 inches of subgrade immediately below the aggregate subbase shall be compacted to 95 percent relative compaction.

Finishing and protection of subgrade and all tolerances shall conform to Sections 152-2.7 and 152-2.9 of the FAA Technical Provisions.

Method of Measurement

04-3.1 The method of measurement for scarifying and recompacting of the subgrade for the specified areas to receive payment will be per square yard of subgrade scarified and recompacted.

Basis of Payment

04-4.1 Payment will be made at the contract unit price per square yard of subgrade scarified and recompacted for the respective items of work. This price shall be full compensation for furnishing all materials, labor, equipment, tools, water, and incidentals necessary to complete this item.

Payment will be made under:

Scarify & Recompact Six Inches of Subgrade (ST-04)	-	per Square Yard
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Testing Requirements

ASTM D 1557

Test Method for Laboratory Compaction Characteristics of Soil
Using Modified Effort

**** END OF SECTION ****

ITEM ST-05 ROADWAY MARKING

Description

05-1.1 This item shall consist of the preparation and painting of letters, markings, and stripes on the surface of the roadway in accordance with these specifications and at locations shown on the plans or as directed by the Engineer. The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

Materials

05-2.1 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. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers 55 gallons or smaller for inspection by the Engineer. Material shall not be loaded into the equipment until inspected by the Engineer.

05-2.2 MARKING MATERIALS. Paint shall be Waterborne. Paint shall be furnished in the following colors:

- White
- Yellow

Paint shall meet the requirements of Section 84, Traffic Stripes and Pavement Markings, Section 84-3, Painted Traffic Stripes and Pavement Markings, of the State of California (Caltrans), Department of Transportation, Standard Specifications.

Construction Methods

05-3.1 Construction methods shall meet the requirements of Section 84-3 of the Caltrans Standard Specifications

Method of Measurement

05-4.1 The quantity of roadway markings to be paid for shall be the number of square feet of new painting performed in accordance with the specifications and accepted by the Engineer.

Basis of Payment

05-5.1 Payment will be made at the contract unit price per square foot for roadway marking. This price shall be full compensation for furnishing all materials including paint and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Roadway Marking (ST-05) - per Square Foot

**** END OF SECTION ****

ITEM ST-06 RELOCATE EXISTING GATE

Description

06-1.1 This item shall consist of the relocation of an existing field gate at the location shown on the plans and specified in this specification.

Materials

06-2.1

Construction Methods

06-3.1 RELOCATE EXISTING GATE. The existing field gate in the location shown on the plans shall be removed and relocated to the new location shown on the plans in accordance with the details shown. The gate shall be installed as set forth in Item 161-3.7 of the FAA Technical Provisions.

Method of Measurement

06-4.1 Field gates shall be measured in units for each gate removed, installed in the new location and accepted.

Basis of Payment

06-5.1 Payment will be made at the contract unit price per each for gates removed and installed in the new location. This price shall be full compensation for removing the existing gate and furnishing all materials and for all preparation, erection, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Relocate Existing Field Gate (ST-06) - per Each

**** END OF SECTION ****

ITEM ST-07 CALTRANS HEADWALL**Description**

07-1.1 This item shall consist of reinforced concrete headwalls constructed in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the Engineer.

Materials

07-2.1 CONCRETE. Reinforced concrete shall meet the requirements of Item P-610.

07-2.2 HEADWALLS . Headwalls can be either precast or cast in place. Headwalls shall meet the requirements of State of California, Department of Transportation, Standard Plan D89.

Construction Methods**07-3.1 UNCLASSIFIED EXCAVATION.**

a. Trenches and foundation pits for structures or structure footings shall be excavated to the lines and grades and elevations shown on the plans. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximate only; and the Engineer may approve, in writing, changes in dimensions or elevations of footings necessary to secure a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or 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 Engineer. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. When concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing steel is placed.

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

d. All bracing, sheathing, or shoring shall be removed by the Contractor after the completion of the structure. Removal shall be not disturb or damage the finished concrete. The cost of removal shall be included in the unit price bid for excavation.

e. After each excavation is completed, the Contractor shall notify the Engineer. No concrete or reinforcing steel shall be placed until the Engineer has approved the depth of the excavation and the character of the foundation material.

07-3.2 BACKFILLING.

a. After a structure has been completed, backfilling with approved material shall be accomplished by applying the fill in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted. The field density of the compacted material shall be at least 90% of the maximum density for cohesive soils and 95% of the maximum density for noncohesive soils. The maximum density shall be determined in accordance with ASTM D698. The field density shall be determined in accordance with ASTM D1556.

b. No backfilling shall be placed against any structure until approved by the Engineer. For concrete, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill or the placement methods.

c. Fill placed around concrete culverts shall be deposited on each side at the same time and to approximately the same elevation. All slopes bounding or within the areas to be backfilled shall be stepped or serrated to prevent wedge action against the structure.

d. Backfill will not be measured for direct payment. Performance of this work shall be considered as a subsidiary obligation of the Contractor, covered under the contract unit price for "unclassified excavation for structures."

07-3.3 WEEP HOLES. Weep holes shall be constructed as shown on the plans.

07-3.4 CLEANING AND RESTORATION OF SITE. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankment, shoulders, or as approved by the Engineer. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

Method of Measurement

07-4.1 The furnishing and installation of concrete headwalls shall be measured by the unit.

Basis of Payment

07-5.1 The concrete headwalls and miscellaneous drainage structures, accepted by the Engineer, will be paid for at the contract price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, placing of the materials and backfilling; and for all labor, equipment, tools, and incidentals necessary to complete the structures.

Payment will be made under:

Caltrans Standard Dwg. D89 "L" Headwall
For 42" x 60" CMP (ST-07) - per Each

Testing Requirements

ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft³ (600 kN-m/m³))

ASTM D1556 Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

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APPENDIX A

CONSTRUCTION SAFETY AND PHASING PLAN

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APPENDIX A
BRYANT FIELD
BRIDGEPORT, MONO COUNTY, CALIFORNIA
STOCK DRIVE REALIGNMENT

AIP NO. 3-06-0030-__

CONSTRUCTION SAFETY AND PHASING PLAN

Prepared by:

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March 18, 2016

F.1. Checklist for FAA CSPP Review

Airport Name: Bryant Field

LOCID: 057

Associate City: Bridgeport, California

Project No. AIP 3-06-0030-__ - Stock Drive Realignment

F.1.1. AC 150/5370-2F

This checklist identifies the main elements and sub-elements established under Section 2, Chapter 2 of Advisory Circular 150/5370-2F. Project Managers (PM) are encouraged to use this checklist as an aid when reviewing a Sponsor’s CSPP for conformance to the safety standards. Because the PM’s approval/disapproval letter represents the official FAA action, a completed checklist is not a required record the PM must sign or archive in the grant file.

CSPP Element	Element Addressed?			Remarks
	Yes	No	N/A	
Coordination (Section 205)				
- Contractor Progress Meetings	X			
- Addresses necessary actions when changes are proposed to CSPP	X			
- Provisions for FAA ATO Coordination			X	No ATCT
Phasing (Section 206)				
- Phase Elements	X			
- Construction Safety Drawings	X			
Area and Operations Affected by Construction Activity (Section 207)				
- Identification of affected Areas	X			
- Mitigation Affects	X			
Navigation Aid Protection (Section 208)				
- Operational NAVAID Critical areas	X			
Contractor Access (Section 209)				
- Location of Stockpiles Construction Material	X			
- Vehicle and Pedestrian Operations	X			
Wildlife Management (Section 210)				
- Trash	X			
- Standing Water	X			
- Tall Grass			X	
- Fencing and Gates	X			
- Disruption of Wildlife Habitat	X			
Foreign Object Debris (Section 211)				
- FOD Control Measures	X			

CSPP Element	Element Addressed?			Remarks
	Yes	No	N/A	
Hazardous Material Management (Section 212)				
- Hazardous Material Controls	X			
Notification of Construction Activities (Section 213)				
- List of Responsible Representatives	X			
- NOTAMs	X			
- Emergency Notification Procedures	X			
- Coordination with ARFF	X			
- Notification to the FAA (Part 77, NAVAIDs....)	X			
Inspection Requirements (Section 214)				
- Daily Inspections	X			
- Final Inspections	X			
Underground Utilities (Section 215)				
- Procedures for protecting existing underground utilities	X			
Penalties (Section 216)				
- Penalty provisions for noncompliance with safety plan provisions	X			
Special Conditions (Section 217)				
- Unique conditions that may affect the operation of the airport	X			
Runway and Taxiway Visual Aids (Section 218)				
- General – Convey Clear Meaning; Secured from movement; Frangible	X			
- Markings	X			
- Lighting and Visual NAVAIDs	X			
- Signage	X			
Access Routes - Marking and Signage (Section 219)				
- Haul Road Demarcation	X			
Hazard Marking, Lighting, and Signage (Section 220)				
- Areas Impacted by Construction Operations	X			
- Equipment	X			
Protection Runway and Taxiway Areas, Zones and Surfaces (Section 221)				
- Runway Safety Area (RSA)	X			
- Runway Object Free Area (ROFA)	X			
- Taxiway Safety Area (TSA)	X			
- Taxiway Object Free Area (TOFA)	X			
- Obstacle Free Zone (OFZ)	X			
- Approach and Departure Surfaces			X	None affected
Other Limitations on Construction (Section 222)				
- Prohibitions	X			
- Restrictions	X			

**BRYANT FIELD
BRIDGEPORT, MONO COUNTY, CALIFORNIA**

STOCK DRIVE REALIGNMENT

AIP NO. 3-06-0030-__

CONSTRUCTION SAFETY AND PHASING PLAN

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EXHIBIT A	CONSTRUCTION SAFETY AND PHASING PLAN
EXHIBIT B	CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

**BRYANT FIELD
BRIDGEPORT, MONO COUNTY, CALIFORNIA**

STOCK DRIVE REALIGNMENT

AIP NO. 3-06-0030-__

CONSTRUCTION SAFETY AND PHASING PLAN

INTRODUCTION

Mono County, with Federal assistance from the Federal Aviation Administration under the Airport Improvement Program (AIP), proposes the realignment of Stock Drive (30' x 610') at Bryant Field, Bridgeport, California.

The Sponsor will comply and will require all parties involved with this project to comply with the Federal Aviation Administration (F.A.A.) requirements regarding safety and phasing of construction projects on airports.

The purpose of this Construction Safety and Phasing Plan (CSPP) is to provide the contractor and project manager guidance for compliance with Federal Aviation Administration (FAA) rules and regulations, and associated requirements of Mono County, with regards to access onto air operations areas of Bryant Field, Bridgeport, California, during the construction of the subject project.

This Construction Safety and Phasing Plan is based on the guidance of FAA Advisory Circular 150/5370-2F, "Operational Safety on Airports During Construction."

The Checklist for FAA CSPP Review is included in this CSPP. The contractor will address all items checked on this list in his/her Safety Plan Compliance Document (SPCD) submitted prior to beginning work on this project.

1. COORDINATION

(a) Contractor Progress Meetings

The Sponsor will conduct predesign, prebid, preconstruction conferences, and weekly meetings to introduce the subject of airport operational safety during construction, as follows:

- **Predesign Conference:** This meeting will be held as soon as sufficient preliminary design work has been completed and prior to preparation of the final plans and specifications. This meeting will be attended by the Design

Engineer, Airport Management, Air Transport Association regional representatives, Airline Pilots Association representatives, fixed base operators, airline representatives, FAA airport certification inspector, and the Program Manager of the Federal Aviation Administration Airports District Office, as appropriate for the airport.

- Prebid Conference: This meeting will be held a minimum of 7 days prior to the bid opening date. The participants in this meeting will include prospective bidders, subcontractors, material suppliers, the Design Engineer, and Airport Management.
 - Preconstruction Conference: This conference will be conducted as soon as practicable after the contract has been awarded and before issuance of notice to proceed. The participants will include the Design Engineer, Resident Engineer, Airport Management, testing laboratory representative, Contractor and subcontractors, Contractor's project superintendent, airport users, utility companies affected by the proposed construction, Federal, State or local agencies affected by the proposed construction, and the Program Manager of the Federal Aviation Administration Airports District Office, as applicable.
 - Weekly Meetings: Weekly progress meetings will be held at the airport. Operational safety will be a standing agenda item for discussion during weekly progress meetings throughout the construction of this project. The Contractor will present an updated progress report for the total work and a two-week look-ahead schedule. The participants will include the Resident Engineer, Airport Management, testing laboratory representative, Contractor's project superintendent, subcontractors, airport users, and the Program Manager of the FAA Airports District Office, as applicable.
- (b) Scope or Schedule Changes – Changes in the scope or duration of the project may necessitate revisions to the CSPP. These revisions will be submitted for review and approval by the airport operator and the Federal Aviation Administration.
- (c) FAA ATO Coordination – There is no Air Traffic Control Tower at Bryant Field.

2. PHASING

There are 30 working days allowed for completion of this project. The scope of work included in this project is as shown in Article 1 of this Construction Safety and Phasing Plan.

- (a) Phasing Elements – There are no phasing elements for the construction of this project.
- (b) Construction Safety and Phasing Plan Drawing - The scope of the project, details of the requirements of the project, and details of the barricades and haul routes are shown on the Construction Safety and Phasing Plan, Exhibit A.

3. AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY

- (a) Identification of Affected Areas. All areas affected by the construction activity in this project are shown on the Construction Safety and Phasing Plan Drawing, Exhibit A. Identified on this drawing are closures of the road; and access routes to be used by airport support vehicles and the contractor. Construction areas, storage areas, and stockpile areas are also depicted on this drawing.
- (b) Mitigation of Effects. It is necessary to maintain the safety and efficiency of airport operations during construction operations. The establishment of the following procedures will be required:

- (1) Temporary Changes to Runway and/or Taxiway Operations:

The runway and taxiways will remain open during the construction of this project.

Access to and from the airport on a controlled basis shall be coordinated with the Airport Manager, Resident Engineer and Contractor. Contractor shall install and maintain the necessary ramps in order to provide access to the airport entrance. Closure of the entrance for pulverizing, excavation and placement of new section shall be coordinated with Resident Engineer and posted on the necessary signage as required by Mono County Public Works. Access ramps shall be in place at the end of each working day.

Construction will be limited to no closer than 60 feet from the active runway centerline and 25 feet from the active taxiway centerline. The runway safety area beyond the runway threshold will be maintained at 240 feet.

- (2) Detours for ARFF and Other Airport Vehicles:

All ARFF and other airport vehicles will have normal access to all areas on the airport during the construction of this project.

- (3) Maintenance of Essential Utilities and Underground Infrastructure:

The only utilities or underground infrastructure affected by the construction of this project will be the drain line on Stock Drive.

There will be no temporary utilities installed. If one of the existing utility lines is damaged, specifications require the Contractor to immediately repair it at his/her cost and to reimburse the Airport for damages due to shutdown. If these damaged utilities cannot be immediately repaired, the Airport will immediately issue required NOTAMs.

(4) Temporary Changes to Air Traffic Control Procedures.

Bryant Field does not have an Air Traffic Control Tower. Prior to any construction a NOTAM will be issued identifying the areas of closure and times of closures. The Resident Engineer, who will be on site during construction, will be equipped with a two-way radio and will monitor Unicom frequency and notify aircraft operating in the area of closures or other safety related items.

4. NAVAIDs

There are navigational aids (NAVAIDs) existing on this airport. Such facilities must be fully protected during the entire construction time.

(a) NAVAIDs Affected by Construction

NAVAIDs on the airport consist of a lighted wind cone and segmented circle to the west of Runway 34. There is a rotating beacon located ¼ mile east of the airport. These items will not be affected by construction.

(b) NAVAIDs Placed out of Service

No NAVAIDs will be placed out of service during the construction of this project.

(c) Protection of NAVAIDs Remaining in Service

The Contractor will be limited to no closer than 1,000 feet from the NAVAID facilities.

(d) NOTAMs

When NAVAIDs are shut down during construction, experience an unexpected power outage, or are otherwise affected by construction activities, the Airport will issue a Notice to Airmen (NOTAM) as outlined in Article 9 of this CSPP.

(e) Protection of Underground Cable

There are underground ducts and cable in the construction area to serve the lights and NAVAIDs. The location of these facilities will be identified by USA before any work in their general vicinity is started as described in Article 11 of this CSPP. Throughout the entire time of this construction these facilities will be protected by the Contractor from any possible damage, including crossing with unauthorized equipment.

(f) Temporary NAVAIDs

No temporary NAVAIDs are proposed to replace or supplement existing facilities during the construction of this project.

5. CONTRACTOR ACCESS

(a) Stockpiled Construction Materials

The Contractor will be allowed to temporarily stockpile excavation materials in the Contractor's Staging and Temporary Stockpile Area as shown on Exhibit A, but will be hauled offsite at the end of the project. Any damage to the pavements caused by the Contractor will be repaired at the Contractor's expense.

Access to contractor's Storage and Staging Area shall be way of existing Stock Drive off of Highway 182 to a temporary gate installed by the Contractor outside of the Runway Protection Zone as shown on the plans. Contractor shall secure all necessary permits to use and install an approved entrance gate with lock. Contractor shall restore grade of access road and storage area to original at the end of the project.

There will be excess materials from the excavation operation. All excess excavation not used on this project will hauled offsite. The temporary stockpile will be allowed in the Contractor's Staging and Temporary Stockpile Area, but will be hauled offsite by the end of construction.

Stockpiled materials will not be permitted within the Runway Safety Area (RSA) and Object Free Zone (OFZ).

Contractor is responsible for the security, safety, and cleanliness of the Contractor's Storage and Stockpile Area.

(b) Vehicle and Pedestrian Operations

It is critical that all pedestrians and vehicles are prevented from unauthorized entry to the Air Operations Area (AOA). Exhibit A, clearly delineates the designated access and haul routes, employee parking areas, and construction equipment parking areas. Contractor's personnel and equipment will be limited to the construction areas, parking areas, and haul routes shown on the CSPP Drawing. All entrance gates will be controlled to eliminate entrance to the airport by unauthorized personnel or equipment.

Vehicle parking will not impact NAVAID signals or penetrate FAR Part 77 surfaces.

Employee parking and construction vehicle parking will be restricted to the Contractor's Staging and Temporary Stockpile Area as shown on the CSPP drawing. Vehicle and construction traffic will be held off from all active paved areas and in no case allowed to cross the active runway unescorted. Access to the construction site will be off Stock Drive, by way of Highway 182 as shown on the CSPP drawing. Haul routes are indicated in red on the CSPP drawing.

Contractor's vehicles and equipment will include a flag on a staff attached to the vehicle so that the flag will be readily visible. The flag will be at least a 3-foot by 3-foot square having a checkered pattern of international orange and white squares at least 1 foot on each side. During periods of low visibility Contractor vehicles and equipment will be equipped with a yellow flashing light mounted on the uppermost part of the vehicle structure.

All vehicle/equipment operators driving on the airport must have an appropriate level of knowledge of airport rules and regulations. The Contractor will be required to submit a list of authorized vehicle operators to the Airport. The vehicle operators will be required to maintain a current drivers' license. Driver training will be limited to designating areas to be avoided and areas where free access will be available. No vehicle will be allowed to occupy or travel on any airport pavement that is used for aircraft operations at any time.

All vehicle operators will be trained on airport procedures, safety, work area limits, security, and communications. All personnel with movement area driving privileges will be trained on pedestrian and ground vehicle procedures, including consequences of noncompliance, prior to moving on foot, or operating a ground vehicle, in movement areas or safety areas.

(c) Radio Communications

Vehicular traffic located in or crossing an active movement area will have a working two-way radio tuned to Unicom frequency 122.9 or be escorted by the Airport-furnished flag person. The driver, through personal observation, will confirm that no aircraft is approaching the vehicle position. Construction personnel may operate in a movement area without two-way radio communication provided a NOTAM is issued closing the area and that the area is properly marked to prevent incursions and the Airport's flagger is present to control operations. Two-way radio communications are required on Unicom frequency 122.9 MH. Continuous monitoring is required. The Airport's flagger will either be an airport specialist or the project engineer's specialist. These flaggers will be trained on all movement area procedures.

(d) Airport Security

There is a security fence and gates around most of the property of this airport. Only Contractor and subcontractor employees will be permitted in the work sites. They

will be required to enter and exit the airport areas restricted to public access and airport operations area only through the designated Contractor gate. The Contractor will be required to install an approved entrance gate with a lock at the chosen entrance and will be required to restore the grade to the original contours at the end of the project.

The gate used by the Contractor can remain open during authorized contractor working hours and will be closed at night. At the beginning of construction operations, the Contractor will furnish and install a sign that reads “CONTRACTOR’S WORK ENTRANCE ONLY” at this designated Contractor gate. This sign will be removed when construction operations are complete. The security fence, designated Contractor gate, and secure areas on the airport are shown on the CSPP Drawing.

All Contractor personnel working on airport shall wear in a prominent location identification badges on their outermost garment or identifying logo on their hard hats. The type and wording of badges or hard hats will be approved by the Airport.

In accordance with the requirements of the Federal Aviation Administration as set forth in FAR 107.11(F), the Contractor will take all steps necessary to assure Owner that the backgrounds of all employees have been checked to the extent necessary to assure that permitting them unescorted access to any area on the airport controlled for security reasons is appropriate. This background check, to the extent allowable by law, will include at a minimum references and prior employment histories to the extent necessary to verify representations made by the employee relating to employment in the preceding 5 years.

6. WILDLIFE MANAGEMENT

The airport is fenced with perimeter fence and security gates. All gates will remain closed at all times except when vehicles are entering or exiting them or they are guarded by a flagger as stated in Article 5 of this CSPP.

Care will be taken to prevent inadvertent incidents of wildlife hazards by ensuring access gates are properly secured to prevent wildlife entry.

The Contractor will carefully control and continuously remove waste or loose materials that might attract wildlife and be aware of and avoid construction activities that might attract wildlife such as:

- Trash – Food scraps will be collected from construction personnel activity.
- Standing water
- Disruption of existing wildlife habitat
- Excavation and stockpile materials.

Should the Contractor encounter wildlife on the airport, he/she will immediately notify Airport Management.

7. FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT

The Contractor will not be allowed to leave or place foreign object debris (FOD) on or near active aircraft movement areas and will be required to control and monitor FOD. Materials tracked onto these areas will be continuously removed during the construction project by broom sweeping. Ground vehicle tires will be inspected daily to ensure they are not tracking FOD onto the airfield pavements. Daily inspections of these aircraft movement areas will be made by the Resident Engineer as discussed in Article 10 of this CSPP.

Contractor shall maintain haul road on paved surfaces clear of debris at all times.

8. HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT

The Contractor will be required to manage and contain any hazardous materials (HAZMAT) on the airport. Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean up spills resulting from fuel or hydraulic fluid leaks. The Contractor will refrain from topping off vehicle fuel tanks and have sorbent materials available in the fueling area for when small spills occur. The fueling operation will be outlined in the Storm Water Pollution Prevention Plan (SWPPP), including Best Management Practices (BMPs).

It is not anticipated that there will be any hazardous materials used or encountered during the construction of this project. The Contractor will be required to keep Material Safety Data Sheets (MSDS) available for inspection for all materials delivered to the airport.

9. NOTIFICATION OF CONSTRUCTION ACTIVITIES

- (a) List of Responsible Representatives. It will be necessary to keep the following people totally informed of the operations that the contractor proposes to perform at Bryant Field.

Sponsor:

Garrett Higerd, Assistant Public Works Director:

Bridgeport(760) 932-5457

Mammoth.....(760) 924-1802

F.A.A.

Barry Franklin, Program Manager(650) 827-7614

Resident Engineer

Reinard W. Brandley, Airport Engineer (916) 652-4725 Office

.....(916) 316-1135 Cell

Tom Steinkamp, Resident Engineer (916) 652-4725 Office

.....(916) 622-5478 Cell

At the start of construction the Contractor will be required to provide the Resident Engineer with the names, telephone numbers, cell phone numbers, and e-mail addresses of all Contractor personnel that are responsible for on-call 24/7 services if necessary.

(b) NOTAMs

The Airport Management will issue Notices to Airmen (NOTAMs) as required accurately describing current airport conditions and contractor operations. This will be coordinated with tenants of the airport. Garrett Higerd, Assistant Public Works Director, will be responsible for issuing, maintaining, and canceling NOTAMs. The Airport Management has provided a list of airport employees who are authorized to issue NOTAMs to the FSS air traffic manager.

NOTAMs will be issued clearly identifying where the construction work is being performed and during which periods.

(c) Emergency Notifications:

In case of emergency during the construction of this project, Contractor will notify one or more of the following:

Fire/Police/Ambulance - Emergency	Call 911
Aircraft Rescue and Fire Fighting (ARFF)	911
Mono County Sheriff's Department	(760) 932-7549
Mammoth Hospital	(760) 934-3311
Poison Control	(800) 222-1222

(d) Coordination with ARFF Personnel:

The contractor will be required to notify county and/or ARFF (Bridgeport Fire Protection District) personnel if any water lines or fire hydrants are damaged or deactivated. The contractor will also notify County and/or ARFF personnel if there are any blocked or rerouted emergency access routes or if hazardous materials will be used on the airfield. The non-emergency telephone number for ARFF is (760) 932-7353 and the contact person is Dispatcher on Duty. Contractor will confirm in writing the date and time ARFF was notified and the contact person.

(e) Notification to the FAA:

Part 77. The Contractor will coordinate with the Resident Engineer who will file a 7460-1 form with the F.A.A. Airports District Office in Brisbane if any construction equipment (i.e. cranes, graders, other equipment) affects navigable airspace as defined in FAR Part 77.

NAVAIDS. For emergency notification about impacts to both airport owned and FAA owned NAVAIDs Airport Management will contact the Operations Control Center at (866) 432-2622.

If construction operations require a shutdown of more than 24 hours, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, FAA ATO/Technical Operations will be provided a 45-day minimum notice prior to facility shutdown.

If construction operations will cause impacts to NAVAIDs, the Airport Management will contact FAA ATO Service Area Planning and Requirements Groups a minimum of 45 days prior to implementing these operations and coordinate the shutdown with the local FAA ATO/Technical Operations office, including necessary reimbursable agreements and flight checks. A 7-day notice will be given to FAA ATO to schedule the actual NAVAID shutdown.

