

**WARNING:** ALL INDIVIDUALS INTERESTED IN BIDDING ON THIS PROJECT MUST OBTAIN THE FINAL PLANS AND SPECIFICATIONS FROM THE DEPARTMENT MANAGING THE PROJECT OR AS OTHERWISE STATED IN THE ADVERTISEMENT FOR BIDS FOR THE PROJECT. DO NOT USE THE PLANS AND SPECIFICATIONS POSTED ON THE CLERK OF THE BOARD'S WEBSITE FOR BIDDING ON THIS PROJECT.

**BID DOCUMENTS**  
**For The**  
**PHASE 1B LINER CONSTRUCTION PROJECT**  
**AT THE BARSTOW SANITARY LANDFILL**

November 2021



**SAN BERNARDINO COUNTY**  
**DEPARTMENT OF PUBLIC WORKS**  
**SOLID WASTE MANAGEMENT DIVISION**

have been approved by:

  
Brendon Biggs, P.E.  
Director

  
Date

have been prepared by or under the direction of the following Registered Engineers:

  
Darren Meeka, P.E.  
Deputy Director

  
Date

  
Marc Rodabaugh, P.E.  
Engineering Manager

  
Date

## TABLE OF CONTENTS

ADVERTISEMENT FOR BIDS .....	<b>WHITE PAGE</b> 1
BID PROPOSAL CHECKLIST AND ASSEMBLY .....	<b>PINK PAGE</b> 3
INSTRUCTIONS TO BIDDERS .....	<b>YELLOW PAGES</b> 5
BIDDER'S QUALIFICATIONS .....	14
BID .....	17
ADDENDA ACKNOWLEDGEMENT .....	20
BID SCHEDULE .....	21
BID BOND .....	25
BID SECURITY FORM .....	27
CONTRACTOR'S LICENSING STATEMENT .....	29
LIST OF SUBCONTRACTORS .....	30
NON-COLLUSION DECLARATION FOR PRINCIPAL .....	32
NON-COLLUSION DECLARATION FOR SUBCONTRACTORS .....	33
FAITHFUL PERFORMANCE BOND .....	34
LABOR AND MATERIAL BOND .....	36
CONTRACTOR'S AFFIDAVIT AND FINAL RELEASE .....	38
STATE WAGE DETERMINATIONS .....	<b>GREEN PAGES</b>
STANDARD CONTRACT .....	<b>BLUE PAGES</b> SC-1
GENERAL CONDITIONS .....	GC-1
TECHNICAL SPECIFICATIONS .....	<b>WHITE PAGES</b>
APPENDIX A – HEALTH AND SAFETY PROVISIONS .....	<b>WHITE PAGES</b>

**SAN BERNARDINO COUNTY  
PHASE 1B LINER CONSTRUCTION PROJECT  
at the Barstow Sanitary Landfill  
Barstow, California**

Notice is hereby given that San Bernardino County, Department of Public Works – Solid Waste Management Division on behalf of the Board of Supervisors of San Bernardino County, California will receive sealed bids **no later than 10:00 a.m. on Thursday January 7, 2022** in the Department of Public Works, Solid Waste Management Division, 222 W. Hospitality Lane, 2<sup>nd</sup> Floor, San Bernardino, California, 92415-0017, at which time the bids will be publicly opened and declared for the **Phase 1B Liner Construction Project at the Barstow Sanitary Landfill in Barstow, California.** Bids received after this time will not be considered.

Bids in response to this solicitation can be submitted through the San Bernardino County Electronic Procurement Network (ePro) <https://epro.sbcounty.gov/epro/> or in person at the Department of Public Works, Solid Waste Management Division. **All bidders must register with the ePro system prior to the date and time to receive sealed bids or they will be disqualified.**

**A mandatory pre-bid meeting for prospective bidders will be held at the address above in Conference Room “A”, at 9:00 a.m. on Tuesday, November 30, 2021.** Entrance will not be permitted to the mandatory pre-bid meeting in progress. Bids from bidders, not represented at this meeting, will be rejected. **A mandatory job walk will immediately follow the pre-bid meeting at the Barstow Sanitary Landfill, 32553 Barstow Road, Barstow, CA 92311**

This project requires a State Contractor’s “A” License.

The Bid Documents, including final plans and specifications, are available on electronic media (CD) or as a hardcopy from the Solid Waste Management Division. The purchase price is \$8.00 per CD, and \$20.00 per set as hardcopy (non-refundable). Plans can be sent by FedEx if a valid billing account number is provided to SWMD. For all CD and hardcopy Bid Document requests, please allow 48 hours for production and processing. The Bid Documents are also available at no cost to the bidder in ePro.

No bid may be withdrawn after the scheduled bid opening, or within sixty (60) days thereafter.

Copies of the prevailing wage rates are on file at the office of Solid Waste Management Division and shall be made available to any interested party on request. Copies are also included in the Bid Documents.

