

County of Nevada
Information & General Services Department
Purchasing Division

On behalf of
Nevada County Airport

**BIDDING DOCUMENTS, SPECIFICATIONS
AND CONTRACT DOCUMENTS**



**NEVADA
COUNTY**
CALIFORNIA

Nevada County Airport
Schedule A
Reconstruct Ramp 4 Taxilanes
Alternate A1 – Reconstruct Ramp 4 Access Road
Schedule B and Alternate B1
Crack Repair Ramp 4 Taxilanes

Date issued: March 11, 2025

Bids Due: 2:00 PM, April 11, 2025

**The County will conduct this public bid opening in person and through the following
on-line site:**

Join on your computer or mobile app

[Join the meeting now](#)

Meeting ID: 269 703 606 130

Passcode: Ms6dZ3vE

Dial in by phone

[+1 530-414-9282](#)

Phone conference ID: 629 663 530#

Pre-Bid Site Visit (recommended)

10:00 AM, March 26, 2025

at:

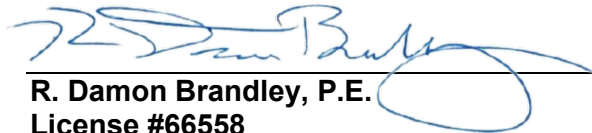
Nevada County Airport

PROFESSIONAL ENGINEERS SIGNATURE PAGE

THE SPECIAL PROVISIONS CONTAINED HEREIN HAVE BEEN PREPARED BY OR
UNDER THE DIRECTION OF THE FOLLOWING REGISTERED PERSON.

CIVIL

R. Damon Brandley, P.E.
Brandley Engineering, Inc.
6125 King Road, Suite 201
Loomis, California 95650



3/3/2025

R. Damon Brandley, P.E.
License #66558
Exp. Date: 6/30/2026

Date



3-3-2025

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ORGANIZATION OF SPECIFICATIONS

These specifications include the required Federal Provisions including the FAA General Contract Provisions in Part A and the General Construction Items in Part B, which are taken from Advisory Circular 150/5370-10H, "Standards for Specifying Construction of Airports." Also included in the Federal Provisions are Part C, Contract Provisions for Obligated Sponsors and Airport Improvement Program Projects, and Part D, Department of Labor Wage Determination.

The FAA Technical Provisions of this specification are included in the Technical Provisions of these specifications and are based on Advisory Circular 150/5370-10H, "Standards for Specifying Construction of Airports." Those sections of these standard specifications applicable to the project have been included.

An Airport Construction Safety and Phasing Plan (CSPP) has been prepared to outline all safety issues related to the proposed construction. This CSPP 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.

The Contractor is responsible for all Quality Control (QC) during the construction of this project, including testing and inspection. A Construction Management Plan has been prepared and is included in Appendix B of these specifications. This plan outlines how this project will be managed during construction and includes construction management personnel and resumes, inspection procedures and frequencies, submittal process, quality control testing, quality assurance testing, and test result documentation.

BIDDING DOCUMENTS, SPECIFICATIONS
AND CONTRACT DOCUMENTS
(Standard Public Works Contract)

CONTRACT TIMELINE

1. BIDS DUE: **2:00 PM, April 11, 2025**
(See page 1 of Invitation for Bid)
2. BID OPENING: **2:00 PM, April 11, 2025**
(See page 1 of Invitation for Bid)
3. PRE-BID MEETING: **10:00 AM, March 26, 2025**
(See page 2 of Invitation for Bid)
4. BIDS TO REMAIN OPEN FOR **180** DAYS FROM DATE OF OPENING OF BIDS (See paragraph 21 of Instructions to Bidders)
5. NOTICE OF AWARD DUE WITHIN **180** DAYS OF OPENING OF BIDS (See paragraph 23 of Instructions to Bidders and same as 4 above)
6. BID BONDS OF UNSUCCESSFUL BIDDERS TO BE RETURNED WITHIN **10** DAYS OF AWARD BY COUNTY (See paragraph 18 of Instructions to Bidders)
7. CONTRACT SIGNING AND BONDS DUE WITHIN **5** DAYS OF NOTICE OF AWARD (See paragraph 24 and 26 of Instructions to Bidders)
8. NOTICE TO PROCEED WITH WORK DUE WITHIN **15** DAYS OF CONTRACT SIGNING (See paragraph 25 of Instructions to Bidders)
9. CONSTRUCTION MUST BEGIN WITHIN **10** DAYS AFTER MAILING OF NOTICE TO PROCEED (See Article III of Contract)
10. CONTRACTOR MUST GIVE 2 WEEKS WRITTEN NOTICE OF DATE WORK WILL COMMENCE.
11. PRECONSTRUCTION CONFERENCE WITHIN **5** DAYS OF NOTICE TO PROCEED OR UPON COUNTY REQUEST. (See Article VIII of Contract)
12. SCHEDULES AND BREAKDOWN OF PHASES OF CONSTRUCTION DUE AT THE PRECONSTRUCTION CONFERENCE OR TWO WEEKS PRIOR TO THE START OF WORK, WHICHEVER IS GREATER (See Article VIII of Contract)
13. WORK MUST BE COMPLETED WITHIN **30 WORKING DAYS** OF THE EFFECTIVE DATE OF THE NOTICE TO PROCEED.

*BIDDING AND CONTRACT
DOCUMENTS*

INVITATION FOR BID

FOR: **Schedule A - Reconstruct Ramp 4 Taxilanes**
Alternate A1 - Reconstruct Ramp 4 Access Road
Schedule B and Alternate B1 - Crack Repair Ramp 4 Taxilanes
AIP No. 3-06-0095-0__-2025

LOCATED AT: **Nevada County Airport, Grass Valley, California**

Sealed bids will be received at the office of the:

Purchasing Division
Suite 129
County of Nevada
950 Maidu Ave.
Nevada City, California 95959

Submittals are to be received by mail, or if hand delivered, must be placed in a sealed envelope with the name of the project clearly printed on the front of the envelope. All bids will be dated and time-stamped once received by the County representative.

Until **2:00 PM** local time on **April 11, 2025**, for the above referenced project.

Bids received after said time will not be accepted and will be returned unopened.

At said place and time, and promptly thereafter, all bids that have been properly submitted will be publicly opened and read aloud. All interested parties are invited to attend.

The County will conduct this public bid opening through the following on-line site:

Join on your computer or mobile app

[Join the meeting now](#)

Meeting ID: 269 703 606 130

Passcode: Ms6dZ3vE

Dial in by phone

[+1 530-414-9282](#)

Phone conference ID: 629 663 530#

The work to be performed includes the following:

Schedule A

- Reconstruct Ramp 4 Taxilanes (25' x 800' + 700 sq. yd.)

Alternate A1

- Reconstruct Ramp 4 Access Road (315 sq. yd.)

Schedule B and Alternate B1

- Crack Repair Ramp 4 Taxiways (25' x 1,300' + 3,900 sq. yd.)

Bids shall be: **Combination of Lump Sum and Unit Prices.**

Bids must be for all work described herein unless the bid form specifically indicates a bid item is optional. Plans, specifications, proposal forms, project manuals and all documents relating to this project can only be obtained at the office or website [Purchasing | Nevada County, CA](#) under *Current Requests for Bids and Proposals*.

Vendors must register with the County in order to be notified of addenda and other notices. To register, please go to: <https://www.publicpurchase.com/gems/register/vendor/register>.

The County will not be providing printed copies of the plans to bidders for this project.

Contractor will be required to possess an **A** contractor's license at the time the bid is submitted.

A pre-bid walk-through will be held beginning at 10:00 AM, March 26, 2025, at the project site at Nevada County Airport, Airport Administration Building, 13083 John Bauer Avenue, Grass Valley, CA, 95945.

Bids will be accepted from bidders who did not attend the pre-bid conference, but bidders will be charged with all of the information disseminated at the pre-bid conference as if they had been present.

Questions regarding the Work or the contract Documents shall be submitted online on Public Purchase due before 5:00 PM, April 3, 2025.

Bids shall be received by **2:00 PM, April 11, 2025**. For all bids over \$25,000, each bidder must submit a cashier's check, certified check or a bidder's bond in an amount equal to 10% of the total amount of the bid.

The contract will be awarded on the basis of UNIT BID price and will provide for progressive payments and liquidated damages as fixed in the specifications. All proposals must be made on the forms as contained in the specifications for the previously described project and shall in all respects comply with the Instructions to Bidders and Contract Documents. Bids must be in writing and signed by or on behalf of the bidder. Each bidder must supply all the information required by the bid documents and specifications.

The lowest responsive and responsible bidder will be determined based on the total of Schedule A + Alternate A1 + Schedule B + Alternate B1 combined. The Owner reserves the right to award the contract as follows:

- Schedule A + Schedule B, or
- Schedule A + Schedule B + Alternate A1, or
- Schedule A + Schedule B + Alternate B1, or
- Schedule A + Schedule B + Alternate A1 + Alternate B1

as set forth in the bid form depending on available funding from the Federal Aviation Administration.

The bidder to whom a contract is awarded will be required to furnish a performance bond and a labor and materials bond guaranteeing faithful performance and payment of all debts related to this contract.

This is a public works project, subject to the prevailing wage requirements of the California Labor Code. Copies of the prevailing rate of per diem wages are available at the California Department of Industrial Relations web site www.dir.ca.gov/DLSR/PWD/. Contractor shall not pay less than the prevailing rate of wages. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015), unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

This contract is also subject to Federal Davis Bacon requirements. Contractor shall not pay less than the prevailing rate of wages of the higher of state or federal wages.

FEDERAL PROVISIONS

The work to be done is being financed in whole or in part by means of a grant made by the United States acting through the Federal Aviation Administration of the Department of Transportation. This project is subject to the Federal provisions, statutes and regulations as set forth in the project specifications.

This project is under and subject to the Equal Opportunity Clause, the Federal Fair Labor Standards Act, and Wage Rate Decision contained in the contract documents.

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

Small Business Participation: The Sponsor has established a Small Business Element in accordance with 49 CFR Part 26 to facilitate competition by small business concerns, taking all reasonable steps to eliminate obstacles to their participation and to create a level playing field on which small businesses can compete fairly. While there is no specific numerical goal assigned to small business participation the prime contractor should make every effort to solicit small business concerns (as defined in 13 CFR Part 121) to participate as subcontractors, service providers, suppliers, etc.

The Bidder must submit the Small Business Participation information with its proposal on the forms provided herein (Fostering Small Business Participation & Non-Certified Small Business Verification Form).

Socially/Economically Disadvantaged Financial Institutions: The Sponsor encourages Contractors and Subcontractors to utilize the services of financial institutions owned and controlled by socially and economically disadvantaged individuals in the community. You can find a link to Minority-Owned Financial Institutions and their branches on the FDIC website: <https://www.fdic.gov/regulations/resources/minority/mdi.html> or the U. S. Department of Treasury – Bureau of the Fiscal Service <https://fiscal.treasury.gov/mbdp/>.

Title IV – Civil Rights Act – The County of Nevada, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that for 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 no businesses will be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

CARB CONTRACTING REQUIREMENTS:

The California Air Resources Board (“CARB”) implemented amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulations (“Regulation”) which are effective on January 1, 2024 and apply broadly to all self-propelled off road diesel vehicles 25 horsepower or greater and other forms of equipment used in California. A copy of the Regulation is available at <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/appa-1.pdf>. Bidders are required to comply with all CARB and Regulation requirements, including, without limitation, all applicable sections of the Regulation, as codified in Title 13 of the California Code of Regulations section 2449 *et seq.* throughout the duration of the Project. Bidders must provide, with their Bid, copies of Bidder’s and all listed

subcontractors' most recent, valid Certificate of Reported Compliance ("CRC") issued by CARB. Failure to provide valid CRCs as required herein may render the Bid non-responsive.

No bid will be considered unless it is made on a form furnished by the County of Nevada and is made in accordance with the provisions of the proposal requirements and conditions set forth in the contract documents.

The County of Nevada reserves the right to reject any or all bids.

DATED: _____

COUNTY OF NEVADA
STATE OF CALIFORNIA

By _____
Chairman, Board of Supervisors or
Purchasing Agent

INSTRUCTIONS TO BIDDERS

FOR: **Schedule A - Reconstruct Ramp 4 Taxilanes**
Alternate A1 - Reconstruct Ramp 4 Access Road
Schedule B and Alternate B1 - Crack Repair Ramp 4 Taxilanes
AIP No. 3-06-0095-0__-2025

LOCATED AT: **Nevada County Airport, 13083 John Bauer Avenue, Grass Valley, CA, 95945**

1. **DEFINITIONS**

Bidder: One who submits a bid directly to County as distinct from a sub-bidder who submits a bid to a bidder.

Successful Bidder: The lowest, qualified, responsive, responsible bidder to whom County makes an award.

Bidding Documents:

- Invitation for Bid
- Instruction to Bidders
- Bid Form
- Bidders Bond or other security
- Experience Statement
- Subcontractor Listing
- Certifications
- Bidder's Representations
- Proposed Contract Documents
- Federal Provisions
- Special Conditions
- Technical Provisions
- Any and all Addenda

2. **COPIES OF BIDDING DOCUMENTS**

Complete copies of the bid documents and specifications for use in preparing bids may be obtained in accordance with the Invitation for Bid. Bid documents are also available electronically and can be downloaded from [Purchasing | Nevada County, CA](https://www.publicpurchase.com/gems/register/vendor/register) under the Requests for Bids and Proposals section Requests For Proposal section. Addenda will also be posted to this location. Vendors must register with the County in order to be notified of addendums and other notices. To register, please go to: <https://www.publicpurchase.com/gems/register/vendor/register>.

Partial sets of bidding documents will not be issued. Complete sets of bidding documents shall be used in preparing bids. County assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of bidding documents. If bidder believes its set of bidding documents is incomplete, it shall be the responsibility of bidder to contact County to confirm that Bidder has a complete set.

County, in making copies of bidding documents available on the above terms, does so only for the purpose of obtaining bids on the work and does not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

Each bidder must be prepared to submit, within five days of County's request, written evidence of bidder's qualifications to perform the work. Bidders may be required to submit evidence that they have a practical knowledge of the particular work bid upon, and that they have the financial resources to complete the proposed work. In determining the bidder's qualifications, the following factors will be considered: work previously completed by the bidder and whether the bidder (a) maintains a permanent place of business, (b) has adequate plant and equipment to do the work properly and expeditiously, (c) has the financial resources to meet all obligations incident to the work, and (d) has appropriate technical experience. Each bidder may be required to show that he or she has handled former work so that no just claims are pending against such work. No bid will be accepted from a bidder who is engaged on any work which would impair his or her ability to perform or finance this work.

Each bidder must hold a current valid contractor's license at the time of bidding, or the bid will be rejected.

4. INSPECTION OF SITE OF WORK

Bidders are required to inspect the site of the work in order to satisfy themselves, by personal examination or by such other means as they may prefer, of the location of the proposed work and as to the actual conditions of and at the site of work. If, during the course of the examination, bidder finds facts or conditions which appear confusing to bidder, bidder shall apply to County for additional information and explanation before submitting the bid. However, no such supplemental information so requested or furnished shall vary the terms of the specifications or the Contractor's sole responsibility to satisfy himself or herself as to the conditions of the work to be performed, unless an addendum has been issued.

The submission of a bid by the bidder shall constitute the acknowledgment that, if awarded the contract, bidder has relied and is relying on bidder's examination of (a) the site of the work, (b) the access to the site, and (c) all other data, matters, and things requisite to the fulfillment of the work and on bidder's own knowledge of existing conditions on and in the vicinity of the site of the work to be constructed under the contract, and not on any representation or warranty of County. No claim for additional compensation will be allowed which is based upon a lack of knowledge of the above items.

Where technical reports or data have been utilized in the preparation of the contract documents, bidder may rely upon the accuracy of the technical data contained in such reports but not upon the interpretations or opinions contained therein for the completeness thereof for the purpose of bidding or construction.

Where plans and specifications contain drawings of physical conditions in or relating to existing surface conditions, including underground facilities, which are at or contiguous to the site, bidder may rely upon the accuracy of the data contained in such drawings but not upon the completeness thereof for the purposes of bidding or construction. If a mass diagram has been prepared for a project, it is for design purposes only. If it is made available to bidders, County assumes no responsibility whatever for the information contained therein and makes no guarantees with respect to reliance thereon.

Before submitting a bid, each bidder will, at bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the work and which bidder deems necessary to determine its bid for performing and furnishing the work in accordance with the time, price and other terms and conditions of the contract documents.

On request in advance, County will provide each bidder access to the site to conduct such explorations and tests as each bidder deems necessary for submission of a bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.

The lands upon which the work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the work are identified in the contract documents. All additional lands and access thereto required for temporary construction facilities or storage

of materials and equipment are to be provided by Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by County unless otherwise provided in the contract documents.

5. EXAMINATION OF CONTRACT DOCUMENTS

The contract documents shall consist of the following:

1. Invitation for Bid
2. Instructions to Bidders
3. Contractor's Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award)
4. Contract
5. Addenda which pertain to the Contract
6. The Bonds or other security
7. Any supplementary conditions or any and all written agreements amending or extending the work, time or price contemplated
8. The Plans and Specifications and Drawings as identified in the Contract
9. Certificates of Insurance
10. Other: _____

Each bidder shall thoroughly examine and be familiar with legal and procedural documents, general conditions, specifications, drawings and addenda (if any). The submission of a bid shall constitute an acknowledgment upon which County may rely that the bidder has thoroughly examined and is familiar with the contract documents. The failure or neglect of a bidder to receive or examine any of the contract documents shall in no way relieve that bidder from any obligation with respect to that bidder's bid or to the contract. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any contract documents.

6. INTERPRETATION OF CONTRACT DOCUMENTS

No oral representations or interpretations will be made to any bidder as to the meaning of the contract documents. Any ambiguities, inconsistencies in the plans and specifications or other contract documents, or problems which are visible by an inspection of the site or review of the contract documents shall be resolved prior to bidding. Request for an interpretation shall be made in writing and delivered to County by **5:00 p.m., April 3, 2025**. Interpretations by County will be in the form of an addendum to the contract documents and, when issued, will be sent as promptly as is practical to all parties to whom the bid documents have been issued. All such addenda shall become part of the contract. County reserves the right to amend any contract language which it determines is ambiguous prior to award of the bid.

7. ADDENDA

Each bid shall include specific acknowledgment, in the space provided, of receipt of all addenda issued during the bidding period. Failure to so acknowledge will result in the bid being rejected as not responsive. The Contractor is responsible for verifying that all addenda have been received and for obtaining all addenda prior to submitting bids for the work.

Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

Addenda may also be issued to modify the bidding documents as deemed advisable by County.

Addenda will be mailed or delivered to all parties recorded as having received the bidding documents. No addenda will be issued later than four days prior to the date for receipt of bids except an addendum, if necessary, postponing the date for receipt of bids or withdrawing the request for bids.

8. BIDS

Bids shall be made on the blank forms prepared by County and included herein. Bidders may extract these pages from the book of specifications or submit the entire book. All bids shall give prices, both in writing and in figures, and shall be signed by the bidder or bidder's authorized representative with bidder's address and shall provide all other information requested on the bid form. If the bid is made by an individual, his or her name, signature and post office address must be shown; if made by a firm or partnership, the name and post office address of the firm or partnership must be shown; if made by a corporation, the bid shall show the name of the state under the laws of which the corporation is chartered, the name and post office address of the corporation, and the title of the person who signs on behalf of the corporation.

9. SUBMISSION OF BIDS

Bids shall be submitted at the time and place indicated in the Invitation for Bid and shall be included in a sealed envelope addressed to the Nevada County Purchasing Division.

The bid shall be identified on the outside with the bidder's name, license number and address and with the **Project Title: "Reconstruct Ramp 4 Taxilanes, Crack Repair Ramp 4 Taxilanes, Reconstruct Ramp 4 Access Road, Nevada County Airport."**

Each bid shall be accompanied by the bid security if bid over \$25,000 and other required documents.

If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "BID ENCLOSED" with the **Project Title "Reconstruct Ramp 4 Taxilanes, Crack Repair Ramp 4 Taxilanes, Reconstruct Ramp 4 Access Road, Nevada County Airport."** on the face thereof.

Bids shall be deposited at the designated location prior to the time and date for receipt of bids indicated in the Invitation for Bid, or the modified time and date indicated by addendum. Bids received after the time and date for receipt of bids will be returned unopened. Bidder shall assume full responsibility for timely delivery at the location designated for receipt of bids.

Oral, telephone, or telegraph bids are invalid and will not receive consideration. No bidder may submit more than one bid. Multiple bids under different names will not be accepted from one firm or association.

10. PRE-BID CONFERENCE OR WALK-THROUGH

A pre-bid conference or walk-through will be held at **10:00 AM, March 26, 2025**, at the project site at **Nevada County Airport, Airport Administration Building, 13083 John Bauer Avenue, Grass Valley, CA, 95945.**

The representatives of County, any consultants and/or Project Engineer will be present to answer questions. Any questions which, in the opinion of County, cannot be answered by direct reference to the bidding documents will be answered by formal written addenda as outlined above.

The pre-bid conference or walk-through may include a tour of the site of the work conducted by representatives of County. All interested parties are invited to attend.

11. BID PRICE

The bid price shall include everything necessary for the completion of construction and fulfillment of the contract including, but not limited to, furnishing all materials, equipment, tools, plant and other facilities and all management, superintendence, labor and services, except as may be provided otherwise in the contract documents.

In the event of a difference between the price quoted in words and a price quoted in figures for the same quotation, the words, unless obviously incorrect, shall be considered the amount bid. Discrepancies between the indicated sum or total of figures and the correct sum or total will be resolved in favor of the correct sum or total. In case of conflict in the proposal between unit price bid and the extended total, the unit price bid shall govern.

12. BASIS OF BIDS

The bidder shall submit both lump sum prices and prices for all unit cost items and alternatives shown on the bid form. Failure to comply may be cause for rejection.

Where specific quantities are given they are approximate only, being given as a basis for the comparison of bids, and the County of Nevada does not, expressly or by implication, warrant that the actual amount of work will correspond therewith, but 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 or advisable by County. The amount of the bid for comparison purposes will be the total of all items. The total of unit basis items will be determined by extension of the item price bid on the basis of the estimated quantity set forth for the item.

The bidder shall set forth for each item of work on Schedule A, Alternate A1, Schedule B, and Alternate B1, in clearly legible figures, an item price and a total for the item in the respective spaces provided for this purpose. In the case of unit basis items, the amount set forth under the "Total" column shall be the extension of the item price bid on the basis of the estimated quantity for the item.

In case of discrepancy between the item price and the total set forth for the item, the item price shall prevail; however, if the amount set forth as an item price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or in the case of unit basis items is the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

- a. As to unit basis items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the item price.
- b. As to lump sum items, the amount set forth in the "Total" column shall be the item price.

In accordance with the provision of Section 6707 of the State Labor Code, each bidder shall list, in any bid item calling for trenching of 5 feet or more in depth, the amount contained in the proposal for adequate trench and excavation sheeting, shoring, and bracing or equivalent method for the protection of life and limb which shall conform to applicable Safety Orders.

13. TAXES

Bid prices shall include allowance for all federal, state and local taxes.

14. CONTRACT TIME

The Contractor shall begin work within ten (10) calendar days after the date set in the written Notice to Proceed by the Owner and shall diligently prosecute same to completion for all of the proposed construction.

The Contract time for the completion of the total project shall be thirty (30) working days beginning on date of written Notice to Proceed.

15. SUBSTITUTE MATERIAL AND EQUIPMENT

The contract, if awarded, will be on the basis of material and equipment described in the drawings or specified in the specifications without consideration of possible substitute or "co-equal" items. Whenever it is indicated in the drawings or specified in the specifications that a substitute or "co-equal" item of material or equipment may be furnished or used by Contractor if acceptable to County, application for such

acceptance will not be considered by County until after the effective date of the contract unless an addendum is issued to all bidders authorizing the use of a specified substitute. The procedure for submittal of any such application by Contractor and consideration by County is set forth in the contract documents.

16. LIST OF SUBCONTRACTORS

Each bid shall have listed on the form provided herewith the name and address of each subcontractor to whom the bidder proposes to sublet portions of the work in excess of one-half of one percent of the total amount of the bid or, in the case of bids for construction of streets or highways, including bridges, in excess of one-half of one percent of the Contractor's total bid or \$10,000, whichever is greater, per Public Contracts Code Section 4104. For the purpose of this paragraph, a subcontractor is defined as one who contracts with the Contractor to furnish materials and labor, or labor only for the performance of work at the site of the work.

County has the right to review the suitability and qualifications of any subcontractor or supplier proposed by the Contractor. As part of this review County may request an experience statement with pertinent information as to similar projects and other evidence of qualification for each such subcontractor, person and organization. If County, after due investigation, has reasonable objection to any proposed subcontractor, County may, before giving the notice of award, request the apparent successful bidder to submit an acceptable substitute without an increase in bid price. If the apparent successful bidder does not make such substitution, the contract shall not be awarded to such bidder, but Contractor's failure to make such substitution will not constitute grounds for sacrificing the bid security. Any subcontractor, other person or organization so listed and to whom County does not make written objection prior to the giving of the notice of award will be deemed acceptable to County subject to revocation of such acceptance after the effective date of the agreement as provided in the contract documents.

No Contractor shall be required to employ any subcontractor, other person or organization against whom Contractor has reasonable objection.

The Contractor may not change any subcontractor listed on its bid without written approval from County after a determination that the requirements of Public Contracts Code Section 4107 have been met.

17. BID GUARANTY (BID BOND)

Bid Guaranty (Bid Bond) is required on all bids over \$25,000. The bid shall be accompanied by a bid guaranty bond (bid bond) duly completed on the form provided herewith or a form which is substantially similar, by a guaranty company authorized to carry on business in the State of California, for payment to County in the sum of at least 10 percent of the total amount of the bid, or alternatively by a certified or cashier's check, payable to County in the sum of at least 10 percent of the total amount of the bid. A bid bond form which provides further payment of attorney's fees or which contains a termination date will not be considered to be "substantially similar". The amount payable to County under the guaranty bond, or the certified or cashier's check and the amount thereof, as the case may be, shall be forfeited to County as liquidated damages in case of a failure or neglect of the bidder to furnish, execute and deliver to County the required performance and payment bonds, evidence of insurance, and to enter into, execute and deliver to County the contract on the form provided herewith, within **5** days after being notified in writing by County that the award has been made and the agreement is ready for execution.

All bonds shall have a power of attorney authorizing the signature of the person authorized to sign on behalf of the Surety attached to the bond. The power of attorney's signature shall be notarized.

The bid bond shall name County as beneficiary

18. RETURN OF BID GUARANTEES

Within 10 days after the bids are awarded, County will return the bid guarantees (other than bid bonds) accompanying the bids for bids not considered in making the award. All other bid guarantees will be held

until the contract has been fully executed, after which they will be returned to the respective bidders whose bids they accompany.

19. MODIFICATION OR WITHDRAWAL OF BIDS

Bids submitted early may be modified or withdrawn by notice to the party receiving bids at the place and prior to the time designated for receipt of bids. Such notice shall be in writing over the signature of the bidder or be by telegram; if by telegram, written confirmation over the signature of bidder must have been mailed and postmarked on or before the date and time set for receipt of bids; it shall be so worded as not to reveal the amount of original bid. Bids may also be modified or withdrawn in person by the bidder or an authorized representative provided bidder can prove bidder's identity and authority. Withdrawn bids may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these instructions to bidders.

If, within 24 hours after bids are opened, any bidder files a duly signed written notice with County and promptly thereafter demonstrates to the reasonable satisfaction of County that there was a material and substantial mistake in the preparation of the bid, that bidder may withdraw his or her bid and the bid security will be returned. Thereafter, that bidder will be disqualified from further bidding on the work.

20. OPENING OF BIDS

Bids will be opened publicly and read aloud and through the following virtual meeting:

Join on your computer or mobile app

[Join the meeting now](#)

Meeting ID: 269 703 606 130

Passcode: Ms6dZ3vE

Dial in by phone

[+1 530-414-9282](#)

Phone conference ID: 629 663 530#

An abstract of the amounts of the base bids and major alternates (if any) will be made available after the opening of bids.

21. BIDS TO REMAIN OPEN

All bids shall remain open and subject to acceptance for a period of **180** days from the date of opening, but County may, in County's discretion, release any bid and return the bid security prior to that date.

22. POSTPONEMENT OF OPENING

County reserves the right to postpone the date and time for opening of bids at any time prior to the date and time announced in the advertisement.

23. CALIFORNIA AIR RESOURCES BOARD ("CARB") REGULATIONS

The County is a Public Works Awarding Body, as defined under Title 13 California Code of Regulations section 2449(c)(46). Accordingly, Bidders must submit, with their Bids, valid Certificates of Reported Compliance ("CRC") for the Bidder's fleet and for the fleet(s) of its listed subcontractors (including any applicable leased equipment or vehicles). Bidder must additionally complete and submit the Fleet Compliance Certification, included in the Bid Documents. Failure to provide a CRC for the Bidder, and for all listed subcontractors, or failure to complete the Fleet Compliance Certification, may render the Bid non-responsive.

24. AWARD OF CONTRACT - PROTESTS

The award of the contract, if awarded, will be made to the lowest responsive, responsible bidder whose bid complies with all the requirements stated herein. The lowest bidder will be the bidder whose total bid price for Schedule A plus Alternate A1 plus Schedule B plus Alternate B1 is lowest. The County will determine after receipt of bids whether the following will be included in the contract based on the bid amounts for each respective schedule and alternate as submitted by the lowest responsive, responsible bidder and the available Federal funding for the project.

Schedule A + Schedule B, or
Schedule A + Schedule B + Alternate A1, or
Schedule A + Schedule B + Alternate B1, or
Schedule A + Schedule B + Alternate A1 + Alternate B1

Within **180** days after the time of opening the bids, County will act either to accept a proposal or to reject all proposals. The acceptance of a proposal will be evidenced by a notice of award of contract in writing, delivered in person or by mail to the bidder whose proposal is accepted. No other act of County shall constitute acceptance of a bid. The award of contract shall obligate the bidder whose bid is accepted to furnish a performance bond, payment bond and evidence of insurance (certificates of insurance and endorsements specified in the contract) and execute the agreement set forth in the contract documents.

County reserves the right to reject any and all bids and to waive any and all formalities, and the right to disregard all nonconforming, non-responsive, or conditional bids. County reserves the right to reject the bid of any bidder if County believes that it would not be in the best interest of the project to make an award to that bidder, whether because the bid is not responsive or the bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by County. County reserves the right to reject any bids which omit a bid on any one or more items on which bids are required; any bids which omit unit prices if unit prices are required; any bids in which unit prices are unbalanced in the opinion of County; any bid accompanied by insufficient or irregular bid security; and any bids from bidders who have previously failed to perform properly or to complete on time contracts of any nature.

It is County's intent to accept alternates (if any are accepted) in the order in which they are listed in the bid form, but County may accept them in any order or combination.

County may consider the qualifications and experience of subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work as to which the identity of subcontractors and other persons and organizations must be submitted as provided herein. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by County.

If there is reason to believe that collusion exists among the bidders, none of the bids of the participants in such collusion will be considered, and County may likewise elect to reject all bids received.

County may conduct such investigations as County deems necessary to assist in the evaluation of any bid and to establish the responsibility, qualifications and financial ability of the bidders, proposed subcontractors and other persons and organizations to do the work in accordance with the contract documents to County's satisfaction within the prescribed time. County reserves the right to reject the bid of any bidder who does not pass any such evaluation to County's satisfaction.

If the contract is to be awarded, it will be awarded to the lowest bidder whose evaluation by County indicates to County that the award will be in the best interests of the project.

Protests and Appeals:

Bid Protest. Any bid protest must be in writing, received by the Purchasing Agent at the Rood Administrative Center, 950 Maidu Avenue, Suite 130, Nevada City, CA, before 5:00 p.m. no later than five working days following the notice of intent to award (herein referred to as the Bid Protest Deadline), and must comply with the following requirements:

1. General. Only a bidder who has actually submitted a Bid Form is eligible to submit a bid protest. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder but must timely pursue its own protest. If required by County, the protesting bidder must submit a non-refundable fee in the amount specified by County, based upon County's reasonable costs to administer the bid protest. Any such fee must be submitted to County no later than the Bid Protest Deadline, unless otherwise specified. For purposes of this Section 1, a "working day" means a day that County is open for normal business, and excludes weekends and holidays observed by County.
2. Protest Contents. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the person representing the protesting bidder if different from the protesting bidder.
3. Copy to Protested Bidder(s). A copy of the protest and all supporting documents must be concurrently transmitted by fax or by email, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
4. Bidders Response to Protest. The protested bidder may submit to the County a written response to the protest, provided the response is received before 5:00 p.m., within two working days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must include all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person representing the protested bidder if different from the protested bidder.
- 4.1 Copy to Protesting Bidder. A copy of the response and all supporting documents must be concurrently transmitted by fax or by email, by or before the Bid Protest Deadline, to the protesting bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
5. Exclusive Remedy. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. A bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.
6. Right to Award. The County Board of Supervisors reserves the right to award the Contract to the bidder it has determined to be the responsive, responsible bidder submitting the lowest bid, and to issue a notice to proceed with the Work notwithstanding any pending or continuing challenge to its determination.

25. SIGNING OF AGREEMENT

When County gives a Notice of Award to the successful bidder, it will be accompanied by unsigned counterparts of the agreement and all other contract documents.

Three (3) copies of the contract documents will be prepared by County. All copies will be submitted to Contractor, and Contractor shall execute the contract, insert executed copies of the required bonds and power of attorney, and submit all copies to County within five **(5)** days. The date of execution of the contract shall be left blank for filling in by County.

26. NOTICE TO PROCEED

County shall give the successful bidder written notice to proceed with the work within **15** days of the execution of the contract. Notwithstanding any other provision of the contract, County shall not be obligated to accept or to pay for any work furnished by the Contractor prior to delivery of notice to proceed whether or not County has knowledge of the furnishing of such work.

27. PERFORMANCE AND OTHER BONDS

The contract documents set forth County's requirements as to performance and other bonds. When the successful bidder delivers the executed contract to County, it shall be accompanied by the required contract security. The bonds shall be provided on County's forms or on forms which are substantially similar. Notwithstanding any language contained in the bonds, County shall not be liable for attorney's fees either for the enforcement of the bond or for any other action under this Contract. Bonds shall not contain any date of termination.

28. CONTRACTUAL RESTRICTIONS

No official of County who is authorized in such capacity and on behalf of County to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspecting, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof. No officer, employee, architect, attorney, engineer, or inspector of or for County who is authorized in such capacity and on behalf of County who is in any legislative, executive, supervisory, or other similar function in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

29. POSTING SECURITY IN LIEU OF RETENTION

The Contractor may elect to receive 100% of payments due under this contract from time to time, without retention of any portion of the payment by the public agency, by depositing securities of equivalent value with County in accordance with the provisions of Section 22300 of the California Public Contract Code; except that no such substitution shall be allowed where federal money is funding the project and federal regulations or policies would prohibit such substitution of securities for the retention. Securities eligible for investment shall include those listed in Section 16430 of the California Government Code, or bank or savings and loan certificates of deposits. Such securities, if deposited by the bidder, shall be valued by County whose decision on the valuation of the securities shall be final. The bidder shall be the beneficial owner of any securities substituted for money withheld and shall receive any interest thereon.

30. LIQUIDATED DAMAGES

The County is authorized by Government Code Section 53069.85 to assess liquidated damages for delay. County refers bidders to the Contract for review of the liquidated damages provision to be included in this Contract.

31. SUBLETTING OF CONTRACT

The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of the contract or contracts or any portion thereof, or of his right, title, or interest therein, without written consent of the Owner. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own organization not less than 30 percent of the total contract cost, except that any items designated by the Contractor and approved by the Owner as "specialty items" may be performed by subcontract and the cost of any such specialty items so performed by subcontract may be deducted from the total cost before computing the amount of work to be performed by the Contractor with his own organization. No subcontracts or transfer of contract shall release the Contractor of his liability under contracts and bonds.

32. DEFINITIONS

Whenever in the specifications or on the drawings the word directed, required, permitted, designated, ordered, or words of like importance are used, it shall be understood that the direction, requirement,

permission, designation or order of the County of Nevada is intended; and, similarly, the words approved, satisfactory, suitable, acceptable, or words of like import, shall mean approved by the representative of the County of Nevada authorized to express such approval.

33. LEGAL REQUIREMENTS

The Bidder's special attention is directed to the requirements set forth in Part C of the Federal Provisions of these specifications, Contract Provision Guidelines for Obligated Sponsors and Airport Improvement Program Projects. The contract shall include all of the requirements set forth in this section.

34. ADMONITION

All bidders hereby are advised that the County of Nevada has adopted General Provisions for this work which differ substantially from the general provisions provided for private projects or projects undertaken by other governmental agencies. Contractors are admonished to carefully read the General Provisions, as well as the special conditions and technical provisions, and are advised that the General Provisions shall be enforced strictly.

35. SMALL BUSINESS PARTICIPATION

The Sponsor has established a Small Business Element in accordance with 49 CFR Part 26 to facilitate competition by small business concerns, taking all reasonable steps to eliminate obstacles to their participation and to create a level playing field on which small businesses can compete fairly. While there is no specific numerical goal assigned to small business participation the prime contractor should make every effort to solicit small business concerns (as defined in 13 CFR Part 121) to participate as subcontractors, service providers, suppliers, etc.

The Sponsor has identified work categories conducive to small business participation on the form entitled Fostering Small Business Participation – List Defining Work Categories Conducive to Small Business Participation. Prime contractors are encouraged to solicit small business participation for the work items referenced.

The Bidder must submit the Small Business Participation information on the forms provided in the proposal (Fostering Small Business Participation & Non-Certified Small Business Verification Form).

FOSTERING SMALL BUSINESS PARTICIPATION - LIST DEFINING WORK CATEGORIES CONDUCTIVE TO SMALL BUSINESS PARTICIPATION

Background 49 CFR §23.26 and §26.39

The Sponsor has established a Small Business Element in accordance with 49 CFR Part 23 and 26 to facilitate competition by small business concerns, taking all reasonable steps to eliminate obstacles to their participation and to create a level playing field on which small businesses can compete fairly. While there is no specific numerical goal assigned to small business participation the prime contractor/concessionaire should make every effort to solicit small business concerns (as defined in 13 CFR Part 121 or 49 CFR Part 23.33).

The Sponsor has identified the below work categories that are conducive to small business participation for the referenced project. As per the agreement, prime contractors are encouraged to solicit small business participation for the work items referenced below.

Project Information

Project #: _____ Project Name/Description: Nevada County Airport - Ramp 4 Taxiways and Access Road

Identified Work Categories Conducive to Small Business

Work Category/Bid Line Item	NAICS Code	Estimated Total Cost of Work
Pulverizing FDR	237310	\$ 31,000.00
Airfield Marking and Reflective Media	237310	\$ 5,800.00
		\$ -
		\$ -
		\$ -
		\$ -
		\$ -
		\$ -

Signature of Consulting Engineer (if applicable)

Signature: _____ Company Name: Brandley Engineering, Inc.

Print Name: Damon Brandley, P.E. Date: _____

Title: Project Manager/Principal Engineer

Signature of Sponsor's Representative

Signature: _____ Company Name: _____

Print Name: _____ Date: _____

Title: _____

CHECKLIST OF DOCUMENTS ENCLOSED BY BIDDER

Bidder shall acknowledge he or she has enclosed all required Bidding Documents listed herein by signing his or her initials in "Bidder" column, after each item.

DOCUMENT	SIGNATURES	
	BIDDER	COUNTY REP.
1. BID FORM (signed)		
2. ACKNOWLEDGEMENT OF ADDENDA		
3. BID SECURITY: Bid Bond for bids over \$25,000 (must be signed by corporate surety); or Cashier's check; or Certified Check; or Cash		
4. EXPERIENCE STATEMENT (signed)		
5. SUBCONTRACTOR LISTING (signed)		
6. BIDDER REPRESENTATIONS (BIDDER'S QUALIFICATIONS, NON COLLUSION DECLARATION)		
7. CERTIFICATES REGARDING DEBARMENT		
8. CERTIFICATION REGARDING LOBBYING		
9. PROHIBITION OF SEGREGATED FACILITIES		
10. BIDDER'S STATEMENT ON PREVIOUS CONTRACTS SUBJECT TO EEO CLAUSE		
11. TRADE RESTRICTION CERTIFICATION		
12. CERTIFICATE OF BUY AMERICAN COMPLIANCE		
13. CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS		
14. BIDDERS LIST COLLECTION FORM		
15. FOSTERING SMALL BUSINESS PARTICIPATION FORM		
16. NON-CERTIFIED SMALL BUSINESS VERIFICATION FORM		
17. CERTIFICATION REGARDING DOMESTIC PREFERENCES FOR PROCUREMENT		
18. CERTIFICATE OF PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT		
19. IRAN CONTRACTING ACT CERTIFICATION		
20. FLEET COMPLIANCE CERTIFICATION		

BID FORM

(Nevada County Standard Form Bid Document)

BID TO THE COUNTY OF NEVADA FOR: Nevada County Airport, Nevada County, California, Schedule A - Reconstruct Ramp 4 Taxilanes, Alternate A1 - Reconstruct Ramp 4 Access Road, Schedule B and Alternate B1 - Crack Repair Ramp 4 Taxilanes, AIP 3-06-0095- -2025

Pre-Bid Meeting Date: 10:00 AM, March 26, 2025

Place of Pre-Bid Meeting:

Nevada County Airport, Airport Administration Building, 13083 John Bauer Avenue,
Grass Valley, California 95945

Bid Opening Date: 2:00 PM, April 11, 2025

Place of Bid Opening:

County of Nevada Purchasing Division, 950 Maidu Avenue, Suite 230,
Nevada City, CA 95959

A link to the Virtual Bid Opening can be located in the Invitation for Bid.

Name of Bidder: _____

The work to be done and referred to herein is in Nevada County, State of California, and shall be constructed in accordance with the Plans, Specifications (including the payment of not less than the wage rates set forth therein) and the Contract annexed hereto.

The work to be done is shown on project documents entitled: Plans and specifications for the Nevada County Airport Nevada County Airport, Nevada County, California, Schedule A - Reconstruct Ramp 4 Taxilanes, Alternate A1 - Reconstruct Ramp 4 Access Road, Schedule B and Alternate B1 - Crack Repair Ramp 4 Taxilanes, AIP 3-06-0095- -2025

There are thirty (30) working days allowed for completion of the total project. Contractor shall be limited to thirty (30) working days for the Total Project.

Bidder further agrees that should he/she fail to complete any segment of work in the time specified, he/she will pay liquidated damages in the amount of **\$3,000.00** to the County for each consecutive calendar day thereafter as prescribed in these specifications.

The undersigned, as bidder, declares that the only persons or parties interested in this bid as principals are those named herein; that this bid is made without collusion with any other person, firm, or corporation, and in submitting this bid, the undersigned bidder agrees that he or she has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to and all other documents listed or incorporated in the bidding documents and contract documents; and bidder proposes, and agrees if this bid is accepted, that bidder will contract with the County of Nevada in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus, and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of County as therein set forth, and that bidder will take in full payment therefor the following:

BID SCHEDULE

Item No.	Estimated Quantity	Item Description and Unit Price (Written in Words)	Unit Price	Item Total
SCHEDULE A – RECONSTRUCT RAMP 4 TAXILANES				
A1	1 Lump Sum	SWPPP Prepared by Qualified SWPPP Developer (QSD) and SWPPP Implementation and Monitoring (C-103) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
A2	1 Lump Sum	Mobilization (C-105)* _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____ *
A3	1 Lump Sum	Marking and Lighting of Closed Airport Facilities (C-106) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
A4	1 Lump Sum	Clearing and Grubbing (P-151) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
A5	650 CY	Unclassified Excavation (P-152) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A6	610 CY	Muck Excavation (P-152) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A7	3,650 SY	Scarify and Recompact Subgrade (P-152) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____

* Mobilization shall be limited to 10 percent of the total Schedule A cost.

Item No.	Estimated Quantity	Item Description and Unit Price (Written in Words)	Unit Price	Item Total
A8	370 CY	Subbase Course (P-154) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A9	900 SY	Geogrid (P-154) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____
A10	600 CY	In-Place Full Depth Recycled (FDR) Asphalt Aggregate Subbase Course – Pulverizing, Mix, Excavate, Stockpile, and Place and Compact as Subbase Course (P-207) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A11	500 CY	Crushed Aggregate Base Course (P-209) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A12	800 TONS	Asphalt Surface Course (P-401) _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____
A13	3 TONS	Emulsified Asphalt Prime Coat (P-602) _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____
A14	2 TONS	Emulsified Asphalt Tack Coat (P-603) _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____

Item No.	Estimated Quantity	Item Description and Unit Price (Written in Words)	Unit Price	Item Total
A15	90 LF	Concrete Curb (P-610) _____ Dollars and _____ Cents per Linear Foot	\$ _____	\$ _____
A16	500 SF	Marking (P-620) _____ Dollars and _____ Cents per Square Foot	\$ _____	\$ _____
A17	50 LB	Reflective Media (P-620) _____ Dollars and _____ Cents per Pound	\$ _____	\$ _____
A18	100 LF	12-inch HDPE Storm Drain (D-701) _____ Dollars and _____ Cents per Linear Foot	\$ _____	\$ _____
A19	1 EA	12-inch Plastic Flared End Sections (D-701) _____ Dollars and _____ Cents per Each	\$ _____	\$ _____
A20	100 SY	Rip Rap (D-701) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____
A21	1 EA	Inlets (D-751) _____ Dollars and _____ Cents per Each	\$ _____	\$ _____
A22	7 EA	L-853 Retroreflective Markers, 18-inch (L-125) _____ Dollars and _____ Cents per Each	\$ _____	\$ _____
TOTAL BID SCHEDULE A (In Figures)			\$ _____	
TOTAL BID SCHEDULE A (In Words) _____				

Item No.	Estimated Quantity	Item Description and Price (Written in Words)	Unit Price	Item Total
ALTERNATE A1 – RECONSTRUCT RAMP 4 ACCESS ROAD				
A1-1	1 Lump Sum	SWPPP Prepared by Qualified SWPPP Developer (QSD) and SWPPP Implementation and Monitoring (C-103) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
A1-2	1 Lump Sum	Mobilization (C-105)** _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____ **
A1-3	1 Lump Sum	Marking and Lighting of Closed Airport Facilities (C-106) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
A1-4	1 Lump Sum	Clearing and Grubbing (P-151) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
A1-5	110 CY	Unclassified Excavation (P-152) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A1-6	70 CY	Muck Excavation (P-152) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A1-7	380 SY	Scarify and Recompact Subgrade (P-152) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____

** Mobilization shall be limited to 10 percent of the total Alternate A1 cost.

Item No.	Estimated Quantity	Item Description and Price (Written in Words)	Unit Price	Item Total
A1-8	100 CY	Subbase Course (P-154) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A1-9	100 SY	Geogrid (P-154) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____
A1-10	40 CY	In-Place Full Depth Recycled (FDR) Asphalt Aggregate Subbase Course – Pulverize, Mix, Excavate, Stockpile, Haul, Place, and Compact (P-207) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A1-11	50 CY	Crushed Aggregate Base Course (P-209) _____ Dollars and _____ Cents per Cubic Yard	\$ _____	\$ _____
A1-12	70 TONS	Asphalt Surface Course (P-401) _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____
A1-13	0.5 TONS	Emulsified Asphalt Prime Coat (P-602) _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____
A1-14	0.5 TONS	Emulsified Asphalt Tack Coat (P-603) _____ d _____ Dollars and _____ Cents per Ton	\$ _____	\$ _____

Item No.	Estimated Quantity	Item Description and Price (Written in Words)	Unit Price	Item Total
A1-15	1 Lump Sum	Replace Existing Gate Loops – Plan Sheet No. 7 _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
TOTAL ALTERNATE A1 (In Figures)			\$	
TOTAL ALTERNATE A1 (In Words) _____				

Item No.	Estimated Quantity	Item Description and Price (Written in Words)	Unit Price	Item Total
SCHEDULE B – CRACK REPAIR RAMP 4 TAXILANES				
B1	1 Lump Sum	Mobilization (C-105)*** _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____ ***
B2	1 Lump Sum	Marking and Lighting of Closed Airport Facilities (C-106) _____ Dollars and _____ Cents Lump Sum	\$ _____	\$ _____
B3	8,200 LF	Crack Sealing Filler Type C – Seal New Cracks or Reseal Existing Cracks (P-605) _____ Dollars and _____ Cents per Linear Foot	\$ _____	\$ _____
B4	700 SY	Crack Sealing Filler Type S – Crack Seal/Seal Surface (P-605) _____ Dollars and _____ Cents per Square Yard	\$ _____	\$ _____
B5	460 SF	Surface Preparation – Marking Removal with Fog Seal (P-620) _____ Dollars and _____ Cents per Square Foot	\$ _____	\$ _____
B6	620 SF	Marking (P-620) _____ Dollars and _____ Cents per Square Foot	\$ _____	\$ _____

*** Mobilization shall be limited to 10 percent of the total Schedule B cost.

Item No.	Estimated Quantity	Item Description and Price (Written in Words)	Unit Price	Item Total
B7	60 LB	Reflective Media (P-620) _____ Dollars and _____ Cents per Pound	\$ _____	\$ _____
TOTAL BID SCHEDULE B (In Figures)			\$ _____	
TOTAL BID SCHEDULE B (In Words) _____				
ALTERNATE B1				
B1-1	700 SY	Additional Cost for Using GAP Patch 550 for Crack Seal Type S – Crack Seal/Seal Surface (P-605) _____ Dollars and _____ Cents per Square Yard	\$ _____ (Cost is in addition to cost in Bid Item B4. If Alt B1 is accepted Bid Items B4 and B1-1 will be paid for Type S Crack Seal completed)	\$ _____
TOTAL ALTERNATE B1 (In Figures)			\$ _____	
TOTAL ALTERNATE B1 (In Words) _____				

Total Bid Schedule A	\$ _____
Total Bid Alternate A1	\$ _____
Total Bid Schedule B	\$ _____
Total Bid Alternate B1	\$ _____
Total Bid (A+A1+B+B1)	\$ _____

The lowest responsive and responsible bidder will be determined on the basis of the total of Schedule A + Alternate A1 + Schedule B + Alternate B1 combined. The Owner reserves the right to award the contract on the basis of:

- Schedule A + Schedule B, or
- Schedule A + Schedule B + Alternate A1, or
- Schedule A + Schedule B + Alternate B1, or
- Schedule A + Schedule B + Alternate A1 + Alternate B1

as set forth in the bid form and noted herein depending on available funding from the Federal Aviation Administration.

The undersigned bidder agrees to furnish the required bonds or other security and to enter into a contract within the time specified in the Instructions to Bidders, and further agrees to complete all work by the bid, in accordance with all requirements the contract.

Receipt of copies of the following addenda is hereby acknowledged.

<u>Addendum No.</u>	<u>Bidder's Signature</u>	<u>Date Acknowledged</u>
_____	_____	_____
_____	_____	_____

All addenda received have been considered in preparation of this bid.

Enclosed herewith are the Bid Form, Bid Bond or other security, Experience Statement, Subcontractor Listing and Bidder's Representations form.

In submitting this bid it is understood that the right is reserved by County to reject any and all bids, and it is understood that this bid may not be withdrawn during the period set forth in the Instructions to Bidders.

Envelopes containing bids must be marked as required by the Instructions to Bidders.

County reserves the right to reject any and all bids and to waive any irregularities in bids.

The amount of the bid for comparison purposes will be the total of all items. The total of unit basis items will be determined by extension of the item price bid on the basis of the estimated quantity set forth for the item.

Prices bid shall include overhead, profit, and all applicable taxes.

By submission of this bid, each bidder certified, and in the case of a joint bid each party thereto certifies as to its 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.

A bid bond for bids over \$25,000 will accompany this bid in a sum of not less than ten percent (10%) of the total amount of the bid and shall be on a form approved by County or a form which is substantially similar, which is attached thereto.

If this bid shall be accepted and the undersigned shall fail to contract as aforesaid, and to give the performance bond and labor and material bond as required in the contract with a surety satisfactory to County within the number of days set forth in the Instructions to Bidders after receipt of notice that the contract has been awarded to the undersigned, County may, at its option, determine that the bidder has abandoned the contract and thereupon the award of the contract shall be null and void and the bidder and surety shall forfeit the security accompanying this bid to the County of Nevada.

Accompanying this bid is: Circle one: Bidder's Bond – Cashier's Check – Certified Check -- Cash

for \$_____ an amount equal to ten percent (10%) of the total bid.

The names of individuals who are principals in any partnership, joint venture, business association or corporation in the foregoing bid are as follows:

Licensed in accordance with an act providing for the registration of contractors, License No. _____

Dated: _____

Authorized Signature of Bidder

PRINTED NAME OF AUTHORIZED REPRESENTATIVE: _____

BUSINESS ADDRESS: _____

PLACE OF RESIDENCE: _____

TELEPHONE NUMBER: _____

EMAIL ADDRESS: _____

CLASSIFICATION OF CONTRACTOR'S LICENSE: _____

EXPIRATION DATE OF CONTRACTOR'S LICENSE: _____

DIR# _____ FEDERAL TAX ID. NO. _____

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation; if bidder is a co-partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts on behalf of the co-partnership; and if bidder is an individual, his or her signature shall be placed above. If a bidder is a joint venture, the documents must be signed by an authorized officer of each firm to the joint venture and shall include the California Contractor's License number of each partner to the joint venture. The signature of any attorney-in-fact must be notarized.

BIDDER'S BOND

STATE OF CALIFORNIA

COUNTY OF NEVADA

KNOW ALL PERSONS BY THESE PRESENT,

That we _____ as principal, and _____

_____ as surety, are held and firmly bound unto the County of Nevada in the sum of ten percent (10%) of the total amount of the bid of the principal above named, submitted by said principal to the County of Nevada for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, to the County of Nevada, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents. In no case shall the liability of the surety hereunder exceed the sum of
\$ _____.

The condition of this obligation is such that whereas the principal has submitted the above- mentioned bid to the County of Nevada, as aforesaid, for certain construction specifically described as follows, for which bids are to be opened at Nevada County, California, on _____, 20____, for:

NOW, THEREFORE, if the aforesaid principal is awarded the contract, and within the time and manner required by the contract documents, after the prescribed forms are presented to him or her for signature, enters into a written Contract, in the prescribed form, in accordance with the bid, and files two bonds with the County of Nevada, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by law, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect.

Notice to Surety shall be provided at:

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____
day of _____ A. D. 20_____.

_____ Seal	_____ Seal
_____ Seal	_____ Seal
_____ Seal	_____ Seal
Principal	Surety

NOTE: Signature of Surety shall be notarized. Power of attorney for surety with corporate seal affixed must be attached.

EXPERIENCE STATEMENT

The following outline is a record of the bidder's or subcontractor's recent experience in construction of a type similar in magnitude and character to that contemplated under this Contract. Additional numbered pages shall be attached to this page as required. Each page shall be headed "Experience Statement" and signed.

FAILURE TO COMPLETE WILL RESULT IN BID DISQUALIFICATION

1.) PROJECT NAME:

DATE:

INSPECTOR NAME

PHONE #

CONTRACT AMOUNT:

WORK PERFORMED:

2.) PROJECT NAME:

DATE:

INSPECTOR NAME

PHONE #

CONTRACT AMOUNT:

WORK PERFORMED:

3.) PROJECT NAME:

DATE:

INSPECTOR NAME

PHONE #

CONTRACT AMOUNT:

WORK PERFORMED:

4.) PROJECT NAME:

DATE:

INSPECTOR NAME

PHONE #

CONTRACT AMOUNT:

WORK PERFORMED:

Signature of Contractor

SUBCONTRACTOR LIST

Listed hereunder is the name, Contractor's license number, the address of place of business, and the category of the work on the Contract for each subcontractor who will perform work or labor or render service to the undersigned bidder in or about the construction of the work hereinabove described, in excess of one-half of one percent (0.5%) of the total bid, if the Contract for the said work is awarded to the undersigned.

(Attach additional sheet, if necessary, and note attachment on this page.)