10. INSPECTION REQUIREMENTS

The Airport will provide an inspector to ensure that all Contractor operations comply with all requirements of the plans, specifications, and this Safety Plan. It will be his/her duty to inspect materials and workmanship of the work under instructions of the Airport or Engineer and to report any and all deviations from the Drawings, Specifications, and other Contract provisions that may come to his/her notice. The inspector will have the right to order the work entrusted to his/her supervision immediately stopped, if in his/her opinion such action becomes necessary, until the Owner or Engineer is notified and has determined and ordered that the work may proceed in due fulfillment of all Contract requirements.

- (a) Daily Inspections. Daily inspections will be conducted to ensure conformance with the CSPP. Exhibit B of this CSPP includes a Construction Project Daily Safety Inspection Checklist for this purpose.
- (b) Final Inspections. Whenever an area on the airport is reopened for aircraft operations, an inspection will be conducted to assure compliance with the plans, specifications, and CSPP. At the end of the project a final inspection will be held by the Resident Engineer, the Airport Management, and the Federal Aviation Administration to assure all components of the project comply with the plans, specifications, and CSPP.

11. UNDERGROUND UTILITIES

Not less than two full working days prior to performing any excavation, the Contractor will be required to notify Underground Service Alert (USA) by calling 811. The location of the subsurface installations will be in accordance with Sections 4216 and 4217 of the Government Code, as latest amended. No excavation will be performed until the subsurface installations have been located, hand-excavated and identified. The Contractor will update the location of the subsurface installations in the proposed work area every 14 calendar days, as required.

In case of accidental utility disruption, utilities owners' contacts and telephone numbers are included below:

Electrical – Southern California Edison(800) 655-4555
Sewer and Water – Bridgeport Public Utilities District.....(760) 932-7251

Refer to Article 9 of this CSPP for procedures for contacting ARFF and FAA in case of interruption of water service and NAVAIDs, respectively.

12. PENALTIES

If in the opinion of Airport Management or the Resident Engineer, the Contractor's employees or subcontractors are in violation of the airport's rules and regulations, including this CSPP, is of sufficient magnitude as to cause danger to life and property, the Resident Engineer shall have the right to stop all work on this contract for a period of forty-eight (48) hours as a contractual penalty.

Any vehicle operator who willfully violates the CSPP will be requested, through the Contractor, to leave the job site.

13. SPECIAL CONDITIONS

Some special conditions may trigger specific safety mitigation actions outlined in this CSPP. These may include low visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, Vehicle/Pedestrian Deviations (VPD), and other activities requiring construction suspension/resumption. In order to be advised of these special conditions and actions to be taken, the Contractor shall at all times maintain radio contact as specified in Article 5 of this CSPP.

Should an aircraft emergency occur anyplace on the airport, the Contractor will be required to move all personnel and equipment beyond the safety area of the runway and taxiways and to refrain from moving out of these areas to resume work until specifically authorized by Airport personnel. The area around the downed aircraft shall be evacuated and not reentered by the Contractor until given permission, except for lifesaving activities.

Dust control measures will be in place during construction. Broadcast mulch will not be permitted as a dust control measure within 35 feet of structures.

14. RUNWAY AND TAXIWAY VISUAL AIDS

There exist on the airport runway and taxiways marking, runway and taxiway lights and signs, and visual NAVAIDs. These facilities are shown on the attached Construction Safety and Phasing Plan Drawing, Exhibit A. Areas where aircraft will be operating will be clearly and visibly separated from construction areas. Throughout the duration of the construction project, these areas will remain clearly marked and visible at all times and all marking, lighting, signs, and visual NAVAIDs will remain in place and operational.

It is not anticipated that it will be necessary to install temporary marking, lights, signs, or visual NAVAIDS during the construction of this project.

Temporary Marking – Temporary marking, if required, shall conform to Advisory Circular 150/5340-1L, *Standards for Airport Markings*.

Lights, markings, signs, and visual NAVAIDS adjacent to areas used by aircraft will comply with the frangibility requirements of Advisory Circular 150/5220-23, *Frangible Connections*.

15. MARKING AND SIGNS FOR ACCESS ROUTES

If required, marking and signing for access routes to the construction site will be provided by the Contractor. Signs will conform to Advisory Circular 150/5340-18F, Standards for Airport Sign Systems. To the extent possible, signs will be in conformance with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications and will not be hand lettered.

16. HAZARD MARKING AND LIGHTING

The airport will be open during the construction of this project. Contractor will erect and maintain hazard marking and lighting in the form of lighted barricades at the boundary of the work area to keep vehicles from entering the Contractor's work areas and to keep the Contractor's personnel and equipment from occupying any of the areas open for aircraft or vehicle operations. Hazard marking and lighting will also be placed to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. The locations of barricades to be placed in this project are shown on Exhibit A.

Contractor shall develop and submit for approval a barricade and signage plan detailing the location and type of all barricades, detours and signs in relation to the schedule of work and closure of Stock Drive. Barricades and signage plan shall be coordinated with the Resident Engineer and Mono County Public Works and approved prior to the start of any work.

Contractor will be responsible for furnishing, placing, maintaining, and removing lighted barricades throughout the project.

The Contractor will supply the names and telephone numbers of persons responsible for the emergency maintenance of the hazard marking and lighting during construction of this project who will be available 24 hours a day.

17. PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS

No construction may occur within a runway safety area (RSA) or taxiway safety area (TSA) while the associated runway or taxiway is open for aircraft operations. These safety areas, along with the runway object free zone (OFZ) and object free area (OFA), taxiway OFA, and runway approach surfaces, are shown on the Construction Safety and Phasing Plan, Exhibit A.

No blasting operations will be required or allowed during the construction of this project.

Open trenches or excavations will not be permitted within the RSA while the runway is open for aircraft operations. The Contractor will furnish, erect, and maintain red or orange flags, as approved by the airport operator, and red lights during hours of restricted visibility or darkness, around open trenches, excavations, temporary stockpiles, and his/her parked construction equipment that may be hazardous to the operation of aircraft, emergency fire-rescue, or maintenance vehicles on the airport. See Article 16 of this CSAA for details of Hazard Marking and Lighting.

No drop-off greater than 3 inches will be allowed to exist within the TSA (100 feet of the edge of taxiways) at night, weekends, or during periods when the Contractor is not working in these areas. If excavation occurs within the RSA or TSA that leaves a depression greater than 3 inches, the Contractor will fill the excavated area such as to maintain a maximum 3 inch drop off at the edge of pavement and extend at a maximum slope of 5 percent from the edge of pavement. This embankment will be rolled a sufficient amount such that it will withstand truck traffic without rutting. The backfill will be removed from this area or spread out and used as the specified segment of the pavement section when work resumes in the area.

The RSA and TSA will be:

- a. Cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations.
- b. Drained by grading or storm sewers to prevent water accumulation.
- c. Capable under dry conditions of supporting construction and maintenance equipment, aircraft rescue, fire-fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.
- d. Free of objects, except for objects that need to be located in the RSA because of their functions. These objects will be constructed on low impact resistant supports (frangible mounted structures) to the lowest practical height with the frangible point no higher than 3 inches above finished grade.

Construction, including excavations, may be permitted in the runway OFA. However, equipment must be removed from the runway OFA when not in use, and material will not be stockpiled in the runway OFA. Stockpiling material in the OFA requires submittal of a 7460-1 and justification provided to the FAA Airports District Office for approval.

No construction may occur within a taxiway OFA while the taxiway is open for aircraft operations except as provided in Advisory Circular 150/5370-2F, Article 222d.

No construction equipment or personnel may penetrate the OFZ while the runway is open for aircraft operations.

All personnel, materials, and/or equipment must remain clear of the applicable runway approach/departure areas and clearways as shown on the Construction Safety and Phasing Plan.

During construction an experienced flagger furnished by the Airport will have a two-way radio tuned to Unicom frequency 122.9 MHz. He/she will also by visual observation identify any aircraft operation at the airport as detailed in Article 5 of this CSPP. NOTAMs will be issued to alert pilots of this condition. During all times when Contractor's equipment and personnel are not working on the project, equipment shall be moved back to a point at least 250 feet from the centerline of Runway 16-34. At night and weekends all Contractor's equipment shall be moved to the Contractor's Staging and Temporary Stockpile Area as shown on the Construction Safety and Phasing Plan.

If it is necessary to use construction equipment (cranes, concrete pumps, etc.) that is higher than 25 feet, a 7460-1 determination will be issued for such equipment as outlined in Article 18 of this CSPP.

18. OTHER LIMITATIONS ON CONSTRUCTION

Additional limitations on construction including but are not limited to:

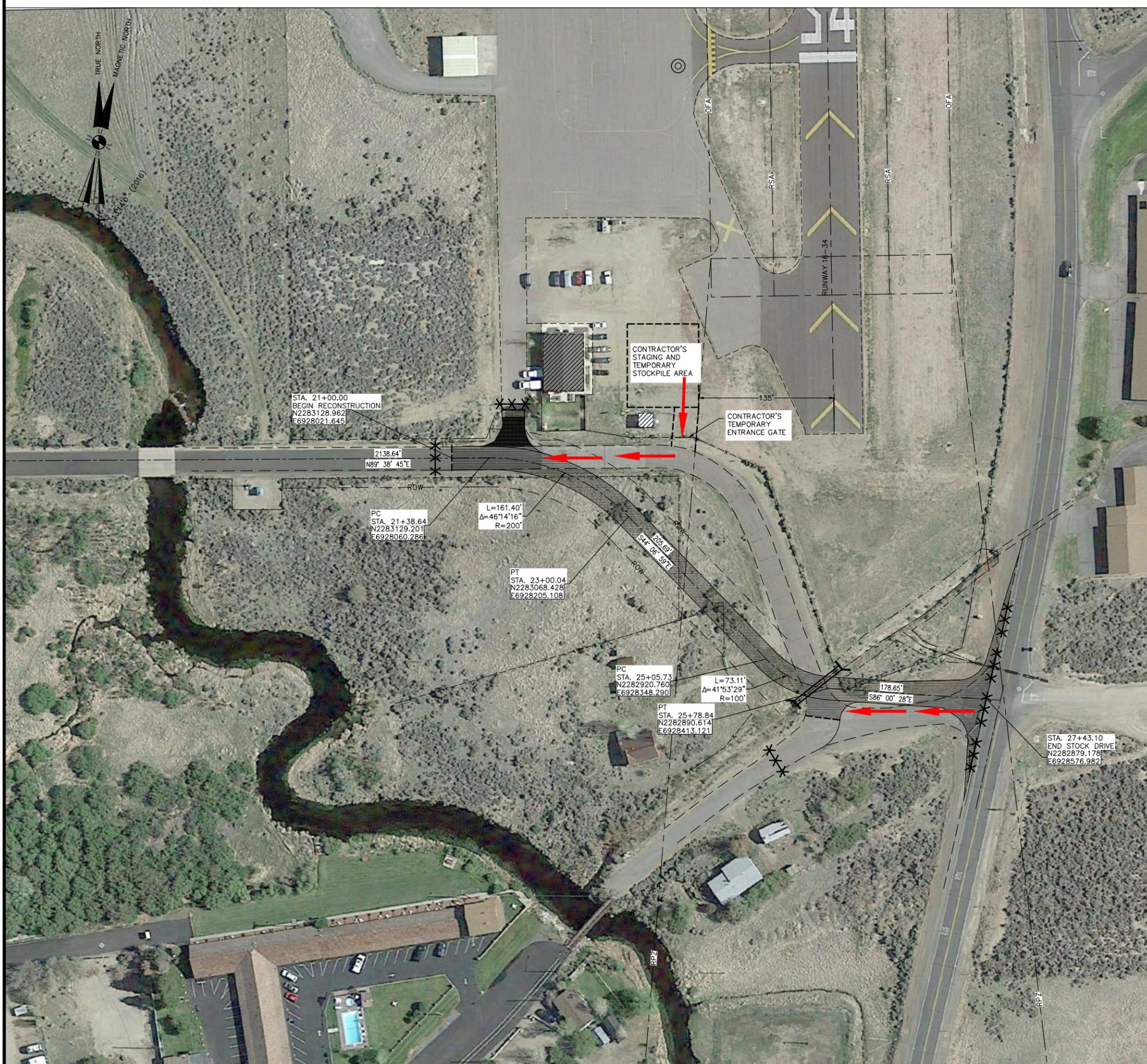
- a. No use of equipment taller than 25 feet (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for each piece of equipment.
- b. No use of open flame welding or torches unless fire safety precautions are provided and the airport operator has approved their use.
- c. No use of electrical blasting caps on or within 1,000 feet of the airport property.
- d. No use of flare pots within the air operations area.