The County reserves the right to reject or accept any and all bids, to waive technical errors, discrepancies or informalities of a bid not affected by law, if to do so seems to best serve the public interest. Bids may be rejected if they show any alteration of form, additions, conditions, erasures, or irregularities of any kind, and incomplete bids will be rejected.

The work is expected to start on or about **February 2022**. Any questions regarding this project shall be addressed in writing to the Project Manager, Johnny Gayman, via Fax at (909) 386-8900, or via email at johnny.gayman@dpw.sbcounty.gov. Do not contact the design consultant. No questions will be answered within five (5) calendar days of the bid opening.

By order of the Board of Supervisors of San Bernardino County, dated at San Bernardino, California, November 16, 2021.

By:

  
BRENDON BIGGS, P.E., Director  
San Bernardino County

  
Date

NOT FOR BID

## BID PROPOSAL CHECKLIST AND ASSEMBLY

### IMPORTANT

Failure to Properly Complete Bid Package May Result in Rejection of Bid

<u>TITLE AND PAGE(S)</u>	<u>CHECK BOX IF DONE/SUBMITTED</u>
REGISTERED AS A VENDOR IN THE EPRO SYSTEM PRIOR TO DATE AND TIME TO RECEIVE BID - Yellow Page 6	<input type="checkbox"/>
IF SUBMITTING BID THROUGH EPRO, ORIGINAL BID SECURITY SUBMITTED IN A SEPARATE SEALED ENVELOPE LABELED "BID BOND" WITH THE PROJECT TITLE AND NUMBER AND NAME OF BIDDER MARKED ON OUTSIDE OF ENVELOPE TO SAN BERNARDINO COUNTY, DEPARTMENT OF PUBLIC WORKS-SOLID WASTE MANAGEMENT DIVISION. MUST BE RECEIVED ON OR BEFORE THE TIME SET FOR THE OPENING OF BIDS. - Yellow Page 6	<input type="checkbox"/>
IF SUBMITTING A BID THROUGH EPRO, SCAN AND ATTACH TO YOUR QUOTE THE FULLY EXECUTED BID PROPOSAL DOCUMENT - Yellow Page 6	<input type="checkbox"/>
BIDDER'S QUALIFICATIONS – Yellow Pages 14-16*	<input type="checkbox"/>
BIDDER INFORMATION IS COMPLETE AND CORRECT	<input type="checkbox"/>
BID (Must be signed) – Yellow Pages 17-20*	<input type="checkbox"/>
CORRECTIONS OR CHANGES TO THE BID DOCUMENTS FOR BIDDER ERRORS ARE INITIALIZED	<input type="checkbox"/>
BID PROPOSAL IS SIGNED BY AUTHORIZED REPRESENTATIVE - Yellow Page 20	<input type="checkbox"/>
ADDENDA ACKNOWLEDGEMENT – Yellow Page 20*	<input type="checkbox"/>
REPLACEMENT BID SHEETS FOR ADDENDA ARE SUBSTITUTE IN SEQUENCE, IF APPLICABLE	<input type="checkbox"/>
BID SCHEDULE – Yellow Pages 21-end*	<input type="checkbox"/>

UNIT COST IS ENTERED FOR ALL BID ITEMS  
(OR ALTERNATE BID ITEMS)

☐

BID BOND/ SECURITY:\*

BID BOND (See Instructions to Bidders) – Yellow Pages 25-26  
OR

☐

BID SECURITY (See Instructions to Bidders) – Yellow Page 27

☐

CONTRACTOR'S LICENSING STATEMENT – Yellow Page 29\*

☐

LIST OF SUBCONTRACTORS – Yellow Page 30-31\*\*

☐

NON-COLLUSION DECLARATION FOR PRINCIPAL – Yellow Page 32\*

☐

NON-COLLUSION DECLARATION FOR SUBCONTRACTORS –  
Yellow Page 31\*\*\*

☐

*\* IF NOT COMPLETED AND SUBMITTED WITH BID, BID WILL BE DECLARED  
NONRESPONSIVE*

*\*\* IF NOT COMPLETED AND SUBMITTED WITH BID, CONTRACTOR IS REQUIRED  
TO COMPLETE ALL WORK, EXCEPT AS OTHERWISE PROVIDED IN THE BID  
PACKAGE*