Name of Subcontractor	Contractor's License #	DIR Registration Number	Location of Business	Category of Work To Be Performed	% of Total Work

Signature of Contractor/Bidder: _____

*(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS BID FORM SHALL
ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS
WHICH ARE A PART OF THIS BID)*

BIDDER'S REPRESENTATIONS

I, the undersigned, declare as follows:

1. **BIDDER'S QUALIFICATIONS:** That neither I nor a company of which I am more than 50% owner have been disqualified from bidding, removed from a public works construction project or otherwise been prevented from bidding because of a violation of law or a safety regulation.

Further, I declare under penalty of perjury that neither I nor a company of which I am more than a 50% owner have had more than one final, unappealable finding of contempt of court by a Federal court within the immediately preceding two year period because of failure to comply with an order of the Federal court (Public Contract Code Section 10232), which orders the Contractor to comply with an order of the National Labor Relations Board.

Further, I declare under penalty of perjury that I have not been convicted by any court of any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of state or federal antitrust law in connection with the bidding upon, award of, or performance of any public works contract.

2. **WORKER'S COMPENSATION CERTIFICATION (LABOR CODE SECTION 1861):** That I am aware of the provisions of Section 3700 of the Labor Code of the State of California, which requires every employer to be insured against liability for Worker's 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 the work of this Contract.

3. **NONCOLLUSION DECLARATION:** I, the undersigned, declare that I am the _____ of _____ the party making the foregoing bid 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.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

DATED: _____

BIDDER: _____

CERTIFICATES REGARDING DEBARMENT

CERTIFICATION OF OFFEROR/BIDDER REGARDING DEBARMENT

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

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a “covered transaction”, must 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 Certification of Offeror /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

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

DATE _____ SIGNED BY _____

CERTIFICATION REGARDING LOBBYING

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

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

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

DATE _____ SIGNED BY _____

PROHIBITION OF SEGREGATED FACILITIES

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

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

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

Certification - The information above is true and complete
to the best of my knowledge and belief.

Name and Title of Signer (Please type)

Signature

Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

**BIDDER'S STATEMENT ON PREVIOUS
CONTRACTS SUBJECT TO EEO CLAUSE**

The Bidder shall complete the following statement by checking the appropriate lines:

*The Bidder has ☐ has not ☐ participated in a previous contract subject to the Equal Opportunity Clause prescribed by Executive Order 11246, as amended, of September 24, 1965.

*The Bidder has ☐ has not ☐ submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

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-I," prior to the award of contract:

*NOTE: Failure to complete these boxes may be grounds for rejecting bid.

Signature

(Name of Bidder)

Date

(Name & Title of Signing Official)

Business Address _____

TRADE RESTRICTION CERTIFICATION

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

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

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC 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 USTR or
- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

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

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

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

DATE _____ SIGNED BY _____

CERTIFICATION OF COMPLIANCE WITH FAA BUY AMERICAN PREFERENCE

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

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

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

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

- ☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101, BABA and other related U.S. statutes, guidance, and policies of the FAA by:
- a) Only installing steel and manufactured products produced in the United States;
 - b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States.
 - c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
 - d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

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

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

- a) To provide to the Airport Sponsor or FAA evidence that documents the source and origin of the steel and manufactured product.
 - b) To faithfully comply with providing U.S. domestic product.
 - c) To furnish U.S. domestic product for any waiver request that the FAA rejects.
 - d) 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 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for a Type 3 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:
- a) To submit to the Airport Sponsor or FAA within 15 calendar days of being selected as the responsive bidder, a formal waiver request and required documentation that supports the type of waiver being requested.
 - b) That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.
 - c) To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
 - d) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

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

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

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

- a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;
- b) Listing of all product components and subcomponents that are not comprised of 100 percent U.S. domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108 (products of unknown origin must be considered as non-domestic products in their entirety).
- c) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- d) 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 (Unreasonable Costs) - Applying this provision for iron, steel, manufactured goods or construction materials, would increase the cost of the overall project by more than 25 percent. The required documentation for this waiver is:

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

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

Date

Signature

Company Name

Title

CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

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

Certifications

- 1) The applicant represents that it is () is not () a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) The applicant represents that it is () is not () is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

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

Term Definitions

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

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

Date

Signature

Company Name

Title

BIDDERS LIST COLLECTION FORM
Prime Contractor

Firm Name: _____	Certified DBE: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Firm Address: _____	City: _____	State: _____	Zip Code: _____	
Contact Name: _____	Email Address: _____	Phone: _____		

NAICS Code(s) associated with Bid Project	Race of Majority Owner	Age of Firm	Annual Gross Receipts
	<input type="checkbox"/> Black American <input type="checkbox"/> Non-minority <input type="checkbox"/> Hispanic American <input type="checkbox"/> Other <input type="checkbox"/> Asian-Pacific American <input type="checkbox"/> Subcontinent Asian American <input type="checkbox"/> Native American	<input type="checkbox"/> Less than 1 year <input type="checkbox"/> 1 - 3 years <input type="checkbox"/> 4 - 7 years <input type="checkbox"/> 8 - 10 years <input type="checkbox"/> More than 10 years	<input type="checkbox"/> Less than \$1 million <input type="checkbox"/> \$1 - \$3 million <input type="checkbox"/> \$3 - \$6 million <input type="checkbox"/> \$6 - \$10 million <input type="checkbox"/> Over \$10 million
Gender of Majority Owner			
<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other			

Sub Contractor

Firm Name: _____	Certified DBE: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Firm Address: _____	City: _____	State: _____	Zip Code: _____	
Contact Name: _____	Email Address: _____	Phone: _____		

NAICS Code(s) associated with Bid Project	Race of Majority Owner	Age of Firm	Annual Gross Receipts
	<input type="checkbox"/> Black American <input type="checkbox"/> Non-minority <input type="checkbox"/> Hispanic American <input type="checkbox"/> Other <input type="checkbox"/> Asian-Pacific American <input type="checkbox"/> Subcontinent Asian American <input type="checkbox"/> Native American	<input type="checkbox"/> Less than 1 year <input type="checkbox"/> 1 - 3 years <input type="checkbox"/> 4 - 7 years <input type="checkbox"/> 8 - 10 years <input type="checkbox"/> More than 10 years	<input type="checkbox"/> Less than \$1 million <input type="checkbox"/> \$1 - \$3 million <input type="checkbox"/> \$3 - \$6 million <input type="checkbox"/> \$6 - \$10 million <input type="checkbox"/> Over \$10 million
Gender of Majority Owner			
<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other			

Sub Contractor

Firm Name: _____	Certified DBE: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Firm Address: _____	City: _____	State: _____	Zip Code: _____	
Contact Name: _____	Email Address: _____	Phone: _____		

NAICS Code(s) associated with Bid Project	Race of Majority Owner	Age of Firm	Annual Gross Receipts
	<input type="checkbox"/> Black American <input type="checkbox"/> Non-minority <input type="checkbox"/> Hispanic American <input type="checkbox"/> Other <input type="checkbox"/> Asian-Pacific American <input type="checkbox"/> Subcontinent Asian American <input type="checkbox"/> Native American	<input type="checkbox"/> Less than 1 year <input type="checkbox"/> 1 - 3 years <input type="checkbox"/> 4 - 7 years <input type="checkbox"/> 8 - 10 years <input type="checkbox"/> More than 10 years	<input type="checkbox"/> Less than \$1 million <input type="checkbox"/> \$1 - \$3 million <input type="checkbox"/> \$3 - \$6 million <input type="checkbox"/> \$6 - \$10 million <input type="checkbox"/> Over \$10 million
Gender of Majority Owner			
<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other			

Sub Contractor			
Firm Name: _____	Certified DBE: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Firm Address: _____	City: _____	State: _____	Zip Code: _____
Contact Name: _____	Email Address: _____		Phone: _____
NAICS Code(s) associated with Bid Project	Race of Majority Owner	Age of Firm	Annual Gross Receipts
	<input type="checkbox"/> Black American	<input type="checkbox"/> Non-minority	<input type="checkbox"/> Less than 1 year
	<input type="checkbox"/> Hispanic American	<input type="checkbox"/> Other	<input type="checkbox"/> 1 - 3 years
	<input type="checkbox"/> Asian-Pacific American		<input type="checkbox"/> 4 - 7 years
	<input type="checkbox"/> Subcontinent Asian American		<input type="checkbox"/> 8 - 10 years
Gender of Majority Owner		<input type="checkbox"/> More than 10 years	<input type="checkbox"/> Less than \$1 million
<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other			<input type="checkbox"/> \$1 - \$3 million
	<input type="checkbox"/> Native American		<input type="checkbox"/> \$3 - \$6 million
			<input type="checkbox"/> \$6 - \$10 million
			<input type="checkbox"/> Over \$10 million

Sub Contractor			
Firm Name: _____	Certified DBE: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Firm Address: _____	City: _____	State: _____	Zip Code: _____
Contact Name: _____	Email Address: _____		Phone: _____
NAICS Code(s) associated with Bid Project	Race of Majority Owner	Age of Firm	Annual Gross Receipts
	<input type="checkbox"/> Black American	<input type="checkbox"/> Non-minority	<input type="checkbox"/> Less than 1 year
	<input type="checkbox"/> Hispanic American	<input type="checkbox"/> Other	<input type="checkbox"/> 1 - 3 years
	<input type="checkbox"/> Asian-Pacific American		<input type="checkbox"/> 4 - 7 years
	<input type="checkbox"/> Subcontinent Asian American		<input type="checkbox"/> 8 - 10 years
Gender of Majority Owner		<input type="checkbox"/> More than 10 years	<input type="checkbox"/> Less than \$1 million
<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other			<input type="checkbox"/> \$1 - \$3 million
	<input type="checkbox"/> Native American		<input type="checkbox"/> \$3 - \$6 million
			<input type="checkbox"/> \$6 - \$10 million
			<input type="checkbox"/> Over \$10 million

Sub Contractor			
Firm Name: _____	Certified DBE: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Firm Address: _____	City: _____	State: _____	Zip Code: _____
Contact Name: _____	Email Address: _____		Phone: _____
NAICS Code(s) associated with Bid Project	Race of Majority Owner	Age of Firm	Annual Gross Receipts
	<input type="checkbox"/> Black American	<input type="checkbox"/> Non-minority	<input type="checkbox"/> Less than 1 year
	<input type="checkbox"/> Hispanic American	<input type="checkbox"/> Other	<input type="checkbox"/> 1 - 3 years
	<input type="checkbox"/> Asian-Pacific American		<input type="checkbox"/> 4 - 7 years
	<input type="checkbox"/> Subcontinent Asian American		<input type="checkbox"/> 8 - 10 years
Gender of Majority Owner		<input type="checkbox"/> More than 10 years	<input type="checkbox"/> Less than \$1 million
<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other			<input type="checkbox"/> \$1 - \$3 million
	<input type="checkbox"/> Native American		<input type="checkbox"/> \$3 - \$6 million
			<input type="checkbox"/> \$6 - \$10 million
			<input type="checkbox"/> Over \$10 million

Please copy page if you need to add more subcontractors.

FOSTERING SMALL BUSINESS PARTICIPATION
Background 49 CFR §23.26 and §26.39

The Sponsor has established a Small Business Element in accordance with 49 CFR Part 23 and 26 to facilitate competition by small business concerns, taking all reasonable steps to eliminate obstacles to their participation and to create a level playing field on which small businesses can compete fairly. While there is no specific numerical goal assigned to small business participation the prime contractor/concessionaire should make every effort to solicit small business concerns (as defined in 13 CFR Part 121 or 49 CFR Part 23.33) to participate as sub-contractors/sub-concessionaries, service providers, suppliers, etc.

The Sponsor encourages small business participation, including AC/DBE certified firms and SBA certified Small Disadvantaged Business (SDB), Women-Owned Small Business/Economically Disadvantaged Women-Owned Small Businesses (ED/WOSB), Veteran-Owned Small Business/Service-Disabled Veteran-Owned Small Business (SD/VOSB), 8(a) Small Business Development Program (8(a)), SBA Mentor-Protégé Program (SBA MP), and HUBZone Program (HUBZone).

AC/DBE certified firms can be located through the State's UCP website and SBA certified firms can be located through the Small Business Search Tool (<https://beta-search.certify.sba.gov/advanced> and https://dsbs.sba.gov/search/dsp_dsbs.cfm).

Prime Information

Firm Name: _____
 Firm Address: _____ City: _____ State: _____ Zip Code: _____
 Contact Name: _____ Email Address: _____ Phone: _____

Small Business Firms to be Utilized

Firm Name: _____
 Firm Address: _____ City: _____ State: _____ Zip Code: _____
 Contact Name: _____ Email Address: _____ Phone: _____

Is the firm currently certified? If yes, check the appropriate box(es) and provide proof of certification. If no, complete the non-certified small business verification form.

☐ AC/DBE ☐ SDB ☐ ED/WOSB ☐ SD/VOSB ☐ 8(a) ☐ SBA MP ☐ HUBZone ☐ No, Verification Form Attached

NAICS Code	Description of Work to be Performed	Estimated Total Cost of Work
		\$ -
		\$ -
		\$ -
		\$ -
Total Amount		\$ -

Firm Name: _____
 Firm Address: _____ City: _____ State: _____ Zip Code: _____
 Contact Name: _____ Email Address: _____ Phone: _____

Is the firm currently certified? If yes, check the appropriate box(es) and provide proof of certification. If no, complete the non-certified small business verification form.

☐ AC/DBE ☐ SDB ☐ ED/WOSB ☐ SD/VOSB ☐ 8(a) ☐ SBA MP ☐ HUBZone ☐ No, Verification Form Attached

NAICS Code	Description of Work to be Performed	Estimated Total Cost of Work
		\$ -
		\$ -
		\$ -
		\$ -
Total Amount		\$ -

Firm Name: _____
 Firm Address: _____ City: _____ State: _____ Zip Code: _____
 Contact Name: _____ Email Address: _____ Phone: _____

Is the firm currently certified? If yes, check the appropriate box(es) and provide proof of certification. If no, complete the non-certified small business verification form.

☐ AC/DBE ☐ SDB ☐ ED/WOSB ☐ SD/VOSB ☐ 8(a) ☐ SBA MP ☐ HUBZone ☐ No, Verification Form Attached

NAICS Code	Description of Work to be Performed	Estimated Total Cost of Work
		\$ -
		\$ -
		\$ -
		\$ -
Total Amount		\$ -

Prime Signature

Signature: _____ Company Name: _____
 Print Name: _____ Date: _____
 Title: _____

Reviewer Certification (For use by Sponsor Only)

Signature: _____ Company Name: _____
 Print Name: _____ Date: _____
 Title: _____

NON-CERTIFIED SMALL BUSINESS VERIFICATION FORM

Background 49 CFR §23.26 AND §26.39

Firms seeking to participate under the Sponsor's Small Business Element who are not certified under one of the pre-qualified certifications listed on the Fostering Small Business Participation Form but believe their firm meets the small business requirements per 13 CFR Part 121 or 49 CFR 23.33 should complete the attached form and provide the requested documentation. Firms meeting the requirements as verified by the Sponsor are eligible to participate in the Small Business Participation Plan.

Firm Information

Firm Name: _____
 Firm Address: _____ City: _____ State: _____ Zip Code: _____
 Contact Name: _____ Email Address: _____ Phone: _____

Business Profile

Describe the primary activities of your firm:	Associated NAICS Codes:
---	-------------------------

Number of Employees

Full-time: _____ Part-time: _____ Total: _____

Gross Receipts of Firm

Gross Receipts of Firm for the last 5 years: Attach tax returns for the last five years.	Year: _____	Total Receipts: \$	-
	Year: _____	Total Receipts: \$	-
	Year: _____	Total Receipts: \$	-
	Year: _____	Total Receipts: \$	-
	Year: _____	Total Receipts: \$	-
	Year: _____	Average Receipts: \$	-

Gross Receipts for all Affiliates*

Gross Receipts of Affiliates for the last 5 years: Affiliates are defined in accordance with the Small Business Administration (SBA) definition. Attach tax returns for all affiliate firms for the last five years.	Year: _____	Total Receipts: \$	-
	Year: _____	Total Receipts: \$	-
	Year: _____	Total Receipts: \$	-
	Year: _____	Total Receipts: \$	-
	Year: _____	Total Receipts: \$	-
	Year: _____	Average Receipts: \$	-

Firm Signature

The firm attests that the presented information is accurate and correct.

Signature: _____	Company Name: _____
Print Name: _____	Date: _____
Title: _____	

Reviewer Certification (For use by Sponsor Only)

The above presented information and attachments have been reviewed and it is concluded that: ☐ Meets the requirements of a Small Business ☐ Does not meet the requirements of a Small Business

Signature: _____	Employer: _____
Print Name: _____	Date: _____
Title: _____	

CERTIFICATION REGARDING DOMESTIC PREFERENCES FOR PROCUREMENTS

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

Date

Signature

Company Name

Title

**PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR
EQUIPMENT**

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

Date

Signature

Company Name

Title

IRAN CONTRACTING ACT CERTIFICATION (Public Contract Code § 2204)

NEVADA COUNTY AIRPORT, GRASS VALLEY, NEVADA COUNTY, CALIFORNIA, *SCHEDULE A - RECONSTRUCT RAMP 4 TAXILANES, ALTERNATE A1 - RECONSTRUCT RAMP 4 ACCESS ROAD, SCHEDULE B AND ALTERNATE B1 - CRACK REPAIR RAMP 4 TAXILANES*, AIP 3-06-0095-____-2025
(“Project” or “Contract”)

Pursuant to Public Contract Code (PCC) section 2204, an Iran Contracting Act certification is required for solicitations of goods or services of one million dollars (\$1,000,000) or more.

Bidder shall complete **ONLY ONE** of the following three paragraphs.

☐ 1. Bidder’s total bid is less than one million dollars (\$1,000,000).

OR

☐ 2. Bidder’s total bid is one million dollars (\$1,000,000) or more, but Bidder is **not** on the current list of persons engaged in investment activities in Iran created by the California Department of General Services (“DGS”) pursuant to Public Contract Code § 2203(b), and Bidder is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

OR

☐ 3. Bidder’s total bid one million dollars (\$1,000,000) or more, but the County has given prior written permission to Bidder to submit a proposal pursuant to PCC 2203(c) or (d). **A copy of the written permission from the County is included with Bid.**

I certify that I am duly authorized to legally bind the bidder to this certification, that the contents of this certification are true, and that this certification is made under the laws of the State of California.

Date

Signature

Company Name

Title

FLEET COMPLIANCE CERTIFICATION

Bidder hereby acknowledges that they have reviewed the California Air Resources Board's policies, rules and regulations and are familiar with the requirements of Title 13, California Code of Regulations, Division 3, Chapter 9, effective on January 1, 2024 (the "Regulation"). Bidder hereby certifies, subject to penalty for perjury, that the option checked below relating to the Bidder's fleet, and/or that of their subcontractor(s) ("Fleet") is true and correct:

- ☐ The Fleet is subject to the requirements of the Regulation, and the appropriate Certificate(s) of Reported Compliance have been attached hereto.
- ☐ The Fleet is exempt from the Regulation under section 2449.1(f)(2), and a signed description of the subject vehicles, and reasoning for exemption has been attached hereto.
- ☐ Bidder and/or their subcontractor is unable to procure R99 or R100 renewable diesel fuel as defined in the Regulation pursuant to section 2449.1(f)(3). Bidder shall keep detailed records describing the normal refueling methods, their attempts to procure renewable diesel fuel and proof that shows they were not able to procure renewable diesel (i.e. third party correspondence or vendor bids).
- ☐ The Fleet is exempt from the requirements of the Regulation pursuant to section 2449(i)(4) because this Project has been deemed an Emergency, as defined under section 2449(c)(18). Bidder shall only operate the exempted vehicles in the emergency situation and records of the exempted vehicles must be maintained, pursuant to section 2449(i)(4).
- ☐ The Fleet does not fall under the Regulation or are otherwise exempted and a detailed reasoning is attached hereto.

Date

Signature

Company Name

Title

END OF PROPOSAL

COUNTY OF NEVADA
STATE OF CALIFORNIA

CONTRACT
FOR

(Date)

(Standard Public Works Contract)

**COUNTY OF NEVADA
STATE OF CALIFORNIA
CONTRACT**

THIS CONTRACT, made this _____ day of _____, 20__, by and between the COUNTY OF NEVADA, hereinafter referred to as "County," and _____, hereinafter referred to as Contractor.

WITNESSETH: That the County and Contractor, for the consideration hereinafter mentioned, agree as follows:

ARTICLE I: DEFINITIONS

Wherever used in these general conditions or in the other contract documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

Act of God

"Act of God" means an earthquake or flood, or other cataclysmic phenomenon of nature. A rain, windstorm, high water or other natural phenomenon of unusual intensity for the specific locality of the work, which might reasonably have been anticipated from historical records of the general locality of the work, shall not be construed as an Act of God.

Addenda

Written or graphic instruments issued prior to the opening of bids which clarify, correct or change the bidding documents.

Application for Payment

The form accepted by County which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the contract documents.

Calendar Days

Consecutive days of the month, including Saturdays, Sundays and holidays. A calendar day shall be the 24 hours running from midnight to the next midnight.

Change Order

A document which is signed by Contractor and County and authorizes an addition, deletion or revision in the work, or an adjustment in the contract price or the contract time, issued on or after the effective date of the contract.

Contract Documents

The written agreement covering the performance of the work and the furnishing of labor, materials and equipment in construction of the work. The agreement shall be construed to include the:

1. Invitation to Bid
2. Instruction to Bidders
3. Contractor's Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award
4. Contract
5. Addenda which pertain to the Contract
6. The Bonds
7. Any supplementary conditions or any and all written agreements amending or extending the work, time or price contemplated
8. The Plans and Specifications and Drawings as identified in the Contract

9. Certificates of Insurance

10. Other: _____

Contract Price

Either the total lump sum bid of the Contractor or the total of the unit price bids of the Contractor extended based upon the estimated quantities set forth in the bid, or combinations thereof, plus or minus any adjustments made in accordance with the contract.

Contractor

The person or persons, co-partnership, joint venturers or corporation who have entered into a contract with County as party or parties of the second part and/or their legal representatives.

Contractor's Plant and Equipment

Everything, except labor, brought onto the site by the Contractor in order to carry out the work, but not to be incorporated in the work.

County

The County of Nevada and any person or persons to whom the power belonging to County shall be duly designated, including but not limited to an engineer or architect. Only those persons designated in writing by the County Executive Officer or Director of the department overseeing the project shall have authority to act on behalf of County.

Day

A calendar day of 24 hours, except when preceded by "working", as defined below.

Defective

An adjective which when modifying the word "work" refers to work that is unsatisfactory, faulty or deficient, or does not conform to the contract documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the contract documents, or has been damaged (unless responsibility for the protection thereof has been assumed by County).

Directed

"Directed", "designated", "permitted", "required", "accepted", and words of like import, wherever and in whatever manner used means as directed, designated, permitted, required, and accepted by County.

Director

"Director" shall mean the Director of the department overseeing the project.

Drawings

The drawings which show the character and scope of the work to be performed and which have been prepared or approved by County and are referred to in the contract documents.

Effective Date of the Contract

The date indicated in the Contract on which it becomes effective, but if no such date is indicated it means the date on which the Contract is signed and delivered by the last of the two parties to sign and deliver.

Engineer

The person specifically designated in writing by County to function as staff adviser and/or consultant to County on engineering matters relating to this contract. Only those persons designated by County, in writing, shall have authority to act for County in the administration of this contract. Said written designation shall be signed by the County Executive Officer or Director of the department overseeing the project.

Equal

A device, material, equipment, technique or method that conforms to the intent of that specified or indicated on the Drawing.

Field Order

A written order issued by County which orders minor changes in the work but which does not involve a change in the contract price or the contract time.

Final Acceptance, Date of

The date when all final punch list items are corrected, the final inspection has been completed and when the governing body and/or funding agency formally accepts the project as complete. This date will be used to establish the start date of the one-year warranty period for the contract.

Laboratory

The designated testing laboratory authorized by County to test materials and work involved in the contract.

Lien

Any claim by a person entitled to file a stop notice pursuant to the provisions of California Civil Code Sections 3179, et seq.

Notice of Award

The written notice by County to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, County will sign and deliver the Contract.

Notice to Proceed

A written notice given by County to Contractor fixing the date on which the contract time will commence to run and on which Contractor shall start to perform Contractor's obligations under the Contract Documents.

Partial Completion

Placing a portion of the work in service for the purpose for which it is intended (or a related purpose) before reaching completion of all the work.

Person

Includes firms, companies and corporations.

Project

The total construction which is required by the Contract Documents which may be all of the work or a part as indicated in the Contract Documents.

Schedule of Values

A list of divisions of the total scope of work under the contract made by the Contractor and approved by the County for purposes of progress payments.

Shall

"Shall" or "will", whenever used, is mandatory.

Shop Drawings

All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for Contractor to illustrate some portion of the work and all product data illustrations, brochures, standard schedules, performance charts, instructions, diagrams, samples, and other information prepared by a supplier and submitted by Contractor to illustrate material or equipment for some portion of the work.

Specifications

Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the work and certain administrative details applicable thereto.

Standard Specifications

Specifications which are authored and authorized by a particular industry or agency which may be incorporated by reference. Where so incorporated, they are incorporated for use of technical data and specifications only. If there is a conflict between the standard specifications and express terms of this contract, the provisions set forth in the contract shall prevail.

Subcontractor

An individual, firm or corporation having a direct contract with Contractor or with any other subcontractor for the performance of a part of the work at the site.

Substitute

A device, material, equipment, technique or method of construction that differs from that intended or indicated on the Drawings.

Sufficient

"Sufficient", "necessary", "proper", "acceptable", "satisfactory", "desirable", and words of like import, wherever and in whatever manner used, with or without reference to the County, means sufficient, necessary, proper, acceptable, satisfactory and desirable in the judgment of the County.

Supplementary Conditions

An addition to the Contract Documents which supplements the main Contract.

Underground Facilities

All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Unit Price Work

Work to be paid for on the basis of unit prices.

Work

The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

Working Day

A working day is any day except Saturdays, Sundays, or legal holidays and days on which the Contractor is specifically required by special provisions, by any labor contract, or by law, to suspend construction operations. Also excepted is any day on which the Contractor is prevented by inclement weather conditions resulting therefrom, or other phenomena of nature from proceeding with at least seventy-five percent (75%) of the normal labor and equipment force for at least five (5) hours toward completion of the current controlling item on the accepted project schedule. Should the conditions prevent the work from beginning at the usual starting time, or prevent the Contractor from proceeding with seventy-five percent (75%) of the normal labor and equipment force for a period of at least five (5) hours, and the crew is dismissed as a result thereof, Contractor will not be charged for a working day whether or not conditions change so that the major portion of the day could be considered to be suitable for work on the controlling item.

ARTICLE II: SCOPE OF WORK

Contractor, at Contractor's own proper costs and expense, shall do all the work and furnish all the materials necessary to construct and/or reconstruct and complete in good workmanlike and substantial manner and to the satisfaction of the County, the following: Nevada County Airport, Nevada County, California, [Reconstruct Ramp 4 Taxilanes], [Reconstruct Ramp 4 Access Road], [Crack Repair Ramp 4 Taxilanes], which shall be constructed in accordance with this Contract, the Invitation to Bid, the Instruction to Bidders, the Plans and Specifications and Drawings, and all other contract documents attached hereto and which are incorporated herein by reference and made a part of this Contract as if set forth in full.

ARTICLE III: CONTRACT TIME

Contractor will start work to be performed under this Contract within 10 days after the Contractor is instructed in writing by County to proceed with the work. Said work shall be diligently prosecuted to completion. All the work shall be completed and ready for acceptance within 30 working days from the date of the mailing of the Notice to Proceed. When any period of time is referred to in the contract documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of

any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

ARTICLE IV: CHANGE OF CONTRACT TIME

Change by Change Order

The contract time may only be changed by change order. A request for an extension or shortening of the contract time shall be based on written notice delivered by the party making the request to County promptly after the occurrence of the event giving rise to the request and stating the general nature of the request. Notice of the extent of the request with supporting data shall be delivered to County and shall be accompanied by the written statement that the adjustment requested is the entire adjustment to which the requesting party has reason to believe it is entitled as a result of the occurrence of said event. No request for an adjustment in the contract time will be valid if not submitted in accordance with the requirements of this paragraph.

Contract Time May Be Extended

The contract time will be extended in an amount equal to time lost due to delays beyond the control of Contractor if the request is made therefor as provided in this Article. Such delays shall include, but not be limited to, acts of neglect by County or others performing additional work, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

Delay and Price Change

All time limits stated in the contract documents are of the essence. There shall be no adjustment of contract price due to delays which are not caused by the County, including but not limited to delays for fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God and the acts of any other person or entity. The provisions of this Article shall not exclude recovery for damages for delay which is caused by the County.

Delays in Completion of the Work

1. Notice of Delays: Whenever the Contractor foresees any delay in the prosecution of the work, and in any event immediately upon the occurrence of any delay which the Contractor regards as unavoidable, Contractor shall notify County in writing of the probability of the occurrence of such delay and its cause in order that County may take immediate steps to prevent, if possible, the occurrence or continuance of the delay or, if this cannot be done, may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the work are to be delayed thereby. It will be assumed that any and all delays which have occurred in the prosecution and completion of the work have been avoidable delays, except such delays as shall have been called to the attention of County at the time of their occurrence and found by County to have been unavoidable. The Contractor shall make no requests for extensions of time as to delay not called to the attention of County at the time of its occurrence.
2. Avoidable Delays: Avoidable delays in the prosecution or completion of the work shall include all delays which in the opinion of County would have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor or Contractor's subcontractors.
3. Unavoidable Delays: Unavoidable delays in the prosecution or completion of the work shall include all delays which, in the opinion of County, result from causes beyond the control of the Contractor and which could not have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor or the subcontractors and/or any suppliers. Delay in completion due to contract modifications ordered by County and unforeseeable delays in the completion of work or interference by other contractors employed by County will be considered unavoidable delays insofar as they interfere with the Contractor's completion of the work.

Extension of Time

1. Avoidable Delays: In case the work is not completed in the time specified, including such extensions of time as may have been granted for unavoidable delays, the Contractor will be

assessed damages for delay in accordance with the liquidated damages provision. The County, however, shall have the right to grant an extension of time for avoidable delay if it is deemed in County's best interest to do so. During such extension of time, the Contractor will be charged for engineering and inspection services and other costs but will not be assessed damages for the delay.

2. Unavoidable Delays: For delays which County considers to be unavoidable, the Contractor shall, pursuant to Contractor's application, be allowed an extension of time beyond the time herein set forth, proportional to such delay or delays, in which to complete the contract. During such extension of time, neither extra compensation for engineering and inspection provided nor damages for delay will be charged to the Contractor.

Liquidated Damages

County and Contractor recognize that time is of the essence and that County will suffer financial loss if the work is not completed within the time specified above, plus any extensions thereof allowed in accordance with this contract. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by County if the work is not completed on time. Accordingly, instead of requiring any such proof, and due to impracticality and difficulty of ascertaining exact damages caused by delay, County and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay County of Nevada **\$3,000.00** for each day that expires after the time specified above for completion. Such damages shall only be payable by Contractor to County if the delay is a result of the failure of Contractor to timely perform on its part and not occasioned by the County or any State or Federal agency. In case of joint responsibility for delay in the final completion of the work, where two or more separate contracts are in force at the same time and cover work at the same site, liquidated damages assessed against any one Contractor will be based upon the individual responsibility of that Contractor for the delay as determined by, and in the judgment of, County. County shall have the right to deduct the liquidated damages from any money in its hands, otherwise due, or to become due, to Contractor, or to sue for and recover compensation for damages for nonperformance of this contract within the time stipulated. It is acknowledged that the subject contract is a public project which is subject to the provisions of the Public Contracts Code. Accordingly, County has determined and the Contractor acknowledges that the liquidated damages as established herein are governed by the provisions of Government Code Section 53069.85 and are predicated upon the reasonable damages accruing to County stemming from any delay in the completion of this project.

ARTICLE V: CONTRACT PRICE

County shall pay Contractor for performance of the work in accordance with the Contract Documents in current funds as follows: _____ Dollars (\$_____)

ARTICLE VI: CHANGE OF CONTRACT PRICE

Contract Price

The contract price constitutes the total compensation (subject to authorized adjustments) payable to Contractor for performing the work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change in the contract price.

Change by Change Order

The contract price may only be changed by a written change order. Any request for an increase or decrease in the contract price shall be based on written notice delivered by the party making the request to the other party prior to the commencement of any extra work. Said request shall state the exact nature of the request.

Data regarding any change shall be delivered by Contractor prior to commencing extra work and shall be accompanied by Contractor's written statement that the amount requested covers all amounts (direct, indirect and consequential) to which the Contractor is entitled as a result of the extra work to be done. If said request is granted, County will issue a written change order therefor. No request for an adjustment in the contract price will be valid if not submitted in advance and in accordance with this paragraph.

Determination of Change in Contract Price

The value of any work covered by a change order or of any request for an increase or decrease in the contract price shall be determined in one of the following ways:

1. Where the work involved is covered by unit prices contained in the contract documents, by application of unit prices to the quantities of the items involved (subject to the provisions regarding unit price work set forth below).
2. By mutual agreement, and if there is no mutual agreement, no. 3 directly below shall apply.
3. On the basis of the cost of the work determined as provided below plus a Contractor's fee for overhead and profit as provided below.

Cost of the Work

The term "cost of the work" means the sum of all costs necessarily incurred and paid by Contractor in the proper performance of the extra work required or permitted under a change order. Except as otherwise may be agreed to in writing by County, such costs shall be in amounts no higher than those prevailing in the locality of the project and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the work under schedules of job classifications agreed upon by County and Contractor. Payroll costs for employees not employed full time on the work shall be apportioned on the basis of their time spent on the work. Payroll costs shall include salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by County in writing.
2. Cost of all materials and equipment furnished and incorporated in the work, including costs of transportation and storage thereof, and suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless County deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to County. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to County, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to the subcontractors for work performed by subcontractors. If required by County, Contractor shall obtain competitive bids from subcontractors acceptable to Contractor and shall deliver such bids to County who will then determine which bids will be accepted. If a subcontract provides that the subcontractor is to be paid on the basis of cost of the work plus a fee, the subcontractor's cost of the work shall be determined in the same manner as Contractor's cost of the work. All subcontracts shall be subject to the other provisions of the contract documents insofar as applicable.
4. Costs of special consultants (including engineers, architects, testing laboratories, surveyors, and accountants) employed for services specifically, and only, related to the work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the work, and cost, less market value of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by County, and the costs

of transportation, loading, unloading, installation, dismantling and removal thereof, all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the work.

- d. Sales, consumer, use or similar taxes related to the work, and for which Contractor is liable, imposed by laws and regulations.
- e. Deposits lost for causes other than negligence of Contractor, any subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses), not compensated by insurance or otherwise, to the work or otherwise sustained by contractor in connection with the performance and furnishing of the work (except losses and damages within the deductible amounts of property insurance established by County), provided they have resulted from causes other than the negligence of Contractor, any subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of County. No such losses, damages and expenses shall be included in the cost of the work for the purpose of determining Contractor's fee. If, however, any such loss or damage requires reconstruction and Contractor is placed in charge thereof, Contractor shall be paid for services a fee proportionate to that stated below under Contractor's fee.
- g. The cost of utilities, fuel and sanitary facilities at the site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the work.
- i. Cost of premiums for additional bonds and insurance required because of changes in the work and premiums for property insurance coverage within the limits of the deductible amounts established by County in this contract.

Not Included in Cost of the Work

The term "cost of the work" shall not include any of the following:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by Contractor whether at the site or in Contractor's principal or a branch office for general administration of the work and not specifically included in the agreed upon schedule of job classifications referred to in this contract or specifically covered above under costs of special consultants, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the work and charges against Contractor for delinquent payments.
- 4. Cost of premiums for all bonds and for all insurance whether or not Contractor is required by the contract documents to purchase and maintain the same (except for the cost of premiums specifically covered above).
- 5. Costs due to the negligence of Contractor, any subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.
- 6. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included herein.

Contractor's Fee

The Contractor's fee allowed to Contractor for overhead and profit shall be determined by a fee based on the following percentages of the various portions of the cost of the work:

1. For all allowable costs of the work incurred under the paragraphs dealing with pay rolled employees and costs of materials and equipment, the Contractor's fee shall be fifteen percent;
2. For all allowable costs of the work incurred under the paragraph dealing with work done by subcontractors, the Contractor's fee shall be five percent; and if a subcontract is on the basis of cost of the work plus a fee, the maximum allowable to Contractor on account of overhead and profit of all subcontractors shall be fifteen percent, for a total add-on of twenty percent.
3. No fee shall be payable on the basis of costs itemized under paragraphs dealing with special consultants, supplemental costs and/or costs not included in cost of the work.
4. The amount of credit to be allowed by Contractor to County for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in Contractor's fee by an amount equal to ten percent of the net decrease; and
5. When both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change.

Cost Breakdown

Whenever the cost of any work is to be determined as set forth herein, Contractor will submit, in form acceptable to County, an itemized cost breakdown together with supporting data.

Cash Allowances

It is understood that Contractor has included in the contract price all allowances so named in the contract documents and shall cause the work so covered to be done by such subcontractors or suppliers and for such sums within the limit of the allowances as may be acceptable to County. Contractor agrees that:

1. The allowances include the cost to the Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and
2. Contractor's cost for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the contract price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

Prior to final payment, an appropriate change order will be issued to reflect actual amounts due Contractor on account of work covered by allowances, and the contract price shall be correspondingly adjusted.

Unit Price Work

Where the contract documents provide that all or part of the work is to be unit price work, initially the contract price will be deemed to include for all unit price work an amount equal to the sum of the established unit prices for each separately identified item of unit price work times the estimated quantity of each item as indicated in the contract documents. The estimated quantities of items of unit price work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial contract price. Determinations of the actual quantities and classifications of unit price work performed by Contractor will be made by County. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item. Except for items shown on the bid sheet or in the specifications as "contingency" items where no additional amounts will be allowable, where the quantity of any item of unit price work performed by Contractor differs more than 25 percent from the estimated quantity of such item indicated in the contract documents and there is no corresponding adjustment with respect to any other item of work, and if either party believes that it has incurred additional expense or reduced cost as a result thereof, either party may make a claim for an increase or decrease in the contract price if the parties are unable to agree as to the amount of any such increase or decrease.

Final Pay Quantities

When the estimated quantities for a specific portion of the work are designated on the plans as final pay quantities, said estimated quantities 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 such dimensions are revised, and such revisions 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 changes in the dimensions. The estimated quantities for such specific portion of the work shall be considered as approximate only and no guarantee is made that the quantities which can be determined by computations, based on the details and dimensions shown on the plans, will equal the estimated quantities. No allowance will be made in the event that the quantities based on computations do not equal the estimated quantities.

When portions of an item have been designated on the plans as final pay quantities, portions not so designated will be measured and paid for in accordance with the applicable provisions of these specifications and the special provisions.

In case of a discrepancy between the quantities shown on the plans as final pay quantities and the quantity of the same item shown in the Engineer's Estimate, payment will be based on the final pay quantities shown on the plans.

ARTICLE VII: PAYMENTS TO CONTRACTOR

Source of Funds

The source of funding by the County for this work shall be: _____ Org Code/Account Code

Schedule of Values

The schedule of values established for the work will serve as the basis for progress payments and will be incorporated into a form of application for payment acceptable to County. Progress payments on account of unit price work will be based on the number of units completed.

Invoices

Invoices or applications for payment to the County shall be detailed and shall contain full documentation of all work performed and all reimbursable expenses incurred. Where the scope of work on the contract is divided into various tasks, invoices shall detail the related expenditures accordingly. Labor expenditures need documentation to support time, subsistence, travel and field expenses. No expense will be reimbursed without adequate documentation. This documentation will include, but not be limited to, receipts for material purchases, rental equipment and subcontractor work.

Progress Payment

Once each month County shall cause an estimate to be made covering the work completed as of the date of the estimate. No materials shall be paid for until incorporated into the work. If, however, County reaches an agreement with Contractor to pay for materials and equipment not yet incorporated into the work due to some special circumstances, then Contractor must show that the materials or equipment were delivered and are suitably stored at the site or at another location agreed to in writing. In that event, the payment shall be based on a bill of sale, invoice or other documentation submitted by Contractor and warranting that County has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter referred to as "liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect County's interest therein, all of which will be satisfactory to County. The amount of retention with respect to progress payments will be five percent (5%).

Amounts of Progress Payments

Prior to completion, progress payments will be in an amount equal to:

1. Ninety-five percent (95%) of the work completed, and

2. Where applicable pursuant to the above, ninety percent (90%) of materials and equipment not incorporated in the work but delivered and suitably stored, less in each case the aggregate of payments previously made.
3. Thirty-five days after recording of the Notice of Completion but not later than 60 days after completion of the work as defined in Public Contract Code section 7107, and upon Contractor providing all required documentation, County will pay an amount sufficient to increase total payments to Contractor to one hundred percent (100%) of the contract price, less such amounts as County shall determine in accordance with this contract. County reserves the right to retain such funds as it shall determine in accordance with the contract documents to complete the work.
4. The Contractor may elect to receive 100% of payments due under this contract from time to time, without retention of any portion of the payment by the public agency, by depositing securities of equivalent value with County in accordance with the provisions of Section 22300 of the California Public Contract Code; except that no such substitution shall be allowed where federal money is funding the project and federal regulations or policies would prohibit such substitution of securities for the retention. Securities eligible for investment shall include those listed in Section 16430 of the California Government Code, or bank or savings and loan certificates of deposits. Such securities, if deposited by the bidder, shall be valued by County whose decision on the valuation of the securities shall be final. The bidder shall be the beneficial owner of any securities substituted for money withheld and shall receive any interest thereon.

Contractor's Warranty of Title

Contractor warrants and guarantees that title to all work, materials and equipment covered by any application for payment, whether incorporated in the project or not, will pass to County no later than the time of payment free and clear of all liens.

Payment of Progress Payment

County will submit each progress pay estimate to Contractor. Upon receipt back from Contractor of a signed copy of the pay estimate, County shall process the pay estimate for payment. The amount approved by County will become due thirty (30) days after receipt of the signed progress pay estimate. Said payment shall be made by County to Contractor unless County has knowledge of claims or liens filed in connection with the work.

Pursuant to Public Contract Code Section 20104.50, if the County fails to make any progress payment within thirty (30) days after receipt of an undisputed and properly submitted payment request it shall pay interest to Contractor at the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure. "Progress payment" for purposes of this paragraph includes all payments due Contractor except that portion of the final payment designated by the contract as retention earnings.

Also, pursuant to Public Contract Code Section 20104.50, each payment request shall be reviewed by County as soon as practicable after receipt for the purpose of determining that the payment request is a proper payment request. Any payment request determined not to be a proper payment request suitable for payment shall be returned to Contractor as soon as practicable, but not later than seven (7) days after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper. The number of days available to County to make a payment without incurring interest pursuant to Public Contract Code Section 20104.50 shall be reduced by the number of days by which County exceeds the seven (7) day return requirement. A payment request shall be considered properly executed if funds are available for payment of the payment request, and payment is not delayed due to an audit inquiry by the financial officer of the County.

County's Recommendation of Payment

By County's recommending any payment, Contractor cannot conclude that County represents that exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the work in the contract documents or that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by County or County to withhold payment to Contractor.

County May Refuse to Make Payment

County may refuse to make payment of the full amount or any part if, in County's opinion, it would be incorrect to make such payment. County may also refuse to make any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in County's opinion to protect County from loss because:

1. The work is defective, or completed work has been damaged requiring correction or replacement,
2. The contract price has been reduced by written amendment or change order,
3. Contractor has been required to correct defective work or complete work, or
4. Of County's actual knowledge of the occurrence of any of the events enumerated in paragraphs relating to suspension of work and termination.

County may refuse to make payment of the full amount because claims have been made against County on account of Contractor's performance or furnishing of the work or liens have been filed in connection with the work or there are other items entitling County to a set-off against the amount recommended, but County must give Contractor immediate written notice stating the reasons for such action.

Completion and Final Inspection

When Contractor considers the entire work ready for its intended use, Contractor shall notify County in writing that the entire work is completed. Within a reasonable time thereafter, County and Contractor shall make an inspection of the work to determine the status of completion. If County does not consider the work complete, County will notify Contractor in writing giving the reasons therefor. If County considers the work incomplete, County will prepare and deliver a list of items to be completed or corrected before final payment. Contractor shall immediately take such measures as are necessary to complete or correct the listed items.

Acceptance and Final Application for Payment

After Contractor has completed all such measures to remedy deficiencies to the satisfaction of County and delivered all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, marked-up record documents, property owner's releases and other documents, all as required by the contract documents, and after County has indicated that the work is acceptable, Contractor may make application for final payment. The final application for payment shall be accompanied by all documentation called for in the contract documents, together with complete and legally effective receipts, releases or waivers (satisfactory to County) from all subcontractors or material suppliers and an affidavit of Contractor that the releases and receipts include all labor, services, material and equipment for which a lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the work for which County or County's property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any subcontractor or supplier fails to furnish a release or receipt in full, or if a stop notice has been filed, Contractor may furnish a bond or other collateral satisfactory to County to indemnify County against any lien.

Final Payment

If, on the basis of County's review of the final application for payment and accompanying documentation, all as required by the contract documents, County is satisfied that Contractor's obligations under the contract documents have been fulfilled, County will, within seven (7) days after receipt of the final application for payment, process the application for payment. Otherwise, County will return the application to Contractor, indicating in writing the reasons for refusing to make final payment, in which case Contractor shall make the necessary corrections and resubmit the application. Thirty-five days after presentation to County of the application and accompanying documentation, in appropriate form and substance, but no later than 60 days after completion of the project as defined in Public Contract Code section 7107, or thirty-five (35) days after recording of a Notice of Completion, whichever date is later, the full retention will become due and will be paid by County to Contractor.

Delay in Completion Through No Fault of Contractor

If, through no fault of Contractor, final completion of the work is significantly delayed and if County so confirms, County shall, upon receipt of Contractor's final application for payment, and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. If the remaining balance to be held by County for work not fully completed or corrected is less than the retainage stipulated in the contract, and if the appropriate bonds have been furnished, the written consent of the surety to the payment of the balance due for that portion of the work fully completed and accepted shall be submitted by Contractor to County with the application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Contractor's Continuing Obligation

Contractor's obligation to perform and complete the work in accordance with the contract documents shall be absolute. Neither the issuance of a certificate of substantial completion, nor any payment by County to Contractor under the contract documents, nor any use or occupancy of the work or any part thereof by County, nor any act of acceptance by County nor any failure to do so, nor any review and approval of a shop drawing or sample submission, nor the issuance of a notice of acceptability, nor any correction of defective work by County will constitute an acceptance of work not in accordance with the contract documents or a release of Contractor's obligation to perform the work in accordance with the contract documents.

Waiver of Claims

The making and acceptance of final payment will constitute:

1. A waiver of all claims by County against Contractor, except claims arising from unsettled liens, or from defective work appearing after final inspection or from failure to comply with the contract documents or the terms of any special guarantees specified therein, or from any outstanding claims; however, it will not constitute a waiver by County of any rights in respect of Contractor's continuing obligations under the contract documents; and
2. A waiver of all claims by Contractor against County other than those previously made in writing and still unsettled.

Books of Account and Audit Provision

Contractor shall maintain on a current basis complete books and records relating to this contract. Such records shall include, but not be limited to, documents supporting all bids, all income and all expenditures. The books and records shall be original entry books with a general ledger itemizing all debits and credits for the work on this contract. In addition, Contractor shall maintain detailed payroll records including all subsistence, travel and field expenses, and canceled checks, receipts and invoices for all items. These documents and records shall be retained for at least five years from the completion of this contract. Contractor will permit County to audit all books, accounts or records relating to this contract or all books, accounts or records of any business entities controlled by Contractor who participated in this contract in any way. Any audit may be conducted on Contractor's premises or, at County's option, Contractor shall provide all books and records within a maximum of fifteen (15) days upon receipt of written notice from County. Contractor shall refund any moneys erroneously charged. If County ascertains that it has been billed erroneously by Contractor for an amount equaling 5% or more of the original bid, Contractor shall be liable for the costs of the audit in addition to any other penalty to be imposed.

ARTICLE VIII: PRELIMINARY MATTERS

Delivery of Certificates of Insurance

Before any work at the site is started, Contractor shall deliver to County certificates (and other evidence of insurance requested by County) which Contractor is required to purchase and maintain in accordance with the insurance provisions herein.

Delivery of Bonds

When Contractor delivers the executed Agreements to County, Contractor shall also deliver to County the bonds required herein. Notwithstanding the language in bonds authorizing attorneys' fees to be awarded if suit is brought upon the bond, no attorneys' fees shall be payable for any other suit brought under this contract.

Pre-construction Conference

Within five (5) days after receipt of the Notice to Proceed or upon County request, but before contractor starts the work at the site, a conference attended by Contractor and County and others as appropriate will be held to discuss schedules, procedures for handling shop drawings and other submittals and for processing applications for payment, and to establish a working understanding among the parties as to the work.

Delivery of Schedules

Contractor shall submit a schedule to the County at the Preconstruction Conference or two weeks prior to start of work, whichever is greater, including the following items:

1. An estimated progress schedule indicating the starting and completion dates of the various stages of the work;
2. A preliminary schedule of shop drawing submissions;
3. A preliminary schedule of product deliveries;
4. A preliminary schedule of values for all of the work which will include quantities and prices of items aggregating the contract price and will subdivide the work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of work which will be confirmed in writing by Contractor at the time of submission.

Finalizing Schedules

At least ten (10) days before submission of the first application for payment a conference attended by Contractor, County and others as appropriate will be held to finalize schedules. The finalized progress schedule will be acceptable to County as providing an orderly progression of the work to completion within the contract time, but such acceptance will neither impose on County responsibility for the progress or scheduling of the work nor relieve Contractor from full responsibility therefor. The finalized schedule of shop drawing submissions will be acceptable to County as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to County as to form and substance.

Before Starting Construction

Contractor shall provide County with at least 72 hours written notice of the date on which it intends to commence work. Before undertaking each and every part of the work, Contractor shall carefully study and compare the contract documents and check and verify pertinent figures shown thereon and all applicable field measurements. Contractor shall promptly report in writing to County any conflict, error or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from County before proceeding with any work affected thereby; however, Contractor shall not be liable to County for failure to report any conflict, error or discrepancy in the contract documents, unless Contractor had actual knowledge thereof or should reasonably have known thereof.

Contractor's Representations

In order to induce County to enter into this agreement, Contractor makes the following representations:

1. Contractor has familiarized himself or herself with the nature and extent of the contract documents, work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the work.
2. Contractor has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the work

which were relied upon by County in the preparation of the drawings and specifications and which have been identified in the contract documents.

3. Contractor has made or caused to be made examinations, investigations, and tests and studies of such reports and related data necessary for the performance of the work at the contract price, within the contract time and in accordance with the other terms and conditions of the contract documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by Contractor for such purposes.
4. Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the contract documents.
5. Contractor has given County written notice of all conflicts, errors or discrepancies that have been discovered in the contract documents and the written resolution thereof by County is acceptable to Contractor.

ARTICLE IX: CHANGES IN THE WORK

County May Order Changes

Without invalidating this contract and without notice to any surety, County may, at any time or from time to time, order additions, deletions or revisions in the work; these will be authorized by change order. Upon receipt of any such document, Contractor shall promptly forward any request for change in the contract price and, if instructed to do so, proceed with the work involved which will be performed under the applicable conditions of the contract documents (except as otherwise specifically provided).

Failure to Agree to a Price or Time Change; Claims

If County and Contractor are unable to agree as to the extent, if any, of an increase or decrease in the contract price or an extension or shortening of the contract time that should be allowed, a claim may be made therefor but the work shall proceed if County so instructs.

No Change in Time or Price for Work Not Required

Contractor shall not be entitled to an increase in the contract price or an extension of the contract time with respect to any work performed that is not required by the contract documents as amended, modified and supplemented except in the case of an emergency as set forth herein and except in the case of uncovering work for inspection or testing as set forth in this contract.

Changes in Time or Price

County and Contractor shall execute appropriate change orders (or written amendments) covering:

1. Changes in the work which are ordered by County or are agreed to by the parties;
2. Changes in the contract price or contract time which are agreed to by the parties; and
3. Changes in the contract price or contract time which embody the substance of any written decision rendered by County in response to a request therefor.

Notice to Sureties

If notice of any change affecting the general scope of the work or the provisions of the contract documents (including, but not limited to, contract price or contract time) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility, and the amount of each applicable bond will be adjusted accordingly. Failure to give such notice shall not release the surety from its obligations to County.

ARTICLE X: CONTRACT DOCUMENTS

Intent

The contract documents comprise the entire agreement between County and Contractor concerning the work. The contract documents are complementary; what is called for by one is as binding as if called for by all. The contract documents will be construed in accordance with California law.

Contract Interpretation

It is the intent of the contract documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the contract documents. Any work, materials or equipment that may reasonably be inferred from the contract documents as being required to produce the intended results will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the contract documents) shall be effective to change the duties and responsibilities of County or Contractor, or any of their consultants, agents or employees from those set forth in the contract documents, nor shall it be effective to assign to County, or any of County's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provisions of this contract. Clarifications and interpretations of the contract documents shall be issued by County.

Conflicts, Errors and Discrepancies

If during the performance of the work, Contractor finds a conflict, error or discrepancy in the contract documents, Contractor shall so report to County in writing at once and before proceeding with the work affected thereby shall obtain a written interpretation or clarification from County.

Amending Contract Documents

The contract documents may be amended to provide for additions, deletions and revisions in the work or to modify the terms and conditions thereof by change order. Contract price and contract time may only be changed by change order.

Supplementary Contract Documents

In addition to the above, the requirements of the contract documents may be supplemented, and minor variations and deviations in the work may be authorized in one or more of the following ways:

1. A field order,
2. County's approval of a shop drawing or sample, or
3. County's written interpretation or clarification.

Reuse of Documents

Neither contractor nor any subcontractor or supplier or other person or organization performing or furnishing any of the work under a direct or indirect contract with County shall have or acquire any title to or ownership rights in any of the drawings, specifications or other documents (or copies of any thereof) prepared by or bearing the seal of County; and they shall not reuse any of them on extensions of the project or any other project without written consent of County and specific written verification or adaptation by County.

Contract Documents

The contract documents comprise the entire agreement between the parties and may be amended only by writing signed by both parties or by written change order. The contract documents shall include this contract, any general and special conditions, plans and specifications, bidding documents and addenda thereto, and all proposals submitted by Contractor. In the case of ambiguity or conflict, the documents shall be given the following priority:

1. Special provisions or conditions
2. Standard Public Works Contract
3. Project plans
4. Standard plans

5. Standard specifications
6. All other documents incorporated by reference.

ARTICLE XI: THE PROJECT SITE

Availability of Lands

County shall furnish, as indicated in the contract documents, the lands upon which the work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of Contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by County, unless otherwise provided in the contract documents. If Contractor believes that any delay in County's furnishing these lands, rights-of-way or easements entitles Contractor to an extension of the contract time, Contractor may make a claim therefor as provided for herein. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

Physical Conditions

If the contract documents identify those reports of explorations and tests of subsurface conditions at the site that have been utilized by County in preparation of the contract documents, Contractor may rely upon the accuracy of the factual data contained in such reports but not upon interpretations or opinions contained therein or for the completeness or representativeness thereof for Contractor's purposes. If construction drawings of physical conditions in or relating to existing surface and subsurface structures (except underground facilities discussed below) at or contiguous to the site have been utilized by County in preparation of the contract documents, Contractor may rely upon the accuracy of the factual data contained in such drawings but not the completeness thereof for Contractor's purposes. If Contractor believes that any factual data on which Contractor is entitled to rely is inaccurate, or any physical condition uncovered or revealed at the site differs materially from that indicated, reflected or referred to in the contract documents, Contractor shall, promptly after becoming aware thereof and before performing any work in connection therewith (except in an emergency as permitted herein), notify County in writing about the inaccuracy or difference. Failure to notify County promptly shall relieve County of any liability for any and all claims resulting from such inaccuracy or difference.

County's Review

County will review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise Contractor in writing of County's findings and conclusions.

Possible Document Change

If County concludes that there is a material error in the contract documents or that because of newly discovered conditions a change in the contract documents is required, a change order will be issued in writing as provided to reflect and document the consequences of the inaccuracy or difference.

Possible Price and Time Adjustments

In each case of inaccuracy or difference, an increase or decrease in the contract price or an extension or shortening of the contract time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference. If County and Contractor are unable to agree as to the amount or length thereof, a claim may be made therefor as provided in the contract documents.