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING.
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

LEGEND

-  NEW AC PAVEMENT SECTION
-  NEW AC PAVEMENT OVERLAY
-  STATE GRID COORDINATES
-  EXISTING PAVEMENT EDGE
-  NEW PAVEMENT EDGE
-  EXISTING FENCE LINE
-  NEW FENCE LINE
-  BARRICADE - SEE NOTES
-  RUNWAY PROTECTION ZONE
-  RIGHT OF WAY
-  HAUL ROUTE

- NOTES:
- CONTRACTOR SHALL DEVELOP AND SUBMIT FOR APPROVAL A BARRICADE AND SIGNAGE PLAN DETAILING THE LOCATION AND TYPE OF ALL BARRICADES, DETOURS AND SIGNS IN RELATION TO THE SCHEDULE OF WORK AND CLOSURE OF STOCK DRIVE. BARRICADE AND SIGNAGE PLAN SHALL BE COORDINATED WITH THE RESIDENT ENGINEER AND MONO COUNTY PUBLIC WORKS AND APPROVED PRIOR TO THE START OF ANY WORK.
 - CONTRACTOR SHALL ERECT AND MAINTAIN LIGHTED BARRICADES AT THE BOUNDARY OF THE WORK AREA TO KEEP VEHICLES AND PERSONNEL FROM ENTERING THE CONTRACTOR'S WORK AREA. CONTRACTOR SHALL ACCESS THE WORK AREA FROM HIGHWAY 182 AND OLD STOCK DRIVE.
 - CONTRACTOR SHALL PROVIDE A DETAIL BARRICADE PLAN IN ACCORDANCE WITH MONO COUNTY STANDARDS AND CALTRANS PRIOR TO START OF ANY WORK.
 - ACCESS TO AND FROM THE AIRPORT ON A CONTROLLED BASIS SHALL BE COORDINATED WITH THE AIRPORT MANAGER, RESIDENT ENGINEER AND CONTRACTOR. CONTRACTOR SHALL INSTALL AND MAINTAIN THE NECESSARY RAMPS IN ORDER TO PROVIDE ACCESS TO THE AIRPORT ENTRANCE. CLOSURE OF THE ENTRANCE FOR PULVERIZING, EXCAVATION AND PLACEMENT OF NEW SECTION SHALL BE COORDINATED WITH RESIDENT ENGINEER AND POSTED ON THE NECESSARY SIGNAGE AS REQUIRED BY MONO COUNTY PUBLIC WORKS. ACCESS RAMPS SHALL BE IN PLACE AT THE END OF EACH WORKING DAY.
 - IF BRYANT FIELD BECOMES THE STAGING LOCATION FOR A USFS FIRE INCIDENT, THE CONTRACTOR SHALL MAINTAIN THE NECESSARY RAMPS AND ACCESS FROM STOCK DRIVE TO THE AIRPORT ENTRANCE FOR ALL APPROVED EMERGENCY VEHICLES AND PERSONNEL.
 - LIGHTED BARRICADES SHALL BE INSTALLED IN FRONT OF ALL OPEN TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED TO REMAIN OPEN OVERNIGHT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SECURITY, SAFETY AND CLEANLINESS OF THE CONTRACTOR'S STORAGE AND WORK AREAS AT ALL TIMES.
 - CONTRACTOR SHALL MAINTAIN ALL PAVED ROADS IN THE VICINITY OF THE PROJECT CLEAR OF ALL DEBRIS AT ALL TIMES. CONTRACTOR SHALL NOT USE EXISTING AIRPORT ENTRANCE FOR MATERIALS OR EQUIPMENT DELIVERY. NO EQUIPMENT SHALL BE ALLOWED ON EXISTING AIRPORT APRON, TAXIWAYS OR RUNWAY.
 - ACCESS TO CONTRACTOR'S STORAGE AND STAGING AREA SHALL BE WAY OF EXISTING STOCK DRIVE OFF OF HIGHWAY 182 TO A TEMPORARY GATE INSTALLED BY THE CONTRACTOR OUTSIDE OF THE RUNWAY RUNWAY PROTECTION ZONE AS SHOWN ON THE PLANS. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS TO USE AND INSTALL AN APPROVED ENTRANCE GATE WITH LOCK. CONTRACTOR SHALL RESTORE GRADE OF ACCESS ROAD AND STORAGE AREA TO ORIGINAL CONTOUR AT THE END OF THE PROJECT.
 - ALL GATES USED BY THE CONTRACTOR SHALL REMAIN CLOSED EXCEPT DURING AUTHORIZED CONTRACTOR WORKING HOURS. CONTRACTOR SHALL POST A SIGN READING "CONTRACTOR'S WORK ENTRANCE ONLY". CONTRACTOR SHALL DIRECT ALL PERSONNEL TO USE THE APPROVED ACCESS ROAD AND ENTRANCE TO THE WORK AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF ENTRANCE DURING CONTRACTOR'S WORKING HOURS.
 - CONTRACTOR IS RESPONSIBLE FOR MAINTAINING LIGHTED BARRICADES.
 - CONTRACTOR SHALL VERIFY LOCATION AND PROTECT EXISTING UTILITIES.
 - SHOULD CONTRACTOR ENCOUNTER AND DAMAGE A WATERLINE, HE SHALL IMMEDIATELY NOTIFY THE LOCAL FIRE DEPARTMENT.
 - IN CASE OF AN AIRCRAFT EMERGENCY THE AREA AROUND THE AIRCRAFT SHALL BE EVACUATED AND NOT REENTERED BY THE CONTRACTOR WITHOUT GIVEN PERMISSION EXCEPT FOR LIFE SAVING ACTIVITIES.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING ALL EXISTING SURVEY MONUMENTS AND SHALL REPLACE ANY MONUMENT REMOVED OR DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER. MONUMENT REPLACEMENT SHALL BE DONE BY A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF CALIFORNIA.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR DUST AND EROSION CONTROL DURING THE DURATION OF THE PROJECT.
 - ALL EQUIPMENT OPERATING DURING DAYLIGHT HOURS SHALL BE EQUIPPED WITH AN ORANGE AND WHITE CHECKERED FLAG OR FLASHING AMBER BEACON.
 - ALL TRASH SHALL BE PLACED IN WASTE CONTAINERS TO PREVENT THE ATTRACTION OF WILDLIFE. WASTE CONTAINERS SHALL BE EQUIPPED WITH LIDS AND SECURED AT ALL TIMES. NO TRASH OR DEBRIS SHALL BE LEFT ON SITE.
 - DURING NON WORKING HOURS, EACH NIGHT AND WEEKEND, ALL CONTRACTORS EQUIPMENT SHALL BE PARKED IN THE DESIGNATED CONTRACTORS STORAGE AND STAGING AREA.



Reinard W. Brandley
 CONSULTING AIRPORT ENGINEER
 6125 King Road, Suite 201 · Loomis, California 95650 · (916) 652-4725

BRYANT FIELD AIRPORT
 STOCK DRIVE REALIGNMENT
 CONSTRUCTION SAFETY AND PHASING PLAN

REVISIONS	DATE	BY	APP

DATE: 3/17/2016
 DRAWN: TAS
 CHECKED: DB
 PROJECT No.: 93.06
 FILE: STOCK DRIVE CONST LAYOUT
 SCALE: 1"=50'
 SHEET No.:
EXHIBIT A

G:\93 BRYANT\STOCK DRIVE REVISED LAYOUT\STOCK DRIVE CONST LAYOUT.DWG PLOTTED BY Tom Steinhilp 3/23/2016 10:26 AM

Exhibit B. Construction Project Daily Safety Inspection Checklist

**Bryant Field
Stock Drive Realignment
AIP No. 3-06-0030-__**

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.

Potentially Hazardous Conditions

Item	Action Required	None
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		<input type="checkbox"/>
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.		<input type="checkbox"/>
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		<input type="checkbox"/>
Equipment or materials 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.		<input type="checkbox"/>
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.		<input type="checkbox"/>
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.		<input type="checkbox"/>

Item	Action Required	None
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.		<input type="checkbox"/>
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA.		<input type="checkbox"/>
Inadequate or improper methods of marking or lighting of runway (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.		<input type="checkbox"/>
Wildlife attractants – such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water – on or near airports.		<input type="checkbox"/>
Obliterated or faded temporary markings on active operational areas.		<input type="checkbox"/>
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		<input type="checkbox"/>
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.		<input type="checkbox"/>
Restrictions on ARFF access from fire station to the runway/taxiway system or airport buildings.		<input type="checkbox"/>
Lack of radio communications with construction vehicles in airport movement areas.		<input type="checkbox"/>
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that can be distracting,		<input type="checkbox"/>

Item	Action Required	None
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.		<input type="checkbox"/>
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways		<input type="checkbox"/>
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		<input type="checkbox"/>
Failure to control dust.		<input type="checkbox"/>
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		<input type="checkbox"/>
Construction work taking place outside of designated work areas and out of phase.		<input type="checkbox"/>

APPENDIX B

CONSTRUCTION MANAGEMENT PLAN

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APPENDIX B

**BRYANT FIELD
BRIDGEPORT, MONO COUNTY, CALIFORNIA**

STOCK DRIVE REALIGNMENT

AIP NO. 3-06-0030-10-2016

CONSTRUCTION MANAGEMENT PLAN

Prepared by:

**Reinard W. Brandley
Consulting Airport Engineer
6125 King Road, Suite 201
Loomis, CA 95650
Telephone (916) 652-4725
Fax (916) 652-9029**

**March 17, 2016
REVISED APRIL 25, 2016 – ADDENDUM NO. 2**

**BRYANT FIELD
BRIDGEPORT, MONO COUNTY, CALIFORNIA**

STOCK DRIVE REALIGNMENT

AIP NO. 3-06-0030-10-2016

CONSTRUCTION MANAGEMENT PLAN

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I. INTRODUCTION

INTRODUCTION

Mono County, with Federal assistance from the Federal Aviation Administration under the Airport Improvement Program (AIP), proposes the realignment of Stock Drive (30'x 650') at Bryant Field, Bridgeport, California.

The existing Stock Drive is south of Runway 34. It is proposed in this project to realign Stock Drive so that a 15-foot high truck traveling on the realigned Stock Drive will not penetrate the Part 77 and approach and departure surfaces for Runway 34. The existing runway is short for the altitude so in order to maintain the length of runway, existing Stock Drive needs to be relocated so that a 15-foot truck on Stock Drive is outside the 20:1 approach to Runway 16-34.

The realignment of Stock Drive proposed in this project will include excavating the pavement sections to subgrade level, scarifying and recompacting the subgrade and then placing the pavement section, which will consist of placing 4 inches of subbase course, and then placing 6 inches of crushed aggregate base course and a 3-inch bituminous surfacing material.

New marking of the road will also be included as well as installing a Class D barb wire fence with steel posts. New drainage will be installed in the form of a 42" x 60" corrugated metal pipe and CMP concrete headwalls.

Under Grant Assurance #17 all sponsors are required to provide and maintain competent technical supervision at the construction site throughout the project to assure conformance with the approved plans and specifications. A grant condition is incorporated requiring the preparation and submittal of a Construction Management Plan to detail the measures and procedures that are required to assure compliance with the Quality Control (QC) provisions of the construction contract. The Contractor is responsible for all Quality Control (QC) testing and inspection. The Sponsor is responsible for Quality Assurance (QA) to confirm that all work has been performed in accordance with the plans and specifications. This report details the Construction Management Plan for this project.

Prior to issuance of a Notice to Proceed by the County, the Contractor must prepare, submit and obtain approval from the Engineer of his/her Quality Control Plan (QC). The minimum requirements of the Quality Control Plan are indicated in this Construction Management Plan.

II. CONSTRUCTION MANAGEMENT PERSONNEL

CONSTRUCTION MANAGEMENT PERSONNEL

Quality Assurance (QA) Program – Sponsor Responsible

Sponsor: Mono County, Department of Public Works, 74 North School Street, Bridgeport, California, 93517, Fax (760) 932-5441

Sponsor Representative.....Garrett Higerd, Asst. Public Works Director
Bridgeport(760) 932-5457
Mammoth.....(760) 924-1802
Responsibility and authority for contract administration

Consulting Engineer: Reinard W. Brandley, Consulting Airport Engineer, 6125 King Road, Suite 201, Loomis, CA 95650, Telephone (916) 652-4725, Fax (916) 652-9029

Project Manager, Chief Engineer **Reinard W. Brandley, P.E.**

- Advise and consult with Sponsor. All Sponsor’s instructions shall be issued through the Project Manager. The Project Manager shall interpret the requirements of the contract documents and judge the performance thereunder by both the Sponsor and the Contractor.
- Decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work.
- Determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for under the contract.
- Make periodic visits to the job site to familiarize himself generally with the progress and quality of the work and to determine in general whether such work is proceeding in accordance with the contract documents.
- Approve applications for progress payments made by Contractor.
- Review and approve all shop drawings.
- Review all materials, equipment and performance tests for compliance with plans and specifications.

Resident Engineer/Quality Assurance (QA) Manager

..... **Thomas Steinkamp, E.I.T., Brandley Engineering**

- Provide complete construction management services, including providing all resident engineering, quality assurance testing, and inspection services and all required reports to the Sponsor and F.A.A.
- Notify the Contractor or his/her representative 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 Project Manager for his decision.
- Attend weekly construction meetings.
- Evaluate materials and methods of construction.
- Perform field and/or construction surveys if required.