*\*\*\*MUST BE SUBMITTED NO LATER THAN FOUR WORKING DAYS AFTER BID  
OPENING OR BID WILL BE DECLARED NONRESPONSIVE*

# INSTRUCTIONS TO BIDDERS

## I. PREPARATION OF FORMS AND BID

- A. To receive consideration, the bid shall be submitted on the properly completed forms attached and shall be made in accordance with these Instructions to Bidders including being enclosed in a sealed envelope marked and addressed as directed.
- B. All blank spaces in the Bid Documents shall be properly filled. Bids shall contain no recapitulation of the work to be done. The phraseology of the bid must not be changed and no additions shall be made to the items mentioned therein. Unauthorized conditions, limitations, or provisions attached to a bid including any erasure or interlineations, must be explained or noted in the bid over the signature of the bidder. Alternative bids will not be considered unless specifically provided for in the Bid Documents. Oral, telegraphic or telephonic proposals or modifications will not be considered.
- C. The Bid Schedule shall be completed as provided herein.
- D. If an individual makes the bid, it shall be signed with his or her full name and address; if it is made by a partnership, it shall be signed with the partnership name and by a partner of the firm, and the name and address of each partner shall be given. If a bid is a joint venture, it shall be signed by a member of the joint venture and the full names and addresses, of all partners of the joint venture, shall be given. If a corporation makes the bid, a duly authorized officer of the corporation shall sign it in the corporation's name, and the name and address of the officers and directors shall be given.
- E. Do not contact the design consultant. Any questions regarding this project shall be addressed in writing to the Project Manager. No questions will be answered within three (3) calendar days of the bid opening.
- F. Bidders may not use either the design consultant or any subconsultants for performance of the work in accordance with Government Code 1090. Design consultants and subconsultants for this project are:
  - i. SWT Enigneering

## II. ADDRESS

- A. The envelope enclosing the bid shall be sealed and delivered, or mailed postage prepaid, to the attention of the Project Manager, to arrive at the following address on or before the time set for the opening of bids:

San Bernardino County, Department of Public Works  
Solid Waste Management Division  
222 West Hospitality Lane, 2nd Floor  
San Bernardino, CA 92415-0017



- B. The envelope shall be plainly marked with the name and address of the bidder in the upper left hand corner, labeled with the project title and number, and clearly marked **“Bid Proposal”**.
- C. Bids can also be submitted through San Bernardino County’s Electronic Procurement Network (ePro) <https://epro.sbcounty.gov/epro/>. **All bidders must register with the ePro system prior to the date and time to receive sealed bids or they will be disqualified.** System related questions about ePro shall be directed to Vendor support at [ePro.Vendors@buyspeed.com](mailto:ePro.Vendors@buyspeed.com) or at 1-855-800-5046. For procurement questions involving ePro, please contact the Purchasing Department at (909) 387-2060.
- D. If sending the bid or bid bond to the Solid Waste Management Division in a mail envelope (i.e. Federal Express, etc.) please enclose the bid inside the mail envelope in a separately sealed envelope bearing the project title and number, and clearly marked “Bid Proposal or Bid Bond”. All mail, including Priority and Express Mail, sent via the U.S. Postal Service is received by the County’s mail room then distributed to the Solid Waste Management Division. This can cause a delay in the receipt of bids. The County is not responsible for any delays caused by mail service to a different County location. It is Bidder’s responsibility to ensure bids and bid bonds are received at San Bernardino County, Department of Public Works, Solid Waste Management Division, 222 West Hospitality Lane, 2nd Floor, San Bernardino, CA 92415-0017, on or before the time set for opening of bids.

### **III. SUBMITTING THE BID**

- A. Bid must be submitted on or before the time set out in the published Advertisement for Bid for the opening of bids or as the date is revised in any addendum issued by the County.
- B. Bids submitted after the deadline set forth in paragraph A, above, will not be accepted and/or considered. It is the sole responsibility of the bidder to submit the bid in accordance with all of the provisions contained herein. All bid document submissions shall be the originally executed version.
- C. Bids may be withdrawn upon the written request of the bidder prior to the time set forth for receiving and opening bids without forfeiture of the bid security and/or bond. If a bid is submitted through ePro, then the bid may also be withdrawn in ePro prior to the scheduled time for receipt of bids. Bids withdrawn within sixty (60) days after the bid opening may cause the forfeiture of the said bond and/or security as liquidated damages.
- D. All bids (both paper and ePro) will be opened and read publicly. All bids submitted in the ePro system will be opened from the system’s “encrypted lock box” and read. Bidders or their representatives are invited to be present at the opening. The bid summary sheet referencing both paper bids and ePro bids will be available through ePro and/or the Solid Waste Management Division for all bidders to view. The County reserves the right to waive any informality in any bid and to make award to the lowest responsible bidder as the interest of the County may require.
- E. Receipt of addenda, if issued, shall be acknowledged in the space provided on Page 20 of this document. Bidders must acknowledge all addendums at this location, regardless of any acknowledgement of addendums in ePro.

#### **IV. BID DEPOSIT (BID BOND)**

The bidder shall submit with its bid either: (i) cash; or (ii) a cashier's check or a certified check made payable to the County; or (iii) a surety bond made in favor of the County; any of such submissions to be in the amount of ten percent (10%) of the Total Bid, as guarantee that in the event of the failure by the bidder to execute the necessary contract within five (5) Working Days of the receipt of the Notice of Intent to Award Contract, and furnish the required contract bonds and insurance, the security or surety bond and the money payable thereon shall be, and remain, the property of San Bernardino County.

The standard printed bid bond form of any bonding company acceptable to the County may be used in lieu of the approved sample bond form supplied in these bid documents, provided the security stipulations protecting the County are not in any way reduced by use of the surety company's printed standard form. If the bid is accompanied by cash, a cashier's check or a certified check, within thirty (30) calendar days after execution of the contract and/or not later than sixty (60) calendar days after the Contract Award, the County will return each bidder's bid security which accompanied its bid, except such security which may have been forfeited in accordance with the provisions stated herein.