Physical Conditions - Underground Facilities

The information and data shown or indicated in the contract documents with respect to existing underground facilities at or contiguous to the site is based on information and data furnished to County by the owners of such underground facilities or by others. Generally service connections are not indicated on drawings. Unless it is otherwise expressly provided:

1. County shall not be responsible for the accuracy or completeness of any such information or data; and,
2. Contractor shall have full responsibility for reviewing and checking all such information and data, for locating all underground facilities shown or indicated in the contract documents, for coordination

of the work with the owners of such underground facilities during construction, for the safety and protection thereof, and repairing any damage thereto resulting from the work, the cost of all of which will be considered as having been included in the contract price.

3. If an underground facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the contract documents and which Contractor could not reasonably have been expected to be aware of, Contractor shall, promptly after becoming aware thereof and before performing any work affected thereby (except in an emergency as permitted by this contract), identify the owner of such underground facility and give written notice thereof to that owner and to County. County will review the underground facility to determine the extent to which the contract documents should be modified to reflect and document the consequences of the existence of the underground facility, and the contract documents will be amended or supplemented to the extent necessary. During such time, Contractor shall be responsible for the safety and protection of such underground facility as provided herein. Contractor shall be allowed an increase in the contract price or an extension of the contract time, or both, to the extent that they are attributable to the existence of any underground facility that was not shown or indicated in the contract documents and which Contractor could not reasonably have been expected to be aware of and will not be assessed liquidated damages pursuant to Government Code Section 4215. If the parties are unable to agree as to the amount or length thereof, Contractor may make a claim therefor as provided in these contract documents.

Preservation of Property

Due care shall be exercised to avoid injury to existing highway improvements or facilities, utility facilities, adjacent property, and roadside trees, shrubs, and other plants that are not to be removed. Roadside trees, shrubs, and other plants that are not to be removed, and pole lines, fences, signs, markers and monuments, buildings and structures, conduits, pipelines under or above ground, sewer and water lines, all highway facilities and any other improvements or facilities within or adjacent to the project shall be protected from injury or damage, and if ordered by County, the Contractor shall provide and install suitable safeguards, approved by County, to protect such objects from injury or damage. If such objects are injured or damaged by reason of the Contractor's operations, they shall be replaced or restored at the Contractor's expense. The facilities shall be replaced or restored to a condition as good as when the Contractor entered upon the work, or as good as required by the specifications accompanying the contract, if any such objects are a part of the work being performed under the contract. County may make or cause to be made such temporary repairs as are necessary to restore to service any damaged facility. The cost of such repairs shall be borne by the Contractor and may be deducted from any moneys due or to become due to the Contractor under the contract. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in protecting or repairing property, shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

Reference Points

County shall establish one or more horizontal and vertical reference points for construction which in County's judgment are necessary to enable Contractor to proceed with the work or as provided in the contract documents. County shall set any other stakes or marks which it deems necessary to establish the lines and grades required for the completion of the work unless the special provisions require that the Contractor is responsible for laying out the work. Contractor shall notify the County when Contractor requires staking, in writing a reasonable time in advance of such requirement. In no event shall Contractor give less than two working days' notice of such requirement. Contractor shall protect and preserve the established reference points, stakes and marks and shall make no changes or relocations without the prior written approval of County. Contractor shall report to County whenever any reference point, stake or mark is lost or destroyed or requires relocation because of necessary changes in grades or locations. Contractor will be charged for the cost of relocation or replacement if the need therefor arises due to Contractor's acts.

Power

The Contractor shall provide, at no additional cost to the County, all construction power used at the project site and shall make all arrangements with the electrical utility and with the County for power takeoff points,

voltage and phasing requirements, transformers, and metering and shall pay all costs and fees arising therefrom. It shall be the Contractor's responsibility to provide all special connections required for the work.

Water

The Contractor shall provide the water needed for the work, including potable water, construction water, and water for testing purposes.

Sanitary Facilities

The Contractor shall make arrangements for use of adequate toilet facilities at or near the site of work. Such facilities shall be subject to the acceptance of the County as to location and type. The Contractor shall maintain the sanitary facilities in acceptable condition from the beginning of the work until completion and shall remove the facilities and disinfect the premises.

Contractor's Office

The Contractor shall maintain on the project site a suitable office or other protected area in which shall be kept project copies of the contract documents, project progress records, etc., which shall be accessible to County during normal working hours.

Field Office

Where required by the contract documents, the Contractor shall, at Contractor's own expense, provide or construct a separate field office for County staff. The office building shall be approximately 12' x 28' in size x 8' minimum ceiling height and shall be of weather-tight construction. The walls and ceiling shall be lined inside with insulating fiberboard. The ceiling shall be insulated. The office building shall have at least six windows and two entrance doors, each complete with cylinder lock and four keys. The Contractor shall provide and pay for janitor service; heating and refrigerated air conditioning equipment; electric wiring, power, and fixtures; monthly private line telephone service with outside horn; bottled drinking water service with cooling dispenser. The office shall be furnished by Contractor with the following equipment:

- 2 Suitable office desks with drawers and locks
- 1 Suitable plan table not less than 3'-0" x 8'-0"
- 1 Suitable drafting table not less than 3'-0" x 5'-0"
- 1 Metal drafting stool with back
- 2 Straight chairs
- 2 Swivel chairs
- 1 Metal filing cabinet, 18" x 30" x 52", 4 drawers with locks
- 1 Supply cabinet with not less than 15 square feet of shelves
- 1 Plan rack
- 2 Wastebasket

The field office shall be completed within one week after the Contractor starts the site work, in a location as approved by County. The building and furnishings shall be removed at the conclusion of the work, or at any time during construction as directed by County, and shall remain the property of the Contractor.

ARTICLE XII: LABOR, MATERIAL AND PERFORMANCE BONDS

Bonds to be Provided

The Contractor shall furnish two bonds each in the amount of one hundred (100%) percent of the contract price, one as security for the faithful performance of the work, and the other as security for the faithful payment and satisfaction of all persons furnishing materials and performing labor for the project. The bonds shall be issued by a corporation duly and legally licensed to transact surety business in the State of California. The labor and materials bond shall remain in force throughout the period required to complete the work and for 35 days after the recording of the Notice of Completion. The performance bond shall remain in force for a period of 365 days after final acceptance of the work to cover any defects in workmanship, materials, or equipment which develop in that time. The bonds must be executed by a duly licensed surety company and accompanied by a certified copy of the authority to act. The scope of the

bonds or the forms thereof shall in no way affect or alter the liabilities of the Contractor to County. Bonds shall be executed on the forms included in the contract documents.

Insolvency or Termination of Right to Do Business

If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in California, Contractor shall within five days thereafter substitute another bond and surety, both of which must be acceptable to County. If an acceptable substitute is not furnished within five days, County may terminate Contractor.

ARTICLE XIII: CONTRACTOR LIABILITY AND INSURANCE

Liability of Contractor

The Contractor shall be liable for all damages and injury which shall be caused to County or any other owners of property on or in the vicinity of the work or which shall occur to any person or persons or property whatsoever arising out of the performance of this contract. Contractor agrees to hold County harmless and indemnify County for any such losses.

Contractor's Liability Insurance

Contractor shall purchase and maintain commercial general liability and other insurance as is appropriate for the work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance and furnishing of the work and Contractor's other obligations under the contract documents, whether it is to be performed or furnished by Contractor, by any subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the work, or by anyone for whose acts any of them may be liable:

1. Claims under workers' disability benefits and other similar employee benefit acts;
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or (b) by any other person for any other reason;
5. Claims for damages, other than to the work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;
6. Claims arising out of operation of laws or regulations for damages because of bodily injury or death of any person or for damage to property; and
7. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

To the extent that Contractor's work, or work under Contractor's direction, may require blasting, explosive conditions, or underground operations, the comprehensive general liability coverage shall contain no exclusion relative to blasting, explosion, collapse of buildings, or damage to underground property.

The insurance required by this paragraph shall be "per occurrence" coverage and shall include the specific coverages and be written for not less than the limits of liability and coverages provided herein, or required by law, whichever is greater. The commercial general liability insurance shall include completed operations insurance. All such insurance shall remain in effect until final payment and at all times thereafter when Contractor may be correcting, removing or replacing defective work. In addition, Contractor shall maintain such completed operations insurance for at least one year after final payment and furnish County with evidence of continuation of such insurance at final payment. If Contractor's insurance is canceled prior to completion of the project and the Contractor does not furnish a new Certificate of Insurance prior to cancellation, County may obtain the required insurance and deduct the premium from contract moneys due the Contractor.

At the option of Contractor, evidence of coverage and limits may be furnished by an umbrella liability policy certificate in addition to certificates for worker's compensation and employer's liability, and comprehensive automobile and general liability policies.

Contractual Liability Insurance

The commercial general liability insurance required above will include contractual liability insurance applicable to Contractor's obligations hereunder.

Owner's Liability Insurance

Contractor shall purchase and maintain Owner's liability insurance. This insurance shall be issued in the name of County and shall protect and defend County and its agents against all claims arising as a result of the operations of Contractor. The coverage and limits of liability shall be co-extensive with those specified for the Contractor's liability insurance. The Owner's liability insurance may be provided by naming County and its agents as an additional insured on the Contractor's liability insurance.

Property Insurance

Unless otherwise specifically provided, Contractor shall purchase and maintain property insurance (builder's risk) upon the work or equipment and supplies stored at the site to the full insurable value thereof (subject to such deductible amounts as may be agreed upon or required by laws and regulations.) This insurance shall include the interests of County and its agents, Contractor and subcontractors in the work. County shall be listed as an additional insured party. Said policy shall insure against the perils of fire, extended coverage, testing and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided herein, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals).

Amount of Property Insurance

Said insurance shall be on a "per occurrence" basis for the full value of the work and supplies and equipment stored or used in connection with the project and shall include vandalism and malicious mischief endorsement. Special consent of County shall be required prior to use of "claims made" coverage.

Schedule of Required Insurance

1. Worker's Compensation Insurance: Statutory amount and employer's liability of \$1,000,000.
2. Contractor's Commercial General Liability Insurance (bodily injury, property damage and including contractual liability insurance, completed operations and products liability insurance): \$2,000,000.
3. Physical Damage to Owner Owned Property (remodeling or retrofitting project) or Builder's Risk Insurance (new construction project) including but not limited to fire, extended coverage, vandalism, malicious mischief, and optional perils coverage; full value of work to be performed under contract including supplies and equipment stored or used in connection with the project with a maximum deductible of \$500.
4. Comprehensive Business or Commercial Automobile Liability Coverage (bodily injury liability, property damage liability, uninsured motorist protection and including non-owned and hired automobile liability): \$1,000,000.

Notice Requirement

All the policies of insurance (or the certificates or other evidence thereof) required to be purchased and maintained by the Contractor shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least ten (10) days prior written notice has been given to County by registered mail.

Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be fully disclosed by Contractor and approved by County prior to commencement of work. At County's option, the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects County, its officials and employees, or Contractor shall provide a

bond guaranteeing payment of losses and related investigations, claims administration and defense expenses.

Risk of Loss

Liability for loss or damage to equipment, materials, workmanship or services occurring on or off the site shall be the responsibility of the Contractor. Liability for completed work shall not be assumed by County until both the work has been completed and County has accepted the work as complete. County will not be responsible for purchasing and maintaining any property insurance to protect the interests of Contractor, subcontractors or others in the work. The risk of loss will be borne by Contractor, subcontractor or others suffering any such loss and if any of them wishes property insurance coverage in addition to insurance required herein, each may purchase and maintain it at the purchaser's own expense.

Waiver of Rights

Contractor waives all rights against County and its agents for all losses and damages caused by any of the perils covered by the policies of insurance provided for above and any other property insurance applicable to the work, and all other parties named as insureds in such policies for losses and damages so caused. Each subcontract between Contractor and a subcontractor will contain similar waiver provisions by the subcontractor in favor of County and its agents and all other parties named as insureds. None of the above waivers shall extend to the rights that any of the insured parties may have to the proceeds of insurance held by County as trustee or otherwise payable under any policy so issued.

No Right of Recovery

County and Contractor intend that any policies provided as set forth herein shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Any insurance or self-insurance maintained by County shall be in excess of Contractor's insurance and shall not contribute to it.

Receipt and Application of Proceeds

Any insured loss under the policies of insurance required herein will be adjusted with County and made payable to County as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause. County shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged work shall be repaired or replaced, the moneys so received applied on account thereof and the work and the cost thereof covered by an appropriate change order or written amendment.

County's Duties as Trustee

County as trustee shall have power to adjust and settle any loss with the insurers.

Acceptance of Insurance

If County has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by Contractor on the basis of its not complying with the contract documents, County shall notify Contractor in writing thereof and Contractor shall immediately provide proof of the proper coverage. Contractor shall provide to County such additional information in respect of insurance provided by it as County may reasonably request. County may at its option waive any type of insurance required herein which County in its discretion deems to be inapplicable to the type of project being constructed. Any such waiver shall be in writing by the County Administrator.

Verification of Coverage

Contractor shall furnish County with certificates of insurance and with original endorsements affecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be on forms provided by County and are to be received and approved by County before work commences.

Subcontractors

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

ARTICLE XIV: MATERIALS AND EQUIPMENT

Material and Equipment

Unless otherwise specified, Contractor shall furnish and assume full responsibility and risk of loss for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the work.

Quality of Materials and Equipment

All materials and equipment shall be of good quality and new, except as otherwise provided in the contract documents. If required by County, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. Contractor may be required to show that materials and/or equipment will be available in sufficient quantity or time so as to assure top quality performance of the contract. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable supplier except as otherwise provided in the contract documents; but no provision of any such instructions will be effective to assign to County, or any of County's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provisions of this contract.

Storage of Materials and Equipment

Materials and equipment shall be stored where specified by County and so as to insure the preservation of their quality and fitness for the work. Stored equipment and materials shall be located so as to facilitate inspection. The Contractor shall be responsible for all damages that occur to materials and equipment until the completion and final acceptance of the work by the County.

Substitute Items

Whenever materials or equipment are specified or described in the contract documents by using the name of a proprietary item or the name of a particular supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other suppliers may be accepted by County if sufficient information is submitted in advance by Contractor to allow County to determine that the material or equipment proposed is equivalent or equal to that named.

The procedure for review by County will include the following: requirements for review of substitute items of material and equipment or modification or alteration of the design of any material or equipment or portion of the work will not be accepted by County from anyone other than Contractor. If Contractor wishes to furnish or use a substitute item of material or equipment or modification or alteration of the design of any material or equipment or portion of the work, Contractor shall make written application to County for acceptance thereof, certifying that the proposed substitute or modification or alteration will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice Contractor's achievement of completion on time, whether or not acceptance of the substitute or design modification or alteration for use in the work will require a change in any of the contract documents (or in the provisions of any other direct contract with County for work on the project) to adapt the design to the proposed substitute or design modification or alteration and whether or not incorporation or use of the substitute in connection with the work is subject to payment of any license fee or royalty. All variations of the proposed substitute or design modification or alteration from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated, where necessary. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute or

design modification or alteration, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by County in evaluating the proposed substitute or design modification or alteration. County may require Contractor to furnish at Contractor's expense additional data about the proposed substitute or design modification or alteration. County will be allowed a reasonable time within which to evaluate each proposed substitute or design modification or alteration. County will be the sole judge of acceptability, and no substitute or design modification or alteration will be ordered, installed or utilized without County's prior written acceptance which will be evidenced by either a change order or an accepted shop drawing. County may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute or design modification or alteration. Contractor shall pay all costs for redesign required by the implementation of the proposed substitute.

Operating and Maintenance Instructions and Manufacturer's Warranties

Before receiving payment for more than 60 percent of the purchase value of any equipment and prior to installation of said equipment, the Contractor shall deliver to County acceptable manufacturer's operating and maintenance instructions covering each item of equipment assembly provided under this contract and each and every warranty provided by the manufacturer. Manufacturers' standard brochures or manuals will be modified to reflect only that model or series of equipment installed on this project. All extraneous material will be crossed out or otherwise altered as acceptable to County.

The operating and maintenance instructions shall include, as a minimum, the following data for each item of mechanical, electrical, and instrumentation equipment:

1. An itemized list of all data provided.
2. Name and location of the manufacturer, the manufacturer's local representative, the nearest supplier and spare parts warehouse.
3. Accepted submittal information applicable to operation and maintenance.
4. Recommended installation, adjustment, start up, calibration, and troubleshooting procedures.
5. Recommended lubrication and an estimate of yearly quantity needed.
6. Recommended step-by-step procedures for all modes of operation.
7. Complete internal and connection wiring diagrams.
8. Recommended preventive maintenance procedures and schedule.
9. Complete parts lists, by generic title and identification number, with exploded view of each assembly.
10. Recommended spare parts.
11. Disassembly, overhaul, and re-assembly instructions.
12. Complete, as applicable, operating and maintenance instructions, transmittal forms and summary sheets.
13. Nameplate data for all equipment supplied, including make, model and serial numbers, type and motor data together with designation and location of equipment.

Before final acceptance of the project, the Contractor shall bind all of the above in an appropriately labeled binder. Each completed binder shall contain only that material which can be held in a non-expanded position. A complete table of contents listing all items and their location in the set shall be included in each binder. For ready reference, the Contractor shall compile a complete list of manufacturer's local representatives for each item provided. In addition to withholding payment where Contractor fails to provide County with manufacturer's warranties, Contractor shall also be deemed to have personally warranted the equipment to the same extent as the manufacturer's warranty on the equipment.

Patent Fees and Royalties

Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the work or the incorporation in the work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the contract documents for use in the performance of the work and if to the actual knowledge of County its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by County in the contract documents. Contractor shall indemnify and hold harmless County and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees and court and arbitration costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the work or resulting from the incorporation in the work of any invention, design, process, product or device not specified in the contract documents, and shall defend all such claims in connection with any alleged infringement of such rights.

Contractor's Equipment

The Contractor shall identify each piece of Contractor's equipment, other than hand tools, by means of an identifying number plainly stenciled or stamped on the equipment at a conspicuous location, and shall furnish to County a list giving the description of each piece of equipment and its identifying number. In addition, the make, model number and empty gross weight of each unit of compacting equipment shall be plainly stamped or stenciled in a conspicuous place on the unit. The gross weight shall be either the manufacturer's rated weight or the scale weight.

The make, model, serial number and manufacturer's rated capacity for each scale shall be clearly stamped or stenciled on the load receiving element and its indicator or indicators. All meters shall be similarly identified, rated and marked. Upon request of County, the Contractor shall furnish a statement by the manufacturer, designating sectional and weighbridge capacities of portable vehicle scales.

ARTICLE XV: PLANS AND SPECIFICATIONS

Interpretation of Plans, Specifications and Drawings

The plans, specifications and the drawings are intended to be explanatory of each other. Any work indicated on the drawings and not in the plans or specifications, or vice versa, shall be executed as if indicated in both. Where not specifically stated otherwise, all work and materials necessary for each unit of construction, including special construction for any specific brand or shape of material called for even though only briefly mentioned or indicated, shall be furnished and installed fully and completely as a part of the Contract. As the figured dimensions shown on the drawings and in the specifications of the contract may not in every case agree with scale dimensions, the figured dimensions shall be followed in preference to the scaled dimensions. Should it appear that the work to be done, or any of the matters relative thereto are not sufficiently detailed or explained in the contract documents, the Contractor shall apply to County for such further explanations as may be necessary, and shall conform thereto as part of the contract so far as may be consistent with the terms thereof. In the event of any doubt or question arising respecting the true meanings of the plans, specifications or drawings, the decision of County shall be final and conclusive.

Where for convenience the specifications are arranged by job classification or divided into various sections, it is to be understood this separation is for the convenience of all parties involved and is not to be considered as the limits of the work required of any separate trade. The terms and conditions of such limitations are wholly between Contractor and its subcontractors during both the bidding and construction phase; i.e., all work shown, specified, implied or necessary for the completion of each trade's work, as well as for the proper completion of the project as a whole shall be coordinated by Contractor and the subcontractors during bidding and construction and shall be provided in this contract.

Ownership

All plans and specifications shall remain the property of County and shall be returned to County before the final certificate will be issued.

Handicapped Access

Where applicable, it is the County's intent for all features on the plans and specifications to conform to applicable regulations for the accommodation of physically handicapped persons in buildings and facilities used by the public.

ARTICLE XVI: SHOP DRAWINGS AND SAMPLES

Shop Drawings

After checking and verifying all field measurements and after complying with applicable procedures herein, Contractor shall submit to County for review and acceptance in accordance with the accepted schedule of shop drawing submissions or other appropriate action if so indicated herein, the number of copies specified of all shop drawings, which will bear a stamp or specific written indication that Contractor has satisfied Contractor's responsibilities under the contract documents with respect to the review of the submission. All submissions will be identified as County may require. Such drawings shall be approved by County before any work involving the drawings is performed. The data shown on the shop drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable County to review the information as required.

Samples

Contractor shall also submit to County for review and acceptance with such promptness as to cause no delay in work, all samples required by the contract documents or as requested by County. All samples will have been checked by and accompanied by a specific written indication that Contractor has satisfied Contractor's responsibilities under the contract documents with respect to the review of the submission and will be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which intended.

Contractor's Review

Before submission of each shop drawing or sample, Contractor shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each shop drawing or sample with other shop drawings and samples and with the requirements of the work and the contract documents.

Notice of Variation

At the time of each submission, Contractor shall give County specific written notice of each variation that the shop drawings or samples may have from the requirements of the contract documents, and, in addition, shall cause a specific notation to be made on each shop drawing submitted to Engineer for review and acceptance of each such variation.

County's Review

County will review and accept with reasonable promptness shop drawings and samples, but County's review and acceptance will be only for conformance with the design concept of the project and for compliance with the information given in the contract documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the contract documents) or to safety precautions or programs incident thereto. The review and acceptance of a separate item as such will not indicate acceptance of the assembly in which the item functions. Within a reasonable time after receipt of drawings or samples, County will return marked up copies indicating one of the following four actions:

1. If review and checking indicates no exceptions, copies will be returned marked "NO EXCEPTIONS TAKEN" and work may begin immediately on incorporating the material and equipment covered by the submittal into the work.
2. If review and checking indicates limited corrections are required, copies will be returned marked "MAKE CORRECTIONS NOTED" and work may begin immediately on incorporating the material and equipment covered by the submittal into the work.

3. If review and checking indicates insufficient or incorrect data has been submitted, copies will be returned marked "AMEND AND RESUBMIT". No work may begin on incorporating the material and equipment covered by this submittal into the work until the submittal is revised, resubmitted, and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".
4. If review and checking indicates the material and equipment submittal is unacceptable, copies will be returned marked "REJECTED". No work may begin on incorporating the material and equipment covered by this submittal into the work until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".

Contractor shall direct specific attention in writing to revisions other than the corrections called for by County on previous submittals. The Contractor may authorize material or equipment supplier to deal directly with County with regard to such submittals; however, ultimate responsibility for the accuracy and completeness of the information contained in the submittal shall remain with the Contractor. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Submittals on various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates checking or review of the group or "package" as a whole.

Contractor's Responsibility for Variation

County's review of shop drawings or samples shall not relieve Contractor from responsibility for any variation from the requirements of the contract documents unless Contractor has in writing called County's attention to each such variation at the time of submission and County has given written acceptance of each such variation by a specific written notation thereof incorporated in or accompanying the shop drawing or sample review nor will any review by County relieve Contractor from responsibility for errors or omissions in the shop drawings or from responsibility for having complied with the provisions above.

Work Performed Prior to Shop Drawing or Sample Review

Where a shop drawing or sample is required by the specifications, any related work performed prior to County's review of the pertinent submission will be the sole expense and responsibility of Contractor.

ARTICLE XVII: SUBCONTRACTORS, SUPPLIERS AND OTHERS

Objectionable Parties

Contractor shall not employ any subcontractor, supplier or other person or organization, whether initially or as a substitute, against whom County may have reasonable objection. Contractor shall not be required to employ any subcontractor, supplier or other person or organization to furnish or perform any of the work against whom Contractor has reasonable objection. If the contract documents require the identity of certain subcontractors, suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to County in advance for acceptance by County and if Contractor has submitted a list thereof in accordance with the contract documents, County's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the contract documents) of any such subcontractor, supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case Contractor shall submit an acceptable substitute, the contract price will be increased by the difference in the cost occasioned by such substitution and an appropriate change order will be issued. No acceptance by County of any such subcontractor, supplier, or other person or organization shall constitute a waiver of any right of County to reject defective work. The Contractor may not change any subcontractors listed on its bid without written approval from County after a determination that the requirements of Public Contracts Code Section 4107 have been met.

Responsibility for Subcontractors

Contractor shall be fully responsible to County for all acts and omissions of the subcontractors, suppliers and other persons and organizations performing or furnishing any of the work under a direct or indirect contract with Contractor just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the contract documents shall create any contractual relationship between County and any such

subcontractor, supplier or other person or organization, nor shall it create any obligation on the part of County to pay or to see to the payment of any moneys due any such subcontractor, supplier or other person or organization except as may otherwise be required by laws and regulations. County may furnish to any subcontractor or other person or organization, to the extent practical, evidence of amounts paid the Contractor on account of specific work done.

Division of Work

The divisions and sections of the specifications and the identifications of any drawings shall not control Contractor in dividing the work among subcontractors or suppliers or delineating the work to be performed by any specific trade.

Subcontracts

All work performed for Contractor by a subcontractor will be pursuant to an appropriate agreement between contractor and the subcontractor which specifically binds the subcontractor to the applicable terms and conditions of the contract documents for the benefit of County and contains waiver provisions as required herein. Contractor shall pay each subcontractor a just share of any insurance moneys received by Contractor on account of losses under policies issued pursuant to this Contract.

ARTICLE XVIII: PERFORMANCE OF THE WORK

Supervision

Contractor shall supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the contract documents. Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. Contractor shall be responsible to see that the finished work complies accurately with the contract documents.

Superintendence

Contractor shall keep on the work at all times during its progress a competent resident superintendent, acceptable to County, who shall not be replaced without written notice to County except under extraordinary circumstances. The superintendent will be Contractor's representative at the site and shall have authority to act on behalf of Contractor. All communications given to the superintendent shall be as binding as if given to Contractor. When work is not in progress and during periods when work is suspended, arrangements acceptable to County shall be made for emergencies. If the superintendent is not present, County shall give direction to the next in command and said direction shall be binding.

Personnel

Contractor shall provide competent, suitably qualified personnel to survey and lay out the work and perform construction as required by the contract documents. Contractor shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the work or property at the site or adjacent thereto, and except as otherwise indicated in the contract documents, all work at the site shall be performed during regular working hours, and Contractor will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday without County's written consent given after prior written notice to County.

Order of Work

If a sequence or procedure is specified in the special provisions or plans for the project, Contractor shall be required to follow the sequence or procedure specified. The price for compliance with a specified sequence or procedure will be considered as part of the bid price and no extra amounts will be allowed therefor.

Safety and Protection

Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. Contractor shall take all reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

1. All employees on the work and other persons and organizations who may be affected thereby;

2. All the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated for removal, relocation or replacement in the course of construction.

Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of underground facilities and utility owners when prosecution of the work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to herein caused, directly or indirectly, in whole or in part, by Contractor, any subcontractor, supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, shall be remedied by Contractor. Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all the work is completed and County has issued a notice to County and Contractor that the work is acceptable.

The Contractor shall at all times so conduct the work as to insure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work, and to insure the protection of persons and property. No road or street shall be closed to the public except with the permission of County and other governmental authority. Fire hydrants on or adjacent to the work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks and private and public driveways, and the proper functioning of all gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses.

The Contractor shall leave a night emergency telephone number or numbers with the local law enforcement office, so that contact may be made easily at all times in case of trouble or emergencies. The names and telephone numbers of at least two medical doctors practicing in the vicinity and the telephone number of the local ambulance shall be prominently displayed adjacent to all telephones.

Any lighting fixtures shall be installed, mounted and directed in a manner precluding glare to approaching traffic.

Detours

Where detours are necessary, Contractor shall construct and remove detours as provided in the special provisions, or as shown on the plans, or as directed by County. The failure or refusal of Contractor to construct and maintain detours at the required time shall be sufficient cause for closing down the work until remedied. The cost of the detours shall be considered a part of the contract price or as included in other items of work as noted in the special provisions and no extra amounts shall be paid therefor.

Safety Representative

Contractor shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be Contractor's superintendent unless otherwise designated in writing by Contractor to County.

Vehicle Code

Pursuant to the authority contained in Vehicle Code Section 591, County has determined that within such areas as are within the limits of the project and are open to public traffic, the following requirements of the Vehicle Code will apply. The lighting requirements in Section 25803; the brake requirements in Chapter 3, Division 12; the splash apron requirements in Section 27600; and, when operated on completed or existing treated base, surfacing, pavement or structures, except as otherwise provided in Section 7-1.02, "Weight Limitations," the weight limitation requirements contained in Division 15.

Attention is directed to the statement in said Section 591 that this section shall not relieve Contractor or any person from the duty of exercising due care. 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.

Any other requirements set forth in Divisions 11, 12, 13, 14 and 15 of the Vehicle Code which County, pursuant to the authority contained in Vehicle Code Section 591, will require compliance with, will be set forth in the special provisions.

Trench Safety

Attention is directed to the provisions of Section 6705 of the Labor Code of the State of California.

Excavation for any trench 5 feet or more in depth shall not begin until the Contractor has submitted to County the Contractor's detailed plan for worker protection from the hazards of caving ground during the excavation of such trench. Such plan shall be submitted at least 5 days before the Contractor intends to begin excavation for the trench and shall show the details of the design of shoring, bracing, sloping, or other provisions to be made for worker protection during such excavation. The plan shall not use shoring, sloping or a protective system less effective than that required by the Construction Safety Orders of the Division of Industrial Safety and if such plan varies from the shoring system standards established by the Construction Safety Orders, the plan shall be prepared and signed by an engineer who is registered as a Civil or Structural Engineer in the State of California.

In addition, the Contractor shall obtain, pay for, and comply with all provisions of the permit required by Section 6500 of the California Occupational Safety and Health Act of 1973.

Notice Prior to Trenching

Where trenching is required, Contractor shall, pursuant to Public Contracts Code Section 7104, promptly, and before the following conditions are disturbed, notify County, in writing of any:

1. Material that 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.
2. Subsurface or latent physical conditions at the site differing from those indicated.
3. 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.

Upon receipt of such notice, County shall, as required by Public Contracts Code Section 7104, promptly investigate the conditions. If County finds the conditions do materially so differ, or do involve hazardous waste, and would require a decrease or increase in Contractor's cost of, or time required for, performance of any part of the work, County shall issue a change order under the procedures described in this Contract. In the event that a dispute arises between County and Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the cost or time required for performance, Contractor will not be excused from the scheduled completion date but shall proceed with all work to be performed. Contractor shall retain its rights to file a claim as set forth herein.

Alcoholic Beverages

Absolutely no alcoholic beverages shall be permitted on the job site.

Emergencies

In emergencies affecting the safety or protection of persons or the work or property at the site or adjacent thereto, Contractor, without special instruction or authorization from County, is obligated to act to prevent threatened damage, injury or loss. Contractor shall give County prompt written notice as soon as possible thereafter. If County determines that a change in the contract documents is required because of the action taken in response to an emergency, a change order will be issued to document the consequences of the changes or variations.

Warranty and Guarantee

Unless the plans and/or specifications require a longer period for any warranted item, Contractor warrants all of the work completed under this contract by Contractor for a period of one year from the date of final completion. Said warranty includes the guarantee that all work is completed in accordance with the contract documents and that the work is not defective in any way and is fit for its intended use. Work not conforming

to the plans and specifications shall be considered defective. If within the warranty period any work is found to be defective, Contractor shall promptly, without cost to County and in accordance with County's written instruction, either correct such defective work or remove it from the site and replace it with non-defective work. If Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, County may have the defective work corrected or removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by Contractor. Nothing in this paragraph shall serve as a waiver of the statute of limitations for breach of contract or latent defects.

Environmental and Toxics Warranty

Contractor warrants that no asbestos-containing materials, no PCB-containing fixtures or equipment or other toxic or hazardous materials or equipment other than what is contained in standard building materials were installed on this project without County's express written consent. Contractor further warrants that no asbestos-containing materials, PCB-containing fixtures or equipment or other toxic or hazardous materials were discovered during construction of this project which were not disclosed to County in writing.

Contractor also warrants that its operations during the project were not in violation of any applicable federal, state or local environmental law or regulation dealing with hazardous materials or toxic substances, and no notice from any governmental body has been given to Contractor claiming any such violation or calling attention to the need for any work, repairs, construction, or installation or in connection with the project in order to comply with such laws with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide County with copies thereof.

This warranty shall survive completion of the project, and Contractor shall indemnify County for any breach thereof.

Access to Work

County's representatives, testing agencies and governmental agencies with jurisdictional interests will have access to the work at reasonable times for their observation, inspecting and testing. Contractor shall provide proper and safe conditions for such access.

County May Stop the Work

If Contractor fails to conform with the contract documents, if the work is defective, if the work is being carried out in an unsafe manner, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the work in such a way that the completed work will conform to the contract documents, County may order Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated; however, this right of County to stop the work shall not give rise to any duty on the part of County to exercise this right for the benefit of Contractor or any other party.

Alternative Methods of Construction

Whenever the plans or specifications provide that more than one specified method of construction or more than one specified type of material or construction equipment may be used to perform portions of the work and leave the selection of the method of construction or the type of material or equipment to be used up to the Contractor, it is understood that County does not guarantee that every such method of construction or type of material or equipment can be used successfully throughout all or any part of any project. It shall be the Contractor's responsibility to select and use the alternative or alternatives which will satisfactorily perform the work under the conditions encountered. In the event some of the alternatives are not feasible or it is necessary to use more than one of the alternatives on any project, full compensation for any additional cost involved shall be considered as included in the contract price paid for the item of work involved and no additional compensation will be allowed therefor.

Correction or Removal of Defective Work

If required by County, Contractor shall promptly, as directed, either correct all defective work, whether or not fabricated, installed or completed, or, if the work has been rejected by County, remove it from the site and replace it with non-defective work. Contractor shall bear all direct, indirect and consequential costs of

such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made thereby.

Acceptance of Defective Work

If, instead of requiring correction or removal and replacement of defective work, County prefers to accept it, County may do so. Contractor shall bear all direct, indirect and consequential costs attributable to County's evaluation of and determination to accept such defective work (such costs to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to final payment, a change order will be issued incorporating the necessary revisions in the contract documents with respect to the work; and County shall be entitled to an appropriate decrease in the contract price, and, if the parties are unable to agree as to the amount thereof, County may make a claim therefor as provided in this Contract. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to County. No acceptance of defective work shall occur without an express written acknowledgment by County that work described therein is defective and that County is electing to proceed under this clause. No acceptance of defective work may be inferred from any actions by County staff or its agents.

County May Correct Defective Work

If Contractor fails within a reasonable time after written notice of County to proceed to correct and to correct defective work or to remove and replace rejected work as required by County in accordance with the above, or if Contractor fails to perform the work in accordance with the contract documents, or if Contractor fails to comply with any other provision of the contract documents, County may, after seven days' written notice to Contractor, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph County shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, County may exclude Contractor from all or part of the site, take possession of all or part of the work, and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the site and incorporate in the work all materials and equipment stored at the site or for which County has paid Contractor but which are stored elsewhere. Contractor shall allow County, County's representatives, agents and employees such access to the site as may be necessary to enable County to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of County in exercising such rights and remedies will be charged against Contractor, and a change order will be issued incorporating the necessary revisions in the contract documents with respect to the work; and County shall be entitled to an appropriate decrease in the contract price, and, if the parties are unable to agree as to the amount thereof, County may make a claim therefor as provided in this Contract. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of Contractor's defective work. Contractor shall not be allowed an extension of the contract time because of any delay in performance of the work attributable to the exercise by County of County's rights and remedies hereunder.

Adjusting Progress Schedule

Contractor shall submit to County for acceptance adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the general requirements applicable thereto.

Substitute Method of Construction

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the contract documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to County, if Contractor submits sufficient information to allow County to determine that the substitute proposed is equivalent to that indicated or required by the contract documents. The procedure for review by County will be similar to that provided in the paragraph regarding substitution of materials or equipment. No extension of time or extra compensation will be paid to the Contractor by virtue of County's accepting a substitute method of construction.

Suggestions to Contractor

Any plan or method of work suggested by County to the Contractor but not specified or required, if adopted or followed by the Contractor in whole or in part, shall be used at the risk and responsibility of the Contractor; and County shall assume no responsibility therefor and in no way be held liable for any defects in the work which may result from or be caused by use of such plan or method of work. Acceptance by the Contractor of any plan or method of work or change suggested by County shall not relieve the Contractor from any other requirements or provisions of the contract.

Permits

Unless otherwise provided for herein, Contractor shall obtain and pay for all construction permits and licenses necessary or incidental to the work. County shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the work, which are applicable at the time of opening of bids. County shall pay all charges of utility connections to the work.

Laws and Regulations

Contractor shall give all notices and comply with all laws and regulations applicable to furnishing and performance of the work. Except where otherwise expressly required by applicable laws and regulations, County shall not be responsible for monitoring Contractor's compliance with any laws or regulations. If Contractor observes that the specifications or drawings are at variance with any laws or regulations, Contractor shall give County prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated herein. If Contractor performs any work knowing or having reason to know that it is contrary to such laws or regulations, and without such notice to County, Contractor shall bear all costs, damages, fines or penalties, arising therefrom.

Taxes

Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by Contractor in accordance with the laws and regulations of the place of the project which are applicable during the performance of the work.

Use of Premises

Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the project site and land and areas identified in and permitted by the contract documents and other land and areas permitted by laws and regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the work. Should any claim be made against County by any such owner or occupant because of the performance of the work, Contractor shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. Contractor shall, to the fullest extent permitted by laws and regulations, indemnify and hold County harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against County to the extent based on a claim arising out of Contractor's performance of the work.

Fences which cross, abut, or are on easements shall at all times be maintained by the Contractor in a condition which provides the functional purpose of the fence. Temporary fencing of the construction area will be permitted and temporary fencing shall provide the same functional purpose as existing fencing. Unless otherwise indicated, all improvements within easements shall be restored to conditions that existed prior to the start of work.

Before final acceptance of the work the Contractor shall obtain a written statement of release from each property owner that granted an easement for the work. Release statement shall indicate the property owner's acceptance of the site conditions as restored by the Contractor. The County may waive said written releases where a property owner refuses to sign same but only upon making a determination that there is no work to be completed with respect to said property.

Site Clean-Up

During the progress of the work, Contractor shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the work. At the completion of the work, Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by County. Contractor shall restore to original condition all property not designated for alteration by the contract documents.

The Contractor is advised that the final cleanup of the project shall be done with meticulous care and that the County expects all ductwork, cubicles, cabinets, motor control centers, control panels, rooms, and enclosures to be thoroughly vacuum cleaned and dust-free prior to acceptance of the work.

Protection of Structures

Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the work or adjacent property to stresses or pressures that will endanger it.

Restoration of Structures

The Contractor shall remove such existing structures or monuments as may be necessary for the performance of the work and, if required, shall rebuild the structures or monuments thus removed in as good a condition as found. Contractor shall also repair all existing structures or monuments which may be damaged as a result of the work under this contract.

All curbs, gutters, driveways, sidewalks, and similar structures that are damaged by the installation of the work shall be reconstructed by the Contractor. Reconstruction shall be of the same kind of material with the same finish and in not less than the same dimensions as the original work. All concrete shall be as set forth in the specifications, or as required by County if not so specified. Repairs shall be made by removing and replacing the entire portions between joints or scores and not merely refinishing any damaged part. All work shall match the appearance of the existing improvements as nearly as possible.

All road and streets where the surface is removed, broken or damaged, or in which the ground has caved or settled due to work under this contract, shall be completely resurfaced and brought to the original grade and crown section unless otherwise indicated. Before resurfacing material is placed, edges of pavements shall be trimmed back far enough to provide clean, solid, vertical faces, and shall be free of any loose material. All cultivated areas, lawns, and other surface improvements which are damaged by actions of the Contractor shall be restored as nearly as possible to their original conditions.

Drainage

Existing drainage facilities shall be maintained throughout the contract time to provide the flow capacities available before commencing work. Drainage conduits shall not be broken, removed, or otherwise interfered with, without permission of the responsible agency.

Where construction requires blocking the flow, flows shall be bypassed as necessary. Stream crossings, blockages, and bypassing shall be accomplished in such a manner as to avoid degradation of downstream water quality. Particular attention shall be given to the avoidance of siltation.

Environmental Control

The Contractor shall not pollute the construction site or any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. The Contractor shall comply with all applicable Federal, State, County and municipal laws concerning pollution of waterways. Contractor shall submit a plan for preventing such occurrences if required by County. Special measures shall be taken to prevent chemicals, fuels, oils, greases, bituminous materials, waste washings, herbicides and insecticides, from spilling and entering public waters.

Where the Contractor is required to connect or otherwise work around existing lines carrying sewage or process wastes, Contractor shall perform the work to prevent the spill of sewage and insure the delivery of sewage to the treatment plants. Where the Contractor chooses to provide temporary pumping of sewage,

Contractor shall first have the pumping facilities approved by County and shall provide 100 percent standby equipment on 24-hour basis.

The Contractor shall provide the means for preventing or lessening all dust nuisances and damages. Such means shall consist of applying water, dust palliative, or both all in accordance with local ordinances and regulations or as directed by County.

Record Documents

Contractor shall maintain in a safe place at the site one record copy of all drawings, plans, specifications, addenda, change orders, field orders and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all accepted shop drawings will be available to County for reference. Upon completion of the work, these record documents, samples, and shop drawings will be delivered to County.

As-Built Drawings

The Contractor shall also maintain a neatly marked set of record drawings showing the final locations and layout of all mechanical, electrical, and instrument equipment; piping and conduit, structures, and other facilities. Drawings shall be kept current weekly, with all field instructions and change orders; mechanical, electrical, and instrumentation equipment accommodations; and construction adjustment. Drawings shall be subject to the inspection of the County at all times and progress payments may be withheld if drawings are not current. At the final inspection the Contractor shall submit to County all as-built drawings. Drawings shall be stamped "AS-BUILT", dated and signed by the Contractor. The work will not be formally accepted until as-built drawings are accepted by County.

Continuing the Work

Contractor shall carry on the work and adhere to the progress schedule during all disputes or disagreements with County. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted specifically herein or as Contractor and County may otherwise agree in writing.

Indemnification

To the fullest extent permitted by laws and regulations, Contractor shall indemnify, defend and hold harmless County and its consultants, agents and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expenses (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (including the work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of Contractor, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable. The Contractor's indemnification obligation shall apply whether or not the act giving rise to such claims, damages, losses and expenses is caused in part by a party indemnified hereunder or arises by or is imposed by law and regulations regardless of the negligence of any such party.

Statutory Limitations

In any and all claims against County or any of its consultants, agents or employees by any employee of Contractor, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, the indemnification obligation above shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any such subcontractor or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

Related Work at Site

County may perform other work related to the project at the site by County's own forces, have other work performed by utility companies or let other direct contracts therefor which shall contain conditions similar to these. If the fact that such other work is to be performed was not noted in the contract documents, written notice thereof will be given to Contractor prior to starting any such other work; and, if Contractor believes

that such performance will involve additional expense to Contractor or requires additional time and the parties are unable to agree as to the extent thereof, Contractor may make a claim therefor as provided for herein. Any difference or conflict arising between the Contractor and any other Contractor employed by County, or between the Contractor and the workers of County with regard to their work, shall be submitted to County and the Contractor shall abide by County's decision in the matter. If the work of the Contractor is delayed because of any facts or omissions of any other Contractor or of County, the Contractor shall on that account have no claim against County other than for an extension of time.

Access to Site

Contractor shall afford each utility company or district and other contractor who is a party to such a direct contract (or County, if County is performing the additional work with County's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the work with theirs. Contractor shall do all cutting, fitting and patching of the work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of County and the others whose work will be affected. The duties and responsibilities of Contractor under this paragraph are for the benefit of such utility companies or districts and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between County and such utility companies or districts and other contractors.

Acceptance of Work by Others

If any part of Contractor's work depends for proper execution or results upon the work of any such other contractor or utility company or district (or County), Contractor shall inspect and promptly report to County in writing any delays, defects or deficiencies in such work that render it unavailable or unsafe for such proper execution and results. Contractor's failure so to report will constitute an acceptance of the other work as fit and proper for integration with Contractor's work except for latent or nonapparent defects and deficiencies in the other work.

ARTICLE XIX: TESTS AND INSPECTIONS

Tests and Inspections Required by Laws or Regulations

If laws or regulations of any public body having jurisdiction require any work (or part thereof) to specifically be inspected, tested or approved, Contractor shall assume full responsibility therefor, pay all costs in connection therewith and furnish County the required certificates of inspection, testing, approval or compliance. Contractor shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with County's acceptance of a supplier of materials or equipment proposed to be incorporated in the work, or of materials or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the work. The cost of all inspections, tests and approvals in addition to the above which are required by the contract documents shall be paid by County (unless otherwise specified). Contractor must utilize materials and equipment which are available for inspection at the plant or at the point of distribution in California in the case of foreign materials or equipment.

Other Inspections and Tests

All inspections, tests or acceptances other than those required by laws and regulations of any public body having jurisdiction shall be performed by organizations acceptable to County.

General Requirements

All materials, equipment, installation, and workmanship included in this contract, if so required by County, shall be tested and inspected to prove compliance with the contract requirements. Installed leakage tests and other piping tests shall be as specified in the technical provisions of these specifications.

No tests specified herein shall be applied until the item to be tested has been inspected and approval given for the application of such test. Contractor shall give County timely notice of readiness of the work for all required inspections, tests or approvals.

Tests and inspections shall include:

1. The delivery acceptance test and inspections.
2. The installed tests and inspections of items as installed.

Tests and inspections, unless otherwise specified or accepted, shall be in accordance with the recognized standards of the industry.

The form of evidence of satisfactory fulfillment of delivery acceptance test and of installed test and inspection requirements shall be, at the discretion of County, either by tests and inspections carried out in County's presence or by certificates or reports of tests and inspections carried out by approved persons or organizations. The Contractor shall provide and use forms which include all test information and are acceptable in content to County.

Certificates of Compliance

A Certificate of Compliance shall be furnished prior to the use of any materials for which the specifications or the special provisions require that such a certificate be furnished. In addition, when so authorized in the specifications or in the special provisions, the County may permit the use of certain materials or assemblies prior to sampling and testing if accompanied by a Certificate of Compliance. The certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials and shall state that the materials involved comply in all respects with the requirements of the specifications. A Certificate of Compliance shall be furnished with each lot of material delivered to the work and the lot so certified shall be clearly identified in the certificate.

All materials used on the basis of a Certificate of Compliance may be sampled and tested at any time. The fact that material is used on the basis of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the work which conforms to the requirements of the plans and specifications and any such material not conforming to such requirements will be subject to rejection whether in place or not.

County reserves the right to refuse to permit the use of material on the basis of a Certificate of Compliance.

The form of the Certificate of Compliance and its disposition shall be as directed by County.

Delivery Acceptance Tests and Inspection

The delivery acceptance tests and inspection shall be at the Contractor's expense for any materials or equipment specified herein and shall include the following:

1. Test of items during the process of manufacture and/or on completion of manufacture, comprising material tests, hydraulic pressure tests, electric tests, performance and operating tests and inspections in accordance with the relevant standards of the industry and more particularly as detailed in individual clauses of these specifications to satisfy County that the items tested and inspected comply with the requirements of this contract. Tests required, other than those specified, will be in accordance with the contract specifications.
2. Inspection of all items delivered at the site in order that County may be satisfied that such items are of the specified quality and workmanship and are in good order and condition at the time of delivery.

Installed Tests and Inspection

All equipment shall be tested by the Contractor to the satisfaction of County before any facility is put into operation. Tests shall be as specified herein and shall be made to determine whether the equipment has been properly assembled, aligned, adjusted and connected. Any changes, adjustments or replacements required to make the equipment operate as specified shall be carried out by the Contractor as part of the work.

At least 30 days before the time allowed in the construction schedule for commencing testing and start up procedures, the Contractor shall submit to County, details of the procedures Contractor proposes to adopt for testing and start up of all mechanical and electrical equipment to be operated singly and together,

excepting when such procedures have been covered in the specifications. Such tests shall be conducted using potable water where water is required for such testing. The water required for such tests shall be provided by the Contractor.

During the testing of equipment, the Contractor shall make available experienced factory trained representatives of the manufacturers of all the various pieces of equipment, or other qualified persons who shall instruct County's personnel in the operation and care thereof. Instruction shall include step-by-step troubleshooting procedures with all necessary test equipment. All manufacturer's instructions shall be provided in writing.

If, under test, any portion of the work shall fail to fulfill the contract requirements and is altered, renewed or replaced, tests on that portion when so altered, removed or replace, together with all other portions of the work as are affected thereby, shall, if so required by County, be repeated within reasonable time and in accordance with the specified conditions, and the Contractor shall pay to County all reasonable expenses incurred by County as a result of the carrying out of such tests.

Where, in the case of an otherwise satisfactory installed test, any doubt, dispute or difference should arise between County and the Contractor regarding the test results or methods or equipment using in the carrying out by the Contractor of such test, then County may order the test to be repeated. If the repeat test, using such modified methods or equipment as County may require, substantially confirms the previous test then costs in connection with the repeat test will be paid by County, otherwise the costs shall be borne by the Contractor. Where the results of any installed test fail to comply with the contract requirements for such test then such repeat tests as may be necessary to achieve the contract requirements shall be made by the Contractor at Contractor's own expense.

Quality Control

County will perform testing for the following as the County deems necessary:

1. Soils compaction control
2. Cast-in-place concrete control
3. Aggregate base rock
4. Portland Cement concrete
5. Asphalt concrete
6. Other materials and work incorporated in project

The Contractor shall pay for testing of those samples which fail to meet acceptable standards.

The Contractor shall provide services of a qualified testing laboratory to perform testing for all other work including but not limited to:

1. Concrete mix design
2. Asphalt concrete mix design

The testing laboratory selected by the Contractor is subject to County's approval. The laboratory shall cooperate with Contractor and County and provide qualified personnel promptly on notice, perform specified inspections, sampling and testing of materials as needed to comply with specified standards, and ascertain compliance with requirements of contract documents.

Work Requiring Testing

If any work (including the work of others) that is required by the Contract Documents to be inspected, tested or accepted is covered without written concurrence of County, it must, if requested by County, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given County timely notice of Contractor's intention to cover the same and County has not acted with reasonable promptness in response to such notice.

Contractor's Obligation

Neither observations by County nor inspections, tests or approvals by others shall relieve Contractor from Contractor's obligations to perform the work in accordance with the contract documents.

Uncovering Work Covered Contrary to County's Request

If any work is covered contrary to the written instructions of County or Code or contract requirements, it must, if requested by County, be uncovered for County's observation and replaced at Contractor's expense.

Uncovering Work for Inspection or Testing

In addition to the provisions above regarding work requiring testing, if County considers it necessary or advisable that covered work be observed by County or inspected or tested by others, Contractor, at County's request, shall uncover, expose or otherwise make available for observation, inspection or testing as County may require, that portion of the work in question, furnishing all necessary labor, material and equipment. If it is found that such work is defective, Contractor shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction (including but not limited to fees and charges of engineers, architects, attorneys and other professionals), and County shall be entitled to an appropriate decrease in the contract price, and, if the parties are unable to agree as to the amount thereof, may make a claim therefor as provided in this contract. If, however, such work is not found to be defective, Contractor shall be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, Contractor may make a claim therefor as provided for in this contract.

ARTICLE XX: SUSPENSION OF WORK AND TERMINATION

County May Suspend Work

County may, at any time and without cause, suspend the work or any portion thereof for a period of not more than ninety days by notice in writing to Contractor. As soon as possible, County will fix the date on which work will be resumed. Contractor shall resume the work on the date so fixed. If Contractor believes that such suspension justifies an increase in the contract price or an extension of the contract time and County and Contractor are unable to agree to the amount or extent thereof, Contractor may make a claim therefor as provided herein.

County May Terminate

Except as limited by law or regulation, County may terminate upon the occurrence of any one or more of the following events:

1. If Contractor commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if Contractor takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;
2. If petition is filed against Contractor under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against Contractor under any other federal or state law in effect at the time relating to bankruptcy or insolvency;
3. If Contractor makes a general assignment for the benefit of creditors;
4. If a trustee, receiver, custodian or agent of Contractor is appointed under applicable law or under contract, whose appointment or authority to take charge of property of Contractor is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of Contractor's creditors;
5. If Contractor admits in writing an inability to pay its debts generally as they become due;
6. If Contractor persistently fails to perform the work in accordance with the contract documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established herein as revised from time to

time or fails to make prompt payment to subcontractors or for materials or labor or persistently disregards laws, ordinances or instructions of the County);

7. If Contractor disregards laws or regulations of any public body having jurisdiction;
8. If Contractor disregards the authority of County or its agents; or
9. If Contractor otherwise violates in any substantial way any provisions of the contract documents;

County may, after giving Contractor (and the surety, if there be one) seven days' written notice and to the extent permitted by laws and regulations, terminate the services of Contractor, exclude Contractor from the site and take possession of the work and of all Contractor's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion), incorporate in the work all materials and equipment stored at the site or for which County has paid Contractor but which are stored elsewhere, and finish the work as County may deem expedient. In such case Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price exceeds the direct, indirect and consequential costs of completing the work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) such excess will be paid to Contractor. If such costs exceed such unpaid balance, Contractor shall pay the difference to County. Such costs incurred by County will be approved as to reasonableness by County and incorporated in a change order, but when exercising any rights or remedies under this paragraph County shall not be required to obtain the lowest price for the work performed. Where Contractor's services have been so terminated by County, the termination will not affect any rights or remedies of County against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by County will not release Contractor from liability.

County May Abandon

Upon written notice to Contractor County may, without cause and without prejudice to any other right or remedy, elect to abandon the work and terminate the agreement. Contractor shall stop work as specified in said notice, terminate all subcontracts, deliver all materials already paid for and secure the site. In such case, Contractor shall be paid for all work executed and any actual expense sustained. No lost profit for work not yet undertaken shall be due to Contractor.

Contractor May Stop Work or Terminate

If, through no act or fault of Contractor, the work is suspended for a period of more than ninety days by County or under an order of court or other public authority, or County fails to act on any application for payment within thirty days after it is submitted, or County fails for thirty days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days' written notice to County, terminate the agreement and recover from County payment for all work executed and any expense sustained. In addition and in lieu of terminating the agreement, if County has failed to act on an application for payment or County has failed to make any payment as aforesaid, Contractor may upon seven days' written notice to County stop the work until payment of all amounts then due. The provisions of this paragraph shall not relieve Contractor of the obligations to carry on the work in accordance with the progress schedule and without delay during disputes and disagreements with County.

ARTICLE XXI COUNTY'S AGENT'S STATUS DURING CONSTRUCTION

County's Representative

County may appoint representatives during the construction period. The duties and responsibilities and the limitations of authority of such agents during construction are set forth herein and shall not be extended without written consent of County.

Agent's Authority

County may delegate authority to an employee or agent, including an engineer or an architect, to determine the amount, quality, acceptability and fitness of the several kinds of work, material and equipment which are to be paid for under the contract; to decide for the County all questions relative to the true construction, meaning and intent of the contract documents; to decide all questions relative to the classification and

measurements of quantities and materials and the fulfillment of this contract, and to reject or condemn all work or material which does not conform to the terms of this contract. The representative's decision in all matters is the decision of County and shall be final and binding on Contractor.

Replacement of Representative

County reserves the right to terminate the employment of the representative at any time.

Visits to Site

Where a representative represents County, said representative will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the contract documents. However, Contractor must supervise the work and cannot rely on said representative or County as they will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. The representative's efforts will be directed toward providing for County a greater degree of confidence that the completed work will conform to the contract documents. On the basis of such visits and on-site observations, the representative will keep County informed of the progress and adequacy of the work.

Observation of Work

If County and the representative agree, the representative will observe the performance of the work. The duties, responsibilities and limitations of authority of the representative in observing the work will be as provided herein. If County designates another agent to represent County at the site who is not the representative's agent or employee, the duties, responsibilities and limitations of authority of such other person will be as provided in supplementary conditions.