- Prepare and assist in negotiating any required change orders.
- Perform and/or supervise all testing and inspection services required for Quality Assurance. Depending on circumstances in the field, tests and inspections will be performed by Resident Engineer, Brandley Engineering inspector, or qualified outside testing laboratory.
- Review all Contractor Quality Control testing and test results.
- Prepare or review weekly and final summary test reports.

Inspector.....David Baltazar

- Assist the Resident Engineer in all aspects of construction management including but not limited to testing and inspection services, evaluation of materials and methods of construction, and performing field and/or construction surveys if required.

Quality Control (QC) Program – Contractor Responsible

Contractor: _____

Project Superintendent To Be Determined

- Monitor quality control plan.
- Prepare asphalt mix design.
- Analyze test results.
- Prepare daily and weekly summary and final summary of tests reports.
- Transmit test results to home office with copies to Resident Engineer.
- Make and implement corrective decisions.
- Supervise all employees and subcontractors.
- Prepare and transmit to Resident Engineer all required submittals.

Quality Control Manager..... To Be Determined

- Administer quality control plan.
- Prepare and submit Quality Control Program.
- Perform quality control tests on subgrade, aggregate subbase course, aggregate base course, bituminous surface course, and structural Portland cement concrete.
- Obtain random sample locations.
- Assemble and review test data, make statistical and trend analysis, provide corrective recommendations to Project Superintendent.
- Provide daily inspection reports and daily testing reports to Resident Engineer.
- Provide weekly typewritten summaries of all test results for each material tested to Resident Engineer.
- Provide linear control charts on aggregate base course and asphalt gradations each week.

- At the end of the project provide final typewritten summary tables showing all test results in chronological order conducted for each product.

Plant Foreman To Be Determined

- Control gradation, asphalt content, and temperature of the asphalt mix.
- Report all test data plus mix and asphalt quantities at least twice daily to Project Superintendent and/or Quality Control Manager.

Paving Foreman..... **To Be Determined**

- Control grade, thickness, joints, density, and surface tolerance.
- Monitor yield.

Testing Laboratory: _____

Testing Technician..... **To Be Determined**

- Perform quality control tests on all materials submitted by Contractor.
- Provide test results to Quality Control Manager.
- Analyze results and provide analysis and corrective recommendations to Quality Control Manager.

Manufactured Materials – Contractor shall obtain and submit to Resident Engineer vendors’ certificates of compliance with specification requirements. Vendors’ certificates will be required for the following items:

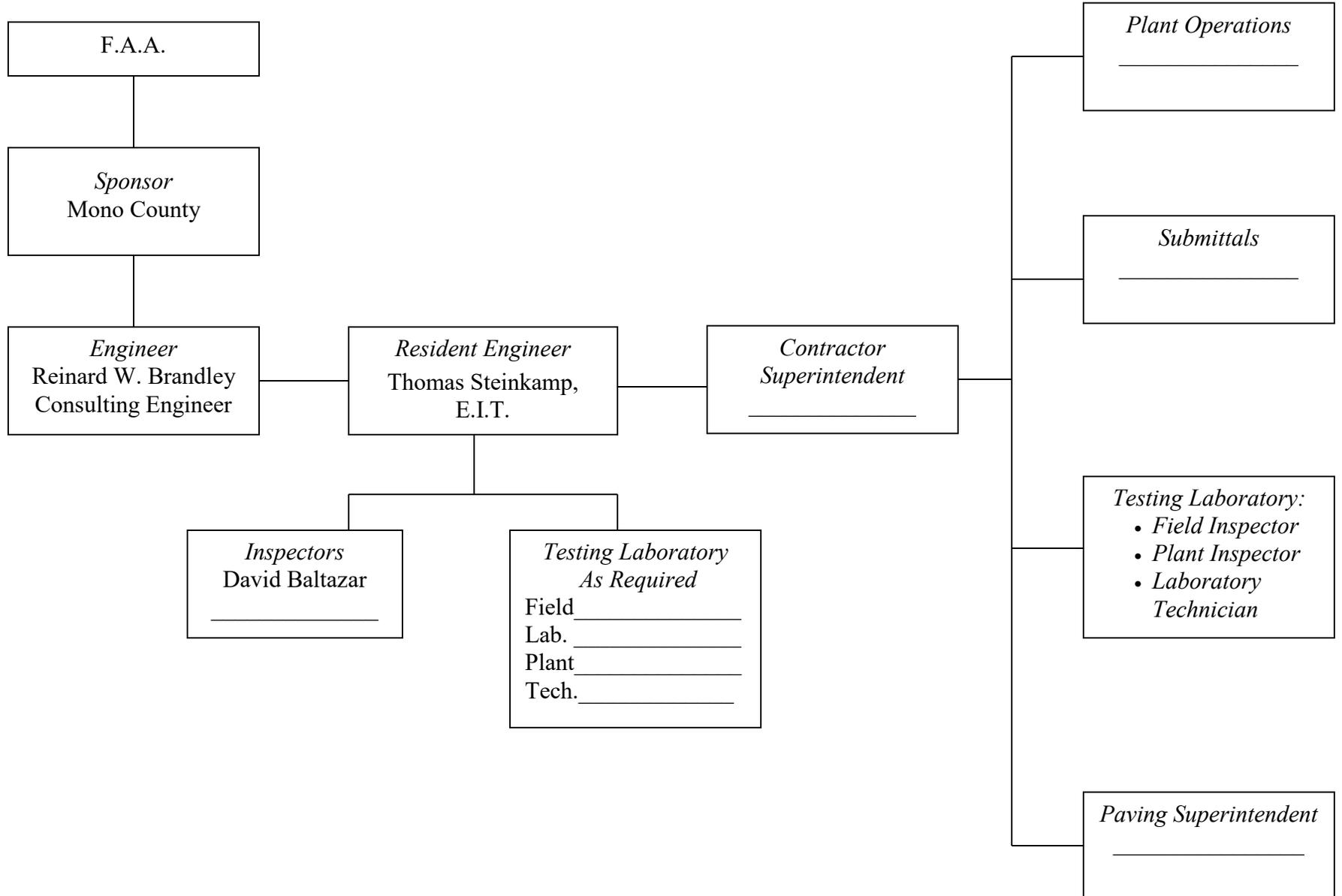
- Paving Asphalt
- Bituminous Prime Coat
- Bituminous Tack Coat
- Portland Cement
- Structural Steel
- Concrete Admixtures
- Fly Ash
- Paint and Reflective Beads
- Fencing
- Drainage Features

Resident Engineer’s Field Office and Laboratory – All inspection and Quality Assurance testing will be performed by the Sponsor’s Consulting Engineer’s staff (Reinard W. Brandley) with assistance from local qualified testing laboratory if required. Testing Laboratory is to be determined.

An office and laboratory space will be furnished on site by the Sponsor for the use of the Resident Engineer. Required laboratory test equipment will be brought to the site to allow testing of most materials. Some specialized tests will be conducted in the home office laboratory of Reinard W. Brandley or in the testing laboratory.

Most tests will be performed in the field laboratory so that the Contractor can have immediate access to all Quality Assurance test results.

CONSTRUCTION MANAGEMENT PLAN – ORGANIZATION CHART



**III. RESUMES OF BRANDLEY ENGINEERING PERSONNEL
(QUALITY ASSURANCE CONSULTANT)**

**REINARD W. BRANDLEY, P.E. – PROJECT MANAGER,
OWNER AND CHIEF ENGINEER**

Mr. Brandley has been the owner and chief engineer of this firm since 1953. He is involved directly with every project. He coordinates the design of all projects and has responsibility for construction management. He has extensive design experience on airfield pavements, including asphaltic concrete pavements and Portland cement concrete pavements. Mr. Brandley's post-graduate education is in Soil Mechanics and Foundation Engineering. Doctoral research was concerned with airfield pavement design and evaluation. He has developed a fatigue analysis methodology for airfield pavement evaluation. He has also developed techniques and equipment for plastic grooving of concrete. He has been actively involved in airfield pavement design and construction control for 63 years. During this period, he has been principal responsible for design of many projects at over 100 airports throughout the United States and one airport in Iran. He has developed pavement evaluation research programs.

Education

B. Sc. in Civil Engineering, University of Alberta, Canada - 1945
M. Sc. in Civil Engineering, University of Alberta, Canada - 1946 - Thesis -
Airfield Pavement Evaluation Studies
S.M. - Graduate School of Engineering, Harvard University
Completed resident requirements for degree of Doctor of Science at Harvard University,
Graduate School of Engineering - 1948 - Thesis - The Evaluation of Full-Scale Load
Tests for the Bearing Capacity of Airfield Pavements

Professional Registration

State of California - Civil Engineer - No. 8044 - Since 1951
State of California - Geotechnical Engineer - No. 160
Also Registered Professional Engineer in the States of:

Nevada	Oregon	Kentucky
Utah	Tennessee	Colorado
Florida	Washington	

Membership in Professional Societies

American Society of Civil Engineers - Life Member
American Association of Airport Executives - Associate Member
California Association of Airport Executives - Associate Member
Airport Consultants Council - Member

Technical Activities and Committee Memberships

Member, Airfield Pavement Committee, American Society of Civil Engineers
Member, Task Force on Nondestructive Evaluation of Airfield Pavements,
Transportation Research Board
Member, Peer Review Board for New Concrete Manual prepared for U.S. Air Force
Member, Blue Ribbon Panel charged with evaluation of consultants' studies concerning
the proposed expansion of San Francisco International Airport (SFO)

THOMAS A. STEINKAMP, E.I.T.
AIRPORT DESIGNER/RESIDENT ENGINEER

Education: B. Sc. in Mechanical Engineering Technology, Oregon State University, 1979

PROFESSIONAL EXPERIENCE:

Mr. Steinkamp has been actively involved in airport and airfield pavement design and construction control on airports in the Western United States for the past 32 years. He was a Soils Technician and engineering technician for a geotechnical materials testing firm for 10 years. He has over 32 years of progressive field and office experience in design and management of airfield projects in our office. He is experienced in the design of runways, taxiways, aprons, and roads, including paving, grading, drainage, lighting, utilities, etc. He prepares specifications, construction cost estimates, and operates the CAD system. Mr. Steinkamp has been responsible for construction management, testing, and inspection on several airports over the past several years.

REPRESENTATIVE PROJECTS:

Testing and Inspection:

Colusa County Airport - Overlay and Light Runway 13-31 and Taxiways, Reconstruct General Aviation Apron – August 2000

Stockton Metropolitan Airport – Runway 29R Extension – August 2002

Cedarville Municipal Airport – Rehabilitate Tie Down Apron – June 2006

Resident Engineer:

Mammoth Yosemite Airport – Rehabilitate Taxiways and Aircraft Parking Apron – September-October 2004

Mammoth Yosemite Airport – Construct Tee Hangar Taxiways – September-October 2004

Madera Municipal Airport – Construct Hangar Apron and Taxiway, Reconstruct General Aviation Apron, Construct Road 24 & 24½ - June-November 2005

Madera Municipal Airport – Crack Seal Airfield Pavements – September 2007

Mammoth Yosemite Airport – Reconstruct Runway 9-27 & Taxiways – May-October 2008

Madera Municipal Airport – General Aviation Apron Expansion Phase 2 – October-December 2008

Madera Municipal Airport – Extend Taxiway P, Construct Holding Apron, Relocate Taxiway A – October through December 2009

Madera Municipal Airport – General Aviation Apron Expansion Phase 2B – August-November 2010

Tulelake Municipal Airport – Reconstruct Aircraft Parking Apron – July 2012

Madera Municipal Airport – Reconstruct General Aviation Apron – July-August 2013

Watsonville Municipal Airport – Reconstruct Taxiway C & GA Apron Phase 1 – June 2014

Chico Municipal Airport – Reconstruct T/W H and Apron Phase 5 – April 2015 to present

DAVID BALTAZAR - RESIDENT INSPECTOR/TESTING TECHNICIAN

Education: B. Sc. in Mechanical Engineering, California State University, Sacramento 2007

PROFESSIONAL EXPERIENCE:

Mr. Baltazar has been involved in airfield pavement testing and inspection on airports in the Western United States for the past 11 years. He has 11 years of progressive field and laboratory experience in testing and inspection of airfield projects in our office. He is experienced in the inspection of runways, taxiways, aprons, and roads, including paving, grading, drainage, lighting, utilities, etc. Mr. Baltazar has been responsible for field and laboratory testing and inspection on several airports over the past few years.