If the bid is submitted through San Bernardino County Electronic Procurement Network (ePro) then scan the bid security (bid bond, etc.) and submit the scanned copy with your bid submittal in ePro, additionally, mail and submit the original bid security, in a separate sealed envelope labeled "Bid Bond" with the project title and number and clearly marked "Bid Bond" on the outside, to: San Bernardino County, Department of Public Works, Solid Waste Management Division, 222 West Hospitality Lane, 2nd Floor, San Bernardino, CA 92415-0017. **Any mailed or submitted bid security must be received on or before the time set for the opening of the bids.**

#### **V. STATE LICENCES**

The bidder shall certify that it is currently the holder of a valid license as a contractor in the State of California and that the license is the correct class of license for the work described in the project drawings and specifications.

#### **VI. LIST OF SUBCONTRACTORS FILED WITH BID AND SUBSTITUTION**

In accordance with the provisions of Public Contract Code section 4100 et seq., each bidder shall submit with the proposal the name, location of the place of business, and the California contractor license number of each of the proposed subcontractors who will perform work, labor, or render service to the principal Contractor in an amount in excess of 0.5 of one percent of the Total Bid; and the general category or the portion of the work to be performed by each subcontractor.

If the bidder fails to specify a subcontractor for any work to be performed under the Contract, the bidder agrees to perform the work and shall not be permitted to subcontract that work except in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the Board of Supervisors setting forth the facts constituting the emergency or necessity.

The bidder certifies that all listed subcontractor(s) are currently the holder of valid contractor's license(s) in the State of California and the license(s) is the correct class of license for the work to be performed by the subcontractor(s).

The bidder certifies that it and all subcontractor(s) listed below have registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 (applicable for all bids submitted on or after March 1, 2015). The bidder agrees that no contractor or subcontractor may be awarded a contract for public work or perform work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 (applicable for all contracts awarded on or after April 1, 2015). The bidder acknowledges that the project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

As required by Labor Code 1771.1(a) "A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded."

Where a hearing is required for a decision on the substitution of subcontractors, pursuant to the provisions of Chapter 4, Part 1, Division 2, Title 1 of the Public Contract Code (commencing with Section 4100) by the awarding authority or a duly appointed hearing officer, the Clerk of the Board of Supervisors shall prepare and certify a statement of costs incurred by the County for investigation, and to conduct the hearing, including the costs of any hearing officer and shorthand reporter appointed. For the purposes of a hearing for the substitution of subcontractors (pursuant to the Public Contract Code commencing with Section 4100) the awarding authority shall be the Director of the Public Works Department, or his/her designee.

The statement of costs shall be sent to the undersigned, who shall reimburse the County for all costs. If not paid separately, such reimbursement shall be deducted from monies due and owing to the undersigned prior to acceptance of the project.

## **VII. NON-COLLUSION DECLARATIONS**

A Non-Collusion Declaration, signed under penalty of perjury, shall be executed by the bidder and submitted with the bid. A Non-Collusion Declaration, signed under penalty of perjury, shall also be executed by each of bidder's subcontractors and submitted by the bidder within four (4) Working Days after becoming the successful bidder.

## **VIII. BIDDERS INTERESTED IN MORE THAN ONE BID**

No person, partnership, joint venture, firm, or corporation shall make, file, or be interested in more than one bid. A person, partnership, joint venture, firm, or corporation who has submitted a subproposal to a bidder or who has quoted prices of materials to a bidder, is not hereby disqualified from submitting a subproposal or quoting prices to other bidders.

## **IX. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS**

If any bidder is in doubt as to the true meaning of any requirement or omissions from any drawing or specification, it shall submit to the County's Project Manager, a written request for an interpretation or correction thereof. The written request must be received at least ten (10) calendar days prior to the date fixed for opening of bids. The person making the request shall be responsible for its prompt delivery.

Interpretations or corrections may be made only by addenda to each addition or change being furnished through the County to each prospective bidder. Only a written interpretation or correction by an addendum shall be binding.

## **X. LOCAL AND SITE CONDITIONS**

- A. Bidders shall read the specifications, visit the site(s), examine the drawings, and other contract documents and make their own estimates of the existing conditions and the difficulties which will attend the execution of the work called for by the proposed contract including uncertainty of weather and all other contingencies prior to submitting bids for the work.
- B. Bidders shall satisfy themselves by personal examination of the proposed work and by such other means as they may choose as to actual conditions, limitations, and requirements that may affect the execution of the work and as to the accuracy of the quantities stated in the Bid Documents. Information derived from the maps, plans, specifications, profiles, drawings, or from the County's Project Manager or assistants, shall not relieve the bidder of this responsibility.
- C. The failure or omission of any bidder to receive or examine any form, instrument, addendum, or other document, or the bidder's failure to visit and acquaint itself with conditions at the site or legal and regulatory requirements, shall in no respect relieve the bidder from any obligation imposed by its bid, regulations, guidelines, or by the contract. The submittal of a bid shall be taken as prima facie evidence of compliance with all instructions contained herein.