Clarifications and Interpretations

The representative may be appointed to issue (with reasonable promptness) such written clarifications or interpretations of the requirements of the contract documents (in the form of drawings or otherwise) as the representative may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the contract documents. If Contractor believes that a written clarification or interpretation justifies an increase in the contract price or an extension of the contract time and the parties are unable to agree to the amount or extent thereof, Contractor may make a claim therefor as provided in the contract. Said claim shall be made to County unless a representative has been selected to provide such clarifications or interpretations.

Authorized Variations in Work

If a representative is appointed, such representative may authorize minor variations in the work from the requirements of the contract documents which do not involve an adjustment in the contract price or the contract time and are consistent with the overall intent of the contract documents. These may be accomplished by a field order and will be binding on County, and also on Contractor who shall perform the work involved promptly. If Contractor believes that a field order justifies an increase in the contract price or an extension of the contract time and County and Contractor are unable to agree as to the amount or extent thereof, Contractor may make a claim therefor as provided in this Contract.

Rejecting Defective Work

If a representative is appointed, such representative will have authority to disapprove or reject work which the representative believes to be defective, and will also have authority to require special inspection or testing of the work whether or not the work is fabricated, installed or completed. Any decision made by said representative in disapproving or rejecting work shall be binding on Contractor.

Determinations for Unit Prices

If a representative is appointed, such representative will determine the actual quantities and classifications of unit price work performed by Contractor. The representative will review with the Contractor the representative's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an application for payment or otherwise). The representative's written decisions thereon will be final and binding upon Contractor.

Claims and Disputes

For purposes of this paragraph, "claim" shall be defined as set forth in Public Contracts Code Section 20104(b)(2). Claims shall be presented in writing and include the documents necessary to substantiate the claim. Claims must be filed with the designated County representative no later than thirty (30) days after the occurrence of the event giving rise thereto or denial of the change order, whichever occurs last. The form of said claims shall be the same as is required by Government Code Sections 910 and 910.2.

If the claim is under \$50,000, County shall respond in writing to Contractor within 45 days of receipt of Contractor's 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 County may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to Public Contract Code Section 20104.2, upon mutual agreement of the County and Contractor. The County's written response to the claim, as further documented, shall be submitted to Contractor within 15 days after receipt of the further documentation or within a period of time no greater than that taken by Contractor in producing the additional information, whichever is greater.

For claims over \$50,000 and less than or equal to \$375,000, County 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 County may have against Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to Public Contract Code Section 20104.2, upon mutual agreement of County and Contractor. The County's written response to the claim, as further documented, shall be submitted to Contractor within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by Contractor in producing the additional information or requested documentation, whichever is greater.

If Contractor disputes County's written response, or County fails to respond within the time prescribed above, Contractor may so notify County, in writing, either within 15 days of receipt of County's response or within 15 days of County's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer with such County representatives as the County Executive Officer or the Board of Supervisors directs for settlement of the issues in dispute. Upon such demand, County shall schedule a meet and confer conference within 30 days for settlement of the dispute.

Following the meet and confer conference, if the claim or any portion remains in dispute, Contractor may file a claim with the Board of Supervisors 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. Pursuant to authority granted by Government Code Section 930.2, all claims filed with the Board of Supervisors pursuant to the Government Code shall be filed within 90 days of the denial of the original claim by the County representative. The running of the period of time within which a claim under the Government Code must be filed shall be tolled by any period of time utilized by the meet and confer conference. Any lawsuit which Contractor intends to bring with respect to any claim filed pursuant to the Government Code which claim has been denied by County must be commenced not later than six months after the recording of the notice of completion or not later than six months after the date final payment is deposited in the mail or personally delivered, whichever date comes first. If a civil action is filed, the mediation provisions set forth in Public Contract Code Section 20104.4 shall apply unless waived by mutual stipulation of County and Contractor or unless County elects to resolve the dispute pursuant to Public Contract Code Section 10240 et seq.

For every claim that Contractor makes, it shall provide the following documentation upon request of County as a condition precedent to consideration of the claim: Contractor's bidding calculations forms, cost estimates, time sheets, trend reports, job cost analysis records, labor records, as-built documents, any other records used by Contractor in arriving at its bid price, and any other documents or records kept by Contractor during the course of construction. In the event that claims are made, Contractor agrees that County shall have the right to conduct a complete audit of the books and records of Contractor relating to this project and any books and records relating to overhead, profit or general office expenses charged to this project.

Public Contract Code Section 9204, as enacted by AB 626, establishes a claim resolution process required for public works projects. In the event of any conflict between the provisions of this Contract and Public Contract Code Section 9204, the provisions of Public Contract Code Section 9204 shall prevail.

Representative's Decision

Where a representative is appointed, the rendering of a decision by the representative with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by County or Contractor of such rights or remedies as either may otherwise have under the contract documents or by laws or regulations in respect of any such claim, dispute or other matter.

Limitations on Representative's Responsibilities

Neither the County's representative's authority to act nor any decision made by the representative in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the representative or County to Contractor, any subcontractor, any supplier, or any other person or organization performing any of the work, or to any surety for any of them.

Construction Methods and Safety

Notwithstanding any references to laws and regulations, rules, codes or standards in the contract documents, the representative and County will not be responsible for Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and the representative and County will not be responsible for Contractor's failure to perform or furnish the work in accordance with the contract documents.

Acts and Omissions of Contractor

Neither the County nor its representatives will be responsible for the acts or omissions of Contractor or of any subcontractor, any supplier, or any other person or organization performing or furnishing any of the work.

ARTICLE XXII: PARTIAL COMPLETION

Partial Completion (Completion of a Portion of the Work)

Use by County of any finished part of the work, which has specifically been identified in the contract documents, or which County and Contractor agree constitutes a separately functioning process or facility that can be used by County without significant interference with Contractor's performance of the remainder of the work, may be accomplished prior to completion of all the work subject to the following:

1. County at any time may request Contractor in writing to permit County to use any such part of the work which County believes to be ready for its intended use and substantially complete. If Contractor agrees, Contractor will certify to County that said part of the work is substantially complete and request County to issue a certificate of substantial completion for that part of the work. Contractor at any time may notify County in writing that Contractor considers any such part of the work ready for its intended use and substantially complete and request County to issue a certificate of substantial completion for that part of the work. Within a reasonable time after either such request, County and Contractor shall make an inspection of that part of the work to determine its status of completion. If County does not consider that part of the work to be substantially complete, County will notify Contractor in writing giving the reasons therefor. If County considers that part of the work to be substantially complete, County will deliver to Contractor a written recommendation as to the division of responsibilities pending final payment between County and Contractor for the entire work with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties. Unless Contractor disagrees in writing and so informs County promptly, County's aforesaid recommendation will be binding on Contractor until final payment for the entire work.
2. County may at any time request Contractor in writing to permit County to take over operation of any such part of the work although it is not substantially complete. A copy of such request will be sent to Contractor and within a reasonable time thereafter County and Contractor shall make an

inspection of that part of the work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If Contractor does not object in writing to County that such part of the work is not ready for separate operation by County, County will finalize the list of items to be completed or corrected and will deliver such list to Contractor together with a written recommendation as to the division of responsibilities pending final payment between County and Contractor with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the work which will become binding upon County and Contractor at the time when County takes over such operation (unless they shall have otherwise agreed in writing). During such operation and prior to substantial completion of such part of the work, County shall allow Contractor reasonable access to complete or correct items on said list and to complete other related work.

3. No occupancy or separate operation of part of the work will be accomplished prior to the insurers who are then providing the property insurance having acknowledged notice thereof and in writing effecting the changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy. Each party shall be responsible for notifying its own insurer.

ARTICLE XXIII: ARBITRATION

Arbitration

Where the total of all claims filed by Contractor are under \$375,000, County shall have the option of electing arbitration pursuant to Public Contract Code Sections 10240, et seq. If County does so elect, the mediation provisions of Public Contract Code Section 20104.4 shall not apply pursuant to Public Contract Code Section 20104(a)(2). If County does not elect such arbitration pursuant to Public Contract Code Sections 10240 et seq., the provisions of Public Contract Code Section 20104.4 shall apply.

Where the total of all claims filed by Contractor are above \$375,000, the arbitration provisions of this contract are voluntary. Neither County nor Contractor shall be required to enter into mediation or arbitration for amounts above \$375,000. Written consent of both parties to mediate or arbitrate such claims shall be a prerequisite to such mediation or arbitration. If the parties agree to arbitrate claims above \$375,000, the provisions of Public Contract Code Sections 10240, et seq. shall be utilized.

Time to Request Arbitration

No request for arbitration of any claim, dispute or other matter that is required to be referred to County initially for decision will be made until the earlier of (a) the date on which County has rendered a decision or (b) the tenth day after Contractor has presented its evidence to County if a written decision has not been rendered by County before that date. Unless otherwise required by law, no request for arbitration of any such claim, dispute or other matter will be made later than thirty days after the date on which County has rendered a written decision. Notice of the request for arbitration will be in writing to the other party.

ARTICLE XXIV: LABOR AND EMPLOYMENT

Worker's Compensation Certification

By my signature hereunder, as Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for Worker's 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 the work of this contract.

Prevailing Wage Rates

In accordance with the provisions of Section 1770 and 1773 of the Labor Code, the County of Nevada has determined that prevailing wage rates are applicable to the work to be done. The Contractor shall post a copy of the wage rates on the job site. The County is required to provide notice to the Department of Industrial Relations of any public work contract subject to prevailing wages within five (5) days of award.

The general prevailing wage rates determined by the Director of Industrial Relations (DIR), for the county or counties in which the work is to be done, are available from the California Department of Industrial Relations' Internet website at <http://www.wdol.gov>. These wage rates are not included in the proposal and contract for the project. Changes, if any, to the general prevailing wage rates will be available at the same location.

In accordance with Section 1771.1 of the Labor Code, a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4014 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in Chapter 1 of Part 7 of the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5.

Contractor and all subcontractors must comply with the requirements of Labor Code Section 1771.1(a) pertaining to registration of contractors pursuant to Section 1725.5. Registration and all related requirements of those sections must be maintained throughout the performance of the Contract. The DIR has launched an online application to assist public works contractors in meeting these requirements at <https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm>

Pursuant to California Labor Code Section 1775, Contractor shall forfeit Fifty Dollars (\$50.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates for such work or craft, and said amounts shall be distributed pursuant to the requirements of said Section 1775. Any employee whose type of work is not covered by any of the classified wage rates shall be paid not less than the rate of wage listed for the classification which most nearly corresponds to the type of work to be performed.

All labor on the project shall be paid no less than the minimum wage rates as established by the U.S. Secretary of Labor. Further, pursuant to California Labor Code Section 1770, the California Director of Industrial Relations has specified the general prevailing wage rates for all public projects in California. The wages to be paid to all workers on such projects shall not be less than those specified in such wage rate determination on the day of the bid opening.

In the case where Federal and State Prevailing Wages conflict, the higher of the two wage rates shall be used.

Collective Bargaining Agreements

Pursuant to California Labor Code Section 1773.8, Contractor shall pay travel and subsistence payments to all workers needed to execute the work as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8 of the Labor Code.

Payroll Records

This Contract is subject to compliance monitoring and enforcement by the DIR. The Contractor and each subcontractor must furnish certified payroll records to the Labor Commissioner at least monthly.

Contractor shall be responsible for keeping accurate payroll records as required by California Labor Code Section 1776. Contractor is aware that a penalty of twenty-five dollars (\$25.00) per day or portion thereof for each worker may be assessed for noncompliance with said section. Contractor shall forward to County a certified copy of each payroll record within ten days after close of each payroll period. Such certification shall include a statement that payroll is correct and complete and complies with prevailing wage requirements.

If by the 15th of the month, the Contractor has not submitted satisfactory payrolls for all work performed during the monthly period ending on or before the 1st of that month, County will retain an amount equal to 5 percent of the estimated value of the work performed during the month from the next monthly estimate, except that such retention shall not exceed \$10,000. Retentions for failure to submit satisfactory payrolls shall be additional to all other retentions provided for in the contract. The retention for failure to submit payrolls for any monthly period will be released for payment on the monthly estimate for partial payments next following the date that all the satisfactory payrolls for which the retention was made are submitted.

The Contractor and each subcontractor shall preserve their payroll records for a period of three years from the date of completion of the contract.

Limitations on Hours Worked

Eight hours constitutes a day's work and workers shall be limited to working 8 hours during any one calendar day and 40 hours during any one calendar week. Contractor and all subcontractors shall keep an accurate record of hours worked by each worker for each calendar day and each calendar week which record shall be available for inspection during business hours. Contractor shall, pursuant to California Labor Code Section 1813, forfeit twenty-five dollars (\$25) for each day for each worker where such worker is required or permitted to work more than 8 hours in any one day and 40 hours in any one week in violation of the provisions of the Labor Code. No overtime shall be authorized unless prior written approval of County is obtained permitting such overtime. If such overtime work is authorized by County, Contractor shall compensate each worker required to work overtime at the rate of one and one-half (1-1/2) times the basic rate of pay. All costs for overtime inspection, except those occurring as a result of overtime and shift work established as a regular procedure, shall be paid by the Contractor. Overtime inspection shall include inspection required during holidays, Saturdays, Sundays, and any weekday between the hours of 5:00 p.m. and 7:00 a.m. Such costs will include but will not necessarily be limited to engineering, inspection, general supervision and other overhead expenses which are directly chargeable to the overtime work. All such charges shall be deducted by County from payments due the Contractor.

Equal Employment Opportunity and Nondiscrimination

During the performance of this contract, the contractor agrees to abide by all provisions of Section 1735 of the California Labor Code, as amended, regarding nondiscrimination practices.

Employment of Apprentice Labor

Reference is hereby made to Section 1777.5 of the Labor Code of the State of California, which regulations shall govern the employment of apprentices on the work.

Preference for Resident Labor

In the employment of labor for doing the work, the Contractor shall give preference to qualified persons residing within the general area of the work.

Incompetent Workers

If at any time any worker employed by Contractor or any of the subcontractors shall be declared by County to be incompetent or unfaithful in executing the work, the Contractor, on receiving written notice, shall forthwith initiate appropriate action to dismiss such person.

Labor Class Substitutions

If Contractor substitutes a labor classification or provides a new classification which results in a reduction in the contract price, County's execution of a change order evidencing said reduction in price shall in no way be construed, either express or implied, as consent to the use of said labor classification in the performance of any work on the project.

ARTICLE XXV: ASSIGNMENT

No assignment by a party hereto of any rights under or interests in the contract documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the contract documents.

ARTICLE XXVI: CONFLICT OF INTEREST RESTRICTIONS

No official of County who is authorized in such capacity and on behalf of County to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspecting, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof.

No officer, employee, architect, attorney, engineer, or inspector of or for County who is authorized in such capacity and on behalf of County who is in any legislative, executive, supervisory, or other similar function in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

ARTICLE XXVII: WAIVER OF RIGHTS

No action or lack of action on the part of County at any time to exercise any right or remedy conferred upon it under this contract shall be deemed to be a waiver on the part of County of any of County's rights or remedies.

ARTICLE XXVIII: SUCCESSORS IN INTEREST

County and Contractor each bind themselves, their partners, successors, assigns and legal representatives to the other party hereto, their partners, successors, assigns and legal representatives in respect to all covenants, agreements, and obligations contained in the contract documents.

ARTICLE XXIX: NOTICE

Giving Notice

Whenever any provision of the contract documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent registered or certified mail, postage prepaid, to the last business address known to the giver of the notice. The business addresses of Contractor given in the bid form and Contractor's office at the site of the work are hereby designated as the places to which all notices, letters, and other communication to Contractor will be delivered. However, County or Contractor may change their addresses at any time by an instrument in writing delivered to the other.

Joint Venture Contractor

In the event the Contractor is a joint venture of two or more Contractors, all grants, covenants, provisos and claims, rights, powers, privileges and liabilities of the contract shall be construed and held to be several as well as joint; any notice, order, direction, request or other communication required to be or that may be given by County to the Contractor under this agreement shall be well and sufficiently given to all persons being the Contractor if given to any one or more of such persons; any notice, request or other communication given by any one of such persons to County under this agreement shall be deemed to have been given by and shall bind all persons being the Contractor.

ARTICLE XXX: VENUE AND JURISDICTION

This contract shall be construed in accordance with the laws of the State of California and the parties agree that venue shall be in Nevada County, California.

ARTICLE XXXI: FEDERAL PROVISIONS

In addition to what is stated above, the County and Contractor also intend to be bound by the following federal provisions: Part A – General Contract Provisions; Part B – General Construction Items, Part C - Contract Provisions for Obligated Sponsors and Airport Improvement Program Projects; and Part D – Wage Determinations (hereinafter “Federal Provisions”). These Federal Provisions are attached and incorporated into this contract as Exhibit 1. To the extent any other provisions in this contract is contradictory to the Federal Provisions, the County and Contractor intend for the Federal Provisions to apply.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement on the date first written, above. One counterpart each has been delivered to County, Contractor, and the Sureties. All portions of the contract documents have been signed or identified by County and Contractor.

COUNTY OF NEVADA

ATTEST:

Jeffrey Thorsby
Clerk of the Board

By: _____
Honorable Hardy Bullock
Chair, Board of Supervisors

CONTRACTOR

By: _____
Licensed in accordance with an act providing for the
registration of Contractors
License Number: _____
Telephone No: _____

Department of Industrial Relations
Registration No.: _____

FEDERAL PROVISIONS

FEDERAL PROVISIONS

PART A: GENERAL CONTRACT PROVISIONS

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Federal Provisions

Part A – General Contract Provisions

Section 10 Definition of Terms

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

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

Paragraph Number	Term	Definition
10-11	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	Contract	<p>A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment.</p> <p>The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.</p>
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the

Paragraph Number	Term	Definition
		contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	<p>a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis.</p> <p>b. Owner Force Account - Work performed for the project by the Owner's employees.</p>
10-31	Intention of Terms	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident

Paragraph Number	Term	Definition
		<p>Project Representative (RPR) is intended; and similarly, the words “approved,” “acceptable,” “satisfactory,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner.</p> <p>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.</p>
10-32	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	Owner	The term “Owner” shall mean the party of the first part or the contracting agency signatory to the contract. Where the term “Owner” is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is the County of Nevada.
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.

Paragraph Number	Term	Definition
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.

Paragraph Number	Term	Definition
10-52	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
10-54	Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of

Paragraph Number	Term	Definition
		aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	Owner Defined terms	None

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). The Invitation for Bid is located in the Bidding and Contract Documents section of these specifications.

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

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

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

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

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

Mobilization is limited to 10 percent of the total project cost.

A prebid conference is required on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements. A pre-bid conference or walk-through will be held on March 26, 2025, at the hour of 10:00 AM. at: Nevada County Airport, Airport Administration Building, 13083 John Bauer Avenue, Grass Valley, CA, 95945.

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

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

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

- c. Documented record of Contractor default under previous contracts with the Owner.
- d. Documented record of unsatisfactory work on previous contracts with the Owner.

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

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

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

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

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

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

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

- a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.
- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.
- c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
- d. If the proposal contains unit prices that are obviously unbalanced.

- e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.
- f. If the applicable Disadvantaged Business Enterprise information is incomplete.

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

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

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the bidder's name, license number and address and with the project title on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope with the notation "BID ENCLOSED" on the face thereof. 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 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 telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

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

- a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
- c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation online on Public Purchase prior to 5:00 PM, March 20, 2025.

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

END OF SECTION 20

Section 30 Award and Execution of Contract

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid 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 Section 20, paragraph 20-09, *Irregular Proposals*.

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

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

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within one hundred eighty (180) calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

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

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

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

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

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds*, of this section, within 5 calendar days from the date mailed or otherwise delivered to the successful bidder.

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

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

END OF SECTION 30

Section 40 Scope of Work

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

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

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

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

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

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

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

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

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work

covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

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

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

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

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

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

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

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

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

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading

sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

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

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

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

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

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

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

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

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

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

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

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

END OF SECTION 40

Section 50 Control of Work

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

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

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

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

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

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

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

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

contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

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

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

50-04 List of Special Provisions. The Special Provisions are listed below in the order of preference. These documents shall govern in the following order:

1 st	Change Order or Supplemental Agreement
2 nd	Contract/Agreement
3 rd	Addenda to the Plans and Specifications
4 th	Bid Proposal
5 th	Technical Provisions
6 th	Special Conditions
7 th	Construction Plans
8 th	FAA General Contract Provisions
9 th	FAA General Construction Items
10 th	State Standard Plans and Specifications
11 th	FAA Specifications and Advisory Circulars

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard 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 RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

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

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

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

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

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State

Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

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

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

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

Accuracy of surveys shall be to the thousandths of a foot.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

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

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

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

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

END OF SECTION 50

Section 60 Control of Materials

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

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

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

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

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

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

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

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

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

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

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

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

When a material or assembly is specified by “brand name or equal” and the Contractor elects to furnish the specified “or equal,” the Contractor shall be required to furnish the manufacturer’s certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

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

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

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

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

- a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

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

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

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

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

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

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

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

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

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

END OF SECTION 60

Section 70 Legal Regulations and Responsibility to Public

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

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

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

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

None

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

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

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

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

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

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

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

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

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

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

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

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

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

when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

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

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

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

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

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

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

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

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

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

70-15 Contractor’s responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any

public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

Utility Service or Facility	Person to Contact (Name, Title)	Owner's Address	Owner's Emergency Contact (Phone)
Pacific Gas and Electric (PG&E)		435 Sutton Way Grass Valley, CA 95945	(800) 655-7732
Nevada Irrigation District - Water		1036 W. Main Street, Grass Valley, CA 95945	(530) 273-6185
Nevada County Sanitation - Sewer		950 Maidu Nevada City, CA 95959	(530) 265-1411
AT&T - Telephone			

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

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

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

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

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

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

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events,

shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

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

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

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

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

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

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

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

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

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

70-21 Insurance Requirements. For insurance requirements see Article XIII, Contractor Liability and Insurance, of the Contract.

END OF SECTION 70

Section 80 Execution and Progress

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

The Contractor shall perform, with his organization, an amount of work equal to at least 30 percent of the total contract cost.

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

The Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

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

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

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

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

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

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a bi-weekly 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.

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

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

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

AOA	Time Periods AOA Can be Closed*	Type of Communications Required When Working in AOA	Control Authority**
Taxiways	Taxiway A at Various Times	Two-Way Radio Tuned to 122.725 MHz	Airport Manager
Ramps	Ramp 4	Two-Way Radio Tuned to 122.725 MHz	Airport Manager
Hangars	Hangar Access, Hangars	Two-Way Radio Tuned to 122.725 MHz	Airport Manager

*See Construction Safety and Phasing Plan

**Including driver training and/or safety training.

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

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

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

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

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

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

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

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

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

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

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

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action

as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

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

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

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

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

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

80-07.1 Contract time based on working days. Contract time based on working days shall be calculated weekly by the Resident Project Representative (RPR). The RPR will furnish the Contractor a copy of their 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 weekly statement of contract time charged is based on the following considerations:

(1) Time will be charged for days on which the Contractor could proceed with scheduled work under construction at the time for at least six (6) hours with the normal work force employed on such items. When normal work force is a double-shift, use 12 hours; and when the normal work force is on a triple-shift, use 18 hours. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the scheduled work items 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 RPR will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The RPR will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The RPR will not make charges against the contract time after the date of final acceptance as defined in Section 50, paragraph 50-14, *Final Acceptance*.

(5) The Contractor will be allowed one (1) week in which to file a written protest setting forth their own objections to the RPR's 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 the Section 20, paragraph 20-05, *Interpretation of Estimated Proposal Quantities*. 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.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
Total Project	\$3,000/Calendar Day	30 working days

The maximum construction time allowed for the Total Project will be the sum of the time allowed for individual schedules but not more than 30 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 their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

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

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

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

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

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

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

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

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

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

END OF SECTION 80

Section 90 Measurement and Payment

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

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

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

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

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

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

Measurement and Payment Terms

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

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

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

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

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

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

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

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

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

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR’s order.

Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

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

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

The Owner may hold retainage from prime Contractors and provide for prompt and regular incremental acceptances of portions of the prime contract, pay retainage to prime Contractors based on these acceptances, and require a contract clause obligating the prime Contractor to pay all retainage owed to the subcontractor for satisfactory completion of the accepted work within 30 days after the Owner's payment to the prime Contractor. If Option 3 is selected, the percent withheld may range from 0% to 10% but in no case may it exceed 10%. When establishing a suitable retainage value that protects the Owner's interests, give consideration that the performance and payment bonds also provide similar protection of Owner interests. Owner may elect to incrementally release retainage if owner is satisfied its interest with completion of the project are protected in an adequate manner. If Option 3 is selected, insert the following clause and specify a suitable value where indicated:

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

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

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

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

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

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change

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

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

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

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

90-10 Construction warranty.

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

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

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

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

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

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

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

writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

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

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

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

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

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

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

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

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

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

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

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

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

m. Quality Control Reports as specified in Appendix B, Construction Management Plan.

END OF SECTION 90

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FEDERAL PROVISIONS

PART B: GENERAL CONSTRUCTION ITEMS

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Part B– General Construction Items

Item C-100 Contractor Quality Control Program (CQCP)

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

The Contractor shall establish a CQCP that will:

- a.** Provide qualified personnel to develop and implement the CQCP.
- b.** Provide for the production of acceptable quality materials.
- c.** Provide sufficient information to assure that the specification requirements can be met.
- d.** Document the CQCP process.

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

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

- a.** Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.
- b.** Discussion of the QA program.
- c.** Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.
- d.** Establish regular meetings to discuss control of materials, methods and testing.
- e.** Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10 calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff
2. Project progress schedule
3. Submittals schedule
4. Inspection requirements
5. QC testing plan
6. Documentation of QC activities and distribution of QC reports
7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must

have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

- (1) Professional Engineer with one (1) year of airport paving experience.
- (2) Engineer-in-training with two (2) years of airport paving experience.
- (3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.
- (4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

- (1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.
- (2) Performance of all QC tests as required by the technical specifications and paragraph 100-8.
- (3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

- a. Specification item number
- b. Item description
- c. Description of submittal
- d. Specification paragraph requiring submittal

e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, *Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation*:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- a. Specification item number (e.g., P-401)
- b. Item description (e.g., Hot Mix Asphalt Pavements)
- c. Test type (e.g., gradation, grade, asphalt content)
- d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)

f. Responsibility (e.g., plant technician)

g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description
- (2) Compliance with approved submittals
- (3) Proper storage of materials and equipment
- (4) Proper operation of all equipment
- (5) Adherence to plans and technical specifications
- (6) Summary of any necessary corrective actions
- (7) Safety inspection.
- (8) Photographs and/or video

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

- (1) Technical specification item number and description
- (2) Test designation
- (3) Location

- (4) Date of test
- (5) Control requirements
- (6) Test results
- (7) Causes for rejection
- (8) Recommended remedial actions
- (9) Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:

- (1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or
- (2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. Not used. No separate payment will be made for the CQCP. Payment for this item will be considered incidental to the work performed in this contract and be included in the unit prices bid for this project.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

DESCRIPTION

102-1. This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, 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.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

MATERIALS

102-2.1 Grass. 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.

102-2.2 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.

102-2.3 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.

102-2.4 Slope drains. Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.

102-2.5 Silt fence. 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.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

102-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. 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, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR 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 RPR.

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 RPR. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR 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 maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance and removal of silt fence. 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 RPR.

METHOD OF MEASUREMENT

102-4.1 N/A

102-4.2 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

103-4.1 Where 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.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33 *Hazardous Wildlife Attractants on or Near Airports*

AC 150/5370-2 *Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

Item C-103 Storm Water Pollution Prevention Plan (SWPPP)

Description

103-1.1 This item consists of the preparation, implementation, maintenance, and monitoring of a Storm Water Pollution Prevention Plan (SWPPP) for the construction of this project to conform to all requirements of the Federal Aviation Administration, State of California Water Resources Control Board, and local agencies.

Preparation of SWPPP

103-2.1 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 (or latest version at time of bidding), 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. 2012-0006-DWQ (or latest version at time of bidding) 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> 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 final SWPPP shall be submitted to the RPR for review and approval. This plan must be approved by the State of California Water Resources Control Board and the Airport. If necessary, it will be returned to the

contractor for correction and update. Once the corrections have been made to the SWPPP and all actions called for have been made, a final SWPPP shall be resubmitted to the Engineer for approval at no extra cost. All requirements set forth in the SWPPP must be adhered to by the contractor during construction.

Method of Measurement

103-3.1 The method of measurement for preparation of a Storm Water Pollution Prevention Plan (SWPPP) including installation, monitoring, and implementation of all measures during the construction of this project will be lump sum.

Basis of Payment

103-4.1 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 prepare the SWPPP and to implement, maintain, and monitor all measures required in the approved SWPPP.

Payment will be made under:

Item 103-4.1 SWPPP Submitted by Qualified SWPPP Developer (QSD) and SWPPP Implementation
And Monitoring - Lump Sum

**** END OF SECTION ****

Item C-105 Mobilization

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-2 Mobilization limit. Mobilization shall be limited to 10 percent of the total cost of the associated Bid Schedule.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster “Equal Employment Opportunity is the Law” in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL “Notice to All Employees” Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4 Engineer/RPR field office. An Engineer/RPR field office is not required.

METHOD OF MEASUREMENT

105-5 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 Section 90, paragraph 90-11, *Contractor Final Project Documentation*, the final 10%.

BASIS OF PAYMENT

105-6 Payment will be made under:

Item C-105 Mobilization – Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

ITEM C-106 MARKING AND LIGHTING OF CLOSED AIRPORT FACILITIES

Description

106-1.0 GENERAL. The construction of this project requires certain areas of the airfield to be closed to aircraft and operational traffic. Closure of these areas must be in accordance with construction plans. Marking of closed airfield facilities, temporary facilities, and contractor haul routes must be in accordance with these specifications and F.A.A. Advisory Circulars No. 150/5340-1, current edition, "Standards for Airport Markings", 150/5370-2, current edition, "Operational Safety on Airports During Construction" and the Construction Safety and Phasing Plan.

The airport will not be closed during construction of this project and aircraft operations on the runway and other open surfaces must be allowed and protected.

All existing runway lights, taxiway lights, NAVAIDs and all power, control, and communication cables must be maintained in operation at all times for those facilities which are not closed under this contract.

Closed Airport Facility Marking

106-2.1 BARRICADES. Any area that is closed for aircraft or vehicular traffic must have lighted barricades placed across the pavement as shown on the plans. These barricades must be maintained in good condition at all times during the closure or they must be repaired or replaced as directed by the Engineer.

In accordance with the Construction Safety and Phasing Plan, the Contractor must designate haul roads to construction areas and block access to construction areas by use of suitable lighted barricades. On all airfield pavement, no part of the barricade or light must extend ten (10) inches above the paved surface. Maximum spacing between barricades must be four (4) feet. Each barricade must have two solar-powered lights with red lenses each controlled by photocells such that they are on at night and off during the day. Barricades must be painted alternate orange and white diagonal striping. These lighted barricades must remain in place until such time as the new construction is open to traffic.

The Contractor must furnish, place, and maintain all barricades and flashing units for this project. Contractor must supply batteries, sand bags and all maintenance for the barricades.

Barricades must be securely fastened or weighted so that they will not be disturbed by high winds or jet blast.

Barricades must be located as shown on the plans and as directed by the Resident Project Representative (RPR). At the completion of the project, all barricades must be drained of water and removed from the site.

106-2.2 AIRFIELD GUIDANCE SIGN COVERS. When a runway and/or taxiway is closed to aircraft operations, the existing airfield guidance sign at the closed runway and/or taxiway must be covered in such a manner that the panel is not visible during day or night operations. Covers must be secured to the sign to resist jet or prop blast and weather conditions. All sign covers must be placed as shown on the Construction Safety and Phasing Plan and approved in the field by the Resident Engineer.

106-2.3 RUNWAY CLOSURE MARKERS. Not applicable.

Method of Measurement

106-3.1 Method of measurement for marking and lighting of closed Airport facilities will be Lump Sum.

Basis of Payment

106-4.1 Payment will be made at the contract lump sum price for marking and lighting of closed airport facilities.

This lump sum price will be full compensation for furnishing all labor, materials, tools, and incidentals necessary to perform this item of work including but not limited to furnishing, placing, maintaining, and removing barricades and airfield guidance sign covers.

Payments will be made for marking and lighting of closed airport facilities on a monthly basis with the monthly progress payments. The percentage of marking and lighting of closed airport facilities payment made will be equal to the percentage of total project, completed, as determined by the Engineer.

Payment will be made under:

Item 106 – 4.1	Marking and Lighting of Closed Airport Facilities - Lump Sum
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END OF ITEM C-106

Item C-110 Method of Estimating Percentage of Material Within Specification Limits (PWL)

110-1 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.

110-2 Method for computing PWL. The computational sequence for computing 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 test values within the lot by using the following formula:

$$\bar{X} = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

Where: \bar{X} = Sample average of all subplot test values within a lot

x_1, x_2, \dots, x_n = Individual subplot test values

n = Number of subplot test values

- e. Find the sample 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 = Sample standard deviation of the number of subplot test values in the set

d_1, d_2, \dots, d_n = Deviations of the individual subplot test values x_1, x_2, \dots from the average value \bar{X}

that is: $d_1 = (x_1 - \bar{X})$, $d_2 = (x_2 - \bar{X})$... $d_n = (x_n - \bar{X})$

n = Number of subplot test values

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$Q_L = (X - L) / S_n$$

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 (i.e., L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / S_n$$

and

$$Q_U = (U - X) / S_n$$

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) of 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.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$$

$$X = 97.95\% \text{ density}$$

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.

$$A-1 = 5.00$$

$$A-2 = 3.74$$

$$A-3 = 2.30$$

$$A-4 = 3.25$$

2. Calculate the average air voids for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$$

$$X = 3.57\%$$

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 $Q_L = 1.41$ 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 $Q_U = 1.29$ 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. From ASTM E178, Table 1, for $n=4$ an upper 5% significance level, 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 (measurement - average)/(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	1.4717	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	1.1192	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	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	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	0.5582	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	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	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
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	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	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	0.0793	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

Percent Within Limits (P _L and P _U)	Negative Values of Q (Q _L and Q _U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
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	-0.0793	-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	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-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	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-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	-0.5582	-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	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-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	-1.1192	-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	-1.4717	-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

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM E178	Standard Practice for Dealing with Outlying Observations
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END OF ITEM C-110

FEDERAL PROVISIONS

PART C CONTRACT PROVISIONS FOR OBLIGATED SPONSORS AND AIRPORT IMPROVEMENT PROGRAM PROJECTS

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Federal Provisions

Part C - Contract Provisions for Obligated Sponsors and Airport Improvement Program Projects

C1 ACCESS TO RECORDS AND REPORTS

2 CFR § 200.334

2 CFR § 200.337

FAA Order 5100.38

ACCESS TO RECORDS AND REPORTS

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

C2 AFFIRMATIVE ACTION REQUIREMENT

41 CFR Part 60-4

Executive Order 11246

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade: 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 nonfederally 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 California, Nevada, Grass Valley.

C3 BREACH OF CONTRACT TERMS

2 CFR Part 200, Appendix II(A)

BREACH OF CONTRACT TERMS

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

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

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

C4 BUY AMERICAN PREFERENCE

Title 49 USC § 50101

Executive Order 14005, *Ensuring the Future is Made in All of America by All of America's Workers*

FAA BUY AMERICAN PREFERENCE

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

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

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

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

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

- a) Only installing steel and manufactured products produced in the United States;
- b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and

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

polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States.

- c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
- d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

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

- a) To provide to the Airport Sponsor or FAA evidence that documents the source and origin of the steel and manufactured product.
- b) To faithfully comply with providing U.S. domestic product.
- c) To furnish U.S. domestic product for any waiver request that the FAA rejects.
- d) 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 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for a Type 3 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

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

Required Documentation

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

- a) Completed Content Percentage Worksheet and Final Assembly Questionnaire
- b) Record of thorough market research, consideration where appropriate of qualifying alternate items, products, or materials including;

- c) A description of the market research activities and methods used to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources.

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

- a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;
- b) Listing of all product components and subcomponents that are not comprised of 100 percent U.S. domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108 (products of unknown origin must be considered as non-domestic products in their entirety).
- c) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- d) 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 (Unreasonable Costs) - Applying this provision for iron, steel, manufactured goods or construction materials, would increase the cost of the overall project by more than 25 percent. The required documentation for this waiver is:

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

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

_____	_____
Date	Signature
_____	_____
Company Name	Title

C5 CIVIL RIGHTS - GENERAL

49 USC § 47123

GENERAL CIVIL RIGHTS PROVISIONS

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

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

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

C6 CIVIL RIGHTS – TITLE VI ASSURANCE

49 USC § 47123

FAA Order 1400.11

Title VI Solicitation Notice:

The County of Nevada, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that for 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 no businesses will be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

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

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

- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, *et seq.*) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, *et seq.*).

Compliance with Nondiscrimination Requirements:

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

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of

equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.

4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
 - b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions 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.

C7 CLEAN AIR AND WATER POLLUTION CONTROL

2 CFR Part 200, Appendix II(G)

42 USC § 7401, et seq

33 USC § 1251, et seq

CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC §§ 7401-7671q) and the Federal Water Pollution Control Act as amended (33 USC §§ 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

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

C8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

2 CFR Part 200, Appendix II(E)

2 CFR § 5.5(b)

40 USC § 3702

40 USC § 3704

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

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

In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

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

4. Subcontractors.

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

C9 COPELAND “ANTI-KICKBACK” ACT

2 CFR Part 200, Appendix II(D)

29 CFR Parts 3 and 5

COPELAND “ANTI-KICKBACK” ACT

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

C10 DAVIS-BACON REQUIREMENTS

2 CFR Part 200, Appendix II(D)

29 CFR Part 5

49 USC § 47112(b)

40 USC §§ 3141-3144, 3146, and 3147

DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

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

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

1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

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

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination;

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

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

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

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

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

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

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

3. Payrolls and Basic Records.

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

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

request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

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

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

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

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

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

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

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

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State

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

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

training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

5. Compliance with Copeland Act Requirements.

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

6. Subcontracts.

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

7. Contract Termination: Debarment.

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

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

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

9. Disputes Concerning Labor Standards.

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

10. Certification of Eligibility.

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

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

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

C11 DEBARMENT AND SUSPENSION

2 CFR Part 180 (Subpart B)

2 CFR Part 200, Appendix II(H)

2 CFR Part 1200

DOT Order 4200.5

Executive Orders 12549 and 12689

CERTIFICATION OF OFFEROR/BIDDER REGARDING DEBARMENT

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

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

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

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

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

C12 DISADVANTAGED BUSINESS ENTERPRISE

49 CFR Part 26

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

Contract Assurance (49 CFR § 26.13)

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

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

Prompt Payment (49 CFR § 26.29)

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 7 days from the receipt of each payment the prime contractor receives from the County of Nevada. 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 the County of Nevada. This clause applies to both DBE and non-DBE subcontractors.

C13 DISTRACTED DRIVING

Executive Order 13513

DOT Order 3902.10

TEXTING WHEN DRIVING

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

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

C14 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

2 CFR § 200, Appendix II(K)

2 CFR § 200.216

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

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

C15 EQUAL EMPLOYMENT OPPORTUNITY (EEO)

2 CFR Part 200, Appendix II(C)

41 CFR § 60-1.4

41 CFR § 60-4.3

Executive Order 11246

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

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

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

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

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

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

Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

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

(8) The Contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: *Provided*, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:

- a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
- c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
- d. "Minority" includes:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions

of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

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

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

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

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

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

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware

of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

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

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

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

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

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

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such 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 work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed

in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.

11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.

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

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

C16 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

29 USC § 201, et seq

2 CFR § 200.430

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

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

C17 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

31 USC § 1352 – Byrd Anti-Lobbying Amendment

2 CFR Part 200, Appendix II(I)

49 CFR Part 20, Appendix A

CERTIFICATION REGARDING LOBBYING

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

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

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

C18 PROHIBITION OF SEGREGATED FACILITIES

2 CFR Part 200, Appendix II(C)

41 CFR Part 60-1

PROHIBITION OF SEGREGATED FACILITIES

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

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

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

C19 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

29 CFR Part 1910

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

C20 PROCUREMENT OF RECOVERED MATERIALS

2 CFR § 200.323

2 CFR Part 200, Appendix II(J)

40 CFR Part 247

42 USC § 6901, et seq (Resource Conservation and Recovery Act (RCRA))

PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part

247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

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

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

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

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

C21 TAX DELINQUENCY AND FELONY CONVICTIONS

Section 8113 of the Consolidated Appropriations Act, 2022 (Public Law 117-103) and similar provisions in subsequent appropriations acts.

DOT Order 4200.6 – Appropriations Act Requirements for Procurement and Non-Procurement Regarding Tax Delinquency and Felony Convictions

CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

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

Certifications

- 1) The applicant represents that it is () is not () a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) The applicant represents that it is () is not () a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the Sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that

further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

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

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

C22 TERMINATION OF CONTRACT

2 CFR Part 200, Appendix II(B)

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

TERMINATION FOR CONVENIENCE (CONSTRUCTION & EQUIPMENT CONTRACTS)

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

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

Owner agrees to pay Contractor for:

1. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
2. Documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
3. Reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and

4. Reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

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

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

TERMINATION FOR CAUSE (CONSTRUCTION)

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

C23 TRADE RESTRICTION CERTIFICATION

49 USC § 50104

49 CFR Part 30

TRADE RESTRICTION CERTIFICATION

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

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

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

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

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

- 1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR; or

- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

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

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

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

C24 VETERAN'S PREFERENCE

49 USC § 47112(c)

VETERAN'S PREFERENCE

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

C25 DOMESTIC PREFERENCES FOR PROCUREMENTS

2 CFR § 200.322

2 CFR Part 200, Appendix II(L)

CERTIFICATION REGARDING DOMESTIC PREFERENCES FOR PROCUREMENTS

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

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Federal Provisions

Part D – Wage Determinations

"General Decision Number: CA20250007 02/21/2025

Superseded General Decision Number: CA20240007

State: California

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

Counties: Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Marin, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sonoma, Sutter, Tehama, Trinity, Yolo and Yuba Counties in California.

BUILDING CONSTRUCTION PROJECTS (excluding Amador County only);
DREDGING CONSTRUCTION PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); AND HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:		Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.	
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:		Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on	

	that contract in 2025.	
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The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/03/2025
1	01/10/2025
2	02/07/2025
3	02/21/2025

ASBE0016-001 01/01/2024

AREA 1: MARIN, NAPA, SAN BENITO, SAN FRANCISCO, SOLANO, & SONOMA COUNTIES

AREA 2: ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHEMA, TRINITY, YOLO, & YUBA COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, Protective Coverings, Coatings, and Finishes to all types of mechanical systems)		
Area 1.....	\$ 84.76	25.07
Area 2.....	\$ 64.56	25.07

ASBE0016-007 05/01/2024

AREA 1 : ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

AREA 2: MARIN & NAPA COUNTIES

	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)

AREA 1.....	\$ 34.56	11.40
AREA 2.....	\$ 36.53	9.27

BOIL0549-002 01/01/2021

	Rates	Fringes
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BOILERMAKER

(1) Marin & Solano Counties.....	\$ 49.62	41.27
(2) Remaining Counties.....	\$ 45.60	38.99

BRCA0003-001 08/01/2023

	Rates	Fringes
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MARBLE FINISHER.....	\$ 41.18	18.58
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BRCA0003-004 05/01/2024

AREA 1: ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN,
LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA,
SIERRA, SUTTER, TEHAMA, YOLO AND YUBA COUNTIES

AREA 2: MARIN, NAPA, SISKIYOU, SOLANO, SONOMA AND TRINITY
COUNTIES

	Rates	Fringes
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BRICKLAYER

AREA 1.....	\$ 52.76	25.01
AREA 2.....	\$ 57.02	28.50

SPECIALTY PAY:

(A) Underground work such as tunnel work, sewer work,
manholes, catch basins, sewer pipes and telephone conduit
shall be paid \$1.25 per hour above the regular rate. Work
in direct contact with raw sewage shall receive \$1.25 per
hour in addition to the above.

(B) Operating a saw or grinder shall receive \$1.25 per hour
above the regular rate.

(C) Guniting nozzle person shall receive \$1.25 per hour above
the regular rate.

BRCA0003-008 07/01/2023

	Rates	Fringes
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TERRAZZO FINISHER.....	\$ 43.90	19.51
TERRAZZO WORKER/SETTER.....	\$ 59.06	28.31

BRCA0003-010 04/01/2024

	Rates	Fringes
TILE FINISHER		
Area 1.....	\$ 35.00	17.44
Area 2.....	\$ 34.76	19.22
Area 3.....	\$ 37.75	19.28
Area 4.....	\$ 35.78	19.23
Tile Layer		
Area 1.....	\$ 55.55	21.08
Area 2.....	\$ 55.17	22.52
Area 3.....	\$ 59.92	22.62
Area 4.....	\$ 56.79	22.54

AREA 1: Butte, Colusa, El Dorado, Glenn, Lassen, Modoc,
Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter,
Tehama, Yolo, Yuba
AREA 2: Alpine, Amador
AREA 3: Marin, Napa, Solano, Siskiyou
AREA 4: Sonoma

BRCA0003-014 08/01/2023

	Rates	Fringes
MARBLE MASON.....	\$ 60.20	28.82

CARP0034-001 07/01/2021

	Rates	Fringes
Diver		
Assistant Tender, ROV		
Tender/Technician.....	\$ 54.10	34.69
Diver standby.....	\$ 60.51	34.69
Diver Tender.....	\$ 59.51	34.69
Diver wet.....	\$ 103.62	34.69
Manifold Operator (mixed gas).....	\$ 64.51	34.69
Manifold Operator (Standby).....	\$ 59.51	34.69

DEPTH PAY (Surface Diving):
050 to 100 ft \$2.00 per foot
101 to 150 ft \$3.00 per foot
151 to 220 ft \$4.00 per foot
221 ft.-deeper \$5.00 per foot

SATURATION DIVING:
The standby rate shall apply until saturation starts. The saturation diving rate applies when divers are under

pressure continuously until work task and decompression are complete. The diver rate shall be paid for all saturation hours.

DIVING IN ENCLOSURES:

Where it is necessary for Divers to enter pipes or tunnels, or other enclosures where there is no vertical ascent, the following premium shall be paid: Distance traveled from entrance 26 feet to 300 feet: \$1.00 per foot. When it is necessary for a diver to enter any pipe, tunnel or other enclosure less than 48" in height, the premium will be \$1.00 per foot.

WORK IN COMBINATION OF CLASSIFICATIONS:

Employees working in any combination of classifications within the diving crew (except dive supervisor) in a shift are paid in the classification with the highest rate for that shift.

CARP0034-003 07/01/2021

	Rates	Fringes
Piledriver.....	\$ 54.10	34.69

CARP0035-001 08/01/2020

AREA 1: MARIN, NAPA, SOLANO & SONOMA

AREA 3: SACRAMENTO, WESTERN EL DORADO (Territory west of and including highway 49 and the territory inside the city limits of Placerville), WESTERN PLACER (Territory west of and including highway 49), & YOLO

AREA 4: ALPINE, BUTTE, COLUSA, EASTERN EL DORADO, GLENN, LASSEN, MODOC, NEVADA, EASTERN PLACER, PLUMAS, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, & YUBA

	Rates	Fringes
Drywall Installers/Lathers:		
Area 1.....	\$ 52.65	31.26
Area 3.....	\$ 47.27	31.26
Area 4.....	\$ 45.92	31.26
Drywall Stocker/Scraper		
Area 1.....	\$ 26.33	18.22
Area 3.....	\$ 23.64	18.22
Area 4.....	\$ 22.97	18.22

CARP0035-009 07/01/2020

Marin County

	Rates	Fringes
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CARPENTER

Bridge Builder/Highway Carpenter.....	\$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 52.80	30.82
Journeyman Carpenter.....	\$ 52.65	30.82
Millwright.....	\$ 52.75	32.41

CARP0035-010 07/01/2020

AREA 1: Marin, Napa, Solano & Sonoma Counties

AREA 2: Monterey, San Benito and Santa Cruz

AREA 3: Alpine, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc,
Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou,
Sutter, Tehama, Trinity, Yolo & Yuba counties

	Rates	Fringes
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Modular Furniture Installer

Area 1		
Installer.....	\$ 28.76	22.53
Lead Installer.....	\$ 32.21	23.03
Master Installer.....	\$ 36.43	23.03
Area 2		
Installer.....	\$ 26.11	22.53
Lead Installer.....	\$ 29.08	23.03
Master Installer.....	\$ 32.71	23.03
Area 3		
Installer.....	\$ 25.16	22.53
Lead Installer.....	\$ 27.96	23.03
Master Installer.....	\$ 31.38	23.03

CARP0046-001 07/01/2023

El Dorado (West), Placer (West), Sacramento and Yolo Counties

	Rates	Fringes
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Carpenters

Bridge Builder/Highway Carpenter.....	\$ 60.39	33.52
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 54.66	33.52
Journeyman Carpenter.....	\$ 54.51	33.52
Millwright.....	\$ 57.01	35.11

Footnote: Placer County (West) includes territory West of and including Highway 49 and El Dorado County (West) includes territory West of and including Highway 49 and territory inside the city limits of Placerville.

CARP0046-002 07/01/2023

Alpine, Colusa, El Dorado (East), Nevada, Placer (East),
Sierra, Sutter and Yuba Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 60.39	33.52
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 53.31	33.52
Journeyman Carpenter.....	\$ 53.16	33.52
Millwright.....	\$ 55.66	35.11

CARP0152-003 07/01/2020

Amador County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 45.57	30.82
Journeyman Carpenter.....	\$ 45.42	30.82
Millwright.....	\$ 47.92	32.41

CARP0180-001 07/01/2021

Solano County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 55.00	31.49

Journeyman Carpenter.....	\$ 54.85	31.49
Millwright.....	\$ 54.95	33.08

CARP0751-001 07/01/2021

Napa and Sonoma Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 55.00	31.49
Journeyman Carpenter.....	\$ 54.85	31.49
Millwright.....	\$ 54.95	33.08

CARP1599-001 07/01/2020

Butte, Glenn, Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama and Trinity Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 45.57	30.82
Journeyman Carpenter.....	\$ 45.42	30.82
Millwright.....	\$ 47.92	32.41

ELEC0180-001 06/01/2024

NAPA AND SOLANO COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 66.44	3%+27.84
ELECTRICIAN.....	\$ 59.06	3%+27.83

ELEC0180-003 12/01/2023

NAPA AND SOLANO COUNTIES

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 48.44	27.60

Technician.....\$ 55.71 27.82

SCOPE OF WORK INCLUDES-

SOUND & VOICE TRANSMISSION (Music, Intercom, Nurse Call, Telephone); FIRE ALARM SYSTEMS [excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs], TELEVISION & VIDEO SYSTEMS, SECURITY SYSTEMS, COMMUNICATIONS SYSTEMS that transmit or receive information and/or control systems that are intrinsic to the above.

EXCLUDES-

Excludes all other data systems or multiple systems which include control function or power supply; excludes installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excludes energy management systems.

ELEC0340-002 02/01/2018

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, NEVADA, PLACER, PLUMAS, SACRAMENTO, TRINITY, YOLO, YUBA COUNTIES

Rates Fringes

Communications System

Sound & Communications		
Installer.....	\$ 29.35	3%+15.35
Sound & Communications		
Technician.....	\$ 33.75	3%+15.35

SCOPE OF WORK

Includes the installation testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, 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 system, radio page, school intercom and sound, burglar alarms, and low voltage master clock systems.

A. SOUND AND VOICE TRANSMISSION/TRANSFERENCE SYSTEMS

Background foreground music Intercom and telephone interconnect systems, Telephone systems, Nurse call systems, Radio page systems, School intercom and sound systems, Burglar alarm systems, Low voltage master clock systems, Multi-media/multiplex systems, Sound and musical entertainment systems, RF systems, Antennas and Wave Guide.

B. FIRE ALARM SYSTEMS

Installation, wire pulling and testing

C. TELEVISION AND VIDEO SYSTEMS Television monitoring and surveillance systems, Video security systems, Video entertainment systems, Video educational systems, Microwave transmission systems, CATV and CCTV

D. SECURITY SYSTEMS Perimeter security systems
Vibration sensor systems Card access systems Access control systems Sonar/infrared monitoring equipment

E. COMMUNICATIONS SYSTEMS THAT TRANSMIT OR RECEIVE INFORMATION AND/OR CONTROL SYSTEMS THAT ARE INTRINSIC TO THE ABOVE LISTED SYSTEMS SCADA (Supervisory Control and Data Acquisition) PCM (Pulse Code Modulation) Inventory Control Systems Digital Data Systems Broadband and Baseband and Carriers Point of Sale Systems VSAT Data Systems Data Communication Systems RF and Remote Control Systems Fiber Optic Data Systems WORK EXCLUDED Raceway systems are not covered (excluding Ladder-Rack for the purpose of the above listed systems). Chases and/or nipples (not to exceed 10 feet) may be installed on open wiring systems. Energy management systems. SCADA (Supervisory Control and Data Acquisition) when not intrinsic to the above listed systems (in the scope). Fire alarm systems when installed in raceways (including wire and cable pulling) shall be performed at the electrician wage rate, when either of the following two (2) conditions apply:

1. The project involves new or major remodel building trades construction.
2. The conductors for the fire alarm system are installed in conduit.

ELEC0340-003 08/01/2022

ALPINE (West of Sierra Mt. Watershed), AMADOR, BUTTE, COLUSA, EL DORADO (West of Sierra Mt. Watershed), GLENN, LASSEN, NEVADA (West of Sierra Mt. Watershed), PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA (West of Sierra Mt. Watershed), SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

	Rates	Fringes
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ELECTRICIAN

Remaining area.....	\$ 45.06	34.09
Sierra Army Depot, Herlong..	\$ 48.83	18.54
Tunnel work.....	\$ 41.01	18.54

CABLE SPLICER: Receives 110% of the Electrician basic hourly rate.

ELEC0401-005 01/01/2025

ALPINE (east of the main watershed divide), EL DORADO (east of the main watershed divide), NEVADA (east of the main watershed), PLACER (east of the main watershed divide) and SIERRA (east of the main watershed divide) COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 48.50	23.04

ZONE RATE:

70-90 miles - \$10.00 per hour
91+ miles - \$15.00 per hour

ELEC0551-004 06/01/2024

MARIN AND SONOMA COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 59.17	32.04

ELEC0551-005 12/01/2024

MARIN & SONOMA COUNTIES

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 51.59	28.20
Technician.....	\$ 59.33	28.43

SCOPE OF WORK INCLUDES-
SOUND & VOICE TRANSMISSION (Music, Intercom, Nurse Call, Telephone); FIRE ALARM SYSTEMS [excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs],
TELEVISION & VIDEO SYSTEMS, SECURITY SYSTEMS, COMMUNICATIONS SYSTEMS that transmit or receive information and/or control systems that are intrinsic to the above.

EXCLUDES-
Excludes all other data systems or multiple systems which include control function or power supply; excludes installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excludes energy management systems.