REPRESENTATIVE PROJECTS:

Laboratory Testing:

- AC Mix Designs
- California Bearing Ratio
- Gradation
- Marshall Testing
- Moisture/Density Testing
- Compressive Strength
- Atterberg Limits

Field Inspection and Testing:

Chico Municipal Airport – Rehabilitation of Taxiways – August 2004

Lake Tahoe Airport - Runway 12-30 Overlay and Lighting Rehabilitation, Widen and Overlay Taxiway S – August 2004

Gansner Field – Rehabilitate Taxiways and Aircraft Parking Apron – November 2004

Cedarville Municipal Airport – Construct Tee Hangar Taxiways – June-July 2005

Georgetown Airport - Reconstruct and Light Runway 16-34 – July-August 2005

Gansner Field – Reconstruct Aircraft Parking Apron Phase 2 – August 2005

Lincoln Regional Airport - Reconstruct S. T/W, Replace VASI with PAPI – July 2007

Placerville Airport - Remove Obstructions, Phase 1 Hangar Area – September 2007

Stockton Metropolitan Airport - Rehabilitate Runway 11R-29L – September 2007

Mammoth Yosemite Airport – Reconstruct Runway 9-27 & Taxiways – July 2008

Lake Tahoe Airport – Reconstruct Runway 18-36 – August-October 2008

Lake Tahoe Airport – Reconstruct Terminal Ramp Phases 1 and 2 – August- October 2009

Chico Municipal Airport – Rehabilitation of Aircraft Parking Aprons – 2008 through 2010

Tulelake Airport – Rehabilitation of Aircraft Parking Apron – June 2012

Truckee Tahoe Airport – Reconstruct Runway 10-28 – July-August 2012

Rogers Field - Rehabilitate Airfield Pavement Joints, Remark Airfield Pavement Markings – May-August 2013

Rogers Field – Reconstruct Tie Down Apron – April-May 2015

IV. RESUMES OF CONTRACTOR'S QUALITY CONTROL PERSONNEL

Project Superintendent
(To be added once Contractor has been selected)

Quality Control Manager
(To be added once Contractor has been selected)

Testing Laboratory
(To be added once Contractor has been selected)

V. INSPECTION PROCEDURES AND FREQUENCIES

INSPECTION PROCEDURES AND FREQUENCIES

A. Surveying and Grade Control

The surveying to be included in this program will be provided by the Contractor and shall be limited to that required for construction of the project. All field notes and data collected during construction shall be made available to the Resident Engineer. The survey party shall consist of a qualified party chief and survey crew. All survey equipment shall be verified for proper working operation prior to use. All required horizontal and vertical control is in place and was established in design surveys.

For horizontal control, the referenced datum is NAD83. For vertical control, the referenced datum is NAVD88. The construction monuments shall be adequately protected throughout the duration of the project.

The Contractor shall accomplish construction layout and staking by using horizontal and vertical control monuments established by the Sponsor's surveyor. The responsibility and risk associated with the construction layout shall be borne by the Contractor. The Resident Engineer will review Contractor's layouts and final grades.

During the course of the project work, the Sponsor's survey party shall make spot checks on alignment, verify proper cross sections of the completed pavement layers, and verify final cross sections for computing final pay quantities as required. Where applicable, Resident Engineer will observe and verify Contractor's final grade surveys and utilize these data for calculating pay quantities. A copy of all Contractor's survey notes shall be given to the Resident Engineer.

B. Quality Control By Contractor - Inspection and Testing Responsibility

The Contractor is responsible for Quality Control on this project. All definable features of work will be inspected on a daily basis to ensure continuing compliance with contract requirements until completion of the particular item of work. The following inspections will be addressed:

1. The Contractor will prepare the hot mix asphalt (HMA) mix design for the HMA proposed for use on the project. The laboratory will be accredited in accordance with ASTM D3666. The laboratory accreditation must be current and listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.
2. During plant operation for material production, quality control test results and periodic inspections will be utilized 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 specifications. All equipment utilized in proportioning and mixing will be inspected to ensure its proper operating condition. All necessary inspections will be performed by certified technicians on a daily basis and documented.

3. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in placing, finishing and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance with the specifications and are within the plan dimensions, lines, grades, and tolerances specified. All necessary inspections will be performed by certified technicians on a daily basis and documented.
4. Any test results that do not meet specification requirements and any grade that is out of tolerance will be immediately reported to the Contractor's Superintendent and the Resident Engineer. Corrective measures will be implemented and new tests and inspections performed to demonstrate that corrections have been made.
5. Test reports will be prepared and transmitted to the Resident Engineer, as follows:
 - a. Daily
 - b. Weekly Summary in typewritten format
 - c. Final Summary – Typewritten and bound

Failing test results will be highlighted and corrective action noted.

6. Submittals – All required submittals will be prepared, reviewed and submitted to the Resident Engineer. Only Contractor reviewed submittals will be accepted.

C. Quality Assurance By Resident Engineer – Inspection and Testing Responsibility

The Resident Engineer is responsible for Quality Assurance on this project. All definable features of work will be inspected on a daily basis to ensure continuing compliance with contract requirements until completion of the particular item of work. The following inspections will be addressed:

- a. Grade and alignment
- b. Suitability test results
- c. Surface tolerance
- d. Rideability
- e. Finish grading and revegetation if necessary
- f. Pavement marking
- g. Fencing
- h. Drainage features

A daily inspection report will be completed as shown in this section of the Construction Management Plan. Weekly reports (FAA Form 5370-1), along with a weekly statement of working days, will be submitted to the Sponsor, the Contractor, and the Federal Aviation Administration.

D. Quality Control Test Program

The Quality Control Test Program established for this project is shown on the Quality Control Testing Schedule included on Page VII-2.

Reports of all testing by the Contractor and Resident Engineer will be prepared daily and summarized weekly as required. Samples of the proposed report forms are included on the following pages.

**REINARD W. BRANDLEY
CONSULTING AIRPORT ENGINEER
SACRAMENTO, CALIFORNIA**

Report No. _____

INSPECTION REPORT

Daily
 Weekly
 Monthly

AIRPORT: Bryant Field, Bridgeport, California

DATE: _____

PROJECT: Stock Drive Realignment

WEATHER: _____

AIP NO.: 3-06-0030-10-2016

TEMPERATURE: min _____ max _____

CONTRACTOR: _____

WORKING DAY: yes { } no { }

Contract Working Days 30

A. EARTHWORK

- 1. Pavement Removal (P-101) _____
- 2. Clearing (P-151) _____
- 3. Clearing and Grubbing (P-151) _____
- 4. Excavation and Embankment (P-152) _____
- 5. Geogrid (ST-03) _____
- 6. Scarify & Recompact Subgrade (ST-04) _____
- 7. Subbase Course (P-154) _____
- 8. _____

B. FLEXIBLE BASE COURSE

- 9. Aggregate Base Course (P-209) _____
- 10. _____

C. RIGID BASE COURSE

- 11. Bituminous Surface Course (P-401) _____
- 12. _____

D. MISCELLANEOUS PAVING

- 13. Bituminous Prime Coat (P-602) _____
- 14. Bituminous Tack Coat (P-603) _____
- 15. _____

E. MARKING

- 16. Roadway Marking (ST-05) _____
- 17. _____

F. FENCING

- 18. Class D Fence (4 strand Barbwire) (F-161) _____
- 19. Relocate Existing Field Gate (ST-06) _____
- 20. _____

G. DRAINAGE

- 21. 42" x 60CMP (D-701) _____
- 22. CMP Concrete Headwall - Caltrans (ST-07) _____
- 23. _____

US Department of Transportation Federal Aviation Administration		CONSTRUCTION PROGRESS AND INSPECTION REPORT Airport Grant Program		Period Ending
				Project Number
				AIP No. 3-06-0030-10
Airport Name Bryant Field, Bridgeport, Mono County, California				
Project Description Stock Drive Realignment			Contractor's Name	
1. Rough Estimate of Percent Completion to Date of Construction Phases <i>(Include items such as clearing, grading, drainage, base, surface, lighting, etc.)</i>				
2. Work Completed or In Progress This Period				
3. Brief Weather Summary This Period Including Approximate Rainfall and Periods of Below Freezing Temperature <i>(On earthwork jobs include soil conditions)</i>				
4. Contract Time		5. Summary of Laboratory and Field Testing This Period <i>(Note failing tests and any retests. Summarize out-of-tolerance material. Identify material subject to pay reduction.)</i>		
No Days Charged To Date	Last Calendar Day Charged (Date)			
6. Describe Anticipated Work by Contractor for Next Period				
7. Problem Areas/Other Comments <i>(Revisions to plans and specifications approved or denied, delays, difficulties, etc actions taken.)</i>				
SPONSOR'S INSPECTOR OR REPRESENTATIVE				
Date	Typed or Printed Name and Title Tom Steinkamp, E.I.T., Resident Engineer		Signature	
FAA Form 5370-1 (8-89) Supersedes Previous Edition				

WEEKLY STATEMENT OF WORKING DAYS

AIRPORT: Bryant Field, Bridgeport, California DATE: _____
 PROJECT: Stock Drive Realignment AIP NO: 3-06-0030-10-2016

TO: (Contractor) _____

The following statement shows the number of working days charged to your contract for the week ending _____.

Date Contract Approved	_____
Date of First Chargeable Working Day	_____
Date Contractor Began Work	_____
Working Days Specified in Contract	30
Time Extensions by Approved Change Order	0
Total Authorized Working Days	30
Date Job Shutdown due to Ground Saturation	_____
Date Job Resumed	_____

DATE	DAY	WEATHER OR CONDITIONS	CHARGED CALENDAR DAY	Nonworking Day Caused by Weather or *Other Conditions
	Saturday			
	Sunday			
	Monday			
	Tuesday			
	Wednesday			
	Thursday			
	Friday			
Days this Week		0		
Days Previously Reported		0		
Total Days to Date		0		

Working Days Remaining to Complete Contract	30
Project Completion this Week	0 %
Project Completion to Date	0 %
Contract Time Elapsed	0%

Note: The Contractor will be allowed 15 days to protest in writing the correctness of this statement; otherwise, the statement shall be deemed to have been accepted by Contractor.

Tom Steinkamp, E.I.T.

RESIDENT ENGINEER

* Remarks: _____

VI. SUBMITTAL PROCESS

SUBMITTAL PROCESS

At the start of the project, the Contractor will provide a listing of all submittals required for the project for approval by the Resident Engineer. After approval of this list, individual submittals will be submitted to the Resident Engineer for approval prior to delivery of any item. The Resident Engineer will review submittals and return them to the Contractor either approved or rejected. No materials will be delivered to the project until submittals are approved.

Certificates of compliance for all manufactured or prefabricated materials shall be delivered to the Resident Engineer.

Upon delivery to the site, the Resident Engineer will inspect each item to assure that it is the same as the approved submittal.

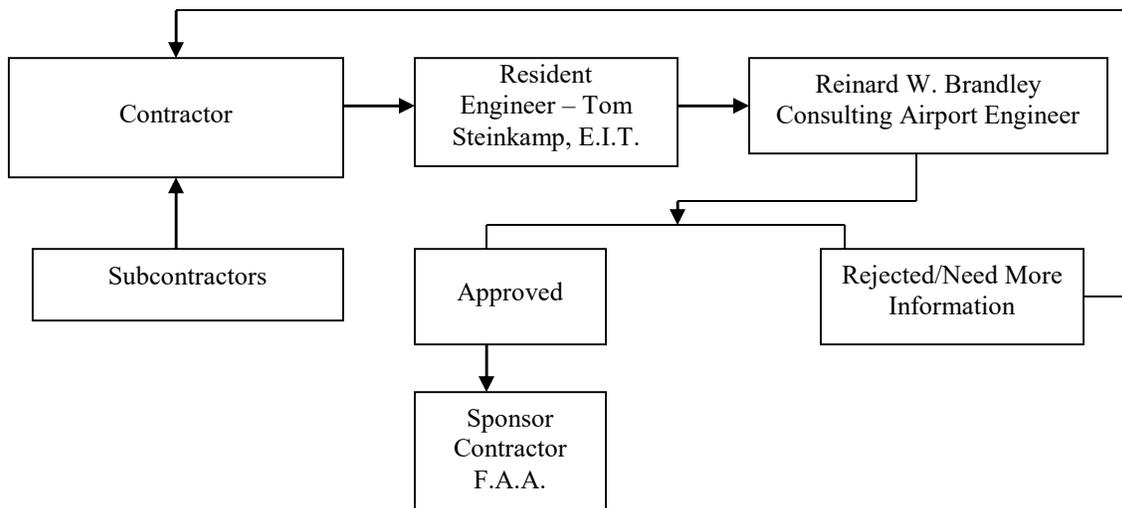
The Submittal Schedule and review path are shown on the following pages.