## **XI. GEOLOGIC, SOIL AND LANDFILL CONDITIONS**

It shall be the bidder's responsibility to make all examinations, investigations, borings and field studies necessary for any required excavation and embankment construction operation or health and safety practice or plan. The bidder is also responsible for obtaining any information needed to fully determine all cost factors related thereto, which shall be included in its bid price for the work. The submittal of a bid will be accepted as prima facie evidence that the bidder has undertaken all necessary steps to become, and is, fully informed of all geologic, soil, and landfill conditions that will influence the cost to perform the work and that due consideration of all such factors was taken by the bidder prior to making its bid.

## **XII. LOWEST RESPONSIBLE BID**

In selecting the lowest responsible bidder, consideration will be given to the general competency for the performance of the work covered by the bid and the delivery schedule proposed by the bidder. To receive the bid and favorable consideration, a bidder shall be required to present evidence that it has successfully performed, within the last five (5) years, comparable work and projects, as set in the Bidder's Qualifications form. The bidder shall

state that its Project Manager and its associates are personally competent to manage the proposed undertaking and to carry it forward to a successful conclusion. Professional integrity and honesty of purpose shall be essential requirements.

### **XIII. PREVAILING WAGES, PENALTIES, AND PROHIBITED SUBCONTRACTORS**

- A. The General Prevailing Wage Determination made by the Director of Industrial Relations pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773, and 1773.1 are included in this Bid Package and must be complied with, as stated in Article 42 of the General Conditions. Updated wage rate determinations will be made available when they are issued and the successful bidder will provide copies to all subcontractors. Wage rates paid on this project must be revised in accordance with the updated determinations. Copies of the prevailing wage rates are on file at the Office of Solid Waste Management Division and shall be made available to any interested party on request. Copies are also included in these Bid Documents.
- B. The Contractor shall, as a penalty, forfeit two hundred dollars (\$200.00) to the County for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of the Department of Industrial Relations for such work or craft in which such worker is employed by the Contractor or by any Subcontractor in connection with the Work. Pursuant to California Labor Code Section 1775, the difference between such prevailing wage rates and the amount paid to each worker for each calendar day, or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.
- C. Contractors are prohibited from performing work on a public works project with a subcontractor who is ineligible to perform work on a public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code. Any contract entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract, and any money that may have been paid to a debarred subcontractor by a contractor on the project shall be returned to the awarding body. The contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

### **XIV. INSURANCE**

The successful bidder shall furnish certificates of insurance to the Solid Waste Management Division evidencing the required insurance coverage at the time the contract is executed, additional endorsements, as required shall be provided prior to the commencement of performance of services, which certificates shall provide that such insurance shall not be terminated or expire without thirty (30) days written notice to the Solid Waste Management Division; and the successful bidder shall maintain such insurance from the time it commences performance of services until the completion of such services. Within fifteen (15) days of the commencement of the Contract, the successful bidder shall furnish a copy of the Declaration page for all applicable policies and will provide complete certified copies of the policies and endorsements immediately upon request. All policies, except for Worker's Compensation, shall contain additional endorsements naming San Bernardino County and its officers, employees, agents and volunteers as an additional named insureds. All required policies are to be primary and non-contributory with any insurance or self-insurance programs carried or administered by San Bernardino County. All coverages shall be subject to approval by the County's Risk Manager for adequacy of protection.



## **XV. EXECUTION OF CONTRACT**

The successful bidder shall execute, within five (5) Working Days of receipt of the Notice of Intention to Award Contract, a written contract with the County in the form of agreement attached hereto. If a bidder to whom award is made fails or refuses to enter into contract as herein provided, or to conform to any of the stipulated requirements in connection therewith, the deposit represented by its cash, cashier's check, certified check, or bidder's bond shall become the property of the County as provided in Article IV, hereof, the award will be annulled, and at the discretion of the County, the contract may be awarded to the next lowest qualified bidder. Such bidder shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made.

A corporation to which an award is made shall be required, before the contract is finally executed, to furnish evidence of its corporate existence, of its right to do business in California, and of the authority of the officer signing the contract and bonds for the corporation.

## **XVI. AWARD OF CONTRACTS FOR BID ALTERNATIVES**

The Board of Supervisors reserves the right to award a contract for work items reflected solely in the base bid, or work items reflected in the base bid and, as determined in conformity with State law and in the sole discretion of the County, work items reflected in any or all of the alternatives, if applicable.

## **XVII. SCHEDULE**

The Contractor shall submit on a form in accordance with the Special Provisions and acceptable to the County, an overall schedule for the work. The schedule shall start with the proposed date of signing the contract and the completion date shall be the date specified in the contract.