ELEC0659-006 01/01/2025

MODOC and SISKIYOU COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 45.58	20.70

ELEC0659-008 02/01/2023

DEL NORTE, MODOC & SISKIYOU COUNTIES

	Rates	Fringes
Line Construction		
(1) Cable Splicer.....	\$ 67.80	4.5%+22.15
(2) Lineman, Pole Sprayer, Heavy Line Equipment Man....	\$ 60.54	4.5%+22.15
(3) Tree Trimmer.....	\$ 37.84	4.5%+14.30
(4) Line Equipment Man.....	\$ 53.82	4.5%+19.40
(5) Powdermen, Jackhammermen.....	\$ 40.37	4.5%+14.30
(6) Groundman.....	\$ 33.37	4.5%+14.30

* ELEC1245-004 01/01/2025

ALL COUNTIES EXCEPT DEL NORTE, MODOC & SISKIYOU

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 70.16	24.71
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 53.30	22.26
(3) Groundman.....	\$ 40.76	21.76
(4) Powderman.....	\$ 51.87	18.79

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

* ELEV0008-001 01/01/2025

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 84.05	38.435+a+b

FOOTNOTE:

- a. 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.
- b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

 ENGI0003-008 08/01/2024

Rates Fringes

Dredging: (DREDGING:
 CLAMSHELL & DIPPER DREDGING;
 HYDRAULIC SUCTION DREDGING:)

AREA 1:

(1) Leverman.....	\$ 60.61	39.55
(2) Dredge Dozer; Heavy duty repairman.....	\$ 55.65	39.55
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator.....	\$ 54.53	39.55
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler..	\$ 51.23	39.55

AREA 2:

(1) Leverman.....	\$ 62.61	39.55
(2) Dredge Dozer; Heavy duty repairman.....	\$ 57.65	39.55
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator.....	\$ 56.53	39.55
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler..	\$ 53.23	39.55

AREA DESCRIPTIONS

AREA 1: ALAMEDA,BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED,
 NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN,
 SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS,
 SUTTER, YOLO, AND YUBA COUNTIES

AREA 2: MODOC COUNTY

THE REMAINGING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2
 AS NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part
 Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Remainder

Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part

Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part

Area 2: Remainder

FRESNO COUNTY:

Area 1: Remainder

Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part

Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border
with Shasta County

Area 2: Remainder

MADERA COUNTY:

Area 1: Except Eastern part

Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Except Eastern part

Area 2: Eastern part

MONTERREY COUNTY

Area 1: Except Southwestern part

Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of
Sierra County

Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion

Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion

Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner

Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part

Area 2: Remainder

SISKIYOU COUNTY:

Area 1: Central part

Area 2: Remainder

SONOMA COUNTY:

Area 1: All but the Northwestern corner

Area 2: Remainder

TEHAMA COUNTY:

Area 1: All but the Western border with Mendocino & Trinity
Counties

Area 2: Remainder

TRINITY COUNTY:

Area 1: East Central part and the Northeastern border with
Shasta County

Area 2: Remainder

TUOLUMNE COUNTY:

Area 1: Except Eastern part

Area 2: Eastern part

ENGI0003-019 07/01/2024

SEE AREA DESCRIPTIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment (LANDSCAPE WORK ONLY)		
GROUP 1		
AREA 1.....	\$ 52.40	28.52
AREA 2.....	\$ 54.40	28.52
GROUP 2		
AREA 1.....	\$ 48.80	28.52
AREA 2.....	\$ 50.80	28.52
GROUP 3		
AREA 1.....	\$ 44.19	28.52
AREA 2.....	\$ 46.19	28.52

GROUP DESCRIPTIONS:

GROUP 1: Landscape Finish Grade Operator: All finish grade work regardless of equipment used, and all equipment with a rating more than 65 HP.

GROUP 2: Landscape Operator up to 65 HP: All equipment with a manufacturer's rating of 65 HP or less except equipment covered by Group 1 or Group 3. The following equipment shall be included except when used for finish work as long as manufacturer's rating is 65 HP or less: A-Frame and Winch Truck, Backhoe, Forklift, Hydragraphic Seeder Machine, Roller, Rubber-Tired and Track Earthmoving Equipment, Skiploader, Straw Blowers, and Trencher 31 HP up to 65 HP.

GROUP 3: Landscae Utility Operator: Small Rubber-Tired
Tractor, Trencher Under 31 HP.

AREA DESCRIPTIONS:

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED,
NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN,
SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS,
SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS
NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part

Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Except Eastern part

Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part

Area 2: Remainder

DEL NORTE COUNTY:

Area 1: Extreme Southwestern corner

Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part

Area 2: Remainder

FRESNO COUNTY

Area 1: Except Eastern part

Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part

Area 2: Remainder

HUMBOLDT COUNTY:

Area 1: Except Eastern and Southwestern parts

Area 2: Remainder

LAKE COUNTY:

Area 1: Southern part

Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border
with Shasta County

Area 2: Remainder

MADERA COUNTY

Area 1: Remainder

Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Remainder

Area 2: Eastern part

MENDOCINO COUNTY:

Area 1: Central and Southeastern parts

Area 2: Remainder

MONTEREY COUNTY

Area 1: Remainder

Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of
Sierra County

Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion

Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion

Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner

Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part

Area 2: Remainder

SISKIYOU COUNTY:

Area 1: Central part

Area 2: Remainder

SONOMA COUNTY:

Area 1: All but the Northwestern corner

Area 2: Reaminder

TEHAMA COUNTY:

Area 1: All but the Western border with mendocino & Trinity
Counties

Area 2: Remainder

TRINITY COUNTY:

Area 1: East Central part and the Northeaster border with
Shasta County

Area 2: Remainder

TULARE COUNTY;
Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:
Area 1: Remainder
Area 2: Eastern Part

ENGI0003-038 06/28/2023

""AREA 1"" WAGE RATES ARE LISTED BELOW

""AREA 2"" RECEIVES AN ADDITIONAL \$2.00 PER HOUR ABOVE AREA 1 RATES.

SEE AREA DEFINITIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment (AREA 1:)		
GROUP 1.....	\$ 60.72	31.03
GROUP 2.....	\$ 59.19	31.03
GROUP 3.....	\$ 57.71	31.03
GROUP 4.....	\$ 56.33	31.03
GROUP 5.....	\$ 55.06	31.03
GROUP 6.....	\$ 53.74	31.03
GROUP 7.....	\$ 52.60	31.03
GROUP 8.....	\$ 51.46	31.03
GROUP 8-A.....	\$ 49.25	31.03
OPERATOR: Power Equipment (Cranes and Attachments - AREA 1:)		
GROUP 1		
Cranes.....	\$ 52.30	31.15
Oiler.....	\$ 43.79	31.15
Truck crane oiler.....	\$ 46.08	31.15
GROUP 2		
Cranes.....	\$ 50.54	31.15
Oiler.....	\$ 42.83	31.15
Truck crane oiler.....	\$ 45.07	31.15
GROUP 3		
Cranes.....	\$ 48.80	31.15
Hydraulic.....	\$ 44.44	31.15
Oiler.....	\$ 42.55	31.15
Truck crane oiler.....	\$ 44.83	31.15
GROUP 4		
Cranes.....	\$ 45.76	31.15
OPERATOR: Power Equipment (Piledriving - AREA 1:)		
GROUP 1		
Lifting devices.....	\$ 52.64	31.15
Oiler.....	\$ 43.38	31.15
Truck Crane Oiler.....	\$ 45.66	31.15

GROUP 2		
Lifting devices.....	\$ 50.82	31.15
Oiler.....	\$ 43.11	31.15
Truck Crane Oiler.....	\$ 45.41	31.15
GROUP 3		
Lifting devices.....	\$ 49.14	31.15
Oiler.....	\$ 42.89	31.15
Truck Crane Oiler.....	\$ 45.12	31.15
GROUP 4		
Lifting devices.....	\$ 47.37	31.15
GROUP 5		
Lifting devices.....	\$ 44.73	31.15
GROUP 6		
Lifting devices.....	\$ 42.50	31.15
OPERATOR: Power Equipment		
(Steel Erection - AREA 1:)		
GROUP 1		
Cranes.....	\$ 53.27	31.15
Oiler.....	\$ 43.72	31.15
Truck Crane Oiler.....	\$ 45.95	31.15
GROUP 2		
Cranes.....	\$ 51.50	31.15
Oiler.....	\$ 43.45	31.15
Truck Crane Oiler.....	\$ 45.73	31.15
GROUP 3		
Cranes.....	\$ 50.02	31.15
Hydraulic.....	\$ 45.07	31.15
Oiler.....	\$ 43.23	31.15
Truck Crane Oiler.....	\$ 45.46	31.15
GROUP 4		
Cranes.....	\$ 48.00	31.15
GROUP 5		
Cranes.....	\$ 46.70	31.15
OPERATOR: Power Equipment		
(Tunnel and Underground Work		
- AREA 1:)		
SHAFTS, STOPES, RAISES:		
GROUP 1.....	\$ 56.82	31.03
GROUP 1-A.....	\$ 49.99	31.15
GROUP 1A.....	\$ 59.29	31.03
GROUP 2.....	\$ 55.56	31.03
GROUP 3.....	\$ 54.23	31.03
GROUP 4.....	\$ 53.09	31.03
GROUP 5.....	\$ 51.95	31.03
UNDERGROUND:		
GROUP 1.....	\$ 47.42	31.15
GROUP 1-A.....	\$ 49.89	31.15
GROUP 2.....	\$ 46.16	31.15
GROUP 3.....	\$ 44.83	31.15
GROUP 4.....	\$ 43.69	31.15
GROUP 5.....	\$ 42.55	31.15

FOOTNOTE: Work suspended by ropes or cables, or work on a Yo-Yo Cat: \$.60 per hour additional.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Operator of helicopter (when used in erection work); Hydraulic excavator, 7 cu. yds. and over; Power shovels, over 7 cu. yds.

GROUP 2: Highline cableway; Hydraulic excavator, 3-1/2 cu. yds. up to 7 cu. yds.; Licensed construction work boat operator, on site; Power blade operator (finish); Power shovels, over 1 cu. yd. up to and including 7 cu. yds. m.r.c.

GROUP 3: Asphalt milling machine; Cable backhoe; Combination backhoe and loader over 3/4 cu. yds.; Continuous flight tie back machine assistant to engineer or mechanic; Crane mounted continuous flight tie back machine, tonnage to apply; Crane mounted drill attachment, tonnage to apply; Dozer, slope brd; Gradall; Hydraulic excavator, up to 3 1/2 cu. yds.; Loader 4 cu. yds. and over; Long reach excavator; Multiple engine scraper (when used as push pull); Power shovels, up to and including 1 cu. yd.; Pre-stress wire wrapping machine; Side boom cat, 572 or larger; Track loader 4 cu. yds. and over; Wheel excavator (up to and including 750 cu. yds. per hour)

GROUP 4: Asphalt plant engineer/box person; Chicago boom; Combination backhoe and loader up to and including 3/4 cu. yd.; Concrete batch plant (wet or dry); Dozer and/or push cat; Pull- type elevating loader; Gradesetter, grade checker (GPS, mechanical or otherwise); Grooving and grinding machine; Heading shield operator; Heavy-duty drilling equipment, Hughes, LDH, Watson 3000 or similar; Heavy-duty repairperson and/or welder; Lime spreader; Loader under 4 cu. yds.; Lubrication and service engineer (mobile and grease rack); Mechanical finishers or spreader machine (asphalt, Barber-Greene and similar); Miller Formless M-9000 slope paver or similar; Portable crushing and screening plants; Power blade support; Roller operator, asphalt; Rubber-tired scraper, self-loading (paddle-wheels, etc.); Rubber- tired earthmoving equipment (scrapers); Slip form paver (concrete); Small tractor with drag; Soil stabilizer (P & H or equal); Spider plow and spider puller; Tubex pile rig; Unlicensed construction work boat operator, on site; Timber skidder; Track loader up to 4 yds.; Tractor-drawn scraper; Tractor, compressor drill combination; Welder; Woods-Mixer (and other similar Pugmill equipment)

GROUP 5: Cast-in-place pipe laying machine; Combination slusher and motor operator; Concrete conveyor or concrete pump, truck or equipment mounted; Concrete conveyor, building site; Concrete pump or pumpcrete gun; Drilling equipment, Watson 2000, Texoma 700 or similar; Drilling and boring machinery, horizontal (not to apply to waterliners, wagon drills or jackhammers); Concrete mixer/all; Person and/or material hoist; Mechanical finishers (concrete)

(Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical burm, curb and/or curb and gutter machine, concrete or asphalt); Mine or shaft hoist; Portable crusher; Power jumbo operator (setting slip-forms, etc., in tunnels); Screed (automatic or manual); Self-propelled compactor with dozer; Tractor with boom D6 or smaller; Trenching machine, maximum digging capacity over 5 ft. depth; Vermeer T-600B rock cutter or similar

GROUP 6: Armor-Coater (or similar); Ballast jack tamper; Boom- type backfilling machine; Assistant plant engineer; Bridge and/or gantry crane; Chemical grouting machine, truck-mounted; Chip spreading machine operator; Concrete saw (self-propelled unit on streets, highways, airports and canals); Deck engineer; Drilling equipment Texoma 600, Hughes 200 Series or similar up to and including 30 ft. m.r.c.; Drill doctor; Helicopter radio operator; Hydro-hammer or similar; Line master; Skidsteer loader, Bobcat larger than 743 series or similar (with attachments); Locomotive; Lull hi-lift or similar; Oiler, truck mounted equipment; Pavement breaker, truck-mounted, with compressor combination; Paving fabric installation and/or laying machine; Pipe bending machine (pipelines only); Pipe wrapping machine (tractor propelled and supported); Screed (except asphaltic concrete paving); Self- propelled pipeline wrapping machine; Tractor; Self-loading chipper; Concrete barrier moving machine

GROUP 7: Ballast regulator; Boom truck or dual-purpose A-frame truck, non-rotating - under 15 tons; Cary lift or similar; Combination slurry mixer and/or cleaner; Drilling equipment, 20 ft. and under m.r.c.; Firetender (hot plant); Grouting machine operator; Highline cableway signaller; Stationary belt loader (Kolman or similar); Lift slab machine (Vagtborg and similar types); Maginnes internal full slab vibrator; Material hoist (1 drum); Mechanical trench shield; Pavement breaker with or without compressor combination); Pipe cleaning machine (tractor propelled and supported); Post driver; Roller (except asphalt); Chip Seal; Self-propelled automatically applied concrete curing machine (on streets, highways, airports and canals); Self-propelled compactor (without dozer); Signaller; Slip-form pumps (lifting device for concrete forms); Tie spacer; Tower mobile; Trenching machine, maximum digging capacity up to and including 5 ft. depth; Truck- type loader

GROUP 8: Bit sharpener; Boiler tender; Box operator; Brakeperson; Combination mixer and compressor (shotcrete/gunite); Compressor operator; Deckhand; Fire tender; Forklift (under 20 ft.); Generator; Gunite/shotcrete equipment operator; Hydraulic monitor; Ken seal machine (or similar); Mixermobile; Oiler; Pump operator; Refrigeration plant; Reservoir-debris tug (self-propelled floating); Ross Carrier (construction site); Rotomist operator; Self-propelled tape machine; Shuttlecar; Self-propelled power sweeper operator (includes vacuum

sweeper); Slusher operator; Surface heater; Switchperson; Tar pot firetender; Tugger hoist, single drum; Vacuum cooling plant; Welding machine (powered other than by electricity)

GROUP 8-A: Elevator operator; Skidsteer loader-Bobcat 743 series or smaller, and similar (without attachments); Mini excavator under 25 H.P. (backhoe-trencher); Tub grinder wood chipper

ALL CRANES AND ATTACHMENTS

GROUP 1: Clamshell and dragline over 7 cu. yds.; Crane, over 100 tons; Derrick, over 100 tons; Derrick barge pedestal-mounted, over 100 tons; Self-propelled boom-type lifting device, over 100 tons

GROUP 2: Clamshell and dragline over 1 cu. yd. up to and including 7 cu. yds.; Crane, over 45 tons up to and including 100 tons; Derrick barge, 100 tons and under; Self-propelled boom-type lifting device, over 45 tons; Tower crane

GROUP 3: Clamshell and dragline up to and including 1 cu. yd.; Cranes 45 tons and under; Self-propelled boom-type lifting device 45 tons and under;

GROUP 4: Boom Truck or dual purpose A-frame truck, non-rotating over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) - under 15 tons;

PILEDRIVERS

GROUP 1: Derrick barge pedestal mounted over 100 tons; Clamshell over 7 cu. yds.; Self-propelled boom-type lifting device over 100 tons; Truck crane or crawler, land or barge mounted over 100 tons

GROUP 2: Derrick barge pedestal mounted 45 tons to and including 100 tons; Clamshell up to and including 7 cu. yds.; Self-propelled boom-type lifting device over 45 tons; Truck crane or crawler, land or barge mounted, over 45 tons up to and including 100 tons; Fundex F-12 hydraulic pile rig

GROUP 3: Derrick barge pedestal mounted under 45 tons; Self-propelled boom-type lifting device 45 tons and under; Skid/scow piledriver, any tonnage; Truck crane or crawler, land or barge mounted 45 tons and under

GROUP 4: Assistant operator in lieu of assistant to engineer;
Forklift, 10 tons and over; Heavy-duty repairperson/welder

GROUP 5: Deck engineer

GROUP 6: Deckhand; Fire tender

STEEL ERECTORS

GROUP 1: Crane over 100 tons; Derrick over 100 tons; Self-propelled boom-type lifting device over 100 tons

GROUP 2: Crane over 45 tons to 100 tons; Derrick under 100 tons; Self-propelled boom-type lifting device over 45 tons to 100 tons; Tower crane

GROUP 3: Crane, 45 tons and under; Self-propelled boom-type lifting device, 45 tons and under

GROUP 4: Chicago boom; Forklift, 10 tons and over; Heavy-duty repair person/welder

GROUP 5: Boom cat

TUNNEL AND UNDERGROUND WORK

GROUP 1-A: Tunnel bore machine operator, 20' diameter or more

GROUP 1: Heading shield operator; Heavy-duty repairperson; Mucking machine (rubber tired, rail or track type); Raised bore operator (tunnels); Tunnel mole bore operator

GROUP 2: Combination slusher and motor operator; Concrete pump or pumpcrete gun; Power jumbo operator

GROUP 3: Drill doctor; Mine or shaft hoist

GROUP 4: Combination slurry mixer cleaner; Grouting Machine operator; Motorman

GROUP 5: Bit Sharpener; Brakeman; Combination mixer and compressor (gunite); Compressor operator; Oiler; Pump operator; Slusher operator

AREA DESCRIPTIONS:

POWER EQUIPMENT OPERATORS, CRANES AND ATTACHMENTS, TUNNEL AND UNDERGROUND [These areas do not apply to Piledrivers and Steel Erectors]

AREA 1: DEL NORTE, HUMBOLDT, LAKE, MENDOCINO
AREA 2 -NOTED BELOW

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS
NOTED BELOW:

DEL NORTE COUNTY:
Area 1: Extreme Southwest corner
Area 2: Remainder

HUMBOLDT COUNTY:
Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:
Area 1: Southern part
Area 2: Remainder

MENDOCINO COUNTY:
Area 1: Central and Southeastern Parts
Area 2: Remainder

* IRON0118-012 01/01/2025

ALPINE, LASSEN, MODOC, SISKIYOU and TRINITY COUNTIES

	Rates	Fringes
IRONWORKER.....	\$ 43.75	34.45

* IRON0118-013 01/01/2025

AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, MARIN, NAPA, NEVADA,
PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SOLANO, SONOMA,
SUTTER, TEHAMA, YOLO and YUBA COUNTIES

	Rates	Fringes
IRONWORKER.....	\$ 50.70	35.15

LABO0067-003 07/01/2024

AREA ""1"" - MARIN and NAPA COUNTIES

AREA ""2"" - ALPINE, AMADOR, BUTTE COLUSA EL DORADO, GLENN,
LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA,
SIERRA, SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY,
YOLO, AND YUBA COUNTIES

	Rates	Fringes
LABORER (ASBESTOS/MOLD/LEAD		

LABORER)

Marin and Napa Counties.....\$ 37.75	29.69
Remaining Counties.....\$ 36.75	29.69

LABO0067-005 01/01/2024

AREA ""A"" - ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA ""B"" - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SIERRA, SHASTA, SISKIYOU, STANISLAUS, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YUBA COUNTIES

Rates	Fringes
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LABORER (TRAFFIC CONTROL/LANE CLOSURE)

Escort Driver, Flag Person

Area A.....\$ 37.26	27.32
Area B.....\$ 36.26	27.32

Traffic Control Person I

Area A.....\$ 37.56	27.32
Area B.....\$ 36.56	27.32

Traffic Control Person II

Area A.....\$ 35.06	27.32
Area B.....\$ 34.06	27.32

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0185-002 07/01/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

Rates	Fringes
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LABORER

Mason Tender-Brick.....\$ 36.29	25.55
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LABO0185-005 06/26/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
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Tunnel and Shaft Laborers:

GROUP 1.....	\$ 45.89	27.72
GROUP 2.....	\$ 45.66	27.72
GROUP 3.....	\$ 45.41	27.72
GROUP 4.....	\$ 44.96	27.72
GROUP 5.....	\$ 44.42	27.72
Shotcrete Specialist.....	\$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlelemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0185-006 06/26/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHIASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO, YUBA COUNTIES

	Rates	Fringes
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LABORER (CONSTRUCTION CRAFT
LABORERS - AREA B:)

Construction Specialist		
Group.....	\$ 36.20	27.30
GROUP 1.....	\$ 35.50	27.30
GROUP 1-a.....	\$ 35.72	27.30
GROUP 1-c.....	\$ 35.55	27.30
GROUP 1-e.....	\$ 36.05	27.30

GROUP 1-f.....	\$ 30.37	23.20
GROUP 2.....	\$ 35.35	27.30
GROUP 3.....	\$ 35.25	27.30
GROUP 4.....	\$ 28.94	27.30

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,
HORTICULTURAL & LANDSCAPE
LABORERS - AREA B:)

(1) New Construction.....	\$ 35.25	27.30
(2) Establishment Warranty Period.....	\$ 28.94	27.30

LABORER (GUNITE - AREA B:)

GROUP 1.....	\$ 36.46	27.30
GROUP 2.....	\$ 35.96	27.30
GROUP 3.....	\$ 35.37	27.30
GROUP 4.....	\$ 35.25	27.30

LABORER (WRECKING - AREA B:)

GROUP 1.....	\$ 35.50	27.30
GROUP 2.....	\$ 35.35	27.30

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite,

epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$.25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0185-008 07/01/2023

	Rates	Fringes
Plasterer tender.....	\$ 39.77	28.54

Work on a swing stage scaffold: \$1.00 per hour additional.

LABO0261-002 07/01/2023

MARIN COUNTY

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	\$ 37.26	27.30
Traffic Control Person I....	\$ 37.56	27.30
Traffic Control Person II...	\$ 35.06	27.30

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0261-004 06/26/2023

MARIN COUNTY

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 45.89	27.72
GROUP 2.....	\$ 45.66	27.72
GROUP 3.....	\$ 45.41	27.72
GROUP 4.....	\$ 44.96	27.72
GROUP 5.....	\$ 44.42	27.72
Shotcrete Specialist.....	\$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Guniting and shotcrete nozzle men

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Guniting & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0261-007 07/01/2023

MARIN COUNTY

	Rates	Fringes
LABORER		
Mason Tender-Brick.....	\$ 37.54	25.55

LABO0261-010 06/26/2023

MARIN COUNTY

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT		
LABORERS - AREA A:)		
Construction Specialist		
Group.....	\$ 37.20	27.30
GROUP 1.....	\$ 36.50	27.30
GROUP 1-a.....	\$ 36.72	27.30
GROUP 1-c.....	\$ 36.55	27.30
GROUP 1-e.....	\$ 37.05	27.30
GROUP 1-f.....	\$ 31.37	23.20
GROUP 2.....	\$ 36.35	27.30
GROUP 3.....	\$ 36.25	27.30
GROUP 4.....	\$ 29.94	27.30

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,
HORTICULTURAL & LANDSCAPE
LABORERS - AREA A:)

(1) New Construction.....	\$ 36.25	27.30
(2) Establishment Warranty		
Period.....	\$ 29.94	27.30

LABORER (GUNITE - AREA A:)		
GROUP 1.....	\$ 37.46	27.30
GROUP 2.....	\$ 36.96	27.30
GROUP 3.....	\$ 36.37	27.30
GROUP 4.....	\$ 36.25	27.30
LABORER (WRECKING - AREA A:)		
GROUP 1.....	\$ 36.50	27.30
GROUP 2.....	\$ 36.35	27.30

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete

chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$.25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling

of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0261-015 07/01/2023

	Rates	Fringes
Plasterer tender.....	\$ 39.77	28.54

Work on a swing stage scaffold: \$1.00 per hour additional.

LABO0324-004 07/01/2023

NAPA, SOLANO, AND SONOMA, COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	\$ 36.26	27.30
Traffic Control Person I....	\$ 36.56	27.30
Traffic Control Person II...	\$ 34.06	27.30

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0324-008 06/26/2023

NAPA, SOLANO, AND SONOMA COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 45.89	27.72
GROUP 2.....	\$ 45.66	27.72
GROUP 3.....	\$ 45.41	27.72
GROUP 4.....	\$ 44.96	27.72
GROUP 5.....	\$ 44.42	27.72
Shotcrete Specialist.....	\$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Guniting and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Guniting & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and

setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0324-010 07/01/2023

SOLANO AND SONOMA COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick.....	\$ 36.84	26.24

LABO0324-013 06/26/2023

NAPA, SOLANO, AND SONOMA COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT		
LABORERS - AREA B:)		
Construction Specialist		
Group.....	\$ 36.20	27.30
GROUP 1.....	\$ 35.50	27.30
GROUP 1-a.....	\$ 35.72	27.30
GROUP 1-c.....	\$ 35.55	27.30
GROUP 1-e.....	\$ 36.05	27.30
GROUP 1-f.....	\$ 36.08	27.30
GROUP 2.....	\$ 35.35	27.30
GROUP 3.....	\$ 35.25	27.30
GROUP 4.....	\$ 28.94	27.30

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,
HORTICULTURAL & LANDSCAPE

LABORERS - AREA B:)		
(1) New Construction.....	\$ 35.25	27.30
(2) Establishment Warranty		
Period.....	\$ 28.94	27.30

LABORER (GUNITE - AREA B:)		
GROUP 1.....	\$ 36.46	27.30
GROUP 2.....	\$ 35.96	27.30
GROUP 3.....	\$ 35.37	27.30
GROUP 4.....	\$ 35.25	27.30

LABORER (WRECKING - AREA B:)		
GROUP 1.....	\$ 35.50	27.30
GROUP 2.....	\$ 35.35	27.30

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging

scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types

regardless of type or method of power; Blaster and powder;
All work of loading, placing and blasting of all powder and
explosives of whatever type regardless of method used for
such loading and placing; High scalers (including drilling
of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above
Group 1 wage rates. ""Sewer cleaner"" means any worker who
handles or comes in contact with raw sewage in small
diameter sewers. Those who work inside recently active,
large diameter sewers, and all recently active sewer
manholes shall receive \$5.00 per day above Group 1 wage
rates.

GROUP 1-c: Burning and welding in connection with laborers'
work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All
employees performing work covered herein shall receive \$
.25 per hour above their regular rate for all work
performed on underground structures not specifically
covered herein. This paragraph shall not be construed to
apply to work below ground level in open cut. It shall
apply to cut and cover work of subway construction after
the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts
thereof, and work on and in deep footings. (A deep footing
is a hole 15 feet or more in depth.) In the event the
depth of the footing is unknown at the commencement of
excavation, and the final depth exceeds 15 feet, the deep
footing wage rate would apply to all employees for each and
every day worked on or in the excavation of the footing
from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting
or shotcrete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry
cement or gypsum; Choke-setter and rigger (clearing work);
Concrete bucket dumper and chute; Concrete chipping and
grinding; Concrete laborer (wet or dry); Driller tender,
chuck tender, nipper; Guinea chaser (stake), grout crew;
High pressure nozzle, adductor; Hydraulic monitor (over 100
lbs. pressure); Loading and unloading, carrying and hauling
of all rods and materials for use in reinforcing concrete
construction; Pittsburgh chipper and similar type brush
shredders; Sloper; Single foot, hand-held, pneumatic
tamper; All pneumatic, air, gas and electric tools not
listed in Groups 1 through 1-f; Jacking of pipe - under 12
inches

GROUP 3: Construction laborers, including bridge and general
laborer; Dump, load spotter; Flag person; Fire watcher;
Fence erector; Guardrail erector; Gardener, horticultural
and landscape laborer; Jetting; Limber, brush loader and

piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

- A: at demolition site for the salvage of the material.
- B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
- C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0324-019 07/01/2023

	Rates	Fringes
Plasterer tender.....	\$ 39.77	28.54
Work on a swing stage scaffold: \$1.00 per hour additional.		

PAIN0016-004 01/01/2024

MARIN, NAPA, SOLANO & SONOMA COUNTIES

	Rates	Fringes
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Painters:.....\$ 50.51 27.66

PREMIUMS:

EXOTIC MATERIALS - \$1.25 additional per hour.

SPRAY WORK: - \$0.50 additional per hour.

INDUSTRIAL PAINTING - \$0.25 additional per hour

[Work on industrial buildings used for the manufacture and processing of goods for sale or service; steel construction (bridges), stacks, towers, tanks, and similar structures]

HIGH WORK:

over 50 feet - \$2.00 per hour additional

100 to 180 feet - \$4.00 per hour additional

Over 180 feet - \$6.00 per hour additional

PAIN0016-005 01/01/2024

ALPINE, BUTTE, COLUSA, EL DORADO (west of the Sierra Nevada Mountains), GLENN, LASSEN (west of Hwy. 395, excluding Honey Lake); MARIN, MODOC, NAPA, NEVADA (west of the Sierra Nevada Mountains), PLACER (west of the Sierra Nevada Mountains), PLUMAS, SACRAMENTO, SHASTA, SIERRA (west of the Sierra Nevada Mountains), SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

Rates Fringes

DRYWALL FINISHER/TAPER.....\$ 56.28 29.94

PAIN0016-007 01/01/2024

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO (west of the Sierra Nevada Mountains), GLENN, LASSEN (west of Highway 395, excluding Honey Lake), MODOC, NEVADA (west of the Sierra Nevada Mountains), PLACER (west of the Sierra Nevada Mountains), PLUMAS, SACRAMENTO, SHASTA, SIERRA (west of the Sierra Nevada Mountains), SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

Rates Fringes

Painters:.....\$ 40.85 22.40

SPRAY/SANDBLAST: \$0.50 additional per hour.

EXOTIC MATERIALS: \$1.25 additional per hour.

HIGH TIME: Over 50 ft above ground or water level \$2.00 additional per hour. 100 to 180 ft above ground or water level \$4.00 additional per hour. Over 180 ft above ground or water level \$6.00 additional per hour.

PAIN0016-008 01/01/2024

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 59.00	33.03

PAIN0169-004 01/01/2024

MARIN , NAPA & SONOMA COUNTIES; SOLANO COUNTY (west of a line defined as follows: Hwy. 80 corridor beginning at the City of Fairfield, including Travis Air Force Base and Suisun City; going north of Manakas Corner Rd., continue north on Suisun Valley Rd. to the Napa County line; Hwy. 80 corridor south on Grizzly Island Rd. to the Grizzly Island Management area)

	Rates	Fringes
GLAZIER.....	\$ 56.22	34.00

* PAIN0567-001 07/01/2024

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains); AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
Painters:		
Brush and Roller.....	\$ 36.87	15.82
Spray Painter & Paperhanger.	\$ 38.87	15.82

PREMIUMS:
Special Coatings (Brush), and Sandblasting = \$0.50/hr
Special Coatings (Spray), and Steeplejack = \$1.00/hr
Special Coating Spray Steel = \$1.25/hr
Swing Stage = \$2.00/hr

*A special coating is a coating that requires the mixing of 2 or more products.

PAIN0567-007 07/01/2022

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains) AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 34.27	16.47

PAIN0567-010 07/01/2024

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains); AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
Drywall		
(1) Taper.....	\$ 42.79	16.12
(2) Steeplejack - Taper, over 40 ft with open space below.....	\$ 44.29	16.12

PAIN0767-004 01/01/2024

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO (Remainder), SUTTER, TEHAMA, TRINITY, YOLO, YUBA

	Rates	Fringes
GLAZIER.....	\$ 43.25	35.62

PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Employee required to wear a body harness shall receive \$1.50 per hour above the basic hourly rate at any elevation.

PAIN1176-001 07/01/2022

HIGHWAY IMPROVEMENT

	Rates	Fringes
Parking Lot Striping/Highway Marking:		
GROUP 1.....	\$ 40.83	17.62
GROUP 2.....	\$ 34.71	17.62
GROUP 3.....	\$ 35.11	17.62

CLASSIFICATIONS

GROUP 1: Striper: Layout and application of painted traffic

stripes and marking; hot thermo plastic; tape, traffic stripes and markings

GROUP 2: Gamecourt & Playground Installer

GROUP 3: Protective Coating, Pavement Sealing

PAIN1237-001 01/01/2024

ALPINE; COLUSA; EL DORADO (west of the Sierra Nevada Mountains); GLENN; LASSEN (west of Highway 395, beginning at Stacey and including Honey Lake); MODOC; NEVADA (west of the Sierra Nevada Mountains); PLACER (west of the Sierra Nevada Mountains); PLUMAS; SACRAMENTO; SHASTA; SIERRA (west of the Sierra Nevada Mountains); SISKIYOU; SUTTER; TEHAMA; TRINITY; YOLO AND YUBA COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 48.54	26.59

PLAS0300-003 07/01/2018

	Rates	Fringes
PLASTERER		
AREA 295: Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sutter, Tehema, Trinity, Yolo & Yuba Counties.....	\$ 32.70	31.68
AREA 355: Marin.....	\$ 36.73	31.68
AREA 355: Napa & Sonoma Counties.....	\$ 32.70	31.68

PLAS0300-005 07/01/2016

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 32.15	23.27

PLUM0038-002 07/01/2022

MARIN AND SONOMA COUNTIES

	Rates	Fringes
PLUMBER (Plumber, Steamfitter, Refrigeration Fitter)		
(1) Work on wooden frame		

structures 5 stories or less excluding high-rise buildings and commercial work such as hospitals, prisons, hotels, schools, casinos, wastewater treatment plants, and research facilities as well as refrigeration pipefitting, service and repair work - MARKET RECOVERY RATE.....\$ 69.70 46.38
 (2) All other work - NEW CONSTRUCTION RATE.....\$ 82.00 48.18

 PLUM0038-006 07/01/2022

MARIN & SONOMA COUNTIES

	Rates	Fringes
Landscape/Irrigation Fitter (Underground/Utility Fitter).....	\$ 69.70	33.15

 * PLUM0228-001 01/01/2025

BUTTE, COLUSA, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY & YUBA COUNTIES

	Rates	Fringes
PLUMBER.....	\$ 50.00	40.34

 PLUM0343-001 07/01/2024

NAPA AND SOLANO COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER		
Light Commercial.....	\$ 30.85	20.40
All Other Work.....	\$ 69.60	36.63

DEFINITION OF LIGHT COMMERCIAL:

Work shall include strip shopping centers, office buildings, schools and other commercial structures which the total plumbing bid does not exceed Two Hundred and Fifty Thousand (\$250,000) and the total heating and cooling does not exceed Two Hundred Fifty Thousand (\$250,000); or Any projects bid in phases shall not qualify unless the total project is less than Two Hundred Fifty Thousand (\$250,000) for the plumbing bid; and Two Hundred Fifty Thousand (\$250,000) for the heating and cooling bid. Excluded are hospitals, jails, institutions and industrial projects, regardless size of the project

FOOTNOTES: While fitting galvanized material: \$.75 per hour additional. Work from trusses, temporary staging, unguarded structures 35' from the ground or water: \$.75 per hour additional. Work from swinging scaffolds, boatswains chairs or similar devices: \$.75 per hour additional.

 PLUM0350-001 08/01/2023

EL DORADO COUNTY (Lake Tahoe area only); NEVADA COUNTY (Lake Tahoe area only); AND PLACER COUNTY (Lake Tahoe area only)

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 52.14	18.71

 PLUM0355-001 07/01/2024

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO, SUTTER, TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
Underground Utility Worker /Landscape Fitter.....	\$ 34.51	18.30

 * PLUM0442-003 01/01/2025

AMADOR (South of San Joaquin River) and ALPINE COUNTIES

	Rates	Fringes
PLUMBER.....	\$ 55.95	37.64

 PLUM0447-001 07/01/2024

AMADOR (north of San Joaquin River), EL DORADO (excluding Lake Tahoe area), NEVADA (excluding Lake Tahoe area); PLACER (excluding Lake Tahoe area), SACRAMENTO AND YOLO COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER		
Journeyman.....	\$ 64.37	29.25
Light Commercial Work.....	\$ 53.08	23.52

 ROOF0081-006 08/01/2023

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
Roofer.....	\$ 52.47	22.31

 ROOF0081-007 08/01/2023

ALPINE, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA,
 PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER,
 TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
Roofer.....	\$ 46.73	21.36

 * SFCA0483-003 01/01/2025

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 78.94	39.10

 SFCA0669-003 01/01/2025

ALPINE, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA,
 PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER,
 TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
SPRINKLER FITTER.....	\$ 48.65	28.56

 SHEE0104-006 06/29/2020

MARIN, NAPA, SOLANO SONOMA & TRINITY COUNTIES

	Rates	Fringes
Sheet Metal Worker Mechanical Contracts \$200,000 or less.....	\$ 55.92	45.29
All other work.....	\$ 64.06	46.83

 SHEE0104-009 07/01/2021

AMADOR, COLUSA, EL DORADO, NEVADA, PLACER, SACRAMENTO, SUTTER,
 YOLO AND YUBA COUNTIES

	Rates	Fringes
SHEET METAL WORKER.....	\$ 47.85	41.90

SHEE0104-010 07/01/2020

AIPINE COUNTY

	Rates	Fringes
SHEET METAL WORKER.....	\$ 43.50	37.42

SHEE0104-011 07/01/2020

BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER,
PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA,
YOLO AND YUBA COUNTIES

	Rates	Fringes
Sheet Metal Worker (Metal decking and siding only).....	\$ 44.45	35.55

SHEE0104-014 07/01/2020

MARIN, NAPA, SOLANO, SONOMA AND TRINITY COUNTIES

	Rates	Fringes
SHEET METAL WORKER (Metal Decking and Siding only).....	\$ 44.45	35.55

SHEE0104-019 07/01/2020

BUTTE, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA, SISKIYOU
AND TEHAMA COUNTIES

	Rates	Fringes
SHEET METAL WORKER Mechanical Jobs \$200,000 & under.....	\$ 35.16	35.88
Mechanical Jobs over \$200,000.....	\$ 46.60	40.21

TEAM0094-001 07/01/2024

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 41.54	33.25
GROUP 2.....	\$ 41.84	33.25
GROUP 3.....	\$ 42.14	33.25
GROUP 4.....	\$ 42.49	33.25
GROUP 5.....	\$ 42.84	33.25

FOOTNOTES:

Articulated dump truck; Bulk cement spreader (with or without

auger); Dumpcrete truck; Skid truck (debris box); Dry pre-batch concrete mix trucks; Dumpster or similar type; Slurry truck: Use dump truck yardage rate. Heater planer; Asphalt burner; Scarifier burner; Industrial lift truck (mechanical tailgate); Utility and clean-up truck: Use appropriate rate for the power unit or the equipment utilized.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Dump trucks, under 6 yds.; Single unit flat rack (2-axle unit); Nipper truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump machine; Fork lift and lift jitneys; Fuel and/or grease truck driver or fuel person; Snow buggy; Steam cleaning; Bus or personhaul driver; Escort or pilot car driver; Pickup truck; Teamster oiler/greaser and/or serviceperson; Hook tender (including loading and unloading); Team driver; Tool room attendant (refineries)

GROUP 2: Dump trucks, 6 yds. and under 8 yds.; Transit mixers, through 10 yds.; Water trucks, under 7,000 gals.; Jetting trucks, under 7,000 gals.; Single-unit flat rack (3-axle unit); Highbed heavy duty transport; Scissor truck; Rubber-tired muck car (not self-loaded); Rubber-tired truck jumbo; Winch truck and "A" frame drivers; Combination winch truck with hoist; Road oil truck or bootperson; Buggymobile; Ross, Hyster and similar straddle carriers; Small rubber-tired tractor

GROUP 3: Dump trucks, 8 yds. and including 24 yds.; Transit mixers, over 10 yds.; Water trucks, 7,000 gals. and over; Jetting trucks, 7,000 gals. and over; Vacuum trucks under 7500 gals. Trucks towing tilt bed or flat bed pull trailers; Lowbed heavy duty transport; Heavy duty transport tiller person; Self-propelled street sweeper with self-contained refuse bin; Boom truck - hydro-lift or Swedish type extension or retracting crane; P.B. or similar type self-loading truck; Tire repairperson; Combination bootperson and road oiler; Dry distribution truck (A bootperson when employed on such equipment, shall receive the rate specified for the classification of road oil trucks or bootperson); Ammonia nitrate distributor, driver and mixer; Snow Go and/or plow

GROUP 4: Dump trucks, over 25 yds. and under 65 yds.; Water pulls - DW 10's, 20's, 21's and other similar equipment when pulling Aqua/pak or water tank trailers; Helicopter pilots (when transporting men and materials); Lowbed Heavy Duty Transport up to including 7 axles; DW10's, 20's, 21's and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers; Vacuum Trucks 7500 gals and over

and truck repairman

GROUP 5: Dump trucks, 65 yds. and over; Holland hauler; Low bed Heavy Duty Transport over 7 axles

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year.

Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME

refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

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END OF GENERAL DECISION"

SPECIAL CONDITIONS

SPECIAL CONDITIONS

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SECTION SC SPECIAL CONDITIONS

(1) LOCATION

The site of the work is at Nevada County Airport in Grass Valley, Nevada County, California. Prior to the submission of his/her bid, each bidder shall visit the site and acquaint himself/herself with local conditions, including but not limited to roads available, source of materials, water, electric power, the relation of the finished grade to the existing grade, and conditions of existing pavements, including haul routes.

(2) WORK TO BE DONE

The work to be done under this contract consists of the following work at Nevada County Airport. The work to be done under this contract consists of furnishing all materials, plant and equipment, and performing all necessary labor in accordance with the prepared plans, specifications, and special provisions as directed by the County of Nevada or its authorized representative, as follows:

Schedule A

- Reconstruct Ramp 4 Taxilanes (25' x 800' + 700 sq. yd.)

Alternate A1

- Reconstruct Ramp 4 Access Road (315 sq. yd.)

Schedule B & Alternate B1

- Crack Repair Ramp 4 Taxilanes (25' x 1,300' + 3,900 sq. yd.)

(3) PLANS AND SPECIFICATIONS

The work shall conform to the plans and specifications marked, "County of Nevada, State of California, Bidding Documents, Specifications, and Contract Documents for Nevada County Airport, *Schedule A* - Reconstruct Ramp 4 Taxilanes, *Alternate A1* - Reconstruct Ramp 4 Access Road, *Schedule B and Alternate B1* - Crack Repair Ramp 4 Taxilanes."

In case of conflict between the plans, specifications and other contract documents, these documents shall govern in the following order:

- | | |
|------------------|---|
| 1st | Change Order or Supplemental Agreement |
| 2 nd | Contract/Agreement |
| 3 rd | Addenda to the Plans and Specifications |
| 4 th | Bid Proposal |
| 5 th | Technical Provisions |
| 6 th | Special Conditions |
| 7 th | Construction Plans |
| 8 th | FAA General Contract Provisions |
| 9 th | FAA General Construction Items |
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(4) LAWS TO BE OBSERVED

In addition to the general requirements included in Item 70-01 of the Federal General Provisions, Contractor's attention is directed to, and Contractor shall be responsible for conducting the project in compliance with all laws of the State of California governing the construction of public works, including, without limitation, the following:

- a. The California Health and Safety Code and all applicable administrative code regulations adopted pursuant thereto.
- b. All laws governing the employment of labor, qualifications for employment of aliens, payment of employees, convict-made materials, domestic and foreign materials, and accident prevention.
- c. Title XIX of the California Code of Regulations entitled, "Public Safety," Chapter 1, State Fire Marshal, subchapter 1, "General Fire and Panic Safety".
- d. General Industrial Safety Orders. Contractor, and all subcontractors, shall observe and conform to the provisions of Title VIII of the California Code of Regulations relating to safe and proper use, construction, disposal, etc., of materials, machinery, and building appurtenances as therein set forth.
- e. Rules and regulations of local utilities.
- f. Local City and/or County ordinances.
- g. Code rules and safety orders. All work and materials shall be in full accordance with the latest rules and regulations of the State Fire Marshal; the National Board of Fire Underwriters; the National Electrical Code; State Industrial Accident Commission's Safety Orders; the safety orders of the Division of Industrial Safety; and Department of Industrial Relations.
- h. The Contractor shall conform to the requirements of Section 4216 of the Government Code, as latest amended, relating to subsurface installations.

All of the above laws and regulations are expressly incorporated in this contract and are as much a part of the Contract Documents as if they were incorporated in their entirety in these general provisions.

Nothing in the specifications is to be construed to permit work not conforming to the above, and expense in compliance with the above work shall be borne by the Contractor. Whenever the specifications and working details require higher standards or larger sizes than those required by the

ordinances, codes and statutes, the specifications and working details shall take priority over the ordinances, codes and statutes.

The Contractor shall not interpret the enumeration set forth above as being a complete listing of all applicable laws. It is the Contractor's responsibility to keep informed regarding the requirements of all applicable laws and to obey them, and Contractor agrees by execution of the Contract Documents to do so at his/her sole cost, expense, and risk.

All work, materials, work safety procedures and equipment shall be in full accordance with the latest Cal/OSHA rules and regulations.

Contractor warrants that Contractor and each of his/her subcontractors shall, in performance of this contract, comply with each and every compliance order issued pursuant to Cal/OSHA. The Contractor assumes full and total responsibility for compliance with Cal/OSHA standards by his/her subcontractors as well as by the Contractor.

The cost of complying with any compliance order and/or payment of any penalty assessed pursuant to Cal/OSHA shall be borne by the Contractor. Contractor shall save, keep and hold harmless the Owner, and all officers, employees, and agents thereof, from all liabilities, costs, or expenses, in law or in equity, that may at any time arise or be set up because of Contractor's or a subcontractor's non-compliance or alleged non-compliance with Cal/OSHA requirements. Nothing contained herein shall be deemed to prevent the Contractor and his/her subcontractors from otherwise allocating between themselves responsibility for compliance with Cal/OSHA requirements; provided, however, that the Contractor shall not thereby be, in any manner whatsoever, relieved of his/her responsibility to the Owner as hereinabove set forth.

(5) CALIFORNIA AIR RESOURCES BOARD (“CARB”) REGULATIONS

Contractor shall comply, and shall ensure all subcontractors comply, with all applicable requirements of the most current version of the regulations imposed by California Air Resources Board (“CARB”) including, without limitation, all applicable terms of Title 13, California Code of Regulations Division 3, Chapter 9 and all pending amendments (“Regulation”).

Throughout the Project, and for three (3) years thereafter, Contractor shall make available for inspection and copying any and all documents or information associated with Contractor's and its subcontractors' fleets including, without limitation, the Certificates of Reported Compliance (“CRCs”), fuel/refueling records, maintenance records, emissions records, and any other information the Contractor is required to produce, keep or maintain pursuant to the Regulation upon two (2) calendar days' notice from the County.

Contractor shall be solely liable for any and all costs associated with compliance with the Regulation as well as for any and all penalties, fines, damages, or costs associated with any and all violations, or failures to comply with the Regulation. Contractor shall defend, indemnify and hold harmless the County, its officials, officers, employees and authorized volunteers free and harmless

from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Regulation.

(6) LAWS AFFECTING PUBLIC WORKS

Attention to bidders is called to necessity of being familiar with the various Federal, state and local laws affecting public work, especially (but not limited to) those laws relating to hours of employment, minimum wages, payment of wages, sanitary and safety conditions for workers, worker's compensation insurance, type and kind of materials that can be used, non-discrimination in employment and affirmative action programs. Federal monies are to be utilized by Owner for this Project, and Contractor shall comply with applicable regulations and hold harmless the Owner for its failure to comply. Certain of those provisions are set forth herein. The existence of these provisions does not excuse the Contractor from complying with other statutory requirements or provisions which are not set forth in these contract documents.

(7) LIMITS OF CONSTRUCTION

The Contractor's personnel and equipment shall be limited to the construction areas as shown on the plans. Contractor agrees to implement such security measures as are necessary to assure compliance with Federal Aviation Administration, State, and local airport regulations. Access to runways, taxiways and aircraft parking aprons for any reasons other than construction will not be permitted.

(8) PROGRESS OF WORK AND TIME OF COMPLETION

Contract Time: This work shall be constructed in accordance with details as shown on the plans and described in the specifications for this project. This work shall be constructed in accordance with details as shown on the plans and described in the specifications for this project. All the work to be performed under this contract shall be completed within **thirty (30) working days**.

The number of working days shall begin after the date of the written Notice to Proceed issued by Nevada County to the Contractor.

If said Contractor shall be delayed in said work by the acts or neglect of said Owner, or its employees, or those under it by contract or otherwise, or by changes ordered in the work, or by strike, lockouts, fire, unusual delay in transportation, unavoidable casualties or any causes beyond the Contractor's control, or by delay authorized by the Owner, or by any cause which the Owner shall decide to justify the delay, then the time of completion shall be extended for such reasonable time as the Owner agrees to in writing.

This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

(9) LIQUIDATED DAMAGES.

Liquidated damages will be charged against the Contractor in the amount of \$3,000 per calendar day for each consecutive calendar day after the specified construction time or incremental stage that the Contractor uses to complete the project and/or any specified segment of the work. In determining the number of days the contract, or portions thereof, remain incomplete, the completion date shall be the date of recommendation of acceptance of work and materials by the RPR. Contractor and Owner hereby agree to the assessment of liquidated damages in lieu of actual damages that are not reasonably ascertainable at the time of entering into this agreement. These liquidated damages are not a penalty.

(10) CONSTRUCTION SCHEDULE

The sequence of construction shall be as shown on the plans or as directed by the RPR. The Contractor shall develop a schedule of operations in graphic form. This schedule shall show the proposed construction schedule for various items and phases of work and shall also provide space to show the current status of the work. This schedule shall show both calendar and working days on the construction timeline.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall submit copies of the schedule for approval. No work shall be started until the construction schedule has been approved.

The Contractor shall maintain a copy of this schedule on the project site. This schedule shall be updated and submitted to the RPR for approval weekly.

(11) CLOSURES OF RUNWAY, TAXIWAYS AND APRONS

During the construction of the project, it will be necessary to close taxiways, ramps, and hangar areas at various times. Contractor shall have no access to any open facilities. The Owner will provide flaggers and radio contact (122.725 MHz) with the aircraft during all construction activities of this project as needed to control Contractor's operations in areas where aircraft activity occurs.

The construction of the work will be accomplished in phases as set forth below:

Phase	Contractor's Work Area	Facility Closure	Restrictions
1	Ramp 4 Taxilane within the Object Free Area of Taxiway A	Portion of Taxiway A from Taxiway D to Ramp 3, Ramp 4	Minimum notice of 2 weeks prior to closure work in Phases 1, 2, 3, & 4 may be done concurrently. 2 days of closure only for Phase 1
2	Ramp 4 outside the Object Free Area of Taxiway A	Ramp 4	Work in Phases 1, 2, 3, & 4 may be done concurrently.
3	Ramp 4 Taxilanes – Crack Seal	Ramp 4	Work in Phases 1, 2, 3, & 4 may be done concurrently.
4	Ramp 4 Taxilanes – Crack Seal & Alternate B1	Ramp 4	Work in Phases 1, 2, 3, & 4 may be done concurrently.

Phase 4 work area shall remain closed to all traffic after completing seal coat for 48 hours before marking can be installed.

Taxiway and ramp closures will occur for each phase of work. Contractor shall submit a detailed work schedule at the Preconstruction Conference or two weeks prior to start of work, whichever is greater. The schedule will show the limits of the proposed work and the locations of barricades. All schedules will be updated and coordinated with the Airport Manager and the RPR in order to NOTAM closures. The Airport Manager will issue the appropriate NOTAMs for the airfield closures.

All phase layouts, barricade layouts, signs to be covered, flagger positions, and aircraft travel routes shall be coordinated with the Airport Manager prior to start of work in each phase. Contractor shall give the Airport two weeks' notice prior to the start of construction for each phase to allow hangar owners to coordinate the relocation of aircraft from hangars adjacent to closed taxilanes to available apron tie down locations.

Contractor's access and operations shall be limited to the haul routes, the Contractor's Storage Area, and the construction areas as shown on the Construction Safety and Phasing Plan, Sheet No. 2 of the Construction Drawings.

Construction shall be limited to no closer than 60 feet from the active runway centerline and 44.5 feet from the active taxiway centerline, unless the surface is closed or restricted to aircraft operations. The runway safety area beyond the runway threshold will be maintained at 240 feet.

Runway 7-25 will remain open at all times. Contractor shall at no time occupy or travel on Runway 7-25 unless directed by Airport Superintendent or RPR.

Phase 1 will require closure of a portion of Taxiway A. Closure of Taxiway A may require aircraft to back taxi on the runway in order to relocate from one end of the airport to the other.

The contractor shall provide low-profile water filled lighted barricades to assure closure of portions of the Airport as shown on the plans or as directed by the RPR. These barricades shall be

10" high. Flashing red lights shall be placed on all the barricades during nighttime. Payment for the furnishing, maintaining, operating, and placing of lighted barricades will be made under Item C-106 of these specifications.

In areas of closure, some sign panels shall be covered as shown on Sheet No.2 of the plans and specified in Item C-106 of these specifications.

Contractor shall submit a plan and schedule at the Preconstruction Conference or two weeks prior to the start of work, whichever is greater. The submitted Phasing Plan shall detail location of closed area, barricade locations, and traffic routes. The approved area to be sealed shall be barricaded off and no traffic shall enter area until determined by the Engineer. For details of the proposed phasing of this work, see Sheet 2, Construction Safety and Phasing Plan, of the construction drawings.

It shall be the Contractor's responsibility to require all personnel to observe the safety requirements of the Airport to restrict all personnel and equipment to the work and storage areas assigned to the Contractor.

(12) HAULING ROUTES ON AIRPORT PROPERTY

In order to avoid confusion with aircraft 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 Safety and Phasing 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 flagmen, 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.

Access to the construction site will be off Loma Rica Drive onto Nevada City Avenue as shown on the CSPP drawing, Sheet No. 2. All haul roads shall be kept broom clean. Contractor shall maintain haul road on paved surfaces clear of debris at all times.

At the completion of the work, all haul roads in unpaved areas shall be restored to the conditions existing prior to the start of the work.

(13) CONTRACTOR'S STORAGE AREA

The proposed location has been shown on the Construction Safety and Phasing Plan for the Contractor's staging and storage areas. All contractor equipment and material stockpiles shall be stored a minimum of 125 feet from the centerline of an active runway or 44.5 from the centerline of an active taxiway in the areas shown on the plans. 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.

The Contractor shall provide toilet facilities for his personnel in this area. Such facilities shall conform to the requirements of the Nevada County Health Department.

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.

(14) WATERING

Water, when required, shall be applied at locations, in amounts, and during hours, including nights, as directed by the RPR. An adequate water supply shall be provided by the Contractor. The equipment used for watering shall be of ample capacity and of such design as to assure uniform application of water in the amounts directed by the RPR.

The Contractor shall develop his/her own water supply for this project.

No separate payment shall be made for watering, but it shall be considered as a subsidiary obligation of the Contractor covered under the respective items of work.

(15) MARKING OF CONSTRUCTION EQUIPMENT

All construction equipment shall display orange and white checkered flags, 3'x3'. These flags shall be so located on the equipment as to be plainly visible to all aircraft. During periods of low visibility and night operations Contractor vehicles and equipment shall be equipped with an amber flashing beacon mounted on the uppermost part of the vehicle structure.

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 RPR.

(16) 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 except when that part of the Airport is closed. Aircraft shall have access to all open 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.

(17) PROTECTION OF CABLES, CONTROLS, NAVAIDS AND WEATHER BUREAU FACILITIES

Due to the critical nature of certain utilities to the operation of the Airport, the following Special Provisions for Protection of Cables, Controls, and Navaids shall apply:

The Contractor is hereby informed that there are installed on the Airport certain structural facilities served by underground cable and other electric power cables serving other facilities. Such facilities and electric cables must be fully protected during the entire construction time. Work under this contract can be accomplished in the vicinity of these facilities and cables only at approved periods of time. Approval is subject to withdrawal at any time because of changes in weather, emergency conditions on the existing airfield areas, anticipation of emergency conditions, and for any other reason determined by the RPR acting under the orders and instructions of the airport management. Any instructions to the Contractor to clear any given area, at any time, by the RPR or Airport Management (by radio or other means) shall be immediately executed. Construction work shall be commenced in the cleared area only when additional instructions are issued by the proper authorities.

Power and control cables leading to and from any facilities will be marked in the field by the RPR for the information of the Contractor before any work in their general vicinity is started. Thereafter, through the entire time of this construction, they shall be protected from any possible damage, including crossing with unauthorized equipment, etc.