BRYANT FIELD *STOCK DRIVE REALIGNMENT
AIP NO. 3-06-0030-10-2016 - SUBMITTAL SCHEDULE

Base Bid Item	Description	Type Submittal	Project Spec.	Test Procedure	Title
--	Construction Schedule	CPM	--	N/A	N/A
--	Quality Control Program (100)	Manual	100	N/A	N/A
--	Safety Plan Compliance Document (SC)	Document	SC (14)A		
--	List of Materials	List	SC (16)b	N/A	N/A
2	Storm Water Pollution Prevention Program	Plan/Permit	ST-02	N/A	N/A
10	Geogrid (ST-03)	Product Data	03-2.1	N/A	N/A
12	Subbase Course (P-154)	Suitability Tests		ASTMD 4318	Liquid Limit, Plastic Limit and Plasticity Index
		Gradation		C 136 & C 117	Sieve Analysis
13	Aggregate Base Course (P-209)	Suitability Tests	209-2.1	ASTM C 88	Sodium Sulfate Soundness
				ASTM C 131	LA Rattler
				ASTMD 4791	Flat or Elongated Particles
				ASTMD 5821	Fractured Particles
				C 136 & C 117	Sieve Analysis
14	Bituminous Surface Course (P-401)	Aggregate Suitability Tests	401-2.1	ASTM C 88	Sodium Sulfate Soundness
				ASTM D5821	Fractured Particles
				ASTM C 131	LA Rattler
				ASTM C142	Clay Lumps and Friable Particles
				ASTMD 2419	Sand Equivalent
				ASTMD 4318	Liquid Limit, Plastic Limit and Plasticity Index
				ASTMD 4791	Flat or Elongated Particles
		Mineral Filler	401-2.2	ASTMD 242	Mineral Filler
		Asphalt Cement Binder - Certificate	401-2.3	D 6373	Asphalt Binder
		Gradation		C 136 & C 117	Sieve Analysis
15	Bituminous Prime Coat (P-602)	Certificate	602-2.1	ASTMD 3628	Selection and Use of Emulsified Asphalt
16	Bituminous Tack Coat (P-603)	Certificate	603-2.1	ASTMD 3628	Selection and Use of Emulsified Asphalt
--	Portland Cement Concrete Pavement (P-610)	Alkali-Silica Reaction	610-2.1	ASTM C 1260	Alkali Reactivity
			610-2.1	ASTM C 1567	Alkali-Silica Reactivity
		Suitability Tests	610-2.2/2.3	ASTM C 33	Concrete Aggregates
		Gradation	610-2.2-2.3	ASTM C 136	Sieve Analysis
		Cement - Certificate	610-2.4	ASTM C 150	Portland Cement
		Admixtures	610-2.6	ASTM C 260	Air-Entraining Admixtures
				ASTM C 494	Chemical Admixtures
				ASTM C 618	Fly Ash
		Joint Filler-Certificate	610-2.7	ASTMD 1751	Preformed Expansion Joint Filler
		Concrete Curing - Certificates	610-2.10	ASTM C 309	Liquid Membrane Forming Compounds
				ASTM C 171	Sheet Materials for Concrete Curing
--	Steel Reinforcement (P-610)	Certificate	610-2.9	ASTM 615	Deformed Bars
				ASTM A 1064	Welded Steel Wire
17	Roadway Marking (ST-05)	Certificate	05-2.2	Caltrans Spec 84-3	Traffic Stripes and Pavement Markings
18	Fence, Class D (F-161)	Certificate	161-2.1	ASTM A121	Metallic-Coated Barbed Wire
		Certificate	161-2.2	Fed Spec RRF - 191	Fencing, Wire and Post Metal
20	CMP (D-701)	Certificate	701-2.2	ASTM A760	Corrugated Steel Pipe, Metallic
	Joint Mortar (D-701)	Certificate	701-2.5	C 150/C 144	Portland Cement/Sand
21	CMP Headwall (ST-07)	Product Data	07-2.2	Caltrans Std. Dwg. D89	Headwalls

**BRYANT FIELD – STOCK DRIVE REALIGNMENT
AIP 3-06-0030-10-2016**

PATH FOR REVIEW AND APPROVAL OF SUBMITTALS



VII. QUALITY CONTROL TESTING

QUALITY CONTROL TESTING

Quality Control Testing will be performed under the direction of the Contractor and will be reviewed by the Resident Engineer.

The Quality Control Testing Schedule, flow path, and corrective action plan proposed for this project are shown on the following pages.

**BRYANT FIELD
STOCK DRIVE REALIGNMENT
AIP 3-06-0030-10-2016**

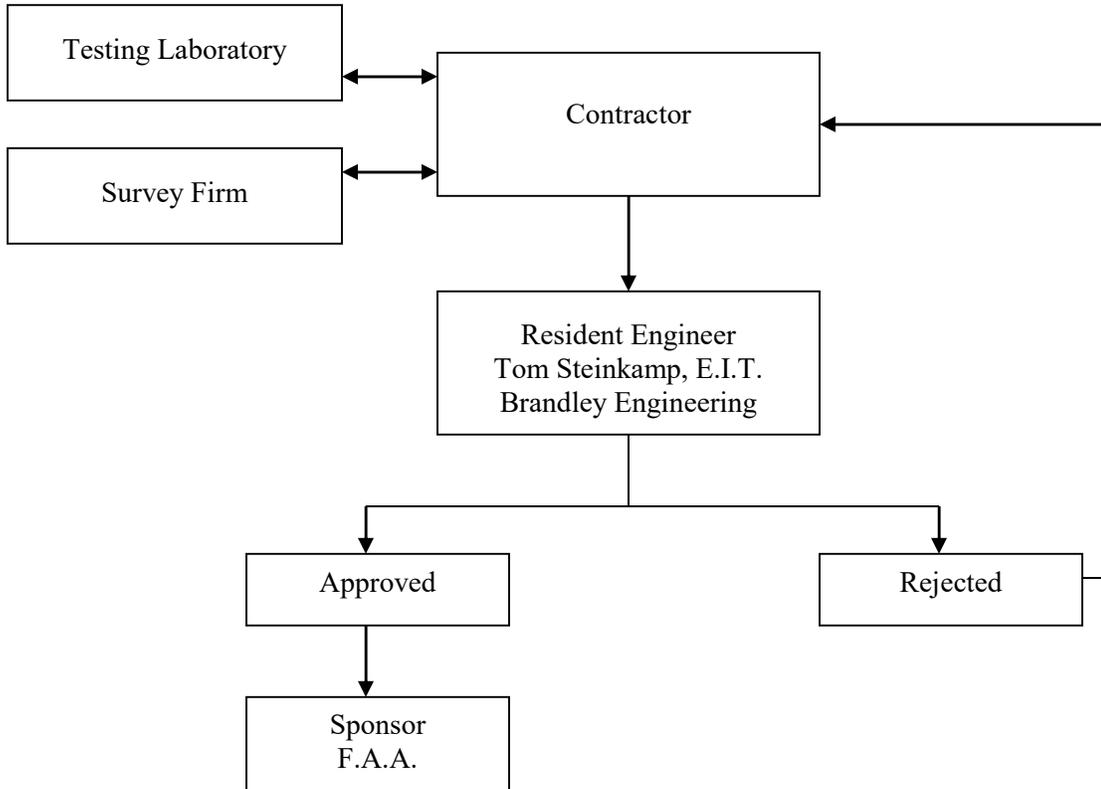
QUALITY CONTROL TESTING SCHEDULE

Spec. No.	Material	Min Frequency	Testing	ASTM	Title
P-152	Excavation		Laboratory Compaction Test		
		1/1000 cy	Field Density Test - Nuclear (Control)	D 6938	In-Place Density - Nuclear
P-154	Subbase Course	As Needed	Laboratory Compaction Test	D 1557	Laboratory Compaction
		1/1000 cy	Field Density Test - Nuclear (control)	D 6938	In-Place Density - Nuclear
			Field Surface Tolerance(1)	N/A	N/A
P-209	Aggregate Base Course		Original Suitability Test*		
			Control Gradation (Production)	C 136	Sieve Analysis - Fine & Coarse Aggregates
			Control Percent Crushed	D 693	Percent Crushed
			Field Thickness	N/A	N/A
			Field Surface Tolerance(1)	N/A	N/A
		As Needed	Laboratory Compaction Test	D 1557	Laboratory Compaction
		1/700 ton	Field Density Test - Nuclear (Control)	D 6938	In-Place Density - Nuclear
P-401	Bituminous Surface Course		Hot Mix Asphalt Mix Design	--	--
		1/1000 ton	Control Gradation (Production)	C 136	Sieve Analysis
		1/1000 ton	Control Percent Crushed		
		1/500 ton	Control Temperatures	N/A	N/A
		1/Lot	Moisture Content of Aggregates	C 566	Moisture Content of Aggregate
		1/Lot	Moisture Content of Mixture	D 1461	Moisture Distillates in Mixture
		4/Lot	Field Temperature	N/A	N/A
		1/500 ton	Field Test Cores	D 3665	Random Sampling of Materials
			Field Density Test - Nuclear (Control)	D 2950	Density of Bituminous Concrete
		1/1000 ton	Field AC Content Extraction and Gradings	D 2172	Extraction of Bitumen from Mixtures
		1/1000 ton	Field Theoretical Max Density (Rice Test)	D 2726	Bulk Specific Gravity
P-610	Structural PCC		Aggregate Suitability Tests*	--	--
			Control Percent Crushed		
			Mix Designs and Trial Batches	--	--
		2/Lot	Control Gradation	C 136	Sieve Analysis
			Control Slump	C 143	Slump of Concrete
			Control Air Content	C 173/C 231	Air Content of Concrete
			Control Thickness	N/A	N/A

*See Submittal Schedule

**BRYANT FIELD
STOCK DRIVE REALIGNMENT
AIP 3-06-0030-10-2016**

FLOW CHART – QUALITY CONTROL RESPONSIBILITIES
(Between Testing Laboratory, Contractor, and Resident Engineer)



QUALITY CONTROL CORRECTIVE ACTION PLAN

In the event that inspection or test results indicate unsatisfactory production or construction processes, immediate action will be taken. Corrective actions may range from a minor process adjustment to temporary termination of production. Correction action options are contained in this section of the Construction Management Plan.

Corrective actions will be taken each time that inspection or testing results show a material quality or process to be out of compliance. When any tests fall outside tolerance levels, an appropriate investigation will be set up to determine the cause and bring the material back into tolerance. Where two consecutive tests are outside tolerance levels, then Contractor will take immediate corrective action. This corrective action will occur regardless of its impact upon production. If three consecutive tests are out of specification, then production will immediately be halted and will not resume until it is demonstrated that all requirements can be met. Production will recommence only upon approval of the Resident Engineer.

Item Description

Corrective Action

SUBBASE COURSE – ITEM P-154:

Gradation – Subbase Course	If test results are outside the tolerances set forth in Item P-154 of the specifications, an immediate investigation will be conducted to determine the cause. Corrections will be made and material will be tested immediately to assure that the correction has been effective.
----------------------------	---

AGGREGATE BASE COURSE – ITEM P-209:

Gradation	If test results are outside of the tolerances set forth in Table 1 of paragraph 209-2.1 of the specifications, an immediate investigation will be conducted to determine the cause. Corrections will be made and material will be tested immediately to assure that the correction has been effective.
-----------	--

Finished Grade	If finished grade of aggregate base is outside limits, then the surface will be regraded before bituminous surface course is placed. Bituminous surface Course will not be placed until the corrections have been made and the QC Manager has inspected and approved.
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Percent Crushed	If test results are outside the limits set forth in paragraph 209-2.1 of the specifications, an immediate investigation will be conducted to determine the cause. Corrections will be made and material will be tested immediately to assure that the correction has been effective.
-----------------	--

Density of AB in-Place	If the field density of aggregate base in-place determination indicates that the aggregate base is not being placed to a minimum of the required maximum density of the lab specimen, immediate action will be taken. Corrections will be made and material will be tested immediately to assure that the correction has been effective.
------------------------	--

Item Description

Corrective Action

BITUMINOUS SURFACE COURSE – ITEM P-401:

Surface Tolerance	If the finished surface varies more than 1/4” when tested with a 16-foot straightedge, immediate action will be taken to bring finish surface within the specified tolerance. If the completed thickness is deficient by more than ½” of the design thickness, corrective action will be taken by excavating to the required depth and replacing with new material. If the completed thickness is thicker and/or surface straightedge tolerances are exceeded, Resident Engineer will evaluate suitability of finished product and Contractor may be requested to grind the surface or remove and replace the AC pavement.
Asphalt Content	If one point falls outside the suspension limit of $\pm 0.70\%$, or two consecutive points fall outside the action limit of $\pm 0.45\%$, an immediate investigation will be conducted to determine the cause. Corrections will be made and material will be tested immediately to assure that the correction has been effective.
Aggregate Gradation	If test results are outside of limits set forth in the control charts in paragraph 401-6.5 of the specifications, an immediate investigation will be conducted to determine the cause. Corrections will be made and material will be tested immediately to assure that the correction has been effective.
Aggregate Moisture	When individual or composite aggregate moisture values differ from those of the plant computer, the plant computer will be adjusted to reflect the most recent aggregate moisture.
Asphalt Temperature	If the asphalt temperature is not sufficient to provide adequate coating of aggregate particles or the asphalt temperature exceeds 325° F (160° C) the plant operator will immediately take corrective action to raise or lower the temperature as needed. Temperature will be closely monitored to verify that the correction was adequate.
Aggregate Temperature	If the aggregate and mineral filler temperature exceeds 347° F (175° C) when asphalt is added, the plant operator will immediately take corrective action to lower the temperature as needed. Temperature will be closely monitored to verify that the correction was adequate.
Mix Moisture Content	If the mix moisture exceeds 0.5%, the plant operator will be notified and corrective action will be taken to reduce the moisture in the mix. Aggregate piles may be spread to dry, aggregate time in the heater may be increased, etc.