## **XVIII. LABOR AND MATERIAL AND PERFORMANCE BONDS**

The Contractor shall furnish the County with a satisfactory Labor and Material Bond in an amount equal to one hundred percent (100%) of the contract price and a Faithful Performance Bond in an amount equal to one hundred percent (100%) of the contract price. Such bonds shall be furnished prior to the commencement of work under the contract.

These bonds shall be secured from a surety company or companies satisfactory to the County and shall be on County approved bond forms. Bonds shall remain in full force and effect for a period of one (1) year following the date of filing the Notice of Completion.

## **XIX. PERMITS**

The Contractor shall obtain and pay for all licenses or permits required by cities, San Bernardino County, State of California and federal laws and regulations, unless provided by the County.

## **XX. EXPLANATION OF BID ITEMS**

The monies to be paid for the various items of work included in the Bid Schedule shall constitute the total obligation of the County for the work described in the Contract Documents.

## **XXI. PAYMENT**

Payments will be made as outlined in Section 9, "Payments and Completion", of the General Conditions.

## **XXII. TIME LIMITS OF WORK**

The Work to be performed under the contract shall be completed as follows: The Contractor shall promptly commence the Work required by this Contract within ten (10) Working Days of the date specified in the Notice to Proceed (NTP) issued by the County and achieve Final Completion of the entire Work within **ONE HUNDRED SIXTY (160) Working Days**.

## **XXIII. GOVERNING DOCUMENTS**

Where a conflict or requirements exists between the various conditions of these documents, the more restrictive of the requirements shall apply.

## **XXIV. ASSIGNMENT**

This contract shall under no condition be assigned without prior written consent of the San Bernardino County Board of Supervisors.

## **XXV. FORMER COUNTY OFFICIALS**

Contractor agrees to provide information on former San Bernardino County administrative officials (as defined below) who are employed by or represent Contractor. The information provided includes a list of former County administrative officials who terminated County employment within the last five years and who are now officers, principals, partners, associates, or members of the business. The information also includes the employment with or representation of Contractor. For purposes of this provision, "County administrative official" is defined as a member of the Board of Supervisors or such officer's staff, Chief Executive Officer or member of such officer's staff, County department or group head, assistant department or group head, or any employee in the Exempt Group, Management Unit or Safety Management Unit.

## **XXVI. BID PROTEST**

Any Bidder submitting a Bid to the County for this Project may file a protest of the County's proposed award of a construction contract for this Project, provided that each and all of the following are complied with:

1. The bid protest is in writing.
2. The bid protest is submitted to and received by the Department of Public Works – Solid Waste Management Division, 222 West Hospitality Land, Second Floor, San Bernardino, CA, 92415-0017 before 4:00p.m. of the third business day following the bid opening. Failure to timely submit a written protest shall constitute grounds for the County's denial of the bid protest without consideration of the grounds stated in the bid

protest and a waiver of the right to protest. Untimely protests will not be accepted or considered.

3. The written bid protest shall set forth, in detail, all grounds for the bid protest (including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest), the form of relief required and the legal basis for such relief. Any grounds not set forth in the bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and credible evidence.

The bid protests shall include the name of the project manager and the name and number of the bid Project. Any bid protest not conforming to the foregoing shall be rejected as invalid.

If a valid protest is timely filed and complies with the above requirements, the Department shall review and evaluate the bid protest. All bidders, including the protesting bidder, shall have three business days to respond to the Department and to provide any information requested by the Department. The Department shall respond to the protesting bidder and state the Department's findings regarding the bid protest. The Department Director's decision shall be final, unless overturned by the Board of Supervisors.



## BIDDERS QUALIFICATIONS

The San Bernardino County Department of Public Works - Solid Waste Management Division will consider only bidders with a State Contractor "A" License.

The following questions are intended to allow the bidder to demonstrate their experience and qualifications as the prime contractor. All answers and information must be supplied on the forms below; any additional pages will not be considered. Also, clients/agencies listed who cannot be reached will not be considered and may result in the bid being non-responsive.

1. Agency or client \_\_\_\_\_

Amount of contract \_\_\_\_\_ Year \_\_\_\_\_

Number of change orders \_\_\_\_\_ Total cost of change orders \$ \_\_\_\_\_

Client Contact for recommendation name \_\_\_\_\_

Phone number for above (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Name of your firm's Project Manager \_\_\_\_\_

Short description of scope of contract \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Agency or client \_\_\_\_\_

Amount of contract \_\_\_\_\_ Year \_\_\_\_\_

Number of change orders \_\_\_\_\_ Total cost of change orders \$ \_\_\_\_\_

Client Contact for recommendation name \_\_\_\_\_

Phone number for above (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Name of your firm's Project Manager \_\_\_\_\_

**BIDDER'S QUALIFICATIONS (Continued)**

Short description of scope of contract \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Agency or client \_\_\_\_\_

Amount of contract \_\_\_\_\_ Year \_\_\_\_\_

Number of change orders \_\_\_\_\_ Total cost of change orders \$ \_\_\_\_\_

Client Contact for recommendation name \_\_\_\_\_

Phone number for above (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Name of your firm's Project Manager \_\_\_\_\_

Short description of scope of contract \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