Not less than two full working days prior to performing any excavation, the Contractor shall notify Underground Service Alert (USA) by calling 811. The location of the subsurface installations shall be in accordance with Section 4216 of the Government Code, as latest amended. No excavation shall be performed until the subsurface installations have been located, hand-excavated and identified. These special conditions intend to make perfectly clear the need for protection of cables and other electrical facilities by this Contractor at all times.

These special provisions intend to make perfectly clear the need for protection of cables and other electrical facilities by this Contractor at all times.

The Contractor shall immediately repair, with identical material by skilled workmen, any underground cables serving airport facilities that are damaged by his/her workers, equipment, or work. Prior approval of the RPR or of the representative designated by Airport Management must be obtained for the materials, workers, time of day or night, and for the method of repairs for any temporary or permanent repairs the Contractor proposes to make to any airport facilities and cables damaged by this Contractor.

It is recognized that the Owner will incur costs for employees' salaries, RPR fees and otherwise in connection with the damage, inspection and repair of any such damage caused by the Contractor; and consequently that the Owner may incur loss of income by reason of the diversion of aircraft traffic from the airport resulting from interruption of the use of airport facilities; and that such expenses and loss of income are not measurable now and may not be reasonably ascertainable at the time of any incident caused by the Contractor. The Owner and the Contractor hereby agree to the

assessment of liquidated damages in lieu of such expenses or other damages incurred by the Owner. In addition to the obligation of the Contractor to immediately repair any cables or facilities damaged by the Contractor as set forth above, the sum of \$300 for each day or portion of a day that the equipment is inoperable shall be deducted from any money due the Contractor; or if no money is due the Contractor, the Owner shall have the right to recover said sum or sums from the Contractor, from the surety, or from both. The amount of these deductions is not considered a penalty.

(18) AIRPORT SECURITY

During the course of the contract, the Contractor shall be responsible for maintaining security against unauthorized access to the Airport. The Contractor will be held responsible for any fines, damages, or civil penalties filed against the Owner for the Contractor's failure to maintain the regulations set forth herein.

In accordance with the requirements of the Federal Aviation Administration as set forth in FAR 107.11(F), the Contractor shall 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, shall 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.

All equipment, vehicle and personnel travel shall be restricted to designated work sites.

Only vehicles used for construction purposes shall enter the work boundaries. Contractor personnel may, however, be allowed to park their personal vehicles within a designated staging area as shown on the plans. All vehicles shall have identifying markings on them that show that they are authorized on the Airport. All personnel working on the airport shall wear identification such as badges or hard hats with contractor's logo to show that they are authorized on the airport.

All security measures must be coordinated with Airport Management and the RPR and must be approved prior to implementation.

Only Contractor and subcontractor employees are permitted in the work sites. They must enter and exit the airport areas restricted to public access and airport operations area only through the designated Contractor gate. The gate used by the Contractor shall remain closed at all times except when authorized equipment is actually entering the airport or gate is continuously guarded to keep unauthorized personnel and wildlife from entering the airport.

In the event of an emergency, men and equipment shall be moved immediately at the direction of Airport Management or the RPR.

(19) AVIATION SAFETY REQUIREMENTS DURING CONSTRUCTION (AC 150/5370-2G)

An Airport Construction Safety and Phasing Plan (CSPP) has been prepared to outline all safety issues related to the proposed construction. This CSPP 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 these plans.

A. SAFETY PLAN COMPLIANCE DOCUMENT – At the Preconstruction Conference, the Contractor shall present a Safety Plan Compliance Document (SPCD) detailing how he/she will comply with the Construction Safety and Phasing Plans (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 NAVAIDs.** Discuss specific methods proposed to protect operating NAVAIDs.
- (5) **Contractor access.** Provide the following:
 - (a) Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
 - (b) Listing of individuals requiring driver training (for certificated airports and as requested).
 - (c) Radio communications.
 - (i) Types of radios and backup capabilities.
 - (ii) Who will be monitoring radios.
 - (iii) Whom to contact if the Owner 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) **Runway and taxiway visual aids.** Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
 - (a) Equipment and methods for covering signage and airfield lights.
 - (b) Equipment and methods for temporary closure markings (paint, fabric, other).
 - (c) Types of temporary Visual Guidance Slope Indicators (VGSI).
- (15) **Marking and signs for access routes.** Discuss proposed methods of demarcating access routes for vehicle drivers.
- (16) **Hazard marking and lighting.** Discuss proposed equipment and methods for identifying excavation areas.
- (17) **Protection of runway and taxiway safety areas, including object free areas, obstacle free zones, and approach/departure surfaces.** Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - (a) Equipment and methods for maintaining Taxiway Safety Area standards.
 - (b) Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
- (18) **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 should be observed:

- Operational safety should 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.
- The apron remains in use by helicopters to the maximum extent possible
- Helicopter use of areas near the contractor's work will be controlled to minimize disturbance to the contractor's operation.

- 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.
- Construction that is within the safety area of an active runway, taxiway, or apron that is performed under normal operational conditions must be performed when the runway, taxiway, or apron is closed or restricted and initiated only with prior permission from the airport operator.
- 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.

E. RUNWAY AND TAXIWAY SAFETY AREA (RSA and TSA)

A runway must be closed/partially closed if construction activity will occur within the RSA. Construction activity within the TSA/obstacle-free zone is permissible when the taxiway is open to aircraft traffic if adequate wingtip clearance exists between the aircraft and equipment/material; excavations, trenches, or other conditions are conspicuously marked and lighted; and local NOTAMs are in effect for the activity.

(1) Procedures for protecting runway edges

- Limit construction to no closer than 60 feet from the runway centerline, unless the runway is closed or restricted to aircraft operations requiring lesser standard RSA that is equal to the RSA available during the construction.
- Prevent personnel, material, and/or equipment from penetrating OFZ.
- Coordinate construction activity with the Airport Management, FAA Regional Airports Office, or Airports District Office and through the airport operator issue an appropriate NOTAM.

Runway	Aircraft Approach Category	Airplane Design Group	RSA Width in Feet Divided by 2
7-25	B	I Small	60

(2) Procedure for Protecting Runway ends

- Maintain the RSA from the runway threshold to a point at least the distance from the runway threshold as existed before construction activity, unless the runway is closed or restricted to aircraft operations requiring an RSA that is equal to the RSA length available during construction. This may involve the use of declared distances and partial runway closures.
- Ensure all personnel, materials, and/or equipment are clear of the applicable threshold siting criteria surface as defined in Appendix, “Threshold Siting Requirements,” of AC 150/5300-13.
- Prevent personnel, material and/or equipment, from penetrating the Object Free Zone (OFZ).
- Ensure adequate distance for blast protection is provided, as needed.
- Coordinate construction activity with the Airport Management, FAA Regional Division Office, and, through the airport operator, issue an appropriate NOTAM.

Runway End Number	Airplane Design Group	Aircraft Approach Category	Minimum Safety Area Behind Threshold	Minimum Unobstructed Approach Slope
7	I Small	B	240 ft.	20:1
25	I Small	B	240 ft.	20:1

F. CLOSED RUNWAY MARKINGS AND LIGHTING

Closed runway marking is not required during the construction of this project.

G. 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.

H. VEHICLE OPERATION MARKING AND CONTROL

- (1) When any vehicle, other than one that has prior approval from the airport operator, must travel over any portion of an aircraft movement area, it shall be escorted and properly identified. To operate in those areas during daylight hours, the vehicle must have a flag or beacon attached to it. Any vehicle operating on the movement areas during hours of darkness or reduced visibility should be equipped with a flashing dome type light, the color of which is in accordance with local or state codes.
- (2) 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.
- (3) Employee parking shall be as shown on the Construction Layout and Safety Plan and designated by the RPR.
- (4) Access to the job site shall be as shown on the Construction Layout and Safety Plan and as designated by the RPR.
- (5) All vehicle/equipment operations 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. No vehicle will be allowed to cross an active pavement without an escort.

- (6) 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.

I. NAVIGATIONAL AIDS

Navigational aids include VASIs and REILs on Runways 7 and 25. The Contractor must not conduct any construction activity within navigational aids' restricted areas without prior approval from the Owner. Such restricted areas are depicted on construction plans.

J. 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 RPR.
- (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.

K. 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 - 122.725 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.

L. 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.

(20) SUBMITTALS AND/OR SHOP DRAWINGS.

- a) The specifications indicate the desired equipment and materials as to type and quality. Wherever proprietary names are listed in these specifications, it shall be interpreted that the words “or approved equal” follow, unless otherwise specified. The words “or approved equal” shall be interpreted as meaning equal in every respect as determined by the RPR.
- b) Prior to or at the Preconstruction Conference, the Contractor shall submit to the RPR for approval a complete list of all equipment and materials intended to be used on the job. The list shall include the following information for each item.

Name of Item
FAA Specifications Number (If Any)
Manufacturer’s Name
Manufacturer’s Catalog Number
Size, Type and Rating

- c) Prior to or at the Preconstruction Conference the Contractor shall submit to the RPR for approval the following:

Construction Schedule
Safety Plan Compliance Document
Storm Water Pollution Prevention Plan (SWPPP)

The Quality Control Program shall be submitted 10 calendar days before the Quality Control (QC)/Quality Assurance (QA) workshop, as described in Item C-100 of these specifications.

Construction on this project cannot begin until these submittals have been reviewed and approved.

- d) Prior to or at the Preconstruction Conference, the Contractor shall submit to the RPR for approval a Schedule of Values for all Lump Sum items included in the contract. This schedule shall include the item, description, total contract amount, and scheduled payment amounts. The schedule shall be made out in such form as the County, RPR, and Contractor may agree upon and be supported by evidence as to its correctness. This schedule, when approved by the County and the RPR, will be used as the basis for making progress payments on all lump sum items, except for those that have a payment schedule stipulated in their respective specification sections. The Contractor shall take note of the schedules of partial payments that are included in Item C-103, Storm Water Pollution Prevention Plan (SWPPP), Item C-105, Mobilization, C-106, Marking and Lighting of Closed Airport Facilities, and Item P-151, Clearing and Grubbing..

- e) Within five (5) calendar days after RPR's approval of the equipment and materials list, the Contractor shall submit to the RPR for written approval copies of all shop drawings and all equipment and materials submittals. The shop drawings and equipment/materials submittals shall be complete showing all details.
- f) The Contractor shall review and sign all shop drawings prior to submitting same for RPR's approval. All shop drawings received without the Contractor's signature will be subject to return without review or comment.

It shall be the responsibility of the Contractor to specifically point out any variation or discrepancy between the shop drawings or manufacturers' instructions he submits and the Contract Documents. Failure by the Contractor to identify in his/her letter of transmittal any variation, discrepancy, or conflict with the contract drawings may result in the shop drawing or submittal being returned to the Contractor for resubmittal.

- g) The shop drawings shall show completely the work to be done, but approval by the RPR shall not be construed as waiving any of the requirements of the contract and particularly shall not be construed as relieving the Contractor of full responsibility for fitting his/her equipment in the spaces provided; or from responsibility to fulfill the contract at no extra cost to the Owner, within the completion time.
- h) The Contractor shall submit electronic copies of all shop drawings and equipment and materials submittals. Fax submittals will only be acceptable as preliminary submittals and are to be followed up with hard copies. E-mail submittals shall be clear and legible.

(21) SUBMITTAL AND SHOP DRAWING APPROVALS

The RPR will review all submittals and shop drawings and return them to the Contractor. If the Contractor's submittal or shop drawings are incomplete or the product submitted does not meet specification requirements, the RPR will reject the submittal or shop drawing, and the Contractor will be required to resubmit. Resubmittals shall address all comments from the RPR. Partial resubmittals may be returned without action. The review of the first submittal and one resubmittal on any item will be made by the RPR at no cost to the Contractor. The Contractor will be charged for and shall reimburse the Owner for the RPR's costs of reviewing the second and each subsequent resubmittal. The RPR's costs will be charged to the Owner and deducted from the Contractor's progress payments.

(22) VIDEOTAPING

A minimum of one (1) week prior to start of construction, the Contractor shall have video taken where construction is to take place. Such video records/documentation shall be provided to the RPR before construction commences. These videos shall be narrated and shall serve as a record of existing conditions for disputes arising from restoration, and should therefore be taken along the line of construction and site access and staging areas at sufficient detail and in color as necessary to clearly

depict details of existing conditions. All videos shall be indexed and catalogued in such a manner that each photographed area is readily identifiable, and shall also indicate the date and time (hour, minutes, and seconds) on which the video was made. The Contractor shall also have video taken of any unusual conditions encountered during construction that are not already a matter of photographic record. In any areas where existing conditions cannot be determined by means of video, the area shall be restored as approved by the RPR at Contractor's expense. All video shall become the property of the Owner.

No separate payment will be made for video documentation.

(23) QUALITY CONTROL PROGRAM

The Contractor is responsible for all Quality Control (QC) during the construction of this project, including testing and inspection. The Owner is responsible for Quality Assurance (QA) to confirm that all work has been performed in accordance with the plans and specifications. A Construction Management Plan has been prepared and is included in Appendix B of these specifications. This plan outlines how this project will be managed during construction and includes construction management personnel and resumes, inspection procedures and frequencies, submittal process, quality control testing, quality assurance testing, and test result documentation. This plan along with Section C-100 of the FAA General Construction Items shall be used as a guide to the Contractor in preparing Contractor's Quality Control Program for the project.

The Contractor shall present his/her Quality Control Program to the RPR for review and approval. 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 approved by the RPR.

For each item of work, the Contractor shall maintain a summary report of all testing and inspection results. This summary report shall tabulate the daily test results for each item of work. The summary reports shall be updated daily and formally submitted to the RPR in electronic format as requested, but not less than once per week.

If these summary reports are not received by the RPR by Monday morning of each week during construction, the work will be shut down and contractor shall not be allowed to proceed with the work until the reports have been submitted.

Simultaneously with the contractor's request for final payment, the Contractor shall submit a Quality Control Report consisting of all testing and inspections conducted during the construction of the project. This report shall be submitted in electronic format. All test results shall be included in a typed summary table to be approved by the RPR. No final payment will be made to the Contractor until this report has been received and approved by the RPR.

(24) CONTRACTOR'S RECORD DRAWINGS

The Owner shall provide the Contractor with one extra set of working plans and specifications, which Contractor shall keep at the site of the work at all times. The following

information shall be inserted and dimensioned on said drawings and specifications, in RED by the Contractor: The exact location of all installations in their finished condition, including all electrical installations; all changes in construction, materials and installed equipment; adequate dimensional data, both horizontal and vertical, to allow location of covered installations; the identification of changes authorized by change order, and the number of that change order. Upon completion of the work, said drawings and specifications shall be returned to the Design RPR prior to the final payment.

Drawings shall be subject to the inspection of the RPR at all times and shall be kept current weekly with all work instructions, change orders, and construction adjustments shown thereon and initialed by the Inspector.

Progress payments or portions thereof may be withheld if drawings are not maintained as stated above. At the final inspection the Contractor shall submit record drawings to the Inspector for review and comment by the RPR. The work will not be formally accepted until the record drawings are accepted by the RPR.

Prior to release of retainage by the Owner, the Contractor shall deliver to the RPR the Contractor's set of marked-up drawings as identified above for the RPR's use in preparing the project record drawings.

(25) OPERATION AND MAINTENANCE MANUALS

Not applicable.

(26) ANTI-TRUST ASSIGNMENT

By execution of the Contract Documents, or any subcontract awarded by the Contractor, the Contractor or any subcontractor offers and agrees to assign and hereby does assign to the County all rights, title, and interest in and to all causes of action such Contractor or subcontractor may have under Section 4 of the Clayton Act (15 USC Section 15) or under the Cartwright Act (Chapter 2 of Part 2 of Division 7 of the Business and Professions Code, commencing with Section 16700), arising from purchases of goods, services, or materials pursuant to this public works contract or subcontract. This assignment shall be made and shall become effective upon execution of the contract.

(27) CONTRACTOR NOT AGENT, NOR EMPLOYEE

Neither the Contractor nor any subcontractor, or any officer, agent, or employee of either, is, nor shall they represent themselves to be, an officer, agent, or employee of the County for any purpose whatsoever.

No person employed by the Contractor, or by any subcontractors, are, nor shall they be construed to be, in any manner or for any purpose whatsoever, employees of the County.

(28) CONTRACTOR'S GUARANTEE

The Owner shall not, in any way or manner, be answerable or suffer loss, damage, expense or liability for any loss or damage that may happen to any building, work or equipment or any part thereof, or in, on, or about the same during its construction and before acceptance. Contractor unqualifiedly guarantees the first-class quality of all workmanship and of all materials, apparatus and equipment used or installed by him or by any subcontractor or supplier in the project which is the subject of this Contract, unless a lesser quality is expressly authorized in the Plans and Specifications, in which event Contractor shall conform with the Plans and Specifications or any written authorized deviation there from. In case of any defect in work, materials, apparatus or equipment, whether latent or patent, revealed to Owner within one (1) year of the date of acceptance of completion of this Contract by the Owner, the Contractor shall forthwith remedy such defect or defects without cost to the Owner.

(29) COORDINATION MEETINGS

In order to coordinate the work, weekly meetings will be held during the construction phase of the work in the Nevada County Airport, Airport Administration Building, 13083 John Bauer Avenue, Grass Valley, California.

The time of this meeting will be determined at a time convenient to the Owner, RPR and Contractor. The Contractor's superintendent must attend these meetings.

At these weekly meetings the Contractor shall submit in writing an updated progress report for the total work and a schedule defining the work for the following two weeks. Except for emergencies or unforeseen circumstances, this schedule shall be followed. Contractor shall also bring to these meetings his/her red-lined construction drawings showing all work to date.

(30) EXISTING CONDITIONS

Test borings and test pits have been excavated throughout the site and the results of these tests are available for inspection from the Design RPR. These borings show the conditions prior to the start of any construction on the Airport property. The Owner assumes no responsibility for the accuracy of the data presented. The Contractor shall be responsible for obtaining and verifying any and all soils and subsoil data required to prepare his bid.

The Contractor shall be fully responsible for handling any water or water-related problems that may arise during the construction of this project without additional compensation over and above that provided for in the unit prices bid.

(31) TESTING AND ACCEPTANCE OF MATERIALS

All materials in which quality of the product such as gradation, Atterberg Limits, sand equivalent, CBR, etc., is specified, shall meet those specifications when in the final as-compacted condition and not the condition at the stockpile or source of supply. The Project RPR will verify

that proper compaction of the fill has been achieved. Any deviation from these requirements shall be corrected by removal and replacement with materials that conform to the specifications. When the materials removed are screened and/or blended and reincorporated in the work, the materials as placed shall meet all specification requirements. It shall be the contractor's responsibility to coordinate his/her materials, production and construction procedures so that the final compacted product is acceptable.

(32) DETERMINATION OF IN-PLACE DENSITY

Where the determination of in-place dry density for soil or aggregate materials is required, the Owner may determine the in-place density by the use of Nuclear Testing equipment or by the Sand Cone Method.

This testing for density and for determination of moisture content shall conform to ASTM Designation D 6938, "In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods or ASTM Designation D 1556, "Test for Density of Soil In Place by the Sand Cone Method".

In case of dispute in determination of the in-place dry density, the dry density as determined in accordance with ASTM Designation D 1556, "Test for Density of Soil In Place by the Sand Cone Method," shall govern.

(33) PAYMENTS

Progress payments shall be made at least once each month as the work progresses. These progress payments shall be based on work accomplished during the previous working month, based on the various contract bid items and the unit bid prices included in the Bid Schedule submitted by the Contractor with his/her bid. In applying for payments, the Contractor shall submit a statement based on this schedule. Payment will be made only for material and work actually incorporated in the work, except as allowed in Article 90-07, Payment for Materials on Hand, of the F.A.A. General Contract Provisions.

(34) INVOICING AND PAYMENT MONITORING

Progress payments are made in accordance with Section 33 of this document and are proactively monitored to ensure compliance with local, state, and federal Prompt Payment requirements. Each payment application will include a list of all subcontractors and the amount to be paid to the subcontractors from the pay application. With the exception of the initial payment application each subsequent payment application must be submitted with prime contractor prompt payment certification to be deemed complete, accurate, and acceptable. A suggested form for the Payment Application and Prime Contractor Prompt Payment Certification follows

Prime Contractor							
Firm Name:	Certified DBE: <input type="checkbox"/> Yes <input type="checkbox"/> No		State: _____		Zip Code: _____		
Firm Address:	City: _____		State: _____		Zip Code: _____		
Contact Name:	Email Address: _____		Phone: _____				
Payment Request Information							
Project #:			Billing Period (MM/DD/YYYY-MM/DD/YYYY): _____				
Application #:			Contract Date: _____				
Application for Payment							
Item #	Description*	Unit	Unit Price	Bid Quantity	Bid Amount	Quantity Complete	Amount Due
1. Total Original Contract Amount					\$ -	0.00	\$ -
2. Net Approved Change Orders							\$ -
3. Adjusted Contract Amount (line 1 +/- line 2)							\$ -
4. Total Value of Work Completed & Materials Stored on Site to Date							\$ -
5. Amount Retained (line 4 x % retained)					0%		\$ -
6. Total Amount Earned (line 4 - line 5)							\$ -
7. Total Amount Received to Date							\$ -
8. Current Payment Due (line 6 - line 7)							\$ -
9. Balance to Finish Including Retainage (line 3 - line 6)							\$ -
Subcontractors/Subconsultants to be Paid from this Payment Application							
Subcontractor/Subconsultant Name						Amount Due	
						\$ -	
						\$ -	
						\$ -	
						\$ -	
						\$ -	
						\$ -	
						\$ -	
						\$ -	
						\$ -	
						\$ -	
Certification							
<p>By signing this document the applicant for payment certifies to the best of their knowledge that the information presented above is true and accurate. All work attributable to this Payment Application has been performed in a satisfactory manner. All previous payments received by the applicant were properly disbursed if required. As a result of performance in accordance with the terms of the contract documents, payment is due to the applicant as describe above.</p>							
Signature: _____				Company Name: _____			
Print Name: _____				Date: _____			
Title: _____							
<p>To be considered complete, this Payment Application (excluding the initial Payment Application) should be submitted with the Prime Contractor Prompt Payment Certification documenting all subcontractor payments. Following final payments to subcontractors the a final Prime Contractor Prompt Payment Certification will be submitted to document project completion.</p>							
Reviewer Certification (For use by Sponsor Only)							
This Pay Application has been reviewed and is deemed accurate and complete.							
Signature: _____				Company Name: _____			
Print Name: _____				Date: _____			
Title: _____							

PRIME CONTRACTOR PROMPT PAYMENT CERTIFICATION

In accordance with 49 CFR §26.29(a), the Sponsor requires prime contractors to pay subcontractors for satisfactory performance of their contracts no later than 10 days from the prime contractor's receipt of each payment from the Sponsor. Any delay or postponement of payment among the parties may take place only for good cause with the Sponsor's prior written approval. This requirement applies to both DBE and non-DBE subcontractors. List all subcontractors/subconsultants. If the actual DBE utilization was different than that approved at the time of award, provide comments.

Prime Contractor/Consultant	Project Number	Total Contract Amount (\$)	Total DBE Commitment Amount (\$)	DBE Commitment (%)	DBE Accomplishment %	Billing Period (MM/DD/YYYY - MM/DD/YYYY)
		\$ -	\$ -	0%	0%	

DBE Subcontractor/Subconsultant Information										
DBE Subcontractor/Subconsultant Name	Date Payment Received by Prime	Date of Prime Payment to Sub	Amount of Payment	Amount Paid to Sub to Date	Total Committed to this Subcontractor	Promptly Paid? (Y/N)	Incremental Retainage Paid? (Y/N or N/A)	% Applicable to DBE Goal (100%, 60%, 40%)	Dollars Applicable to DBE Goal	Comments or Reason for Non-Prompt Payment including Payment of Incremental Retainage
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
			\$ -	\$ -	\$ -				\$ -	
Totals			\$ -	\$ -	\$ -				\$ -	

Non-DBE Subcontractor/Subconsultant Information										
Subcontractor/Subconsultant Name	Date Payment Received by Prime	Date of Prime Payment to Sub	Amount of Payment	Amount Paid to Sub to Date	Total Committed to this Subcontractor	Promptly Paid? (Y/N)	Incremental Retainage Paid? (Y/N or N/A)	Comments or Reason for Non-Prompt Payment including Payment of Incremental Retainage		
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
			\$ -	\$ -	\$ -					
Totals			\$ -	\$ -	\$ -					

Certification										
The prime contractor or consultant hereby certifies that the foregoing Prompt Payment Certification is true and correct. Documents of these payments are available for inspection upon request.						The Sponsor certifies that all information in this form is complete and verified.				
Signature: _____						Signature: _____				
Print Name: _____						Print Name: _____				
Title: _____						Title: _____				
Company Name: _____						Company Name: _____				
Date: _____						Date: _____				

END OF SECTION SC

TECHNICAL PROVISIONS

TECHNICAL PROVISIONS

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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 Resident Project Representative (RPR).

a. Clearing – Not applicable.

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 RPR 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.

c. Tree Removal. Not applicable.

CONSTRUCTION METHODS

151-2.1 General. The areas denoted on the plans to be cleared and grubbed shall be staked on the ground by the RPR.

The removal of existing structures and utilities required to permit orderly progress of work shall be accomplished by local agencies, unless otherwise shown on the plans. Whenever a telephone pole, pipeline, conduit, sewer, roadway, or other utility is encountered and must be removed or relocated, the Contractor shall advise the RPR who will notify the proper local authority or owner to secure prompt action.

151-2.1.1 Disposal. All materials removed by clearing or by clearing and grubbing shall be disposed of outside the Airport's limits at the Contractor's responsibility, except when otherwise directed by the RPR.

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 RPR 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 RPR permission in writing from the property owner for the use of private property for this purpose.

151-2.1.2 Blasting. Blasting shall not be allowed.

151-2.2 Clearing. Not applicable.

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 as indicated on the plans, shall be removed, except where embankments exceeding 3-1/2 feet 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 in diameter shall be grubbed out to a depth of at least 18 inches 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 in 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 and grubbing as shown by the limits on the plans shall be per Lump Sum of land specifically cleared and grubbed.

BASIS OF PAYMENT

151-4.1 Payment shall be made at the contract unit price per lump sum for clearing and grubbing. This price shall be full compensation for clearing and grubbing of AC curb, pipe, drop inlets and all other items shown on the plans to be cleared and grubbed and 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 and Grubbing - per Lump Sum
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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.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste areas as shown on the plans. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches, to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches in their greatest dimension will not be permitted in the top 6 inches of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces, and other various surfaces were used to develop the design plans.

Volumetric quantities were calculated by comparing DTM files of the applicable design surfaces and generating Triangle Volume Reports. Electronic copies of DTM files and a paper copy of the original topographic map will be issued to the successful bidder.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor shall verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot of the stated elevations for ground surfaces, or within 0.04 foot for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes as shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be disposed of as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas or imported fill.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of off the airport. Any cost associated with hauling and disposal of materials shall be considered incidental to this item. This excavated material shall be paid for at the contract

unit price per cubic yard for Muck 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. Undercutting will be paid as unclassified excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor as indicated on the plans. All existing foundations shall be excavated at least 2 feet below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Borrow areas are not required, additional fill shall be imported if necessary.

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. 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 RPR. 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 cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 6 inches of subgrade shall be compacted to not less than 95% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D 1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within $\pm 2\%$ of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D 1557. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the contractor for every 500 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow the methods in ASTM D1557 for correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 95% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D 1557. 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 D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

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 RPR's presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches in their greatest dimensions will not be allowed in the top 12 inches of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet below the finished subgrade.

There will be no separate measurement of payment for compacted embankment created from excavated materials. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. After compaction is completed, the subgrade area shall be proof rolled with a fully loaded water truck in the presence of the RPR. Apply a minimum of 3 coverages, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch or show permanent deformation greater than 1 inch shall be removed to depth designated on the plans or by the RPR (muck excavation), a geogrid placed at the bottom of the muck excavation and backfilled with Subbase Course (P-207 or P-154) to subgrade level or reworked to conform to the moisture content and compaction requirements in accordance with these specifications as directed by the RPR. Removal and replacement of soft areas is paid for under muck excavation (P-152), geogrid (P-154) and subbase course (P-207 or P-154). Proof rolling shall be considered incidental to this item.

152-2.10 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 dry density as determined by ASTM D1557. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 6 inches and to a density of not less than 90 percent of the maximum density as determined by ASTM D1557.

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). When the material has greater than 30 percent retained on the $\frac{3}{4}$ inch (19.0 mm) sieve, follow the methods in ASTM D1557. Tests for moisture content and compaction will be taken at a minimum of 500 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM 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 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

- a. **Smoothness.** The finished surface shall not vary more than $\pm 1/2$ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot (15-m) grid.
- b. **Grade.** The grade and crown shall be measured on a 50-foot grid and shall be within ± 0.05 feet of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to be placed, grade shall not vary more than 0.10 feet from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. Not applicable.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard shall be computed by the average end areas of design cross sections. The end area is that bound by the original ground line established by field cross-sections and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

152-3.2 The quantity of Unclassified and Muck 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.

152-3.3 The quantity of scarify and recompact subgrade shall be the number of square yards of subgrade scarified and recompact.

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. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.3 For scarify and recompact subgrade, payment shall be made at the contract unit price per square yard of subgrade scarified and recompact. This price shall be full compensation for furnishing all materials, labor, equipment, tool, water, and incidentals necessary to complete this 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	Scarify and Recompact Subgrade – per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop
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ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ³ (600 kN-m/m ³))
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ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
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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))
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ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
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Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software
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Software

FAARFIELD	– FAA Rigid and Flexible Iterative Elastic Layered Design
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U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils
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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 and/or recycled asphalt pavement (RAP). 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 material shall be free from vegetative matter, excessive amounts of clay, and other objectionable substances; uniformly blended; and be capable of being compacted into a dense, stable subbase.

The subbase material shall exhibit a California Bearing Ratio (CBR) value of at least 35 when tested in accordance with ASTM D1883. The subbase material shall meet the gradation specified in the table below.

Subbase Gradation Requirements

Sieve designation	Percentage by weight passing sieves		Contractor's Final Gradation	Job Control Grading Band Tolerances ¹ (Percent)
	Subbase Aggregate	Recycled pavement (RAP or RCO)		
1 1/2 inch (37.5 mm)	100	100		0
3/4 inch (19.0 mm)	70-100	70-100		±10
No. 10 (2.00 mm)	20-100	20-100		±10
No. 40 (425 µm)	5-60	5-60		±5
No. 200 (75 µm)	0-8	0-8		±5

¹The "Job Control Grading Band Tolerances" shall be applied to "Contractor's Final Gradation" to establish the job control grading band.

The portion of the material passing the No. 40 (425 µm) 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.

154-2.2 Sampling and testing.

a. Aggregate base materials. Samples shall be taken by the Contractor per ASTM D75 for initial aggregate subbase requirements and gradation. Material shall meet the requirements in paragraphs 154-2.1. The Contractor shall submit to the Resident Project Representative (RPR) certified test results showing that

the aggregate meets the Material requirements of this section. Tests shall be representative of the material to be used for the project.

b. Gradation requirements. The Contractor shall take at least two aggregate subbase samples per day in the presence of the RPR to check the final gradation. Samples shall be taken from the in-place, un-compacted material at sampling locations determined by the RPR on a random basis per ASTM D3665. Sampling shall be per ASTM D75 and tested per ASTM C136 and ASTM C117. Results shall be furnished to the RPR by the Contractor each day during construction. Material shall meet the requirements in paragraph 154-2.1.

154-2.3 Separation Geotextile. Not used.

154-2.4 Geogrid. Geogrid shall be InterAx NX650 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

154-3.1 General. The subbase course shall be placed where designated on the plans or as directed by the RPR. 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 modified to the depth necessary to provide stability as directed by the RPR. The mechanical modification 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.

154-3.2 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 in accordance with Item P-152. Correct ruts, soft yielding spots in the underlying courses, and subgrade areas having inadequate compaction and/or deviations of the surface from the specified requirements, by loosening and removing soft or unsatisfactory material, 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 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 underlying course shall be checked and accepted by the RPR before placing and spreading operations are started.

To protect the subgrade and to ensure proper drainage, 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.

154-3.3 Control Strip. The first half-day of subbase construction shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted

by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

154-3.4 Placement. The material shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted. The material shall not be placed when the underlying course is soft or yielding.

The material shall meet gradation and moisture requirements prior to compaction. Material may be free-draining and the minimum moisture content shall be established for placement and compaction of the material.

The material shall be constructed in lifts as established in the control strip, but not less than 4 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

154-3.5 Compaction. The subbase material shall be compacted, adjusting moisture as necessary, to be within $\pm 2\%$ of optimum moisture. The field density of the compacted material shall be at least 98% of the maximum density as specified in paragraph 154-3.9a. If the specified density is not attained, the area of the lift represented by the test shall be reworked and/or re-compact and additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

154-3.6 Weather limitation. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on subbase course shall not be conducted when the subgrade is wet or frozen or the subbase material contains frozen material.

154-3.7 Maintenance. No base or surface course shall be placed on the subbase until the subbase has been accepted by the RPR. The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, the Contractor shall verify that materials still meet all specification requirements before placement of additional material. Equipment may be routed over completed sections of subbase course, provided the equipment does not damage the subbase course and the equipment is routed over the full width of the completed subbase course. Any damage to the subbase course from routing equipment over the subbase course shall be repaired by the Contractor at their expense.

154-3.8 Surface tolerance. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compact to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than $\pm \frac{1}{2}$ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 25-foot grid.

b. Grade. The grade and crown shall be measured on a 25-foot grid and shall be within ± 0.05 feet of the specified grade.

154-3.9 Acceptance sampling and testing. The aggregate base course shall be accepted for density and thickness on an area basis. Two tests shall be made for density and thickness for each 1,000 square yards. Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area shall be accepted for density when the field density is at least 98% of the maximum density of laboratory specimens 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 area represented by the failed test shall be reworked and/or recompact and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

When the material has greater than 30 percent retained on the $\frac{3}{4}$ inch sieve, use methods in ASTM D1557 for correction of maximum dry density and optimum moisture for oversized particles.

b. Thickness. The thickness of the base course shall be within +0 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. At the contractor's option, thickness verification may be completed by survey of the top and bottom of the material placed using a grid with 50' section intervals. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches, adding new material of proper gradation, and the material shall be blended and recompact to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

154-4.1 Subbase course shall be measured by the number of cubic yards of subbase course material placed and compacted to specified density and plan thickness requirements in the completed course. The quantity of subbase course material shall be measured in final position based upon contractor's survey in the presence of the RPR of the completed work computed from elevations to the nearest 0.01 foot. On individual/surveyed depth measurements, thicknesses more than 1/2 inch in excess of that shown on the plans shall be considered as the specified thickness plus 1/2 inch in computing the yardage for payment. Subbase materials shall not be included in any other excavation quantities.

154-4.3 Geogrid shall be measured by the number of square yards of materials placed and accepted by the RPR as complying with the plans and specifications excluding seam overlaps and edge anchoring.

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.

154-5.3 Payment shall be made at the contract unit price per square yard for geogrid. The price shall be full compensation for furnishing all labor, equipment, material, anchors, and necessary incidentals to complete the item.

Payment will be made under:

Item P-154-5.1	Subbase Course	- per cubic yard
Item P-154-5.3	Geogrid	- per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117	Standard Test Method for Materials Finer than 75- μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
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 D4759	Practice for Determining the Specification Conformance of Geosynthetics
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

American Association of State Highway and Transportation Officials (AASHTO)

M 288	Geotextile Specification for Highway Applications
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**Item P-207 In-place Full Depth Reclamation (FDR) Recycled Asphalt
Aggregate Subbase Course**

DESCRIPTION

207-1.1 This item consists of a recycled asphalt aggregate subbase course resulting from the in-place full depth reclamation (FDR) of the existing pavement section (asphalt wearing surface and aggregate base).

MATERIALS

207-2.1 Aggregate. The FDR shall consist of materials produced by recycling (pulverizing and mixing) the existing asphalt pavement, aggregate base. Material larger than 2 inches in any dimension shall not be permitted in the recycle asphalt aggregate subbase course.

The FDR shall meet the gradation in the table below.

FDR Gradation

Sieve	Minimum Percentage by weight passing sieves
2 inch (51 mm)	100
3/4" inch (19mm)	80-100
No. 4 (4.75 mm)	20-60
No. 50	10-40
No. 200 (75 µm)	0-10

a. Deleterious substances. Materials for aggregate subbase shall be kept free from weeds, sticks, grass, roots and other foreign matter.

b. Uniformity. The materials shall be thoroughly recycled (pulverized and mixed) to ensure a uniform gradation.

c. CBR. The FDR Subbase Course shall have a California Bearing Ratio (CBR) value of at least 35 at 0.1 inch to 0.5 inch penetration inclusive at 100% of maximum dry density as determined by ASTM D1557, Method D when tested in accordance with ASTM D1883.

207-2.2 Stabilization. Not applicable.

207-2.3 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

207-2.4 Quality Control (QC) Sampling and testing. The Contractor shall take at least two FDR samples per day of production in the presence of the Resident Project Representative (RPR) to check the gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 207-2.1. Samples shall be taken from the in-place, un-compacted material at random sampling locations per ASTM D3665.

CONSTRUCTION METHODS

207-3.1 Milling. Milling is not required.

207-3.2 Control Strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. Upon acceptance of the control strip by the RPR, the Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

207-3.3 Recycling (Pulverization and mixing). The asphalt pavement shall be saw cut full depth at the perimeter of the area to be recycled as indicated on the plans. The asphalt pavement and aggregate base shall be recycled (pulverized and mixed) into a uniformly blended mixture with water to the depth indicated on the plans. All material over approximately 2 inches shall be removed by the Contractor. The mixture shall be brought to the desired moisture content.

The maximum lift thickness of the recycled aggregate subbase course material to be compacted shall be 8 inches.

207-3.4 Grading and compaction. Immediately upon completion of recycling (pulverization and mixing), the material shall be excavated, hauled, temporarily stockpiled if necessary, placed, shaped and/or graded in accordance with the project plans. The recycled asphalt aggregate subbase course shall be compacted within the same day to an in-place density of 98% as determined by ASTM D1557. The moisture content of the material during compaction shall be within $\pm 2\%$ of the optimum moisture content as determined by ASTM D2216. The number, type and weight of rollers shall be sufficient to compact the material to the required density. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

207-3.5 Finishing. The surface of the aggregate subbase course shall be finished by blading or with automated equipment designed for this purpose. If the top layer is 1/2 inch or more below grade, the top layer shall be scarified to a depth of at least 3 inches, new material added, and the layer blended and re-compacted to bring it to grade. The addition of layers less than 3 inches shall not be allowed.

207-3.6 Proof rolling. Compacted asphalt aggregate subbase course shall be proof rolled with a fully loaded water truck in the presence of the RPR. Soft areas that deflect greater than 0.5 inch or show permanent deformation greater than 0.5 inch shall be removed and reworked at the Contractor's expense unless soft areas are a result of soft subgrade material as determined by the RPR. If soft areas are a result of soft subgrade material, they shall be removed and reworked in accordance with P-152.

207-3.7 Weather limitations. When weather conditions detrimentally affect the construction process and/or quality of the materials, the Contractor shall stop construction. Cement or fly ash shall not be applied when wind conditions affect the distribution of the materials. When the aggregates contain frozen materials or when the underlying course is frozen or wet, the construction shall be stopped. Construction shall not be performed unless the atmospheric temperature is above 35°F (2°C) and rising or approved by the RPR. When the temperature falls below 35°F (2°C), protect all completed areas against detrimental effects of freezing by approved methods. Correct completed areas damaged by freezing, rainfall, or other weather conditions to meet specified requirements.

207-3.8 Maintenance. The asphalt aggregate subbase course shall be maintained in a satisfactory condition until the work is accepted by the RPR. Equipment used in the construction of an adjoining section may be routed over completed sections of asphalt aggregate subbase course, provided that no damage results and equipment is routed over the full width of the completed asphalt aggregate subbase course. Any damage to the recycled asphalt aggregate subbase course shall be repaired by the Contractor at the Contractor's expense.

207-3.9 Surface tolerances. The finished surface shall be tested for smoothness and accuracy of grade. Any area failing smoothness or grade shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted by the Contractor at the Contractor's expense.

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 forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 25-foot grid.

b. Grade. The grade shall be measured on a 25-foot grid and shall be within +0 and -1/2 inch (12 mm) of the specified grade.

207-3.10 Acceptance sampling and testing for density. FDR subbase course shall be accepted for density and thickness on an area basis. Two (2) tests for density and thickness will be made for each 1,000 square yds. Sampling locations will be determined on a random basis in accordance with ASTM D3665.

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area will be accepted for density when the field density is at least 98% of the maximum density of the FDR subbase course in accordance with ASTM D1557. 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. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. The thickness of the subbase 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 RPR for each area. 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, and recompacted to grade. The Contractor shall replace, at his expense, subbase material where depth tests have been taken.

METHOD OF MEASUREMENT

207-4.1 The quantity of FDR Asphalt Aggregate Subbase Course – Pulverize, Mix, Excavate, Stockpile, Haul, Place and Compact shall be measured by the number of cubic yards of material in the final compacted position in compliance with the plans and specifications. The quantity of Asphalt Aggregate Subbase Course material shall be measured in final position based upon contractor's survey in the presence of the RPR of the completed work computed from elevations to the nearest 0.01 foot. Subbase materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

207-5.1 Payment shall be made for In-place Full Depth Recycled (FDR) Asphalt Aggregate Subbase Course – Pulverize, Mix, Excavate, Stockpile, Haul, Place, and Compact at the contract unit price per cubic yard for pulverizing. Mixing, excavating, hauling, temporary stockpiling if necessary, placing, spreading, compacting, and maintaining the FDR materials to the compacted thickness as indicated on the drawings. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment, tools and incidentals to complete the item.

Payment will be made under:

Item P207-5.1

In-place Full Depth Recycled (FDR) Asphalt Aggregate Subbase Course,
Pulverize, Mix, Excavate, Stockpile, Haul, Place, and Compact – per
cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Unit Weight of Aggregate
ASTM C88	Soundness of Aggregates by Use of Sodium or Magnesium Sulfate
ASTM C117	Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregate by Washing
ASTM C131	Resistance to abrasion of Small Size Coarse Aggregate by Use of Los Angeles Machine
ASTM C136	Sieve or Screen Analysis of Fine and Coarse Aggregate
ASTM C150	Standard Specification for Portland Cement
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D75	Sampling Aggregate
ASTM D558	ASTM D558 Standard Test Methods for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures
ASTM D698	Moisture Density Relations of Soils and Aggregate using 5.5 lb Rammer and 12 in drop
ASTM D977	Standard Specification for Emulsified Asphalt
ASTM D1556	Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method
ASTM D1557	Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D2216	Test Methods for Laboratory Determination of Water (Moisture) Soil and Rock by Mass
ASTM D2419	Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
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)

American Association of State Highway and Transportation Officials (AASHTO)

M288 Standard Specification for Geosynthetic Specification for Highway
Applications

END OF ITEM P-207

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 or crushed gravel and shall be free from coatings of clay, silt, organic material, clay lumps or balls or other deleterious materials or coatings. The method used to produce the crushed gravel shall result in the fractured particles in the finished product as consistent and uniform as practicable. Fine aggregate portion, defined as the portion passing the No. 4 sieve shall consist of fines from the coarse aggregate crushing operation. The fine aggregate shall be produced by crushing stone or gravel, that meet the coarse aggregate requirements for wear and soundness. Aggregate base material requirements are listed in the following table.

Crushed Aggregate Base Material Requirements

Material Test	Requirement	Standard
Coarse Aggregate		
Resistance to Degradation	Loss: 45% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Percentage of Fractured Particles	Minimum 90% by weight of particles with at least two fractured faces and 98% with at least one fractured face ¹	ASTM D5821
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles ²	ASTM D4791
Clay Lumps and Friable Particles	Less than or equal to 3 percent	ASTM C142
Fine Aggregate		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than five (5)	ASTM D4318

¹ 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.

² A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

The Aggregate Base Course shall have a California Bearing Ratio (CBR) value of at least 100 at 0.1 inch to 0.5 inch penetration inclusive at 100% of maximum dry density as determined by ASTM D1557, Method D when tested in accordance with ASTM D1883.

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 and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa.

Gradation of Aggregate Base

Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances ¹ (Percent)
2 inch (50 mm)	100		0
1-1/2 inch (37.5 mm)	95-100		±5
1 inch (25.0 mm)	70-95		±8
3/4 inch (19.0 mm)	70-85		±8
No. 4 (4.75 mm)	30-60		±8
No. 40 (425 µm)	10-30		±5
No. 200 ² (75 µm)	0-4		±3

¹The "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.

²The fraction of material passing the No 200 (75 µm) sieve shall not exceed two-thirds the fraction passing the No 40 (425 µm) sieve.

209-2.3 Sampling and Testing.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraph 209-2.1. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 209-2.2. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

209-2.4 Separation Geotextile. Not used.

CONSTRUCTION METHODS

209-3.1 Control strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved by the RPR.

209-3.2 Preparing underlying subgrade and/or subbase. The underlying subgrade and/or subbase shall be checked and accepted by the RPR before base course placing and spreading operations begin. Re-proof rolling of the subgrade or proof rolling of the subbase in accordance with Item P-152, at the Contractor's expense, may be required by the RPR 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.

209-3.3 Production. The aggregate shall be uniformly blended and, when at a satisfactory moisture content per paragraph 209-3.5, the approved material may be transported directly to the placement.

209-3.4 Placement. The aggregate shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The aggregate shall meet gradation and moisture requirements prior to compaction. The base course shall be constructed in lifts as established in the control strip, but not less than 4 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications at the Contractor's expense.

209-3.5 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 field density of each compacted lift of material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the base material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D1557 and paragraph 209-3.9. The moisture content of the material during placing operations shall be within ± 2 percentage points of the optimum moisture content as determined by ASTM D1557. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

209-3.6 Weather limitations. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

209-3.7 Maintenance. The base course shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at the Contractor's expense.

209-3.8 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 recompact to grade until the required smoothness and accuracy are obtained and approved by the RPR. 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 when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 25-foot grid.

b. Grade. The grade and crown shall be measured on a 25-foot grid and shall be within +0 and -1/2 inch of the specified grade.

209-3.9 Acceptance sampling and testing. Crushed aggregate base course shall be accepted for density and thickness on an area basis. Two tests shall be made for density and thickness for each 1,000 square yards. Sampling locations will be determined on a random basis per ASTM D3665

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens 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 area represented by the failed test must be reworked and/or recompact and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

When the material has greater than 30 percent retained on the 3/4 inch sieve, use methods in ASTM D1557 for correction of maximum dry density and optimum moisture for oversized particles and the procedures in AASHTO T180 Annex for correction of maximum dry density and optimum moisture for oversized particles.

b. Thickness. Depth tests shall be made by test holes at least 3 inches in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. At the contractor's option, thickness verification may be completed by survey (performed by the contractor in the presence of the RPR) of the top and bottom of the material placed using a 25' grid. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by scarifying

to a depth of at least 3 inches, adding new material of proper gradation, and the material shall be blended and recompact to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

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 RPR as complying with the plans and specifications. The quantity of Aggregate Base Course material shall be measured in final position based upon contractor's survey in the presence of the RPR of the completed work computed from elevations to the nearest 0.01 foot. 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
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REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM 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 C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
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 D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4643	Standard Test Method for Determination of Water Content of Soil and Rock by Microwave Oven Heating
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
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)

ASTM D7928 Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

American Association of State Highway and Transportation Officials (AASHTO)

M288 Standard Specification for Geosynthetic Specification for Highway Applications

T88 Standard Method of Test for Particle Size Analysis of Soils

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Item P-401 Asphalt Mix Pavement

DESCRIPTION

401-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared base or stabilized 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 the placement of the next course.

MATERIALS

401-2.1 Aggregate. Aggregates shall consist of crushed stone, crushed gravel, crushed slag, screenings, natural sand, and mineral filler, as required. Slag shall not be used unless it is shown to be non-expansive when submerged in water. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve.

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 asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Percentage of Fractured Particles	Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face ¹	ASTM D5821
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 ²	ASTM D4791
Bulk density of slag ³	Weigh not less than 70 pounds per cubic foot	ASTM C29.

¹ 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.

² A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

³ Only required if slag is specified.

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the fine

aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Fine Aggregate Material Requirements

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Sand equivalent	45 minimum	ASTM D2419
Natural Sand	10% maximum by weight of total aggregate	ASTM D1073

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate.

401-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral Filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

401-2.3 Asphalt binder.

Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) 64-28 M or PM.

Asphalt Binder PG Plus Test Requirements

Material Test	Requirement	Standard
Elastic Recovery	75% minimum	ASTM D6084 ¹

¹ Follow procedure B on RTFO aged binder

401-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

401-3.1 Composition of mixture(s). The asphalt mix shall be composed of a mixture of aggregates, filler and anti-strip agent if required, and asphalt binder. The aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

401-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF; and be listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Resident Project Representative (RPR) prior to start of construction.

401-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 404-3.2. The asphalt mixture shall be designed using procedures contained in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition. Samples shall be prepared and compacted using a Marshall compactor in accordance with ASTM D6926.

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

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 proposed for project use.

The JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 401-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 401-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 401-2.1.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each coarse and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.

- Number of blows
- Laboratory mixing and compaction temperatures.
- Supplier-recommended field mixing and compaction temperatures.
- Plot of the combined gradation on a 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).
- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) or Hamburg Wheel Test results.
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of blows	50	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
Tensile Strength Ratio (TSR) ¹	not less than 75 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer (APA) ^{2 3}	Less than 10 mm @ 4000 passes	AASHTO T340 at 250 psi hose pressure at 64° C test temperature
Hamburg Wheel Test ³	Less than 10mm @ 20,000 passes @50°C	AASHTO T324

¹ Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867.

² AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

³ Asphalt shall meet either Asphalt Pavement Analyzer or Hamburg Wheel Test Standards.

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 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 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 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve
1 inch (25.0 mm)	100
3/4 inch (19.0 mm)	90-100
1/2 inch (12.5 mm)	74-86
3/8 inch (9.5 mm)	63-75
No. 4 (4.75 mm)	41-55
No. 8 (2.36 mm)	30-38
No. 16 (1.18 mm)	18-26
No. 30 (600 µm)	12-18
No. 50 (300 µm)	8-14
No. 100 (150 µm)	6-11
No. 200 (75 µm)	3-6
Minimum Voids in Mineral Aggregate (VMA)¹	14.0
Asphalt Percent:	
Stone or gravel	4.5-7.0
Slag	N/A

¹To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

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.

401-3.4 Reclaimed asphalt pavement (RAP). RAP shall not be used.

401-3.5 Control Strip. Full production shall not begin until an acceptable control strip has been constructed and accepted in writing by the RPR. The Contractor shall prepare and place a quantity of asphalt according to the JMF. The underlying grade or pavement structure upon which the control strip is to be constructed shall be the same as the remainder of the course represented by the control strip.

The Contractor will not be allowed to place the control strip until the Contractor quality control program (CQCP), showing conformance with the requirements of paragraph 401-5.1, has been accepted, in writing, by the RPR.

The control strip will consist of at least 250 tons or 1/2 subplot, whichever is greater. The control strip shall be placed in two lanes of the same width and depth to be used in production with a longitudinal cold joint. The cold joint must be cut back in accordance with paragraph 401-4.14 using the same procedure that will be used during production. The cold joint for the control strip will be an exposed construction joint at least four (4) hours old or when the mat has cooled to less than 160°F. The equipment used in construction of the control strip shall be the same type, configuration and weight to be used on the project.

The control strip will be considered acceptable by the RPR if the gradation, asphalt content, and VMA are within the action limits specified in paragraph 401-5.5a; and Mat density greater than or equal to 94.5%, air voids 3.5% +/- 1%, and joint density greater than or equal to 92.5%.

If the control strip is unacceptable, necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made and another control strip shall be placed. Unacceptable control strips shall be removed at the Contractor's expense.

The control strip will be considered one lot for payment based upon the average of a minimum of 3 samples (no sublots required for control strip). Payment will only be made for an acceptable control strip in accordance with paragraph 401-8.1 using a lot pay factor equal to 100.

CONSTRUCTION METHODS

401-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 4. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)	
	°F	°C
3 inches (7.5 cm) or greater	40 ¹	4
Greater than 2 inches (50 mm) but less than 3 inches (7.5 cm)	45	7

401-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items.

a. Inspection of plant. The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation, or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

401-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the asphalt batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

401-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt 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 RPR. 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 the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

401-4.4.1 Material transfer vehicle (MTV). Material transfer vehicles are not required.

401-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the 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 asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If 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.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.12.

401-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, clean, and capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt 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.

401-4.7 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 supply a qualified technician during all paving operations to calibrate the gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.8 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 (160°C) when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F (175°C) when added to the aggregate.

401-4.9 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. 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 (175°C) 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.

401-4.10 Preparation of Asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and mixed in the amount 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 the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

401-4.11 Application of Prime and Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A prime coat in accordance with Item P-602 shall be applied to aggregate base prior to placing the asphalt mixture.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

401-4.12 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2d before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of 10 feet except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one foot; however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 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 the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. 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 RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet long.

401-4.13 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the 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 surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

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 asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt 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.

401-4.14 Joints. The formation of all joints shall be made 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 asphalt 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 asphalt 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; or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. Asphalt tack coat in accordance with P-603 shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

401-4.15 Saw-cut grooving. Saw-cut grooving is not required.

401-4.16 Diamond grinding. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet wide. The saw blades shall be 1/8-inch wide with a sufficient number of blades to create grooves between 0.090 and 0.130 inches wide; and peaks and ridges approximately 1/32 inch higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that cause ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

401-4.17 Nighttime paving requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

401-5.1 General. The Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.

401-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The Contractor shall provide laboratory facilities and equipment for the RPR to perform QA testing in the QC laboratory with the RPR's personnel. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC 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.

401-5.3 Contractor QC testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved CQCP. 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 QC Testing Plan shall be developed as part of the CQCP.

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per day in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content shall be determined once per day in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per day, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt 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 D2950.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues.

The Contractor may use a 12-foot "straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot straightedge approved by the RPR. Straight-edge testing shall start 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. Testing shall be continuous across all joints. The 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 the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using the FAA profile program, ProFAA, or FHWA ProVal, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 401-4.16 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3). Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to and after the placement of the first lift and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch. The documentation will be provided by the Contractor to the RPR by the end of the following working day.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 401-4.16.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus 1/2 inch and replacing with new material. Skin patching is not allowed.

401-5.4 Sampling. When directed by the RPR, 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.

401-5.5 Control charts. The Contractor shall maintain linear control charts for both individual measurements and range (i.e. difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day will be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and 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 RPR 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 (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 µm)	±3%	±4.5%
No. 200 (75 µm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

b. Range. Control charts shall be established to control gradation process variability. The range shall be plotted 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

Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 µm)	6%
No. 200 (75 µm)	3.5%
Asphalt Content	0.8%

c. Corrective Action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain 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.

401-5.6 QC reports. The Contractor shall maintain records and shall submit reports of QC activities daily, in accordance with Item C-100.

MATERIAL ACCEPTANCE

401-6.1 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 RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a subplot basis.

(1) Sampling. Material from each subplot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.

(2) Testing. Air voids will be determined for each subplot in accordance with ASTM D3203 for a set of three compacted specimens prepared in accordance with ASTM D6926.

d. In-place asphalt mat and joint density. Each subplot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

(1) Sampling. The Contractor will cut minimum 5 inch (125 mm) diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each subplot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will 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 expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

(4) Mat density. One core shall be taken from each subplot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot (30 cm) from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each subplot sample by the TMD for that subplot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each subplot that has a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

401-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, grade and Profilograph roughness.

b. Air Voids and Mat density. Acceptance of each lot of plant produced material for mat density and air voids will be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment will be determined in accordance with paragraph 401-8.1.

c. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the PWL. If the PWL of the lot is equal to or exceeds 90%, the lot will be considered acceptable. If the PWL is less than 90%, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80%, the Contractor shall cease operations and until the reason for poor compaction has been determined. If the PWL is less than 71%, the pay factor for the lot used to complete the joint will be reduced by five (5) percentage points. This lot pay factor reduction will be incorporated and evaluated in accordance with paragraph 401-8.1.

d. Grade. The final finished surface of the pavement shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch vertically.