<u>Item Description</u>	<u>Corrective Action</u>
Aggregate Base Preparation (P-209)	If the inspection indicates that the aggregate base is not compacted to 100% maximum density under areas to be paved, immediate action will be taken. Aggregate base problems will be corrected – dried, cleaned, compacted, graded, etc. Asphalt concrete will not be placed until the corrections have been made and the QC and QA Managers have inspected and approved.
Prime/Tack Coat (P-602/P-603)	If inspection indicates that the prime or tack coat material or application is not in accordance with the specifications, immediately action will be taken. Prime coat will be re-applied, changed, time for “break” will be lengthened, etc. Bituminous surface course will not be placed until the corrections have been made and the QC and QA Managers have inspected and approved.
Base Temperature	If the surface temperature is less than specified in Table 3 of paragraph 401-4.1 of the specifications, bituminous mixture will not be placed unless approved by the Engineer.
Mix Temperature	If physical measurements indicate that the mix temperature is below the specified temperature, corrective action will be taken immediately. Cool mix will be returned to the plant and the operation will be changed to correct the situation that is causing the problem. AC will be held in tarped trucks and not windrowed until necessary.
In-Place Density	If field density determination indicates that the bituminous surface course is not being placed to a minimum relative mat density of 96.3% or joint density of 93.3%, immediate action will be taken. Roller operations will be investigated and may be changed, plant will be notified and mix quality will be examined, temperature will be determined, etc. Density will be tested immediately following the corrective action to assure that the action has been effective. If a lot does not equal 90 percent within limits (PWL) of the compaction of both mat and joints, corrective action will be taken to increase the degree of compaction.
Stability and Flow	If the lot does not equal 90 percent within the limits (PWL) of Table 4 of paragraph 401-5.2 of the specifications, the reason shall be determined and corrective action will be taken.
Air Voids	If the lot does not have air voids within the limits (PWL) of Table 4 of paragraph 401-5.2 of the specifications, the reason shall be determined and corrective action will be taken.

Item Description

Corrective Action

Surface Smoothness

If the finished surface varies more than 3/8" for base course and 1/4" of surface course using a 12-foot straightedge, corrective action will be taken. If more than 15% of all measurements within a lot exceed these tolerances using methods set forth in the specifications, then corrective action will involve removing deficient material and replacing with new. High points will be ground off when required.

Re-sampling Pavement

Corrective action for pavement items may include re-sampling of pavement.

VIII. QUALITY ASSURANCE TESTING

QUALITY ASSURANCE TESTING

Quality Assurance Testing and Inspection will be performed by or under the direction of the Resident Engineer. Quality Assurance Testing, as a minimum, will include all final acceptance testing to make sure the final product is within specification limits and to determine pay factors for each item.

The Quality Assurance Testing Schedule, flow path charts, and pay factors are included on the following pages.

**BRYANT FIELD
STOCK DRVIE REALIGNMENT
AIP 3-06-0030-10-2016**

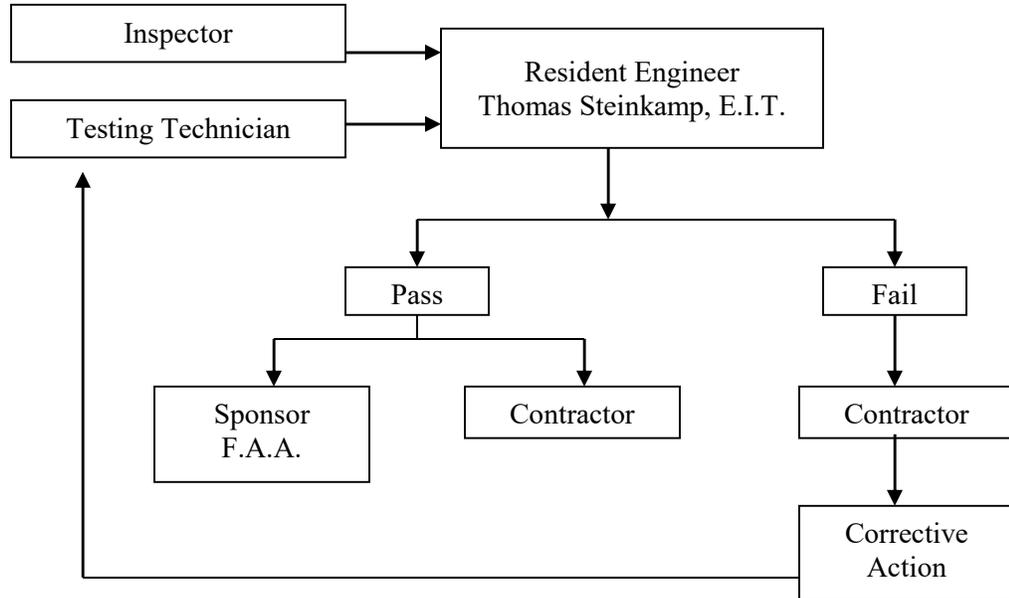
QUALITY ASSURANCE TESTING SCHEDULE

Spec. No.	Material	Min Frequency	Testing	ASTM	Title
P-152	Excavation		Field Density Acceptance Test - Sand Cone	D 1557	Laboratory Compaction
P-154	Subbase Course		Field Density Acceptance Test - Sand Cone	D 1557	Laboratory Compaction
			Field Surface Tolerance	N/A	N/A
P-209	Aggregate Base Course		Control CBR	D 1883	California Bearing Ratio
		2/day	Field Gradation (Delivery)	C 136	Sieve Analysis
			Field Percent Crushed		
			Field Surface Tolerance(1)	N/A	N/A
			Field Delivery Moisture Content	D 1557	Laboratory Compaction
			Field Density Acceptance Test - Sand Cone	D 1557	Laboratory Compaction
P-401	Bituminous Surface Course		Field Temperature	N/A	N/A
		1/500 ton	Field Density, Voids, From Cores		
		1/500 ton	Field Marshall Tests	MS-2	Marshall Method
P-602	Bituminous Prime Coat		Spread	N/A	N/A
P-603	Bituminous Tack Coat		Spread	N/A	N/A
P-610	Structural PCC	4 Sets/Lot	Control Compressive Strength	C 39	Compressive Strength
ST-05	Road Marking		Check Layout and Coverage	N/A	N/A
F-161	Fence		Check Layout and Installation	N/A	N/A
D-701	CMP		Compaction of Backfill - Sand Cone (Acceptance) Check Compliance Certification	D 1557	Laboratory Compaction
ST-07	Headwall		Check Layout and Installation	N/A	N/A

**BRYANT FIELD
STOCK DRIVE REALIGNMENT
AIP 3-06-0030-10-2016**

FLOW CHART – QUALITY ASSURANCE RESPONSIBILITIES

(Between Testing Laboratory, Resident Engineer, and Contractor)



PAY FACTORS

Subbase Course/Aggregate Base Course - If grade is more than 3/8-inch high, the Contractor shall either remove this excess material at no cost to the Owner, or at the option of the Engineer the material may be left in place, but the quantity of this excess material will be deducted from the quantity paid to the Contractor. If grade is more than 3/8-inch low, the existing section shall be scarified, additional base course added, and the total section recompacted.

Bituminous Surface Course - The pay factor for each individual lot shall be calculated in accordance with Table 7 of paragraph 401-8.1 of the specifications. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100% or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and air voids are less than 100%. If PWL for joint density is less than 71 percent then the lot pay factor shall be reduced by 5% but be no higher than 95%.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1. Payment in excess of 100% for accepted lots of HMA shall be used to offset payment for accepted lots of bituminous concrete pavement that achieve a lot pay factor less than 100%.

PRICE ADJUSTMENT SCHEDULE¹	
Percentage of Material Within The Specification Limit (PWL)	Lot Pay Factor (Percent of Contract Unit Price)
96-100	106
90-95	PWL + 10
75-89	0.5 PWL + 55
55-74	1.4 PWL – 12
Below 55	Reject ²
¹ Although it is theoretically possible to achieve a pay factor of 106 percent for each lot, actual payment above 100 percent shall be subject to the total project payment limitation specified in paragraph 401-8.1.	
² The lot shall be removed and replaced. However, the Engineer may decide to allow the rejected lot to remain. In that case, if the Engineer and Contractor agree in writing, that lot shall not be removed, and it will be paid for at 50 percent of the contract price AND THE TOTAL PROJECT PAYMENT LIMITATION SHALL BE REDUCED BY THE AMOUNT WITHHELD FOR THE REJECTED LOT.	

HMA placed above the specified grade plus tolerances shall not be included in the quantities for payment.

The total project payment for plant mix bituminous concrete pavement shall not exceed 106 percent of the product of the contract unit price and the total number of tons of HMA used in the accepted work.

Other Materials – Payment for accepted other materials, such as prime coat, tack coat, paint, drainage features, and fencing, will be measured in place and paid for at unit prices bid.

IX. TEST RESULT DOCUMENTATION

TEST RESULT DOCUMENTATION

A. Quality Control Tests and Inspections

The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required 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.

All 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 Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

The Contractor shall be responsible for establishing a system which will record all quality control 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) Weather conditions;
- (6) Control requirements;
- (7) Test results;
- (8) Causes for rejection;
- (9) Recommended remedial actions; and
- (10) Retests.

Test results from each day's work period shall be submitted to the Resident Engineer prior to the start of the next day's work period. The Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible Quality Control Manager and the Contractor.

Each week the Contractor shall provide typewritten Summary Reports to the Resident Engineer for testing on each product – subgrade, subbase, base, pavement, etc.

Each Contractor Quality Control Manager shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Project Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description;

- (2) Weather conditions;
- (3) Compliance with approved submittals;
- (4) Proper storage of materials and equipment;
- (5) Proper operation of all equipment;
- (6) Adherence to plans and technical specifications;
- (7) Review of quality control tests;
- (8) Safety inspection; and
- (9) Test reports.

The daily inspection reports shall identify inspections 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 Quality Control Manager and the Contractor. The Resident Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

B. Quality Assurance Tests and Inspections

The Resident Engineer shall maintain current quality assurance records of all inspections and tests performed. These records shall include factual evidence that the required 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.

Daily and weekly summary test reports will be prepared and furnished to Sponsor and Contractor.

The forms to be used for these records are included in this section of the Construction Management Plan.

C. Final Test Reports

After completion of the project and before final payment is made, all test data from the Contractor's Quality Control Testing for each material used on the project shall be summarized in tabular form, typewritten, bound, and submitted to the Resident Engineer.

Copies of typical test reports for each item of work are attached.

Quality Assurance tests only shall be used in the determination of pay factors for any material or for acceptance or rejection of any portion of the work.

REINARD W. BRANDLEY - LOOMIS, CALIFORNIA

FIELD DENSITY TESTS & COMPACTION CONTROL

JOB NAME: _____ DATE: _____ DAY: _____

JOB NUMBER: _____ SOIL CLASSIFICATION: _____

	Test No.								
	Date of Test								
	Location (use back if needed)								
	Lift								
	Elevation								
A	Wet Soil - gm								
B	Sand, start - gm								
C	Sand, end - gm								
D	Vol. Ring - gm								
E	Sand, end + ring - gm (C + D)								
F	Sand in Hole - gm (B - E)								
G	Density Sand - lb/cu ft								
H	Wet Density - lb/cu ft (A/F) * G								
	Est. Moisture - %								
	Tare No.								
I	Wet Wt. + Tare								
J	Dry Wt. + Tare								
K	Wt. Water (I - J)								
L	Wt. Tare								
M	Wt. Dry Soil (J - L)								
N	Water - % (K/M)								
O	Dry Density - lb/cu ft [H/(1 + H)]								
P	Max Dry Density - lb/cu ft								
	Optimum Moisture - %								
	Relative Compaction - % [(O/P) x 100]								

Depth of Fill Remaining _____

REMARKS _____

Job Progress - % Completed _____

Inspector _____

Time _____ Mileage _____

X. FINAL TEST AND QUALITY CONTROL REPORT

FINAL TEST AND QUALITY CONTROL REPORT

At the end of the project the Resident Engineer shall submit a final test and quality control report documenting the results of all tests performed both by the Contractor's Quality Control Program and the Sponsor's Quality Assurance Program. Those tests that failed or did not meet the applicable test standard shall be highlighted and corrective action/retesting noted. The report shall include the pay reductions applied or bonuses paid and justification for accepting any out-of-tolerance materials.

At the completion of the project the Engineer will submit a Final Engineer's Report and Record Drawings. The summary test results of all Quality Control and Quality Assurance testing will be included in this report. Included in this final report will be the following:

- A. Scope of Work – Describing location, work constructed, and deleted work.
- B. Engineering – Describing all engineering and inspection work. Shall include agreement date, amount, and FAA approval of any amendments.
- C. Administrative – Describing all administrative work and costs.
- D. Force Account/Change Order Work – Breakdown of all work performed and costs and FAA approval date.
- E. Construction:
 - 1. Summary of construction costs including as-bid, as-constructed, and any changes.
 - 2. Narrative describing construction sequence, problems, and conditions.
 - 3. Change orders and supplemental agreements.
 - 4. Schedule information including dates for award, Notice to Proceed, contract time, and actual completion time.
 - 5. Statement of compliance with labor clauses.
 - 6. Completion:
 - a. Final quantities
 - b. Liquidated damages, if any
 - c. As-built drawings
 - d. Final inspection report
 - e. Contractor statement that no further payment is due and subcontractors are paid in full and no liens exist or are pending.
 - f. Updated Pavement Strength Survey (Form 5320-1)
- F. Summary of Test Results:
 - 1. Acceptance test summary sheets – both Quality Control and Quality Assurance.
 - 2. Mix design summary.
 - 3. Sponsor Certification of Testing Laboratories (F-1)
- G. Summary of Project Costs – Final payment summary worksheet
- H. Record Drawings