List personnel and qualifications, of those who are available and will be used for work on this project:

Name \_\_\_\_\_ Job or Title \_\_\_\_\_

Qualifications \_\_\_\_\_

Name \_\_\_\_\_ Job or Title \_\_\_\_\_

Qualifications \_\_\_\_\_

Name \_\_\_\_\_ Job or Title \_\_\_\_\_

Qualifications \_\_\_\_\_

**BIDDER'S QUALIFICATIONS (Continued)**

Name \_\_\_\_\_ Job or Title \_\_\_\_\_

Qualifications \_\_\_\_\_

Name \_\_\_\_\_ Job or Title \_\_\_\_\_

Qualifications \_\_\_\_\_

Name \_\_\_\_\_ Job or Title \_\_\_\_\_

Qualifications \_\_\_\_\_

Briefly describe why your firm is well qualified to perform this work: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature of firm's Principal certifying above answers

\_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

## BID

San Bernardino County, Department of Public Works Division  
Solid Waste Management Division  
222 West Hospitality Lane, 2nd Floor  
San Bernardino, California 92415-0017

BIDDER: \_\_\_\_\_

The undersigned hereby agrees to perform all work for which a contract may be awarded and to furnish any and all plant, labor, services, materials, tools, equipment, supplies, transportation, utilities, permits and all other items and facilities necessary therefore as provided in the Bid Documents, and to do everything required therein, as specifically set forth in said Bid Documents entitled: **“Phase 1B Liner Construction Project at the Barstow Sanitary Landfill in Barstow, California”** together with appurtenances thereto, all as set forth on the drawings and in the specifications and other contract documents, and further promises and agrees that, if this Bid is accepted, the undersigned will contract in the form and manner stipulated to perform all the work called for by drawings, regulation, and regulatory guidelines, specifications, and other contract documents, and to complete all such work in strict conformity therewith within the limits set forth therein, and that the undersigned will accept as full payment therefore the prices set forth in the Bid Schedule forming a part thereof. The Total Bid set forth in the Bid Schedule includes applicable California State sales tax, freight, bonds, insurance and all other costs required to perform all such work.

A bid deposit, in the form of cash, a cashier's check or certified check properly made payable to the San Bernardino County, Solid Waste Management Division (County), or a surety bond made in favor of the County, in the amount of ten percent (10%) of the total amount of the bid, is included herewith, and is given as a guarantee that the undersigned will execute the contract and furnish the required bonds and insurance if awarded the contract and, in case of failure to do so within five (5) Working Days of receipt of the Notice of Intention to Award Contract, then the Board of Supervisors may, at its option, determine that the bidder has abandoned the contract, and thereupon, this proposal and the acceptance thereof shall be null and void, and the forfeiture of such security accompanying this proposal shall operate and the same become the property of San Bernardino County. The cash, certified check, or cashier's check delivered along with its bid by an unsuccessful bidder shall be returned to the unsuccessful bidder within 60 days from the Contract award. If the bid is submitted through San Bernardino County Electronic Procurement Network (ePro) then scan the bid security (bid bond, etc.) and submit the scanned copy with your bid submittal in ePro, additionally, mail and submit the original bid security, in a separate sealed envelope labeled “Bid Bond” with the project title and number and clearly marked “Bid Bond” on the outside, to: San Bernardino County, Department of Public Works, Solid Waste Management Division, 222 West Hospitality Lane, 2nd Floor, San Bernardino, CA 92415-0017. **Any mailed or submitted bid security must be received on or before the time set for the opening of the bids.**

It is understood and agreed that:

1. The undersigned has carefully examined and agrees to be bound by the terms of all the Bid Documents which will form a part of the Contract, namely the: Notice Inviting Bids, Instructions to Bidders, Bidder's Qualifications, Bid, Bid Schedule, Contractor's Licensing

## BID (Continued)

Statement, List of Subcontractors, Bid Security Form for Check or Bond, Agreement and General Conditions, Faithful Performance Bond, Labor and Material Bond, Non-Collusion Declaration, Contractor's Affidavit and Final Release, Special Provisions, and drawings, and all additions, deletions, modifications, and appendices and all addenda as prepared prior to the date of bid opening setting forth any modifications or interpretations of any said documents.

2. The undersigned has conducted an investigation at the site of the work and otherwise satisfied itself as to the nature and location of the work and has successfully informed itself as to all conditions and matters which can in any way affect the work or cost thereof.
3. The undersigned fully understands the full scope of the work and has checked carefully all Bid words and figures inserted in its proposal, and the undersigned further understands that the County will in no way be responsible for any errors or omissions in the preparation of this bid.
4. If this Bid is successful, the undersigned agrees to execute the required Standard Contract and will furnish a Labor and Material Bond in an amount equal to one hundred percent (100%) of the contract price and a Faithful Performance Bond in an amount equal to one hundred percent (100%) of the contract price. These bonds shall be secured from a surety company or companies satisfactory to the County and on the County approved bond forms. Bonds shall remain in full force and effect for a period of one (1) year following the date of filing of Notice of Completion.
5. If, during the course of the administration of any agreement arising from this Bid, the County determines that the Contractor has made a material misstatement or misrepresentation or that materially inaccurate information has been provided to the County, the contract resulting from this bid may be immediately terminated. If any contract is terminated according to this provision, the County is entitled to pursue any available legal remedies.
6. In conformance with current statutory requirements of Section 1860, et seq., of the Labor Code of the State of California, the undersigned confirms the following as its certification:

I am aware of the provision of Section 3700 of the Labor Code which requires every employer to be insured against liability for Workmen's Compensation or to undertake self-insurance in accordance with the provisions before commencing the performance of the work of this contract.