Cross-sections of the pavement shall be taken at a minimum 25-foot longitudinal spacing and at all longitudinal grade breaks and at start and end of each lane placed. Minimum cross-section grade points shall include grade at centerline, crown, $\pm 12.5'$ grid from centerline and edge of pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the subplot shall not be more than 95%.

e. Profilograph roughness for QA Acceptance. Not used.

401-6.3 Percentage of material within specification limits (PWL). The PWL will be determined in accordance with procedures specified in Item C-110. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 5.

Table 5. Acceptance Limits for Air Voids and Density

Test Property	Pavements Specification Tolerance Limits	
	L	U
Air Voids Total Mix (%)	2.0	5.0
Surface Course Mat Density (%)	92.8	-
Joint density (%)	90.5	--

a. Outliers. All individual tests for mat density and air voids will be checked for outliers (test criterion) in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded, and the PWL will be determined using the remaining test values. The criteria in Table 5 is based on production processes which have a variability with the following standard deviations: Surface Course Mat Density (%), 1.30; Joint Density (%), 1.55.

The Contractor should note that (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 94.5% 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 94.0% with 1.55% or less variability, and (3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 92.5% with 1.55% or less variability.

401-6.4 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 RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-6.1d and 401-6.2b. Only one resampling per lot will be permitted.

(1) A redefined PWL will be calculated for the resampled lot. The number of tests used to calculate the redefined PWL will 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 will be used to calculate the payment for that lot in accordance with Table 6.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%.

METHOD OF MEASUREMENT

401-7.1 Measurement. Asphalt shall be measured by the number of tons of asphalt used in the accepted work. Batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

401-8.1 Payment. Payment for a lot of asphalt meeting all acceptance criteria as specified in paragraph 401-6.2 shall be made based on results of tests for 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 paragraph 401-6.2c for joint density, subject to the limitation that:

a. The total project payment for plant mix asphalt pavement shall not exceed 106 percent of the product of the contract unit price and the total number of tons of asphalt used in the accepted work.

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% 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 401-8.1a. Payment in excess of 100% for accepted lots of asphalt shall be used to offset payment for accepted lots of asphalt pavement that achieve a lot pay factor less than 100%.

Payment for sublots which do not meet grade in accordance with paragraph 401-6.2d after correction for over 25% of the subplot shall be reduced by 5%.

Table 6. Price adjustment schedule¹

Percentage of material within specification limits (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% for each lot, actual payment above 100% shall be subject to the total project payment limitation specified in paragraph 401-8.1a.

² The lot shall be removed and replaced. However, the RPR may decide to allow the rejected lot to remain. In that case, if the RPR and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50% of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.

d. Profilograph Roughness. Not used.

401-8.1 Payment.

Payment will be made under:

Item P-401-8.1 Asphalt Surface Course - per ton

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM 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- μ m (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
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 C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Asphalt Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Asphalt Paving Mixtures
ASTM D1188	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Asphalt Paving Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Asphalt Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures

ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5361	Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6084	Standard Test Method for Elastic Recovery of Bituminous Materials by Durometer
ASTM D6307	Standard Test Method for Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyratory Compactor.
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus

ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E1274	Standard Test Method for Measuring Pavement Roughness Using a Profilograph
ASTM E950	Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T324	Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

Asphalt Institute Handbook MS-26, Asphalt Binder
Asphalt Institute MS-2 Mix Design Manual, 7th Edition
AI State Binder Specification Database

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder Program

Advisory Circulars (AC)

AC 150/5320-6 Airport Pavement Design and Evaluation

FAA Orders

5300.1 Modifications to Agency Airport Design, Construction, and Equipment Standards

Software

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Item P-602 Emulsified Asphalt Prime Coat

DESCRIPTION

602-1.1 This item shall consist of an application of emulsified asphalt material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

602-2.1 Emulsified Asphalt material. The emulsified asphalt material shall be as specified in ASTM D3628 for use as a prime coat appropriate to local conditions. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt material. The COA shall be provided to and approved by the Resident Project Representative (RPR) before the emulsified asphalt material is applied. The furnishing of the COA for the emulsified asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

602-3.1 Weather limitations. The emulsified asphalt prime coat shall be applied only when the existing surface is dry; the atmospheric temperature is 50°F (10°C) 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. The temperature requirements may be waived when directed by the RPR.

602-3.2 Equipment. The equipment shall include a self-powered pressure asphalt material distributor and equipment for heating asphalt 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 asphalt material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 1.0 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 asphalt material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the asphalt 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.

A power broom and power blower suitable for cleaning the surfaces to which the asphalt coat is to be applied shall be provided.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

602-3.3 Application of emulsified asphalt material. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The asphalt emulsion material shall be uniformly applied with an asphalt distributor at the rate of 0.15 to 0.30 gallons per square yard depending on the base course surface texture. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Following application of the emulsified asphalt material and prior to application of the succeeding layer of pavement, allow the asphalt 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 sand to effectively blot up and cure excess asphalt material. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner. Keep traffic off surfaces freshly treated with asphalt material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

602-3.4 Trial application rates. The Contractor shall apply a minimum of three lengths of at least 100 feet for the full width of the distributor bar to evaluate the amount of emulsified asphalt material that can be satisfactorily applied with the equipment. Apply three different application rates of emulsified asphalt materials within the application range specified in paragraph 602-3.3. Other trial applications can be made using various amounts of material as directed by the RPR. The trial application is to demonstrate the equipment can uniformly apply the emulsified asphalt material within the rates specified and determine the application rate for the project.

602-3.5 Freight and waybills. The Contractor shall submit waybills and delivery tickets during the progress of the work. Before the final estimate is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt 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 emulsified asphalt material for prime coat shall be measured by the ton. Volume shall be corrected to the volume at 60°F in accordance with ASTM D4311. The emulsified asphalt 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 emulsified asphalt 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 emulsified asphalt 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 per ton for emulsified asphalt 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	Emulsified Asphalt Prime Coat - per ton
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REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END OF ITEM P-602

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Item P-603 Emulsified Asphalt Tack Coat

DESCRIPTION

603-1.1 This item shall consist of preparing and treating an asphalt or concrete surface with asphalt material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 Asphalt materials. The asphalt material shall be an emulsified asphalt as specified in ASTM D3628 as an asphalt application for tack coat appropriate to local conditions. The emulsified asphalt shall not be diluted. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the asphalt material to the Resident Project Representative (RPR) before the asphalt material is applied for review and acceptance. The furnishing of COA for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

603-3.1 Weather limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F or above; the temperature has not been below 35°F for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

603-3.2 Equipment. The Contractor shall provide equipment for heating and applying the emulsified asphalt material. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour or seven (700) feet per minute.

The equipment will be tested under pressure for leaks and to ensure proper set-up before use to verify truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application, spray-bar height and pressure and pump speed, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a minimum 12-foot spreader spray bar with individual nozzle control with computer-controlled application rates. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

The distributor truck shall be equipped to effectively heat and mix the material to the required temperature prior to application as required. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Do not overheat or over mix the material.

The distributor shall be equipped with a hand sprayer.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

A power broom and/or power blower suitable for cleaning the surfaces to which the asphalt tack coat is to be applied shall be provided.

603-3.3 Application of emulsified asphalt material. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

The emulsified asphalt material shall be uniformly applied with an asphalt distributor at the rates appropriate for the conditions and surface specified in the table below. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Emulsified Asphalt

Surface Type	Residual Rate, gal/SY	Emulsion Application Bar Rate, gal/SY
New asphalt	0.02-0.05	0.03-0.07
Existing asphalt	0.04-0.07	0.06-0.11

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor's expense.

603-3.4 Freight and waybills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt 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 The emulsified asphalt material for tack coat shall be measured by the ton. Volume shall be corrected to the volume at 60°F in accordance with ASTM D1250. The emulsified asphalt 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 emulsified asphalt 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 emulsified asphalt 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 emulsified asphalt material. 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 Emulsified Asphalt Tack Coat – per ton

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END ITEM P-603

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Item P-605 Joint Sealants for Pavements

DESCRIPTION

605-1.1 This item will consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 Joint sealants. Joint sealant materials must meet the requirements of:

ASTM D6690, “Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements,” Type II, or

ASTM D8260, “Standard Specification for Hot-Applied Asphalt Aggregate Filled Mastic” Type I,

Maxwell Products GAP Patch-550 – Only used for Type S Crack Sealing IF Alternate B1 is accepted as designated on the plans.

Each lot or batch of sealant must be delivered to the jobsite in the manufacturer’s original sealed container. Each container must be marked with the manufacturer’s name, batch or lot number, the safe heating temperature, and must be accompanied by the manufacturer’s certification stating that the sealant meets the requirements of this specification.

605-2.2 Backer rod. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be $25\% \pm 5\%$ larger in diameter than the nominal width of the joint.

605-2.3 Bond breaking tapes. Not applicable

CONSTRUCTION METHODS

605-3.1 Time of application. Joints must be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature must be 50°F (10°C) and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

605-3.2 Equipment. Machines, tools, and equipment used in the performance of the work required by this section must be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, seven (7) days prior to use on the project.

a. Tractor-mounted routing tool. Provide a routing tool, used for removing old sealant from the cracks, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the cracks. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.

b. Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting cracks to the depths and widths specified.

c. Sandblasting equipment. The Contractor must demonstrate sandblasting equipment including the air compressor, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the Resident Project Representative (RPR), that the method cleans the crack and does not damage the crack.

d. Waterblasting equipment. The Contractor must demonstrate waterblasting equipment including the pumps, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor must demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

e. Hand tools. Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

f. Hot-poured sealing equipment. The unit applicators used for heating and installing ASTM D6690 joint sealant materials must be mobile and must be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit must be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

605-3.3 Preparation of joints. Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor must demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

a. Sawing. All joints shall be sawed, if necessary, in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints must be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning must be accomplished by waterblasting or sandblasting as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch (12 mm) from the joint edge must be waterblasted or sandblasted clean. Waterblasting or sandblasting must be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches (75 mm) from it. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. Only air compressors with operable oil and water traps must be used. The joint faces must be surface dry when the seal is applied.

c. Backer Rod. When the crack opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

d. Bond-breaking tape. Not applicable

605-3.4 Installation of sealants. Joints and cracks must be inspected for proper width, depth, alignment, and preparation, and must be approved by the RPR before sealing is allowed. Sealants must be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet (15 m) ahead of the joint sealing operations, perform a final cleaning with compressed air.

a. Cold Applied Sealant Not applicable.

- b. **Hot Applied Sealant.** Fill the joints and cracks from the bottom up and form a “Band-Aid” type surface section by overfilling the joint and then distributing the sealant and shaping the “Band-Aid” section as shown on the plans with a properly configured “V” shaped squeegee. No depression of the joint sealant over the joint or crack will be allowed. If the sealant subsides, leaving a depression in the top of the sealant, additional sealant must be applied within one week of original sealing operations to fill the depression. This additional sealant, if required must be included in the unit price bid for the crack or joint seal item.

Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case must gravity methods or pouring pots be used to install the sealant material. Traffic must not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer’s instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

605-3.5 Inspection. The Contractor must inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project must be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

605-3.6 Clean-up. Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 Crack sealing material Type C will be measured by the linear foot of sealant in place, completed, and accepted.

605-4.2 Crack sealing material Type S will be measured by the square yard of sealant in place, completed, and accepted.

BASIS OF PAYMENT

605-5.1 Payment for crack sealing material Type C will be made at the contract unit price per linear foot.

605-5.2 Payment for crack sealing material Type S will be made at the contract unit price per square yard.

These prices will be full compensation for furnishing all materials, for all cleaning, preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the items.

Payment will be made under:

Item P-605-5.1a	Crack Sealing Filler Type C – Seal New Cracks or Reseal Existing Cracks, per linear foot
Item P-605-5.1b	Crack Sealing Filler Type S – Crack Seal/Seal Surface, per square yard
Item P-605-5.1b	<i>Alternate B1</i> – <u>Additional Cost</u> for Using Crack Sealing Filler Gap Patch 550 for Crack Seal Type S, per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D789	Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)
ASTM D5249	Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt

Advisory Circulars (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
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END ITEM P-605

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion of either or both test specimens is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix. If expansion of either the coarse or fine aggregate exceeds 0.08% at 14 days, limit the alkali of the concrete to be less than or equal to 3.0 lb per cubic yard (1.8 kg per cubic meter), calculated in accordance with FAA Engineering Brief 106.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet FAA P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 inch (25 mm)	57
¾ inch (19 mm)	67

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type II or ASTM C 595, Type IP.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 13% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751 or D1752.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of reinforcing steel conforming to the requirements of ASTM A615. Steel for tie down anchor rods shall be galvanized conforming to ASTM A36.

610-2.11 Materials for curing concrete. Curing materials shall conform to ASTM C309 for White-Pigmented Liquid Membrane-Forming Compound, Type 2, Class B.

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (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 is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump and air tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (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.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental to all items unless specified herein and no separate measurement shall be made.

610-5.2 Concrete curb shall be measured by the number of linear feet of curb installed.

610-5.3 Concrete cap for existing utilities shall be measured by the number of linear feet of concrete cap installed.

BASIS OF PAYMENT

610-6.1 Concrete shall be considered incidental to all items unless specified herein and no separate payment shall be made.

610-6.2 Payment shall be made at the contract price by the number of linear feet of concrete curb installed.

610-6.3 Payment shall be made at the contract price by the number or linear feet of concrete cap existing utilities.

These prices shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the items.

Payment will be made under:

Item P-610-6.1	Concrete Curb – per linear foot
Item P-610-6.2	Concrete Cap Existing Utilities – per linear foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A36	Standard Specification for Carbon Structural Steel
ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM 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 A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
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 C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

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Item P-620 Runway and Taxiway Marking

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer’s certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer’s surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Table 1. Marking Materials

Paint ¹				Glass Beads ²	
Type	Color	Fed Std. 595 Number	Application Rate Maximum	Type	Application Rate Minimum
I or II	White	37925	115 ft ² /gal. max. (2.8 m ² /l)	III	10 lb./gal. min. (1.2 kg/l)
I or II	Yellow	33538 or 33655	115 ft ² /gal. max. (2.8 m ² /l)	III	10 lb./gal. min. (1.2 kg/l)
I or II	Black	37038	115 ft ² /gal. max. (2.8 m ² /l)	None	N/A

¹ See paragraph 620-2.2a

² See paragraph 620-2.2b

a. Paint. Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type I or Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type III.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminants that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. A period of 2 days shall elapse between placement of surface course or seal coat and application of the first coat of permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings. Not applicable.

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Not used

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1a The quantity of surface preparation shall be measured by the number of square feet for preparation of pavement to remove existing markings specified in paragraph 620-3.3b.

620-4.1b The quantity of markings shall be paid for shall be measured by the number of square feet of painting.

620-4.1c The quantity of reflective media shall be paid for by the number of pounds of reflective media.

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.1a Payment for surface preparation shall be made at the contract price for the number of square feet for preparation of pavement to remove existing markings specified in paragraph 620-3.3b.

620-5.2b Payment for markings shall be made at the contract price for the number of square feet of painting.

620-5.3c Payment for reflective media shall be made at the contract unit price for the number of pounds of reflective media.

Payment will be made under:

Item P-620-5.1a	Surface Preparation – Marking Removal with Fog Seal, per square foot
Item P-620-5.2b	Marking, per square foot
Item P-620-5.3c	Reflective Media, per pound

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24	Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings
29 CFR Part 1910.1200 Hazard Communication	

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne
FED STD 595	Colors used in Government Procurement

Commercial Item Description

A-A-2886B	Paint, Traffic, Solvent Based
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Advisory Circulars (AC)

AC 150/5340-1	Standards for Airport Markings
AC 150/5320-12	Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620

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 drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

701-2.2 Pipe. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

AASHTO M294 Standard Specification for Corrugated Polyethylene Pipe, 12- to 60-in. Diameter

701-2.3 Concrete. Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi (13.8 MPa) at 28 days and conform to the requirements of ASTM C94.

701-2.4 Rubber gaskets. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

701-2.5 Joint mortar. Not used.

701-2.6 Joint fillers. Not used.

701-2.7 Plastic gaskets. Plastic gaskets shall conform to the requirements of ASTM C990.

701-2.8. Controlled low-strength material (CLSM). Not used.

701-2.9 Precast box culverts. Manufactured in accordance with and conforming to ASTM C1433.

701-2.10 Precast concrete pipe. Not used.

701-2.11 Flared End Sections. Flared end sections shall be plastic as called for on the plans. Plastic end sections shall be standard end sections for the specified size pipe. Materials for end sections shall conform to the requirements of Caltrans Standard Specifications Section 70-5.02B(4).

701-2.12 Rip Rap. The cobbles used for rip rap shall be hard, durable, and resistant to weathering, and shall meet gradation requirements. Neither breadth nor thickness of a single stone should be less than one-third its length. Rip rap shall be of a similar look and size as existing rip rap adjacent to this project.

Acceptability of the cobbles will be determined by previous use records or by tests as the Engineer determines to be appropriate. If testing is required, suitable samples of the cobbles shall be furnished by the Contractor and taken at least three weeks before placing of the material.

In the absence of satisfactory previous use records, cobbles shall conform to the following requirements:

Apparent Specific Gravity (ASTM C 127)	2.5 Min.
Percent Absorption (ASTM C 127)	6 Max.
Durability Index (Calif. 229)	52 Min.
Soundness (ASTM C 88)	
Average Loss for 2 1/2" to 1 1/2"	16% Max.

Rip rap shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
8"	100
4"	40% Max.
1 1/2"	0

Each load of rip rap shall be reasonably well graded from the smallest to the maximum size specified.

CONSTRUCTION METHODS

701-3.1 Excavation. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 12 inches (300 mm) on each side. The 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 satisfactory 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.

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 8 inch (200 mm) or 1/2 inch (12 mm) 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 excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the 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 bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. Not used.

b. Flexible pipe. Not used.

c. Other pipe materials. For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches. For pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 sieve. For all other areas, no more than 50% of the material shall pass the No. 200 sieve. The bedding shall have a thickness of at least 6 inches below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

701-3.3 Laying pipe. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 Joining pipe. Joints shall be made with rubber gaskets.

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete pipe. Not used.

b. Metal pipe. Not used.

c. PVC, Polyethylene, or Polypropylene pipe. Joints for PVC, Polyethylene, or Polypropylene pipe shall conform to the requirements of ASTM D3212 when leak resistant joints are required. Joints for PVC and Polyethylene pipe shall conform to the requirements of AASHTO M304 when soil tight joints are required. Fittings for polyethylene pipe shall conform to the requirements of AASHTO M252 or ASTM M294. Fittings for polypropylene pipe shall conform to ASTM F2881, ASTM F2736, or ASTM F2764.

d. Fiberglass pipe. Not used.

701-3.5 Embedment and Overfill. Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

701-3.5-1 Embedment Material Requirements

a. Concrete Pipe. Not used.

b. Plastic and fiberglass Pipe. Embedment material shall meet the requirements of ASTM D3282, A-1, A-2-4, A-2-5, or A-3. Embedment material shall be free of organic material, stones larger than 1.5 inches in the greatest dimension, or frozen lumps. Embedment material shall extend to 12 inches above the top of the pipe.

c. Metal Pipe. Not used.

701-3.5-2 Placement of Embedment Material

The embedment material shall be compacted in layers not exceeding 6 inches (150 mm) on each side of the pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm) above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

701-3.6 Overfill

Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be placed and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per ASTM D1557. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 Inspection Requirements

An initial post installation inspection shall be performed by the Contractor in the presence of the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

Use a camera with lighting suitable to allow a clear picture of the entire periphery of the pipe interior. Center the camera in the pipe both vertically and horizontally and be able to pan and tilt to a 90 degree angle with the axis of the pipe rotating 360 degrees. Use equipment to move the camera through the pipe that will not obstruct the camera's view or interfere with proper documentation of the pipe's condition. The video image shall be clear, focused, and relatively free from roll, static, or other image distortion qualities that would prevent the reviewer from evaluating the condition of the pipe.

Flexible pipes shall be inspected for rips, tears, joint separations, soil migration, cracks, localized buckling, settlement, alignment, and deflection.

701-3.8 Rip Rap. Slopes to be protected by rip rap shall be free of brush, trees, stumps and other organic material and be dressed to a smooth surface. All soft or spongy material shall be removed to the depth shown on the plans or as directed by the Engineer and replaced with approved material. A toe trench shall be dug when and as shown on the plans and maintained until the rip rap is placed.

Protection for structure foundations shall be provided as early as the foundation construction permits. The area to be protected shall be cleaned of waste materials and surfaces to be protected prepared as shown on the plans.

In some areas it will be necessary to remove existing cobbles and replace them with new cobbles.

The rip rap shall be placed on prepared areas in a manner which will produce a reasonably well-graded, uniform mass of cobbles. The rip rap protection shall be placed to its full course thickness in one operation and in such a manner as to avoid displacing underlying material. Placing of rip rap protection by methods likely to cause segregation will not be permitted.

The larger stones shall be well distributed, and the entire mass of stone shall conform approximately to the gradation specified. All rip rap shall be so placed and distributed that there will be no large accumulations of either the larger or smaller sizes of stone.

It is the intent of these specifications to produce a fairly compact rip rap protection in which all sizes of material are placed in their proper proportions. Hand placing or rearranging of individual stones by mechanical equipment may be required to the extent necessary to secure results specified.

Unless otherwise authorized by the Engineer, rip rap protection shall be placed in conjunction with construction of embankment with only sufficient lag in construction of the rip rap protection as may be necessary to allow for proper construction of the portion of the embankment protected and to prevent mixture of embankment and rip rap material. The Contractor shall maintain the rip rap protection until accepted, and any material displaced by any cause shall be replaced at no additional cost to the Owner.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The 12-inch and Double 6-inch HDPE pipe shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

701-4.2 Plastic flared end sections will be measured per each size installed.

701-4.3 Rip rap will be measured by the number of square yards furnished and installed. Rip rap shall be measured in its final in-place position.

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot for 12-inch HDPE Storm Drain pipe.

701-5.2 Payment will be made at the contract unit price for each flared end section of the specified size and type complete in place.

701-5.3 Payment will be made at the contract unit price per square yard of rip rap furnished and installed.

These prices shall be full compensation for removing, stockpiling, and replacing existing cobbles, or for furnishing and installing, hauling, and placing new cobbles, and for furnishing all materials and for all preparation, excavation, and placing the materials, and for all labor, equipment, tools, and incidentals necessary to complete the structure. No separate measurement or payment will be made to differentiate between reused cobbles on-site or new cobbles imported by the Contractor.

Payment will be made under:

Item D-701-5.1	12-inch HDPE Storm Drain - per linear foot
Item D-701-5.5	12-inch Plastic Flared End Sections – per each
Item D-701-5.6	Rip Rap – per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches

AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter
ASTM International (ASTM)	
ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers

ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications
National Fire Protection Association (NFPA)	
NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

END ITEM D-701

Item D-751 Manholes, Catch Basins, Inlets and Inspection Holes

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, 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 RPR.

MATERIALS

751-2.1 Brick. The brick shall conform to the requirements of ASTM C32, Grade MS.

751-2.2 Mortar. Mortar shall consist of one part Portland cement and two parts sand. The cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

751-2.3 Concrete. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 Precast concrete pipe manhole rings. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches (90 cm) nor more than 48 inches (120 cm). There shall be a gasket between individual sections and sections cemented together with mortar on the inside of the manhole. Gaskets shall conform to the requirements of ASTM C443.

751-2.5 Corrugated metal. Not used.

751-2.6 Frames, covers, and grates. The castings shall conform to one of the following requirements:

- a. ASTM A48, Class 35B: Gray iron castings
- b. ASTM A47: Malleable iron castings
- c. ASTM A27: Steel castings
- d. ASTM A283, Grade D: Structural steel for grates and frames
- e. ASTM A536, Grade 65-45-12: Ductile iron castings
- f. ASTM A897: Austempered ductile iron castings

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

751-2.7 Steps. The steps or ladder bars shall be gray or malleable cast iron or galvanized steel. The steps shall be the size, length, and shape shown on the plans and those steps that are not galvanized shall be given a coat of asphalt paint, when directed.

751-2.8 Precast inlet structures. Manufactured in accordance with and conforming to ASTM C913.

CONSTRUCTION METHODS

751-3.1 Unclassified excavation.

a. The Contractor shall excavate for structures and footings to the lines and grades or elevations, shown on the plans, or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the RPR may direct, in writing, changes in dimensions or elevations of footings necessary for 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 RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. Where 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 is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement 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 the structure.

d. All bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After excavation is completed for each structure, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

751-3.2 Brick structures. – Not Used

751-3.3 Concrete structures. Concrete structures which are to be cast-in-place within the project boundaries shall be built on prepared foundations, conforming to the dimensions and shape indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

All invert channels shall be constructed and shaped accurately to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped to the outlet.

751-3.4 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

Precast concrete structures shall conform to ASTM C478. Precast concrete structures shall be constructed on prepared or previously placed slab foundations conforming to the dimensions and locations shown on the plans. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily. Joints between precast concrete risers and tops shall be full-bedded in cement mortar and shall: (1) be smoothed to a uniform surface on both interior and exterior of the structure or (2) utilize a rubber gasket per ASTM C443. The top of the upper precast concrete section shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal or metal encapsulated steps that are embedded or built into the side walls shall be aligned and placed in accordance to ASTM C478. When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 Corrugated metal structures. Not used.

751-3.6 Inlet and outlet pipes. Inlet and outlet pipes shall extend through the walls of the structures a sufficient distance beyond the outside surface to allow for connections. They shall be cut off flush with the wall on the inside surface of the structure, unless otherwise directed. For concrete or brick structures, mortar shall be placed around these pipes to form a tight, neat connection.

751-3.7 Placement and treatment of castings, frames, and fittings. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the RPR, and shall be set true to line and elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are placed on previously constructed masonry, the bearing surface of the masonry shall be brought true to line and grade and shall present an even bearing surface so the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed by the RPR. All units shall set firm and secure.

After the frames or fittings have been set in final position, the concrete or mortar shall be allowed to harden for seven (7) days before the grates or covers are placed and fastened down.

751-3.8 Installation of steps. The steps shall be installed as indicated on the plans or as directed by the RPR. When the steps are to be set in concrete, they shall be placed and secured in position before the concrete is placed. When the steps are installed in brick masonry, they shall be placed as the masonry is being built. The steps shall not be disturbed or used until the concrete or mortar has hardened for at least seven (7) days. After seven (7) days, the steps shall be cleaned and painted, unless they have been galvanized.

When steps are required with precast concrete structures they shall meet the requirements of ASTM C478. The steps shall be cast into the side of the sections at the time the sections are manufactured or set in place after the structure is erected by drilling holes in the concrete and cementing the steps in place.

When steps are required with corrugated metal structures, they shall be welded into aligned position at a vertical spacing of 12 inches (300 mm).

Instead of steps, prefabricated ladders may be installed. For brick or concrete structures, the ladder shall be held in place by grouting the supports in drilled holes. For metal structures, the ladder shall be secured by welding the top support to the structure and grouting the bottom support into drilled holes in the foundation or as directed by the RPR.

751-3.9 Backfilling.

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, 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 and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

751-3.10 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 embankments, shoulders, or as approved by the RPR. 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.

751-3.11 Adjust existing structures to grade. Not applicable.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, and inspection holes shall be measured by the unit.

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751-5.3	Inlets – per each
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REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C32	Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
ASTM C478	Standard Specification for Precast Reinforced Concrete Manhole Sections
ASTM C913	Standard Specification for Precast Concrete Water and Wastewater Structures.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M36	Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains
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Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not perform as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

All LED light fixtures must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics.

125-2.2 Conduit/Duct. Not used.

125-2.3 Cable and Counterpoise. Not used.

125-2.4 Tape. Not used.

125-2.5 Cable Connections. Not used.

125-2.6 Retroreflective Markers. L-853 Retroreflective markers shall be Cylindrical Type II Markers, 18" height", and shall conform to the requirements of AC 150/5345-39. Markers and anchors shall be as shown on the plans.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

125-3.2 Testing. Not Used.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

METHOD OF MEASUREMENT

125-4.1 Reflective markers will be measured by the number installed as completed units in place, ready for operation, and accepted by the RPR.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each complete reflective marker, installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

Payment will be made under:

Item L-125-5.2 L-853 Retroreflective Markers, 18-inch – per each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures
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APPENDIX A
CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

APPENDIX A

**NEVADA COUNTY AIRPORT
NEVADA COUNTY, CALIFORNIA**

**RECONSTRUCT RAMP 4 TAXILANES
CRACK REPAIR RAMP 4 TAXILANES
RECONSTRUCT RAMP 4 ACCESS ROAD**

AIP NO. 3-06-0095-____-2025

CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

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**January 21, 2025
Updated February 6, 2025**

APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

Table C-1. CSPP Checklist

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>	X			
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>	X			
Scheduling of the construction phases is properly addressed.	<u>2.6</u>	X			
Any formal agreements are established.	<u>2.5.3</u>			X	
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	<u>2.7.1</u>	X			
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>	X			
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>	X			
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>	X			
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>	X			
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>	X			
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>	X			
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>	X			
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>	X			
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>	X			
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>	X			
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	<u>2.8</u>	X			
Protection of NAVAID facilities is addressed.	<u>2.8</u>	X			
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>	X			
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>	X			
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>			X	
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>	X			
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>	X			
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>	X			
Construction site parking is addressed.	<u>2.9.2.1</u>	X			
Construction equipment parking is addressed.	<u>2.9.2.2</u>	X			
Access and haul roads are addressed.	<u>2.9.2.3</u>	X			
A requirement for marking and lighting of vehicles to comply with <u>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</u> , is included.	<u>2.9.2.4</u>	X			
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>	X			
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>	X			
Two-way radio communications procedures are described.	<u>2.9.2.9</u>	X			
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>	X			
Wildlife Management					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator’s FOD management procedures are addressed.	<u>2.11</u>	X			
Hazardous Materials Management					
The airport operator’s hazardous materials management procedures are addressed.	<u>2.12</u>	X			
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>	X			
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>	X			
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>			X	
A list of ATCT managers on duty is included.	<u>2.13.1</u>			X	
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>			X	
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>	X			
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>			X	
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>	X			
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>	X			
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>			X	
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1</u> , <u>2.14.2</u>	X			
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>	X			
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>	X			
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>	X			
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>	X			
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>	X			
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1</u> , <u>2.18.3</u> , <u>2.18.4.2</u> , <u>2.20.2.4</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>	X			
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>			X	
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>	X			
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>			X	
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>	X			
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>	X			
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>	X			
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>	X			
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>	X			
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>	X			
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>			X	
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>	X			
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>	X			
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>	X			
Markings for temporary closures are specified.	<u>2.20.2.5</u>			X	
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>			X	
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1,</u> <u>2.22.3.1</u>	X			
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2,</u> <u>2.22.3.2</u>			X	
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>			X	
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>	X			
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>	X			
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>	X			
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>	X			
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>	X			
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>	X			
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>	X			
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>	X			
Other Limitations on Construction					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>	X			
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>	X			

**NEVADA COUNTY AIRPORT
NEVADA COUNTY, CALIFORNIA**

**RECONSTRUCT RAMP 4 TAXILANES
CRACK REPAIR RAMP 4 TAXILANES
RECONSTRUCT RAMP 4 ACCESS ROAD**

AIP NO. 3-06-0095-__-2025

CONSTRUCTION SAFETY AND PHASING PLAN

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EXHIBIT 1 CONSTRUCTION SAFETY AND PHASING PLAN

EXHIBIT 2 CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

**NEVADA COUNTY AIRPORT
NEVADA COUNTY, CALIFORNIA**

**RECONSTRUCT RAMP 4 TAXILANES
CRACK REPAIR RAMP 4 TAXILANES
RECONSTRUCT RAMP 4 ACCESS ROAD**

AIP NO. 3-06-0095-__-2025

CONSTRUCTION SAFETY AND PHASING PLAN

INTRODUCTION

The County of Nevada, with Federal assistance from the Federal Aviation Administration under the Airport Improvement Program (AIP) and Airport Infrastructure Grant (AIG), proposes the reconstruction of Ramp 4 taxilanes, crack repair of Ramp 4 taxilanes, and reconstruction of the Ramp 4 access road at the Nevada County Airport, Grass Valley, Nevada County, 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 the County of Nevada, with regards to access onto air operations areas of Nevada County Airport, Grass Valley, California, during the construction of the subject project.

This Construction Safety and Phasing Plan is based on the guidance of FAA Advisory Circular 150/5370-2G, "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) Progress Meetings

The Sponsor will conduct predesign meetings, prebid meetings, preconstruction conferences, and weekly construction meetings to introduce and maintain 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, fixed base operators, FAA airport certification inspector, and the Program Manager of the FAA Airports District Office, as appropriate for the airport.

- Prebid Conference: This meeting will be held a minimum of 10 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 Project Representative (RPR), 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 FAA 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 RPR, 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 FAA.
- (c) FAA ATO Coordination: The VASIs and REILs will not be shut down during the construction work performed on this project. Coordination with FAA ATO will not be required.

(2) PHASING

There are 30 working days allowed for the construction of this project. The scope of work included in this project is as follows:

- Reconstruct Ramp 4 Taxiways (25' x 800' + 700 sq. yd.)
- Crack Repair Ramp 4 Taxiways (25' x 2,105' + 4,850 sq. yd.)
- Reconstruct Ramp 4 Access Road (200 sq. yd.)

- (a) Phasing Elements - The details of the phasing, including work restrictions, are shown on the Construction Safety and Phasing Plan Drawing, Exhibit 1, and as follows:

Phase	Contractor's Work Area	Facility Closure	Restrictions
1	Ramp 4 Taxilane within the Object Free Area of Taxiway A	Portion of Taxiway A from Taxiway D to Ramp 3, Ramp 4	Minimum notice of 2 weeks prior to closure. Work in Phases 1, 2, 3, & 4 may be done concurrently. 2 days of closure only for Phase 1
2	Ramp 4 outside the Object Free Area of Taxiway A	Ramp 4	Work in Phases 1, 2, 3, & 4 may be done concurrently.
3	Ramp 4 Taxilanes – Crack Seal	Ramp 4	Work in Phases 1, 2, 3, & 4 may be done concurrently.
4	Ramp 4 Taxilanes – Crack Seal and Alternate B1	Ramp 4	Work in Phases 1, 2, 3, & 4 may be done concurrently.

No work will be performed on Saturdays or Sundays.

Phase 4 work area will remain closed to all traffic after completing seal coat for 48 hours before marking can be installed.

Taxiway and ramp closures will occur for each phase of work. Contractor will submit a detailed work schedule at the Preconstruction Conference or two weeks prior to start of work, whichever is greater. The schedule will show the limits of the proposed work and the locations of barricades. All schedules will be updated and coordinated with the Airport Manager and the RPR in order to NOTAM closures. The Airport Manager will issue the appropriate NOTAMs for the airfield closures.

All phase layouts, barricade layouts, signs to be covered, flagger positions, and aircraft travel routes will be coordinated with the Airport Manager prior to start of work in each phase. Contractor will give the Airport two weeks' notice prior to the start of construction for each phase to allow hangar owners to coordinate the relocation of aircraft from hangars adjacent to closed taxilanes to available apron tie down locations.

The Contractor will be required to give the Airport two weeks' notice prior to start of construction.

- (b) Construction Safety Drawings - The scope of the project and details of the phasing are shown on Exhibit 1, Construction Safety and Phasing Plan.

(3) AREAS AND OPERATIONS AFFECTED BY CONSTRUCTION

- (a) Identification of Affected Areas. All areas affected by the construction activity in this project are shown on the Construction Safety and Phasing Plan, Exhibit 1. Identified on this drawing are barricading of work areas; Aircraft Rescue and Fire Fighting (ARFF) access routes; and access routes to be used by aircraft and the contractor. The underground utilities affected by this contract are shown on this Drawing. Also shown are approach/departure surfaces affected by heights of construction equipment and other temporary objects. Construction areas, storage areas, and Contractor haul/access routes 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 airport will remain open during the construction of this project. Taxiways and ramps will be closed at various times during the construction of this project as shown in the table in Article 2(a) of this Construction Safety and Phasing Plan.

Construction will be limited to no closer than 60 feet from the active runway centerline and 44.5 feet from the active taxiway centerline, unless the surface is closed or restricted to aircraft operations. The runway safety area from the runway threshold will be maintained at 240 feet, unless the runway is closed or restricted to aircraft operations.

Aircraft operations on the airport must be maintained at all times in all areas except those that are specifically designated for closure. Any areas that are closed during the time work is performed will be marked with lighted barricades as shown on the Construction Safety and Phasing Plan, Exhibit 1, and as directed by the RPR.

Work within the RSA of Runway 7-25 and/or the TOFAs of Taxiway A and the cross taxiways will be done with these surfaces closed and proper NOTAMs will be filed by the airport operator.

Runway 7-25 will remain open at all times. Contractor will at no time occupy or travel on Runway 7-25 unless directed by Airport Manager or RPR.

Pull back operations are not allowed. If the contractor is working on a runway/taxiway or in the RSA/TSA/TOFA, the surface will be closed.

The Airport Owner will provide a qualified flagger to monitor Airport frequency 122.725 MHz and observe aircraft operations at all times when Contractor is working near active taxiways or the runway. All personnel and equipment will remain 125 feet from runway centerline unless working in the area. Contractor will not be allowed to cross open Runway 7-25.

(2) Modifications to Aircraft Operation:

Phase 1 will require closure of a portion of Taxiway A. Closure of Taxiway A may require aircraft to back taxi on the runway in order to relocate from one end of the airport to the other.

(3) Detours for Fire Department and Other Airport Vehicles:

All Fire Department and other airport vehicles will have access to all areas on the airport during construction of this project except those areas of the airport that are closed for construction operations. The detour route for these vehicles is shown in blue on the Construction Safety and Phasing Plan.

(4) Maintenance of Essential Utilities and Underground Infrastructure:

Underground infrastructure that will be affected by this project will be the electrical cable and duct. It will be necessary during this project to protect all utilities and underground infrastructure.

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.

(5) Temporary Changes to Air Traffic Control Procedures.

Nevada County Airport does not have an Air Traffic Control Tower. Prior to any construction, a NOTAM will be issued identifying areas of closure and times of closures. The RPR, 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 facility closures, or other safety related items.

(4) NAVAID PROTECTION

There are navigational aids (NAVAIDs) existing on this airport. These NAVAIDs and corresponding critical areas are shown on the Construction Safety and Phasing Plan Drawing, Exhibit 1. Such facilities must be fully protected during the entire construction time period.

(a) NAVAIDs Affected by Construction

NAVAIDs on the airport consist of VASIs and REILs on Runways 7 and 25. None of these items will be affected by construction.

(b) NAVAIDs Placed out of Service

No NAVAIDs will be placed out of service during the construction of this project.

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.

(c) Protection of NAVAIDs Remaining in Service

The Contractor will be limited to no closer than 45 feet from the NAVAID facilities as shown on the CSPP drawing. Work under this contract can be accomplished in the vicinity of these facilities only at approved periods of time. Approval will be subject to withdrawal at any time because of changes in weather, emergency conditions on the existing airfield areas, anticipation of emergency conditions, and for any other reason determined by the RPR acting under the orders and instructions of the airport management. Any instructions to the Contractor to clear any given area, at any time, by the RPR or Airport Management (by radio or other means) shall be immediately executed. Construction work will be commenced in the cleared area only when additional instructions are issued by the proper authorities.

(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. These facilities will not be affected by the construction of this project.

(f) Temporary NAVAIDs

No temporary NAVAIDs will be required during the construction of this project.

(5) CONTRACTOR ACCESS

(a) Stockpiled Construction Materials

The contractor will be allowed to temporarily stockpile construction materials in the Contractor's Storage and Staging Areas as shown on the CSPP Drawing, Exhibit 1. All stockpiled materials will be removed prior to completion of the project and any damage to the pavements caused by the Contractor will be repaired at the Contractor's expense.

Contractor's Storage and Staging Area location will be designated by the Airport Manager. Contractor will clear and grade the area for storage. No separate payment for clearing and grading this area will be made. The area will be restored to its original condition once the project is complete.

Stockpiled materials will not be permitted within the Runway Safety Area (RSA) and Object Free Zone (OFZ). If it becomes necessary to stockpile materials in the Runway Object Free Area (ROFA), the Sponsor will submit a 7460-1 form to the FAA Airports District Office in Walnut Creek, California.

Stockpiles will be limited to a height of 6 feet, will be graded to drain, and will be clearly marked and lighted during hours of restricted visibility or darkness in accordance with Article 16 of this CSPP. The Contractor will determine and verify that stockpiled materials are stabilized and stored at the approved location shown on the CSPP drawing so as not to be a hazard to aircraft operations and to prevent attraction of wildlife (see Article 6) and foreign object damage (see Article 7).

Contractor will be responsible for maintaining the security, safety, and cleanliness of the work site and Contractor's Storage and Staging Areas at all times.

(b) Vehicle and Pedestrian Operations

It is critical that all pedestrians and vehicles are prevented from unauthorized entry to the Air Operations Area (AOA). The Construction Safety and Phasing Plan clearly delineates the designated access and haul routes for each phase, 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.

Vehicle parking areas will not impact NAVAID signals or penetrate FAR Part 77 imaginary surfaces.

Employee parking and construction vehicle parking will be restricted to the Contractor's Storage and Staging 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 Loma Rica Drive onto Nevada City Avenue as shown on the CSPP drawing. All haul roads will be kept broom clean. Haul routes are indicated in red on the CSPP drawing, Exhibit 1. Contractor will maintain haul road on paved surfaces clear of debris at all times.

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 and night operations Contractor vehicles and equipment will be equipped with an amber flashing beacon 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 cross an active pavement without an escort.

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) Two-Way Radio Communications

Vehicular traffic located in or crossing an active movement area will have a working two-way radio tuned to Unicom frequency 122.725 MHz or be escorted by an 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-furnished flagger is present to control operations. Two-way radio communications are required on Unicom frequency 122.725 MHz. Continuous monitoring is required. The Airport's flagger will be the project engineer's specialist. These flaggers will be trained on all movement area procedures.

The Contractor will provide a qualified flagger to be trained by Airport staff to monitor aircraft traffic frequency 122.725 MHz and escort any vehicles crossing active airfield taxiways or ramps. Contractor's flagger will be approved by the Airport. Aircraft will have the right of way at all times. The Contractor's flagger will be stationed in the locations shown on the Construction Safety and Phasing Plan, Exhibits 1.

(d) Airport Security

There is a security fence and gates around the property of this airport. The gate used by the Contractor will be the gates located as shown on Exhibit 1 and will be kept locked except for entrance of approved personnel and equipment or will be manned by Contractor-furnished trained flaggers to control entrance to the airport. Access to the site is through Gate V7. Access to the Contractor's Storage and Staging Area is through Gate V6, south of Ramp 5. The security fence, designated Contractor gate, and secure areas on the airport are shown on the CSPP Drawing. All contractor's flaggers will be trained 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 6-foot chain link 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 an contractor-furnished 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:

- a. Trash – Food scraps will be collected from construction personnel activity.
- b. Standing water
- c. Disruption of existing wildlife habitat.
- d. Open trenches, excavation, and stockpile materials.
- e. Poorly maintained fencing and gates.

Waste containers will be equipped with lids and secured at all times. No trash or debris will be left on site by the Contractor.

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 RPR as discussed in Article 10 of this CSPP.

When working adjacent to Taxiway A, Contractor will keep the pavement of the taxiway broom clean at all times. Contractor will maintain apron and taxilanes broom clean at all times. Contractor will protect existing pavements from damage.

The Contractor will maintain the haul roads 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.

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 Nevada County Airport.

Sponsor:

Kevin Edwards, Airport Manager.....(530) 273-3374

F.A.A.

Roy Ambrose, Program Manager/Civil Engineer.....(925) 546-6442

Resident Project Representative (RPR)

Damon Brandley, Project Manager..... (916) 652-4725 Office

.....(916) 316-0544 Cell

Tom Steinkamp, RPR (916) 652-4725 Office

.....(916) 622-5478 Cell

At the start of construction the Contractor will be required to provide the RPR 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. Kevin Edwards, Airport Manager, will be the primary contact 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
Airport Radio Communication (Article 5 of CSPP)	122.725 Mhz
Grass Valley Fire Department	(530) 274-4870
Nevada County Consolidated Fire District	(530) 265-4431
Nevada County Sheriff – Non Emergency	(530) 265-1471
Sierra Nevada Memorial Hospital – Non Emergency	(530) 274-6000
Poison Control	(800) 222-1222

(d) Coordination with Fire Department Personnel:

The Contractor will be required to notify Airport and/or Fire Department personnel if any water lines or fire hydrants are damaged or deactivated. The Contractor will also notify Airport and/or Fire Department 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 the Fire Department is (530) 274-4870 and the contact person is Dispatcher on Duty. Contractor will confirm in writing the date and time Fire Department was notified and the contact person.

(e) Notification to the FAA:

Part 77. The Contractor will coordinate with the RPR who will file a 7460-1 form with the F.A.A. Airports District Office in Walnut Creek if any construction equipment (i.e. cranes, graders, other equipment) affects navigable airspace as defined in FAR Part 77.

(10) INSPECTION REQUIREMENTS

The Airport will provide an RPR 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 RPR and to report any and all deviations from the Drawings, Specifications, and other Contract provisions that may come to his/her notice. The RPR 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.

- i. Daily Inspections. Daily inspections will be conducted to ensure conformance with the CSPP. Exhibit 2 of this CSPP includes a Construction Project Daily Safety Inspection Checklist for this purpose.
- ii. 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 RPR, 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/Gas – Pacific Gas & Electric (PG&E)	(800) 655-7732
Sewer – Nevada County Sanitation	(530) 265-1411
Water – Nevada Irrigation District	(530) 273-6185
Telephone – AT&T.....	(800) 222-0400

Refer to Article 9 of this CSPP for procedures for contacting the Fire Department and FAA in case of interruption of water service and NAVAIDs, respectively.

(12) PENALTIES

If in the opinion of Airport Management or the RPR, 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 RPR 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 required 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, 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 anywhere 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.

If in the event of an emergency Cal Fire aircraft dispatchment, Contractor will immediately clean and open Work Area 1 in a manner that will provide the firefighting aircraft runway access. Work may occur in Work Area 2.

Contractor will be responsible for dust and erosion control during the duration of the project.

Contractor will protect all property corner markers and benchmarks from damage.

(14) RUNWAY AND TAXIWAY VISUAL AIDS

There exist on the airport runway and taxiway marking, runway and taxiway lights and signs, and visual NAVAIDS. These facilities are shown on the attached Construction Safety and Phasing Plan Drawing, Exhibit 1. 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 will not be necessary to install temporary marking, lights, signs, or visual NAVAIDS during the construction of this project.

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*.

During construction of this project, it will be necessary to cover the sign panels of airfield guidance signs as shown on Exhibit 1. The airfield guidance sign panels will be covered in such a

way that the panels are not visible during day or night operations. Covers will be secured to the sign to resist prop blast and weather conditions. Sign covers will be placed each workday before beginning work and removed each workday after work is complete. All sign covers will be approved by RPR.

(15) MARKING AND SIGNS FOR ACCESS ROUTES

The marking and signing for access routes to the construction site is shown on the Construction Safety and Phasing Plan. 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, LIGHTING, AND SIGNING

The airport will be open during construction of the work on this project. The Contractor will furnish, erect, and maintain hazard marking and lighting at the boundary of the work area to keep aircraft 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 operations. Hazard marking and lighting will also be placed to identify small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. The locations and details of barricades to be placed in this project are shown on the Construction Safety and Phasing Plan, Exhibit 1.

The barricades will be plastic water-filled lighted barricades as shown on the Construction Safety and Phasing Plan, Exhibit 1. Each barricade will have two solar-powered lights with red lenses each controlled by photocells such that they are on continuous at night and off by day. Maximum spacing between barricades will be four (4) feet. Spacing will be such that a breach is physically prevented barring a deliberate act. Barricades will be secured if necessary to resist movement from jet blast or prop blast. Barricades will have alternate orange and white diagonal striping. The barricades will be supplemented with signs such as "No Entry" and/or "No Vehicles," as necessary. All barricades will be drained of water and removed from the airport at the completion of the contract.

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.

Barricades are not permitted in any active safety area on the runway side of a runway hold line.

(17) PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS

No construction may occur within a runway safety area (RSA), taxiway safety area (TSA), or taxiway object free area (TOFA) 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) and runway approach surfaces, are shown on the Construction Safety and Phasing Plan, Exhibit 1.

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 at night 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 CSPP for details of Hazard Marking and Lighting.

Closure of a portion of Taxiway A during Work Phase 1 will only be in place during working hours. Contractor will be required to provide a temporary grade slope of no greater than five percent (5%) of all materials (existing or imported) within 29 feet of pavement edge. Graded slope will be installed before the end of each working day and prior to reopening the closed portion of Taxiway A. A maximum vertical edge of 3 inches will be allowed to remain once the aggregate base is installed and compacted adjacent to Taxiway A.

No drop-off greater than 3 inches will be allowed to exist within the RSA or TSA 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 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.

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 122.725 MHz and will control Contractor's personnel and equipment operations in these secure areas. 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 125 feet from the centerline of Runway 7-25. At night and weekends all Contractor's equipment shall be moved to the Contractor's Storage and Staging 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.

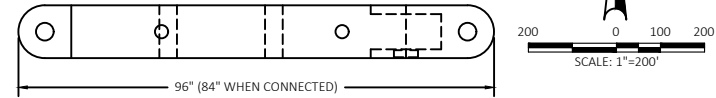
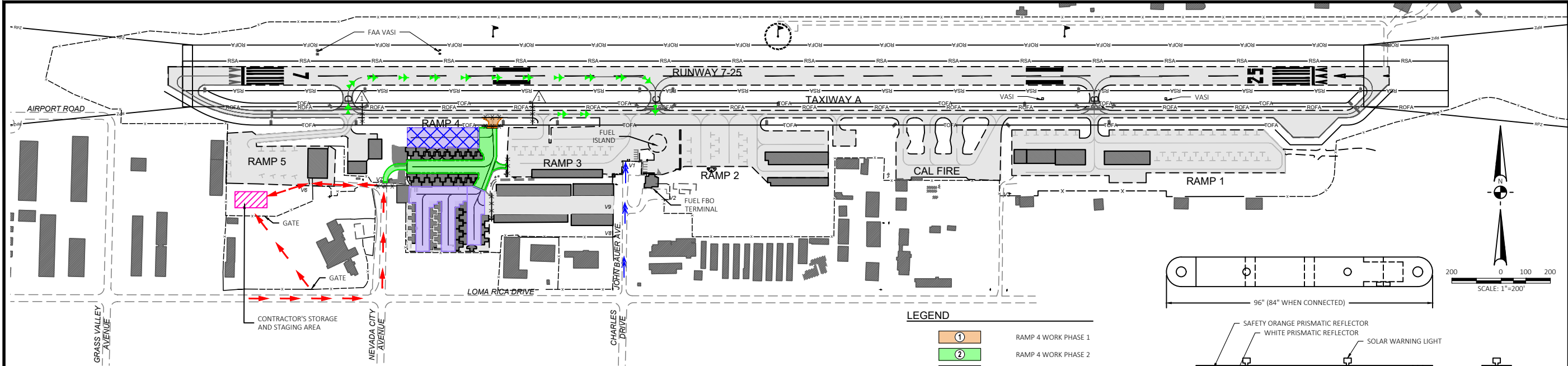
(18) OTHER LIMITATIONS ON CONSTRUCTION

Additional limitations on construction include, but are not limited to:

1. 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. Contractor must allow for up to 50 working days after the request to use equipment taller than 25 feet to allow for FAA to make a determination on a 7460-1.
2. No use of open flame welding or torches unless fire safety precautions are provided, and the airport operator has approved their use.
3. No use of electrical blasting caps on or within 1,000 feet of the airport property.
4. No use of flare pots within the air operations area.

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10" WATER-FILLED BARRICADE
NOT TO SCALE

- BARRICADE NOTES:**
- CONTRACTOR WILL FURNISH, INSTALL, AND MAINTAIN PLASTIC WATER-FILLED LIGHTED BARRICADES.
 - EACH BARRICADE SHALL HAVE 2 SOLAR-POWERED LIGHTS WITH RED LENSES EACH CONTROLLED BY PHOTOCELLS SUCH THAT THEY ARE ON CONTINUOUS AT NIGHT AND OFF BY DAY.
 - BARRICADES SHALL BE SECURED IF NECESSARY TO RESIST MOVEMENT FROM JET BLASTS OR PROP BLAST.
 - LOCATE BARRICADES AS SHOWN ON THE PLAN AND DIRECTED BY RESIDENT PROJECT REPRESENTATIVE. SPACING BETWEEN BARRICADES SHALL NOT EXCEED 4 FEET. SEE PHASING PLANS FOR LOCATIONS.
 - AT THE COMPLETION OF THE CONSTRUCTION, ALL BARRICADES SHALL BE DRAINED OF WATER AND REMOVED FROM THE AIRPORT.

LEGEND

- ① RAMP 4 WORK PHASE 1
- ② RAMP 4 WORK PHASE 2
- ③④ RAMP 4 WORK PHASE 3 & 4
- CONTRACTOR'S STORAGE AREA
- EXISTING BUILDING
- EXISTING EDGE OF PAVEMENT
- RSA
- ROFA
- RPZ
- TOFA
- AR
- V1
- *****

CTAF/UNICOM: 122.725

GENERAL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE SECURITY AND CLEANLINESS OF THE WORK SITE AND CONTRACTOR'S STORAGE AREA AT ALL TIMES.
- CONTRACTOR SHALL MAINTAIN HAUL ROAD AND PAVED SURFACES CLEAN OF DEBRIS AT ALL TIMES. APRON AND TAXIWAYS SHALL BE MAINTAINED BROOM CLEAN.
- AIRPORT OWNER WILL PROVIDE A QUALIFIED FLAGMAN TO MONITOR AIRPORT FREQUENCY 122.725 MHZ AND OBSERVE AIRCRAFT OPERATIONS WHEN CONTRACTOR IS WORKING NEAR ACTIVE TAXIWAYS AND RUNWAYS.
- TAXIWAY AND RAMP CLOSURES SHALL OCCUR FOR EACH PHASE OF WORK. CONTRACTOR SHALL SUBMIT DETAILED WORK SCHEDULE AT PRE-CONSTRUCTION MEETING OR TWO WEEKS PRIOR TO START OF WORK, WHICHEVER IS GREATER. AIRPORT MANAGER WILL ISSUE THE APPROPRIATE NOTAMS FOR TAXIWAY AND RAMP CLOSURES.
- CONTRACTOR SHALL LIMIT ALL CONSTRUCTION VEHICLE ACTIVITY TO THE LIMITS OF THE PROJECT AND THE HAUL ROAD SHOWN ON THE PLANS. NO CONSTRUCTION TRAFFIC WILL BE ALLOWED BEYOND THE LIMITS OF THE WORK AREA.
- CONTRACTOR SHALL FURNISH, ERECT & MAINTAIN LIGHTED BARRICADES AT THE BOUNDARY OF THE WORK AREA TO KEEP VEHICLES AND AIRCRAFT FROM ENTERING THE CONTRACTOR'S WORK AREAS.
- CONTRACTOR SHALL COVER SIGNS TO CLOSED FACILITIES AS INDICATED ON THE CLOSED FACILITY SIGNAGE TABLE ON PHASE BARRICADE PLANS. SIGNS PANELS SHALL BE COVERED SUCH THAT THE PANEL IS NOT VISIBLE DURING DAY OR NIGHT OPERATIONS. COVERS SHALL BE SECURED TO SIGN TO RESIST PROP BLAST AND WEATHER CONDITIONS. ALL SIGN COVERS SHALL BE APPROVED BY RESIDENT ENGINEER.
- CONTRACTOR SHALL PROTECT ALL PROPERTY CORNER MARKERS AND BENCH MARKS FROM DAMAGE.
- CONTRACTOR SHALL VERIFY LOCATION AND PROTECT ALL EXISTING UTILITIES.
- SHOULD CONTRACTOR ENCOUNTER AND DAMAGE A WATERLINE ON THE AIRPORT HE SHALL IMMEDIATELY NOTIFY THE LOCAL FIRE DEPARTMENT AND THE AIRPORT.

- 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 LIFESAVING ACTIVITIES.
- ALL GATES USED BY THE CONTRACTOR SHALL REMAIN CLOSED AT ALL TIMES EXCEPT WHEN AUTHORIZED EQUIPMENT IS ACTUALLY ENTERING THE AIRPORT OR GATE IS CONTINUOUSLY GUARDED BY A FLAGGER, TRAINED BY THE AIRPORT, TO KEEP UNAUTHORIZED PERSONNEL AND WILDLIFE FROM ENTERING THE AIRPORT.
- CONTRACTOR'S STORAGE AND STAGING AREA LOCATION SHALL BE DESIGNATED BY THE AIRPORT MANAGER. CONTRACTOR SHALL CLEAR & GRADE AREA FOR STORAGE. NO SEPARATE PAYMENT FOR CLEARING & GRADING. AREA SHALL BE RESTORED TO ITS ORIGINAL CONDITION ONCE PROJECT IS COMPLETE.
- ALL EQUIPMENT OPERATING DURING DAYLIGHT HOURS SHALL BE EQUIPPED WITH AN ORANGE AND WHITE CHECKERED FLAG OR FLASHING AMBER BEACON. EQUIPMENT OPERATING IN LOW VISIBILITY CONDITIONS, DAWN OR DUSK HOURS SHALL BE EQUIPPED AND USE AN AMBER FLASHING 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 BY THE CONTRACTOR.
- SEE SHEET 4 FOR BID SCHEDULE IDENTIFICATION DETAILS.

SEEDING NOTES:

- AT THE CONCLUSION OF ALL WORK, CONTRACTOR SHALL SEED CONTRACTOR'S STORAGE, STAGING AND TEMPORARY STOCKPILE AREA AND ALL DISTURBED GRADING OR EMBANKMENT AREAS. LIMITS OF SEEDING SHALL BE VERIFIED BY RESIDENT ENGINEER. HYDROSEEDING SHALL BE A REQUIRED BMP TO BE INCLUDED IN THE SWPPP. NO ADDITIONAL PAYMENT FOR SURFACE PREPARATION OR SEEDING OF DISTURBED AREAS SHALL BE MADE, COST SHALL BE INCLUDED IN THE COST OF PREPARING AND IMPLEMENTING THE SWPPP. HYDROSEEDING MUST PRODUCE ADEQUATE GROWTH TO SATISFY THE STATE WATER BOARD SUCH THAT THE SWPPP CAN BE CLOSED OUT AFTER THE PROJECT IS COMPLETE.
- SEED MIX SHALL BE:

SEED	RATE OF APPLICATION (LBS/ACRE)
ZORRO ANNUAL FESCUE	6
ROSE CLOVER	9
FERTILIZER MULCH	AS NEEDED TO PROVIDE ADEQUATE GROWTH/STABILIZATION

WORK PHASING SCHEDULE

PHASE	CONTRACTOR'S WORK AREA	FACILITY CLOSURE	RESTRICTIONS
①	RAMP 4 INSIDE THE OBJECT FREE AREA OF TAXIWAY A	PORTION OF TAXIWAY A FROM TAXIWAY D TO RAMP 3	MINIMUM NOTICE OF 2 WEEKS PRIOR TO CLOSURE. WORK IN PHASE 1, 2, 3 & 4 MAY BE DONE CONCURRENTLY. 2 DAYS OF CLOSURE ONLY FOR PHASE 1.
②	RAMP 4 OUTSIDE THE OBJECT FREE AREA OF TAXIWAY A	RAMP 4	WORK IN PHASE 1, 2, 3 & 4 MAY BE DONE CONCURRENTLY.
③	RAMP 4 TAXILANES - CRACK SEAL	RAMP 4	WORK IN PHASE 1, 2, 3 & 4 MAY BE DONE CONCURRENTLY.
④	RAMP 4 TAXILANES - CRACK SEAL & ALTERNATE B1	RAMP 4	WORK IN PHASE 1, 2, 3 & 4 MAY BE DONE CONCURRENTLY.

PHASING NOTES:

- CONTRACTOR SHALL FURNISH, PLACE, MAINTAIN & REMOVE BARRICADES AS REQUIRED.
- ACCESS TO SITE IS THROUGH GATE V7. ACCESS TO THE CONTRACTOR'S STORAGE AND STAGING AREA IS THROUGH GATE V6, SOUTH OF RAMP 5.
- THERE ARE FOUR WORK PHASES FOR THIS PROJECT. WORK PHASE 1 IS RECONSTRUCT RAMP 4 OUTSIDE OF TAXIWAY A OBJECT FREE AREA. WORK PHASE 3 IS THE CRACK SEAL OF THE RAMP 4 TAXILANES. WORK PHASE 4 IS THE CRACK SEAL/SURFACE SEAL OF RAMP 4 TAXILANES.
- NO WORK SHALL BEGIN UNTIL ALL BARRICADES HAVE BEEN INSTALLED TO CLOSE THE WORK AREA AS SHOWN ON THE PLAN.
- WORK PHASE 1 WILL REQUIRE CLOSURE OF A PORTION OF TAXIWAY A. CLOSURE OF TAXIWAY A MAY REQUIRE AIRCRAFT TO BACK TAXI ON THE RUNWAY IN ORDER TO RELOCATE FROM ONE END OF THE AIRPORT TO THE OTHER.
- CLOSURE OF A PORTION OF TAXIWAY A FOR WORK PHASE 1 WILL ONLY BE IN PLACE DURING WORKING HOURS.
- PHASE 4 WORK AREA SHALL REMAIN CLOSED TO ALL TRAFFIC AFTER COMPLETING SEAL COAT FOR 48 HOURS BEFORE MARKING CAN BE INSTALLED.
- CONTRACTOR SHALL GIVE AIRPORT 2 WEEKS NOTICE PRIOR TO START OF CONSTRUCTION.

SCHEDULE A
SCHEDULE B
ALTERNATE A1
ALTERNATE B1



ENGINEER OF RECORD

REVISIONS

NO

DATE 2/7/2025
DRAWN TS
CHECKED DB
PROJECT No. 36.07
FILE 3607.02.CSPP
SCALE 1"=200'
SHEET No.
EXHIBIT 1

NEVADA COUNTY AIRPORT

RECONSTRUCT RAMP 4, CRACK SEAL RAMP 4
TAXILANES & RECONSTRUCT RAMP 4 ACCESS ROAD

CONSTRUCTION SAFETY AND PHASING PLAN

BRANDLEY
ENGINEERING

6125 KING ROAD, SUITE 201 - LOOMIS, CALIFORNIA 95650 - (916) 652-4725

APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Table D-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

APPENDIX B
CONSTRUCTION MANAGEMENT PLAN

APPENDIX B

**NEVADA COUNTY AIRPORT
GRASS VALLEY, NEVADA COUNTY, CALIFORNIA**

**RECONSTRUCT RAMP 4 TAXILANES
RECONSTRUCT RAMP 4 ACCESS ROAD
CRACK REPAIR RAMP 4 TAXILANES**

AIP NO. 3-06-0095-0__-2025

CONSTRUCTION MANAGEMENT PLAN

Prepared by:

**Brandley Engineering
6125 King Road, Suite 201
Loomis, CA 95650
Telephone (916) 652-4725
Fax (916) 652-9029**

February 6, 2025

**NEVADA COUNTY AIRPORT
GRASS VALLEY, NEVADA COUNTY, CALIFORNIA**

**RECONSTRUCT RAMP 4 TAXILANES
RECONSTRUCT RAMP 4 ACCESS ROAD
CRACK REPAIR RAMP 4 TAXILANES**

AIP NO. 3-06-0095-0__-2025

CONSTRUCTION MANAGEMENT PLAN

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I. INTRODUCTION

I. INTRODUCTION

The County of Nevada proposes the construction of the following facilities at the Nevada County Airport, Grass Valley, Nevada County, California.

Schedule A

- Reconstruct Ramp 4 Taxilanes (25' x 800' + 700 sq. yd.)

Alternate A1

- Reconstruct Ramp 4 Access Road (315 sq. yd.)

Schedule B & Alternate B1

- Crack Repair Ramp 4 Taxilanes (25' x 1,300' + 3,900 sq. yd.)

The 2021 PMMP indicates that a portion of Ramp 4 will fail due to deep seated distress in 2025. It will be necessary to reconstruct these pavements prior to the failure date. It would have been ideal to reconstruct this pavement in 2023, but due to funding availability it has been moved to 2025 and cannot be delayed past that date. Portions of this area are between hangars and some of the pavement area will not be AIP eligible, but the same design effort is required thus the complete design will be AIP eligible. The PCI of these pavements is 28.

The remaining pavements on Ramp 4 that are not failing due to deep seated distress have a PCI ranging between 28 and 64. These pavements have light block cracks with a 10' spacing. The 2021 PMMP has recommended that a crack seal project be completed to maintain these pavements.

The 2021 PMMP indicates that the access road to Ramp 4, inside the airport fence, will fail due to deep seated distress in 2025. It will be necessary to reconstruct these pavements prior to the failure date. It would have been ideal to reconstruct this pavement in 2023, but due to funding availability it has been moved to 2025 and cannot be delayed past that date. The PCI of these pavements is 28. New airfield markings will be installed.

The Sponsor is committed to providing and maintaining competent technical supervision at the construction site throughout the project to assure conformance with the approved plans and specifications. A Construction Management Plan has been prepared 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.

II. CONSTRUCTION MANAGEMENT PERSONNEL

II. CONSTRUCTION MANAGEMENT PERSONNEL

Quality Assurance (QA) Program – Sponsor Responsible

Sponsor: County of Nevada, Nevada County Airport, 13083 John Bauer Avenue, Grass Valley, CA 95945, Telephone (530) 470-2839

Sponsor Representative.....Kevin Edwards, Airport Manager
Responsibility and authority for contract administration

Consulting Engineer: Brandley Engineering, 6125 King Road, Suite 201, Loomis, CA 95650, Telephone (916) 652-4725, Fax (916) 652-9029

Project Manager, Principal Engineer..... R Damon Brandley, P.E.

- Advise and consult with Sponsor.
- Resolve any 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.
- 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.
- Review materials, equipment and performance tests for compliance with plans and specifications.

Resident Project Representative (RPR)/QA Manager David Baltazar, E.I.T.

- 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.
- Provide complete construction management services, including providing all resident engineering, 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.
- Review asphalt mix design submitted by the contractor.
- Attend weekly construction meetings.
- Determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for under the contract.
- Approve applications for progress payments made by Contractor.
- Review and approve all Contractor submittals.
- 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 RPR, 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.....To Be Determined as Needed

- Assist the RPR 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: _____ *To Be Determined*

Project Superintendent To Be Determined

- Monitor quality control plan.
- Prepare asphalt mix design based on test results from an ASTM-certified laboratory.
- Analyze test results.
- Prepare daily and weekly summary and final summary test reports.
- Transmit test results to home office with copies to RPR.
- Make and implement corrective decisions.
- Supervise all employees and subcontractors.
- Prepare and transmit to RPR all required submittals.

Quality Control Manager..... To Be Determined

- Administer quality control plan.
- Prepare and submit Quality Control Program.
- Perform quality control tests on subbase course, aggregate base course, bituminous surface course, and Portland cement concrete.
- 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 RPR.
- Provide weekly typewritten summaries of all test results for each material tested to RPR.
- 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, cement content, and temperature of the mix.
- Report all test data plus mix and cement 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 RPR vendors’ certificates of compliance with specification requirements. Vendors’ certificates will be required for the following items:

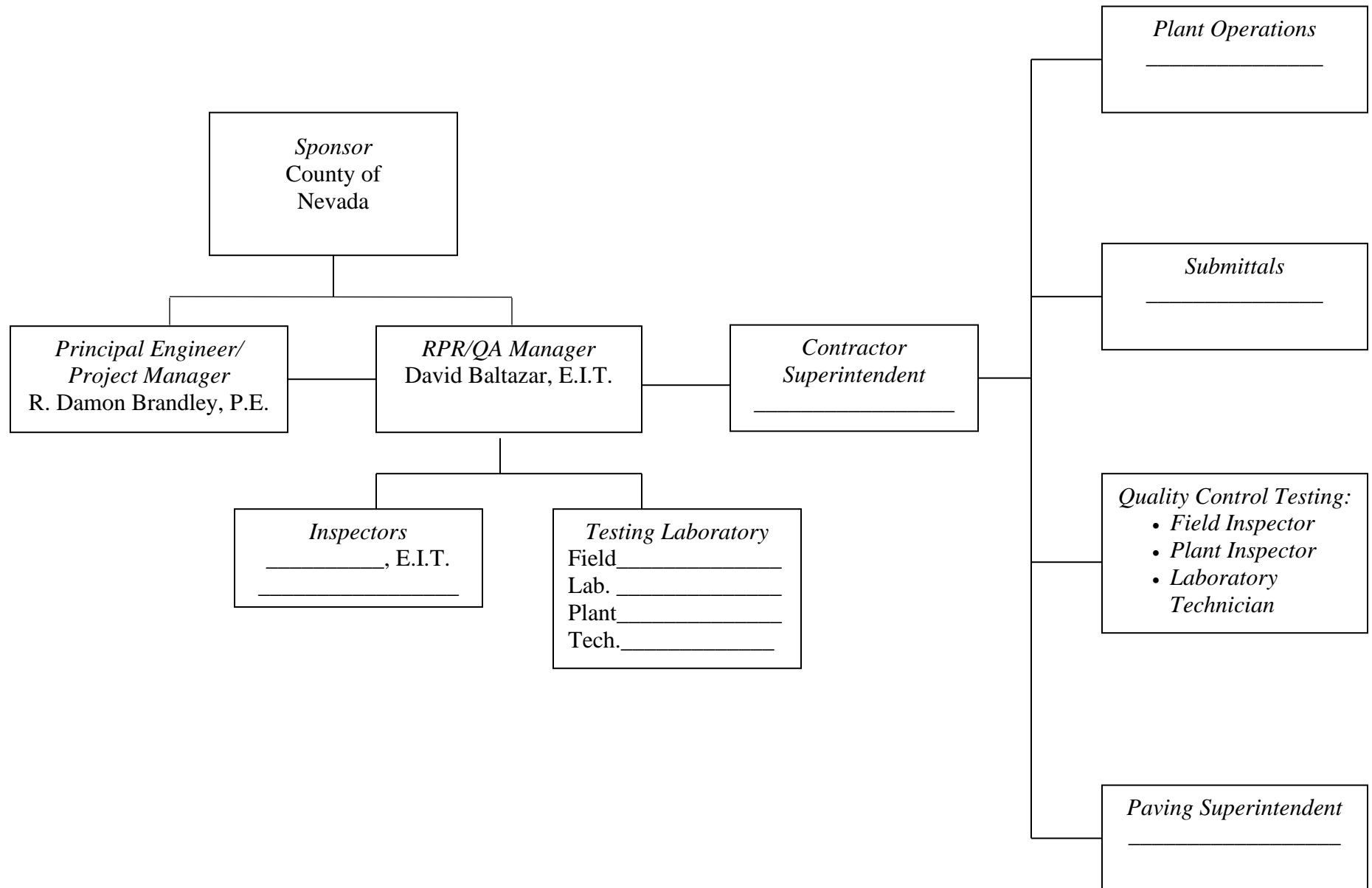
- Mineral Filler and Asphalt Cement Binder
- Emulsified Asphalt Prime Coat
- Emulsified Asphalt Tack Coat
- Portland Cement
- Structural Steel
- Concrete Admixtures
- Fly Ash
- Paint and Reflective Media
- Drainage Features
- Retroreflective Markers

RPR’s Field Office and Laboratory – All inspection and Quality Assurance testing will be performed by the Sponsor’s Consulting Engineer’s staff (Brandley Engineering) with assistance from qualified testing laboratory for testing of hot mix asphalt and concrete. Testing Laboratory is to be determined.

An office and laboratory space will be furnished on site by the Sponsor for the use of the RPR. 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 Brandley Engineering 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)**

R. DAMON BRANDLEY, P.E.
PROJECT MANAGER/PRINCIPAL ENGINEER

EDUCATION:

Master of Science in Civil Engineering, Transportation Major, University of Illinois, Dec. 2001.
B. Sc. in Civil Engineering, Texas A&M University, May 2000.

PROFESSIONAL REGISTRATION

State of California - Civil Engineer - No. 66558

PROFESSIONAL EXPERIENCE:

Mr. Brandley is an owner and principal engineer of Brandley Engineering. He has been actively involved in airport and airfield pavement design and construction control for nine summers while attending school and full time since 2002. He has completed a Research Assistantship at the University of Illinois in Champaign/Urbana. This research was conducted in conjunction with the FAA's Center of Excellence in Airport Pavement Research. His work as a Research Assistant included airfield pavement design and testing, Super Pave mix designs, and various other research projects. He is experienced in the planning and design of runways, taxiways, and roads, including paving, grading, drainage, lighting, utilities, etc. He operates the AutoCAD system and has conducted construction management, testing, and inspection on several airports since 2002.

REPRESENTATIVE PROJECTS – RESIDENT PROJECT REPRESENTATIVE (RPR)

Tulelake Municipal Airport - Rehabilitate Runway 11-29 – 2004

Georgetown Airport - Reconstruct and Light Runway 16-34 – 2005

Chico Municipal Airport - Rehabilitate Aircraft Parking Apron Phase 1 – 2005 and Phase 2 – 2008-2009

Lincoln Regional Airport - Reconstruct So. T/W, Replace VASI with PAPI – 2007

Stockton Metropolitan Airport - Rehabilitate Runway 11R-29L – 2007

Lake Tahoe Airport – Reconstruction of Runway 18-36 – 2008

Lake Tahoe Airport – Terminal Apron Rehabilitation – 2009

Chico Municipal Airport – Rehabilitate Aircraft Parking Apron Phase 2b – 2010

Lake Tahoe Airport – Terminal Apron Rehabilitation Phase 3 – 2011

Lake Tahoe Airport – Crack Seal and Airfield Marking, Update Airfield Signage – 2011

Nevada County Airport – Runway 10-28 Rehabilitation and 2012 Pavement Maintenance Project

Nevada County Airport – 2012 and 2013 Airfield Maintenance Programs

Nevada County Airport - Reconstruct Apron A4 - 2014

Chico Municipal Airport – Reconstruct Taxiway H and Aircraft Parking Apron – 2015

Nevada County Airport – Reconstruct Taxiways and Apron, Widen Apron – 2016

Lake Tahoe Airport – Reconstruct GA Apron Phase 4 – 2018

Nevada County Airport – Reconstruct Taxiway R – 2019

Lincoln Regional Airport – Airport Fuel Tanks Project – 2019-2020

DAVID BALTAZAR, E.I.T. - RESIDENT PROJECT REPRESENTATIVE

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 since 2005, during which time he has gained progressive experience in field and laboratory 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:

Field Inspection and Testing/Resident Project Representative (RPR):

Cedarville Municipal Airport – Construct Tee Hangar Taxiways – 2005
Georgetown Airport - Reconstruct and Light Runway 16-34 – 2005
Gansner Field – Reconstruct Aircraft Parking Apron Phase 2 – 2005
Lincoln Regional Airport - Reconstruct S. T/W, Replace VASI with PAPI – 2007
Placerville Airport - Remove Obstructions, Phase 1 Hangar Area – 2007
Stockton Metropolitan Airport - Rehabilitate Runway 11R-29L – 2007
Mammoth Yosemite Airport – Reconstruct Runway 9-27 & Taxiways – 2008
Lake Tahoe Airport – Reconstruct Runway 18-36 – 2008
Lake Tahoe Airport – Reconstruct Terminal Ramp Phases 1 and 2 – 2009
Chico Municipal Airport – Rehabilitation of Aircraft Parking Aprons – 2008 through 2010
Oroville Municipal Airport – Rehabilitate Airfield Pavements – Crack Seal, Remark Airfield Markings – 2011
Tulelake Airport – Rehabilitation of Aircraft Parking Apron – 2012
Nevada County Airport t – Reconstruct Runway 10-28 – 2012
Rogers Field – Joint Seal Airfield Pavements – 2013
Rogers Field- Reconstruct Tie Down Apron - 2015
Alturas Municipal Airport – Helicopter Parking Apron - November 2016
Nevada County Airport – Reconstruct Hangar Taxilanes CD and DE (East) – August 2017
Madera Municipal Airport – Crack Seal Airfield Pavements – 2018
Chowchilla Municipal Airport – Crack Seal and Slurry Seal Taxiway A and Apron – 2018
Nevada County Airport – Reconstruct Taxilane R – 2019
Nevada County Airport - Reconstruct Med Services Apron and Runway Blast Pad, Construct Wash Rack – 2020
Nevada County Airport – Reconstruct Taxiway A West & Cross Taxiways - 2021
University Airport – Runway 17-35 Reconstruction & Widening, Exit Pavements, and Airfield Lighting - 2022

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)

Quality Control Testing
(To be added once Contractor has been selected)

V. INSPECTION PROCEDURES AND FREQUENCIES

V. INSPECTION PROCEDURES AND FREQUENCIES

A. Surveying and Grade Control

The surveying to be included in this program will be provided by the Contractor and will be limited to that required for construction of the project. All field notes and data collected during design shall be made available to the Contractor. 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 RPR will review Contractor's layouts and final grades.

During the course of the project work, the RPR will 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, RPR 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 RPR.

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. The Contractor will prepare the concrete mix design for the concrete proposed for use on the project. The laboratory will be accredited in accordance with ASTM D1077. 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.
3. 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.

4. 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.
5. 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 RPR. Corrective measures will be implemented and new tests and inspections performed to demonstrate that corrections have been made.
6. Test reports will be prepared and transmitted to the RPR, as follows:
 - a. Daily
 - b. Weekly Summary in typewritten format - Electronic
 - c. Final Summary – Typewritten & Bound - Electronic

Failing test results will be highlighted and corrective action noted. If the weekly summary is not submitted to the RPR, the work will be shut down and the contractor will not be allowed to proceed with the work until the reports have been submitted.

7. Submittals – All required submittals will be prepared, reviewed and submitted to the RPR. Only Contractor reviewed submittals will be accepted.

C. Quality Assurance By RPR – Inspection and Testing Responsibility

The RPR 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. Compaction
- b. Grade and alignment
- c. Suitability test results
- d. Surface tolerance
- e. Rideability
- f. Finish grading and revegetation if necessary
- g. Pavement marking
- h. Drainage Features
- i. Electrical 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 RPR will be prepared daily and summarized weekly as required. Samples of the proposed daily and weekly report forms are included on the following pages.



Report No. _____

INSPECTION REPORT

☒ Daily
☐ Weekly
☐ Monthly

AIRPORT: Nevada County Airport

DATE: _____

PROJECT: Reconstruct Ramp 4 Taxilanes, Reconstruct Ramp 4 Access Road
Crack Repair Ramp 4 Taxilanes

WEATHER: _____

AIP NO.: 3-06-0095-0 -2025

TEMPERATURE: min ____ max ____

CONTRACTOR: _____

WORKING DAY: yes { } no { }

Contract Working Days_

A. EARTHWORK

1. { } Clearing and Grubbing (P-151) _____
2. { } Excavation and Embankment (P-152) _____
3. { } Scarify and Recompact Subgrade (P-152) _____
4. { } Subbase Course (P-154) _____
5. { } Geogrid (P-154) _____
6. { } _____

B. FLEXIBLE BASE COURSE

7. { } In-Place FDR Asphalt Aggregate Subbase (P-207) _____
8. { } Crushed Aggregate Base Course (P-209) _____
9. { } _____

C. RIGID BASE COURSE

10. { } Asphalt Surface Coarse (P-401) _____
11. { } _____

D. MISCELLANEOUS

12. { } Emulsified Asphalt Prime Coat (P-602) _____
13. { } Emulsified Asphalt Tack Coat (P-603) _____
14. { } Joint Sealing Filler (P-605) _____
15. { } Concrete (P-610) _____
16. { } _____

E. MARKING

17. { } Surface Preparation – Marking Removal (P-620) _____
18. { } Marking (P-620) _____
19. { } Reflective Media (P-620) _____
20. { } _____

F. DRAINAGE

21. { } 12-inch HDPE Storm Drain (D-701) _____
22. { } 12-inch Plastic Flared End Section (D-701) _____
23. { } Rip Rap (D-701) _____
24. { } Inlets (D-751) _____
25. { } _____

NEVADA COUNTY AIRPORT
 RECONSTRUCT RAMP 4 TAXILANES,
 RECONSTRUCT RAMP 4 ACCESS ROAD
 CRACK REPAIR RAMP 4 TAXILANES,
 AIP 3-06-0095-0__-2025

INSPECTION REPORT (Continued)

Page No. 2

Dated: _____

G. ELECTRICAL

26. { } Retroreflective Markers (L-125) _____
 27. { } _____

H. OTHER

28. { } Gate Loops (Sheet No. 7) _____
 29. { } _____

REMARKS:

CONTRACTOR'S PERSONNEL/EQUIPMENT ON SITE


EQUIPMENT	PERSONNEL

Visitors: _____

Personnel: _____

Date: _____

By: _____

 Construction Progress and Inspection Report Airport Grant Program		Period Ending
		Project Number AIP 3-06-0095-__
Airport Name Nevada County Airport, Grass Valley, Nevada County, California		
Project Description Reconstruct & Crack Repair Ramp 4 Taxiways		Contractor's Name
1. Contract Time	No. Days Charged to Date	Last Working Day Charged (Date)
2. Brief Weather Summary this Period, including Approximate Rainfall and Periods of Below Freezing Temperature (On earthwork jobs, include soil conditions.)		
3. Rough Estimate of Percent Completion to Date of Construction Phases (Include items such as clearing, grading, drainage, base, surface, lighting, etc.)		
4. Work Completed or In Progress this Period		
5a. Summary of Laboratory and Field Testing this Period (Note failing tests and any retests. Summarize out-of-tolerance.)		
5b. Material (Identify material subject to pay reduction.)		
6. Description of Anticipated Work by Contractor for Next Period		
7. Problem Areas/Other Comments (Include revisions to plans and specifications approved or denied, delays, difficulties, etc. and actions taken.)		
SPONSOR'S INSPECTOR OR REPRESENTATIVE		
Date	Typed or Printed Name and Title	Signature



6125 KING ROAD, SUITE 201 · LOOMIS, CALIFORNIA 95650 · P. (916) 652.4725

WEEKLY STATEMENT OF WORKING DAYS

AIRPORT: Nevada County Airport DATE: _____
 PROJECT: Reconstruct Ramp 4 Taxilanes AIP NO: 3-06-0095-0 -2025
Reconstruct Ramp 4 Access Road
Crack Repair Ramp 4 Taxilanes

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
Total Authorized Calendar Days	-
Date Job Shutdown due to Weather Conditions	-
Date Job Resumed	-

DATE	DAY	WEATHER OR CONDITIONS	WORKING DAY CHARGED	Nonworking Day Caused by Weather or *Other Conditions
	Sunday			
	Monday			
	Tuesday			
	Wednesday			
	Thursday			
	Friday			
	Saturday			
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.

RESIDENT PROJECT REPRESENTATIVE

* Remarks: _____

VI. SUBMITTAL PROCESS

VI. SUBMITTAL PROCESS

At the Preconstruction Conference, the Contractor will provide a listing of all submittals required for the project for approval by the RPR. 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
- e. Scheduled data of submittal

After approval of this list, individual submittals will be submitted to the RPR for approval a minimum of 10 calendar days before use, installation, or construction. Contractor shall review and approve all submittals prior to submittal to RPR. Any submittal that does not include Contractor's review and approval signature will not be accepted. The RPR 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 RPR.

Upon delivery to the site, the RPR 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.

NEVADA COUNTY AIRPORT - RECONSTRUCT RAMP 4 TAXILANES; RECONSTRUCT RAMP 4 ACCESS ROAD, CRACK REPAIR RAMP 4 TAXILANES

AIP 3-06-0095-0__-2025

SUBMITTAL SCHEDULE

Bid Item	Item Description	Type Submittal	Project Spec.	Material Specification	Title
--	Construction Schedule	CMP	--	N/A	N/A
--	List of Materials/Schedule of Values	List	SC (20)b	N/A	N/A
--	Safety Plan Compliance Document	Manual	SC (19)a	N/A	N/A
--	Contractor Quality Control Program	Manual	C-100	N/A	N/A
A1/ A1-1	Storm Water Pollution Prevention Plan	Plan/Permit	C-103	N/A	N/A
A8/ A1-8	Subbase Course (P-154)	Suitability Tests	154-2.1	ASTMD1883	California Bearing Ratio (CBR)
		Gradation		C 136 & C 117	Sieve Analysis
A9/ A1-9	Geogrid (P-154)	Product Data	154-2.4	N/A	N/A
A11/ A1-11	Crushed Aggregate Base Course (P-209)	Suitability Tests	209-2.1	ASTM C131 ASTM C88 ASTM D5821 ASTM D4791 ASTM C142 ASTM D4318 ASTM D1883	LA Rattler Sodium Sulfate Soundness Fractured Particles Flat or Elongated Particles Clay Lumps and Friable Particles Liquid Limit and Plasticity Index California Bearing Ratio (CBR)
		Gradation	209-2.2	C 136 & C 117	Sieve Analysis
A12/ A1-12	Asphalt Surface Course (P-401)	Aggregate Suitability Tests - Coarse Aggregate	401-2.1a	ASTM C 88 ASTM D5821 ASTM C 131 ASTM C142 ASTM D4791	Sodium Sulfate Soundness Fractured Particles LA Rattler Clay Lumps and Friable Particles Flat or Elongated Particles
		Aggregate Suitability Tests - Fine Aggregate	401-2.1b	ASTM D4318 ASTM C88 ASTM D2419 ASTM D1073	Liquid Limit and Plasticity Index Sodium Sulfate Soundness Sand Equivalent Natural Sand
		Mineral Filler	401-2.2	ASTM D242 ASTM D4318	Mineral Filler Plasticity Index
		Asphalt Binder - Certificate	401-2.3	ASTM D6373	Asphalt Binder
		Anti-Strip Agent	401-2.4	N/A	N/A
		JMF Laboratory	401-3.2	ASTM D3666	Agencies Testing & Inspection Road & Paving Materials
		Air Voids Percent VMA Tensile Strength Gradation Job Mix Formula Marshall Tests	401-3.3	ASTM D3203 ASTM D6995 ASTM D4867 C 136 & C 117 N/A Asphalt Institute MS-2	Air Voids Percent Voids in Mineral Aggregate (VMA) Effect of Moisture on AC Mixtures Sieve Analysis N/A Marshall Method of Mix Design
		Asphalt Pavement Analyzer or Hamburg Wheel Test	401-3.3	AASHTO T340 AASHTO T324	Rutting Susceptibility of HMA Using APA Hamburg-Wheel-Track Testing of Compacted AC
A13/ A1-13	Emulsified Asphalt Prime Coat (P-602)	Certificate	602-2.1	ASTM D977	Emulsified Asphalts
A14/ A1-14	Emulsified Asphalt Tack Coat (P-603)	Certificate	603-2.1	ASTM D977	Emulsified Asphalts

NEVADA COUNTY AIRPORT - RECONSTRUCT RAMP 4 TAXILANES; RECONSTRUCT RAMP 4 ACCESS ROAD, CRACK REPAIR RAMP 4 TAXILANES

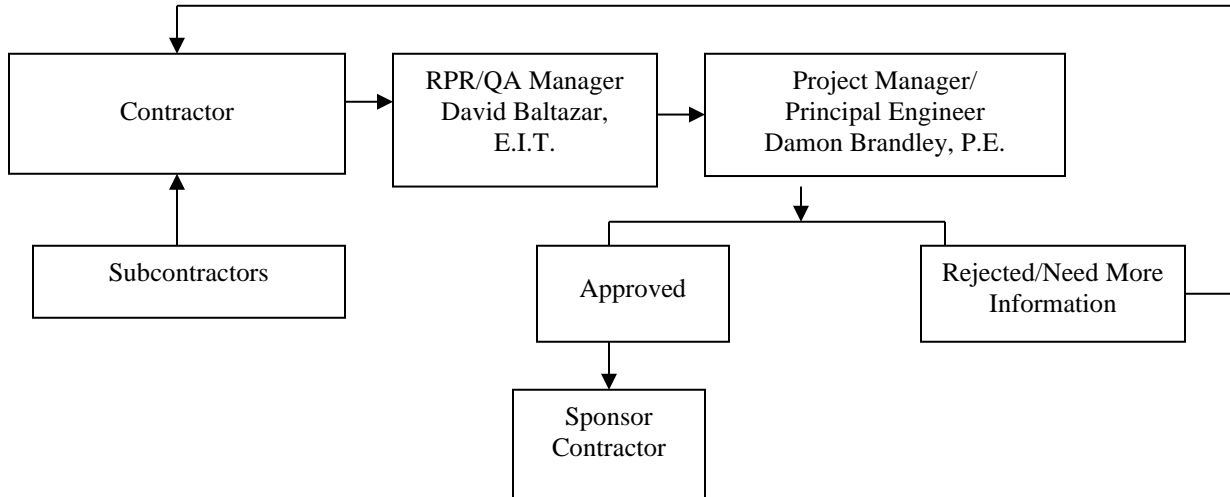
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SUBMITTAL SCHEDULE

A15	Concrete (P-610)	Alkali-Silica Reaction	610-2.1	ASTM C 1260	Alkali Reactivity
		Aggregate - Coarse	610-2.2	ASTM C33	Concrete Aggregates
		Gradation - Coarse		ASTM C 136	Sieve Analysis
		Aggregate - Fine	610-2.3	ASTM C33	Concrete Aggregates
		Cement - Certificate	610-2.4	ASTM C 150	Portland Cement
		Cementitious Materials	610-2.5	ASTM C618	Fly Ash
				ASTM C989	Slag Cement
		Admixtures	610-2.7	ASTM C260	Air-entraining Admixtures
				ASTM C 494	Water-reducing Admixtures
				ASTM C494	Chemical Admixtures
		Premolded Joint Material	610-2.8	ASTM D 1751	Preformed Expansion Joint Filler
				ASTM D 1752	Preformed Sponge Rubber & Cork Joint Filler
		Steel Reinforcement	610-2.10	ASTM A615	Deformed Bars
		Concrete Curing - Certificates	610-2.11	ASTM C 309	Liquid Membrane Forming Compounds
A16/ B6	Marking Materials (P-620)	Certificate	620-2.2a	Fed Spec TT-P-1952	Paint, Traffic, and Airfield Marking
A17/B7	Reflective Media (P-620)	Certificate	620-2.2b	Fed Spec TT-B-1325	Beads (Glass Spheres) Retroreflective
A18	HDPE Pipe (D-701)	Certificate	701-2.2	AASHTO M294	Corrugated Polyethylene Pipe, 12- to 60-in. Diameter
	Rubber Gaskets (D-701)	Certificate	701-2.4	ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
A19	Flared End Sections (D-701)	Product Data	701-2.11	Caltrans 70-5.02B(4)	Plastic Flared End Sections
A20	Rip Rap (D-701)	Specific Gravity	701-2.12	ASTM C127	Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
		Percent Absorption			
		Durability Index		Calif. Test 229	Durability Index
		Soundness		ASTM C88	Sodium Sulfate Soundness
		Average Loss		--	--
A21	Inlets				
	Mortar (D-751)	Certificate	751-2.2	ASTM C150	Portland Cement
	Manhole Rings (D-751)	Certificate	751-2.4	ASTM C478	Precast Reinforced Concrete Manhole Sections
	Gaskets (D-751)	Certificate	751-2.4	ASTM C443	Joints for Concrete Pipe and Manholes
	Corrugated Metal (D-751)	Certificate	751-2.5	AASHTO M36	Corrugated Steel Pipe, Metallic-Coated
	Gray Iron Castings (D-751)	Certificate	751-2.6	ASTM A48	Gray Iron Castings
	Malleable Iron Castings (D-751)	Certificate	751-2.6	ASTM A47	Ferritic Malleable Iron Castings
	Steel Castings (D-751)	Certificate	751-2.6	ASTM A27	Steel Castings, Carbon
	Structural Steel (D-751)	Certificate	751-2.6	ASTM A283	Tensile Strength Carbon Steel Plates
	Ductile Iron Castings (D-751)	Certificate	751-2.6	ASTM A536	Ductile Iron Castings
	Austempered Ductile Iron Castings (D-751)	Certificate	751-2.6	ASTM A897	Austempered Ductile Iron Castings
	Precast inlet Structures (D-751)	Certificate	751-2.8	ASTM C913	Precast Concrete Water and Wastewater Structures
A18	Retroreflective Markers (L-125)	Product Data	125-2.6	N/A	N/A
A1-15	Gate Loops	Product Data	Sheet 7	N/A	N/A
B3	Crack Sealing Filler Type C (P-605)	Certificate	605-2.1	ASTM D6690	Crack Sealants, Hot Applied
B4	Crack Sealing Filler Type S (P-605)	Certificate	605-2.1	ASTM D8260	Hot Applied Asphalt Aggregate Filler Mastic
B1-1	GAP Patch 550 (P-605)	Product Data	605-2.1	N/A	N/A

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RECONSTRUCT RAMP 4 ACCESS ROAD
CRACK REPAIR RAMP 4 TAXILANES
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PATH FOR REVIEW AND APPROVAL OF SUBMITTALS



VII. QUALITY CONTROL TESTING

VII. QUALITY CONTROL TESTING

Quality Control Testing will be performed under the direction of the Contractor and will be reviewed by the RPR.

The Quality Control Testing Schedule, flow path, and corrective action plan proposed for this project are shown on the following pages.

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RECONSTRUCT RAMP 4 TAXILANES, CRACK REPAIR RAMP 4 TAXILANES,
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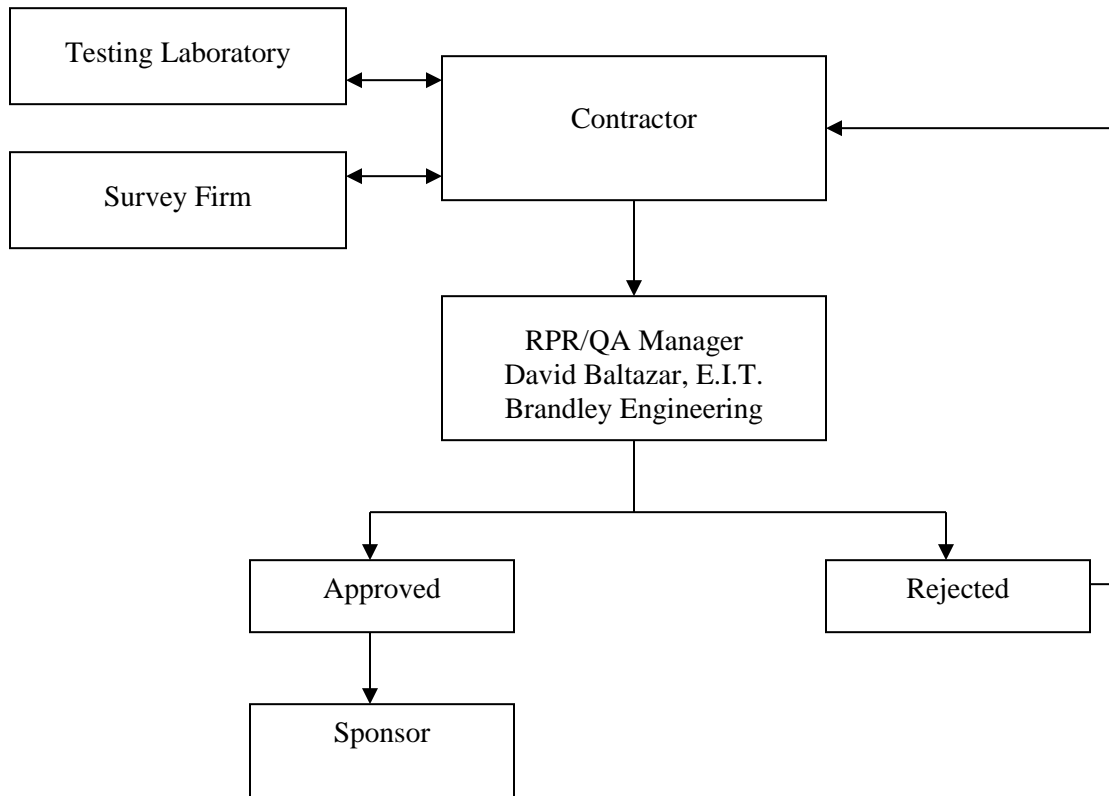
QUALITY CONTROL TESTING SCHEDULE

Spec. No.	Material	Min Frequency	Testing	ASTM	Title
P-152	Excavation	1/1,000 SY	Laboratory Compaction Test		
			Field Density Test - Nuclear (Control)	D1556 D 6938	In-Place Density - Sand Cone In-Place Density - Nuclear
P-152	Scarify and Recompact Subgrade	1/1,000 SY	Field Density Test - Nuclear (Control)	D1556 D6938	In-Place Density - Sand Cone In-Place Density - Nuclear
		50-foot grid	Field Surface Tolerance	N/A	N/A
P-154	Subbase Course	1/day	Control Gradation (Production)	C 117 C 136	Materials Finer than 75-µm Sieve Sieve Analysis - Fine & Coarse Aggregates
		As Needed	Laboratory Compaction Test	D 1557	Laboratory Compaction
		50-foot grid	Surface Tolerances - Smoothness/Grade	N/A	N/A
		2/1,000 SY	Field Density Test - Nuclear (Control)	D1556 D 6938	In-Place Density - Sand Cone In-Place Density - Nuclear
		2/1,000 SY	Thickness	N/A	N/A
P-207	FDR Recycled Asphalt - Subbase Course	As Needed	Laboratory Compaction Test	D 1557	Laboratory Compaction
		2/day	Control Gradation (Production & Delivery)	C 136	Sieve Analysis - Fine & Coarse Aggregates
			Optimum Moisture Content	D 2216	Water (Moisture) Soil & Rock
		As Needed	California Bearing Ratio	D 1883	California Bearing Ratio
		50-foot grid	Surface Tolerances - Smoothness/Grade	N/A	N/A
		2/1,000 SY	Field Density Test - Nuclear (Control)	D1556 D 6938	In-Place Density - Sand Cone In-Place Density - Nuclear
		2/1,000 SY	Thickness	N/A	N/A
P-209	Aggregate Base Course		Aggregate Suitability Tests*		
		2/day	Control Gradation (Production & Delivery)	C 136	Sieve Analysis - Fine & Coarse Aggregates
		25-foot grid	Field Surface Tolerance	N/A	N/A
		2/1,000 SY	Laboratory Compaction Test	D 1557	Laboratory Compaction
		2/1,000 SY	Field Density Test - Nuclear (Control)	D1556 D 6938	In-Place Density - Sand Cone In-Place Density - Nuclear
		2/1,000 SY	Thickness	N/A	N/A
P-401	Asphalt Surface Course		Job Mix Formula (Item 401-3.2)	--	--
		As Necessary	Asphalt Pavement Analyzer or Hamburg Wheel Test	T340 or T324	--
		2/Day	Control Gradation (Production)	C117/C136/ D544	Sieve Analysis
		2/Day	Asphalt Content	D6307 D2172	AC Content - Ignition Method Extraction of Bitumen from Mixtures
		1/Day	Moisture Content of Aggregates	C 566	Moisture Content of Aggregate
		1/Day	Moisture Content of Asphalt	D 1461	Moisture Distillates in Mixture
		4/Day	Temperatures	N/A	N/A
		1/Sublot	Field Test Cores	D 3665	Random Sampling of Materials
		As Necessary	Field Density Test - Nuclear (Control)	D 2950	Density of Bituminous Concrete
		Daily	Smoothness	N/A	N/A
		Daily	Grade	N/A	N/A
P-610	Structural PCC	Each Day's Placement	Aggregate Suitability Tests*	--	--
			Slump	C143	Slump - Hydraulic Cement
D-701	Pipes		Air Content	C231	Air Content Freshly Mixed Concrete
			Compaction of Backfill - Nuclear (Control) Compliance Certificate	D 6938	In-Place Density - Nuclear
L-125	Taxiway Edge Markers		Installed at proper elevation, alignment check, securing screws tightened as per manufacturer's recommendations, lenses and channels in front of lenses are clean	N/A	N/A

*See Submittal Schedule

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CRACK REPAIR RAMP 4 TAXILANES
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FLOW CHART – QUALITY CONTROL RESPONSIBILITIES
(Between Testing Laboratory, Contractor, and Resident Project Representative)



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 upon approval of the RPR.

Item Description

Corrective Action

SUBGRADE – ITEM P-152:

Density	If test results are outside the tolerances set forth in Item P-152 of the specifications, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.
Surface Tolerances	Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. Subbase course will not be placed until the corrections have been made and the RPR has inspected and approved.

SUBBASE COURSE – ITEM P-154/ ITEM P-207:

Density	If the specified density is not attained, the area represented by the failed test shall be reworked and/or recompact and two additional random tests made. This procedure shall be followed until the specified density is reached.
Gradation	If test results are outside the tolerances set forth in Item P-154 and P-207 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.
Surface Tolerances	Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the

Item Description

Corrective Action

	required smoothness and accuracy are obtained and approved by the RPR
Thickness	Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches, adding new material of proper gradation, and the material shall be blended and recompacted to grade.

AGGREGATE BASE COURSE – ITEM P-209:

Gradation	If test results are outside of the tolerances set forth in Item P-209 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. asphalt surface course will not be placed until the corrections have been made and the QC Manager has inspected and approved.
Percent Crushed	If test results are outside the limits set forth in Item P-209 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.

ASPHALT SURFACE COURSE – P-401:

Surface Tolerance	If the finished surface varies more than 1/4” when tested with a 12-foot straightedge, immediate action will be taken to bring finish surface within the specified tolerance. If the completed thickness is deficient by more than 1/4” 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, RPR will evaluate suitability of finished product and Contractor may be requested to grind the surface or remove and replace the AC pavement.
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<u>Item Description</u>	<u>Corrective Action</u>
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 (148°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.
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 and Tack Coat (P-602 and P-603)	If inspection indicates that the prime and/or tack coat material or application is not in accordance with the specifications, immediately action will be taken. Prime/Tack 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 RPR has inspected and approved.

<u>Item Description</u>	<u>Corrective Action</u>
Base Temperature	If the surface temperature is less than specified in Table 4 of paragraph 401-4.1 of the specifications, bituminous mixture will not be placed unless approved by the RPR.
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 theoretical maximum density of the mat at 92.8% or joint of 90.5%, 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.
Air Voids	If the lot does not have air voids within the limits (PWL) of Table 5 of paragraph 401-5.2 of the specifications, the reason shall be determined and corrective action will be taken.
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.

STRUCTURAL PORTLAND CEMENT CONCRETE – (P-610):

Compressive Strength	If the test specimens fail to conform to the requirements for strength, changes shall be made to the concrete mixture to increase the strength to meet the requirements. When a given lot of concrete fails to meet the minimum requirements the entire lot shall be replaced at the Contractor's expense.
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Item Description

Corrective Action

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.

VIII. QUALITY ASSURANCE TESTING

VIII. QUALITY ASSURANCE TESTING

Quality Assurance Testing and Inspection will be performed by or under the direction of the RPR. 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.

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QUALITY ASSURANCE TESTING SCHEDULE

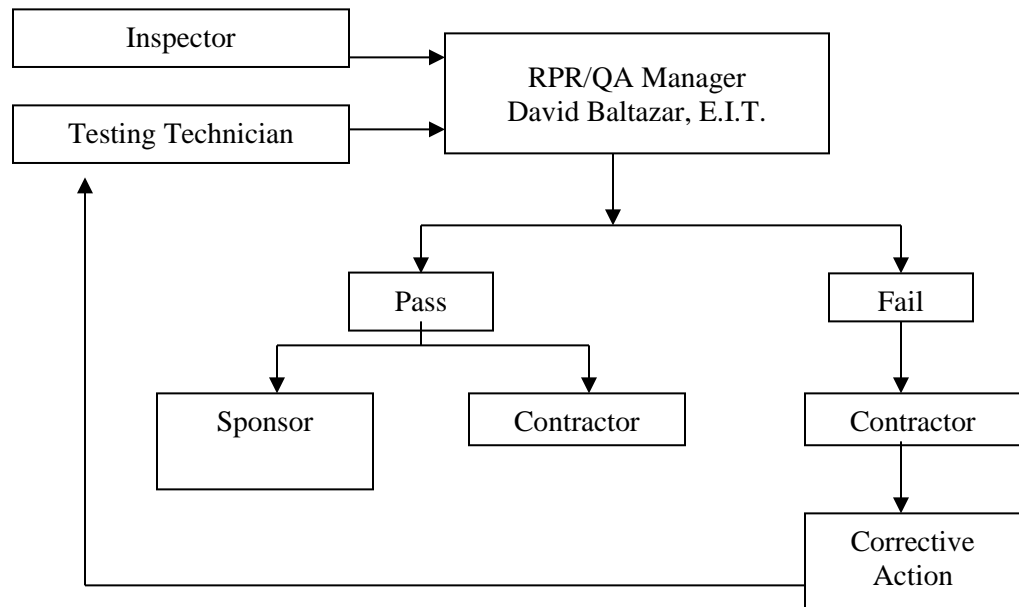
Spec. No.	Material	Min Frequency	Testing	ASTM	Title
P-152	Excavation	1/1,000 SY	Field Density Acceptance Test - Sand Cone	D 1557	Laboratory Compaction
P-152	Scarify & Recompact Subgrade	1/1,000 SY	Field Density Acceptance Test - Sand Cone	D 1557	Laboratory Compaction
P-154	Subbase Course	2/1,000 SY	Field Density Acceptance Test - Sand Cone	D 1557	Laboratory Compaction
		50-foot grid	Field Surface Tolerance*	N/A	N/A
P-207	FDR Recycled Asphalt - Subbase Course	2/day	Field Gradation (Placement)	C 136	Sieve Analysis
		50-foot grid	Field Surface Tolerance*	N/A	N/A
		2/1,000 SY	Field Density Moisture Content	D 1557	Laboratory Compaction
		2/1,000 SY	Field Density Acceptance Test - Sand Cone	D 1557	Laboratory Compaction
P-209	Aggregate Base Course	2/day	Field Gradation (Delivery)	C 136	Sieve Analysis
			Field Percent Crushed		
		25-foot grid	Field Surface Tolerance*	N/A	N/A
		2/1,000 SY	Field Density Moisture Content	D 1557	Laboratory Compaction
		2/1,000 SY	Field Density Acceptance Test - Sand Cone	D 1557	Laboratory Compaction
P-401	Asphalt Surface Course	4/day	Field Temperature	N/A	N/A
		1/sublot	Field Density, Voids, From Cores - Mat & Joint		
		1/sublot	Bulk Specific Gravity	D2726	Bluk Specific Gravity & Density
		1/sublot	Air Voids	D3203	Percent Air Voids
		Daily	Grade	N/A	N/A
		Daily	Thickness	N/A	N/A
		Daily	Smoothness	N/A	N/A
P-602	Emulsified Asphalt Prime Coat		Spread	N/A	N/A
P-603	Emulsified Asphalt Tack Coat		Spread	N/A	N/A
P-610	Concrete	Each Day's Placement	Slump	C143	Slump - Hydraulic Cement
			Air Content	C231	Air Content Freshly Mixed Concrete
			Compressive Strength	C39	Compressive Strength
P-620	Airfield Marking		Check Layout and Coverage	N/A	N/A
D-701	Pipes		Compaction of Backfill - Sandcone(Acceptance) Check compliane Certification	D 1557	Laboratory Compaction
L-125	Taxiway Edge Markers		Check Installation	N/A	N/A

*Survey performed by contractor in presence of the RPR.

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FLOW CHART – QUALITY ASSURANCE RESPONSIBILITIES

(Between Testing Laboratory, Resident Project Representative, and Contractor)



PAY FACTORS

Subgrade, Subbase Course, Aggregate Base Course - If grade is high, the Contractor shall remove this excess material, regrade, and recompact the area. If grade is more than 1/2-inch low, the existing section shall be scarified, additional material added, and the total section recompact.

Asphalt Surface Course – Basis of Adjusted Payment - The pay factor for each individual lot shall be calculated in accordance with the Price Adjustment Schedule shown below. 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% then the lot pay factor shall be reduced by 5% but be no higher than 95%.

PRICE ADJUSTMENT SCHEDULE	
Percentage of Material Within the Specification Limit (PWL)	Lot Pay Factor (Percent of Contract Unit Price) ¹
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 RPR may decide to allow the rejected lot to remain. In that case, if the RPR and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50% of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.	

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. The total project payment for plant mix asphalt pavement shall not exceed 106 percent of the product of the contract unit price and the total number of tons of asphalt used in the accepted work. Payment in excess of 100% for accepted lots of asphalt shall be used to offset payment for accepted lots of asphalt pavement that achieve a lot pay factor less than 100%.

Payment for sublots which do not meet grade in accordance with specification requirements after correction for over 25% of the sublot shall be reduced by 5%.

Other Materials – Payment for accepted other materials, such as prime coat, tack coat, paint, beads, crack seal, and retroreflective markers will be measured in place and paid for at unit prices bid.

IX. TEST RESULT DOCUMENTATION

IX. 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.

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.

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
- (9) Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. 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 will provide Summary Reports to the RPR in electronic format for testing on each product – 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 inspection 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) Summary of any necessary corrective actions;
- (8) Safety inspection; and
- (9) Photographs and/or video.

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 RPR shall be provided at least one copy of each daily inspection report before the work starts on the following day of record. 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 approved by the RPR.

B. Quality Assurance Tests and Inspections

The RPR 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 typed tabular form and submitted to the RPR in electronic format. No final payment will be made to the Contractor until this report has been received by the RPR.

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.

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 - % $[(O/P) \times 100]$								

Depth of Fill Remaining _____

Job Progress - % Completed _____

Inspector _____

REMARKS _____

Time _____ Mileage _____

L	2.0%	92.8%	90.5%
U	5.0%		

					Average			
					Std. Dev.			
					QL			
					QU			
					PL			
					PU			
					PWL			
					% Pay			
			Total		% Pay			

NEVADA COUNTY AIRPORT
GRASS VALLEY, NEVADA COUNTY, CALIFORNIA

RECONSTRUCT RAMP 4 TAXILANES
RECONSTRUCT RAMP 4 ACCESS ROAD

AIP NO. 3-06-0095-__-2025

SUMMARY OF COMPRESSIVE STRENGTH TEST RESULTS -
STRUCTURAL PORTLAND CEMENT CONCRETE

Sample ID	Location	Date Cast	Slump (inch)	Air Content	Compressive Strength - psi	
					7-day	28-day
	<i>Specification</i>		<i>4 Max.</i>	<i>5% +/- 1.2%</i>		<i>4,000 Min.</i>

X. FINAL TEST AND QUALITY CONTROL REPORT

X. FINAL TEST AND QUALITY CONTROL REPORT

At the end of the project the RPR 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 RPR 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:

- **Brief Narrative of Work Accomplished**
 - ✓ Include explanation for any deleted work items
 - ✓ Provide brief description of non-participating work items
- **Project Photographs**
 - ✓ Include a representative number of photographs that depict major elements of the project prior to the improvement and after completion of construction
- **Summary of Key Milestone Dates**
 - ✓ Receipt of Bids
 - ✓ Notice-To-Proceed
 - ✓ Substantial Completion
 - ✓ Contract
 - ✓ Final Inspection - Attach the final inspection record with any remaining punch list items as well
 - ✓ Final Acceptance
- **Contract Time**
 - ✓ Explanation of liquidated damages (if required)
 - ✓ Description of weather delays and winter shutdowns (Note: Calendar contracts require submittal of NWS data to support weather events exceeded the normal monthly events.)
- **Labor Provisions**
 - ✓ Statement of compliance with contract labor provisions (i.e. payroll reviews, etc.).
 - ✓ Summary of any complaints/findings and resolution.
- **Environmental Requirements**
 - ✓ Provide a statement if the environmental requirements were met and if not why.

- **Summary of DBE Utilization**
 - ✓ Prepare and submit a summary of the actual DBE participation compared to the contract goal.
- **Contract Change Orders and Quantity Adjustments**
 - ✓ Provide a change order summary with a delineation of eligible and ineligible costs
 - ✓ Detail and justify the changes required to engineering agreements, contract times, final construction quantities
 - ✓ Summarize FAA eligibility determinations from previously communicated change orders
- **Construction Material Testing and Acceptance**
 - ✓ Provide a summary of all required acceptance tests per the project specifications and the approved construction observation plan (Grant obligation).
 - ✓ Sponsor/consultant does not need to submit actual test reports with close out report but must make such information available upon request by the FAA.
 - ✓ The summary must provide clear explanation of any price adjustments due to the application of Percent Within Limit (PWL) rules.