7. The undersigned hereby certifies that this bid is genuine and not sham or collusive or made in the interest or on behalf of any person not herein named, and the undersigned has not directly or indirectly induced or solicited any other bidder to put in a sham bid, or any other person, firm, or corporation to refrain from bidding; the undersigned has not in any manner sought by collusion to secure for itself an advantage over any other bidder.

The undersigned declares: that the only person or parties interested in this bid as principals are those named herein; that this bid is made without any connection with any

**BID (Continued)**

other person or persons making a bid for the same work; except for another division of the undersigned which may submit an independent bid; that the bid is in all respects fair and without collusion or fraud; that the undersigned has read the Advertisement for Bids and the Instructions to Bidders and agrees to all the stipulations contained therein; that the undersigned has examined the form of contract (including the specifications, drawings and other documents incorporated therein by reference); that in the event this bid, as submitted, including the incorporated bidding documents, be accepted by the County, the undersigned shall execute a contract to perform the work as outlined herein.

8. As required in Article XXV of the Instructions to Bidders, listed below is any former San Bernardino County administrative official who is employed by or represents the Bidder.

\_\_\_\_\_  
\_\_\_\_\_

9. **The undersigned acknowledges it has registered with the ePro system prior to the date and time to receive sealed bids or it will be disqualified.**

Check One:     ☐ Sole Proprietor  
                  ☐ Partnership  
                  ☐ Corporation  
                  ☐ Other

Name of Bidder: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_ Phone: \_\_\_\_\_

Contractor's License No.: \_\_\_\_\_ Primary Class: \_\_\_\_\_

Expiration Date of Contractor's License: \_\_\_\_\_

Contractor's DIR Registration No. \_\_\_\_\_

Federal Employer ID No.: \_\_\_\_\_

**BID (Continued)**

**ADDENDA ACKNOWLEDGEMENT**

This bid includes:

Addendum No.	_____	Dated	_____	Addendum No.	_____	Dated	_____
Addendum No.	_____	Dated	_____	Addendum No.	_____	Dated	_____
Addendum No.	_____	Dated	_____	Addendum No.	_____	Dated	_____
Addendum No.	_____	Dated	_____	Addendum No.	_____	Dated	_____

Bidder must acknowledge all addendums above, regardless of any acknowledgement of addendums in ePro.

NOW: In compliance with the Notice Inviting Bids, the Instructions to Bidders, and all the provisions herein before set forth, the undersigned, with full cognition thereof, hereby proposes to perform the entire work for the prices set forth in the Total Bid on the attached Bid Schedule upon which award of contract is to be made.

If the bid proposal is submitted through ePro the undersigned acknowledges that its electronic signature is legally binding.

I declare under penalty of perjury under the laws of the State of California that the above is true and correct, that the undersigned is authorized to sign on behalf of, and bind, the Bidder, and that this Bid Proposal is executed at \_\_\_\_\_, California on \_\_\_\_\_, 20\_\_\_\_.

Authorized Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

## **BID SCHEDULE**

A Bid Schedule is a listing of the elements, systems items, or other subdivisions of the work, establishing a value for each, the total of which equals the Total Bid.

Bidders must complete the Bid Schedule making sure that calculations are accurate. All rates should be “fully loaded”, i.e., they must include fees and charges such as overhead, general and administrative expenses, per diem or subsistence charges, and profit. The Contractor should exercise its best judgment as to what equipment (if applicable) is best suited for the job expected.

In order to compare bids, the bidder shall not change any bid quantities as shown on the Bid Schedule.

The County reserves the right to delete any item in the Bid Schedule without affecting the unit cost and to select any combination of the following costs for the actual construction contract.

Tasks and quantities are to be accomplished with no increase in price.

There may be delays due to wind conditions or wet weather prohibiting access to the site(s). There shall be no monetary compensation for these delays.

The Contractor shall protect the work area from washouts and, if the work area is affected, Contractor will replace the work at its own expense.

In the case of discrepancy between the written bid set forth and the numerical bid set forth, the written bid shall prevail. In the case of a discrepancy between the written bid or numerical bid set forth on the bid proposal, and the numerical bid set forth in the ePro system, the information on the bid proposal shall prevail.

### **UNIT PRICE**

The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total of the item, all in clearly legible figures 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 unit price bid on the basis of the estimated quantity for the item.

In all events, with respect to each unit basis item of work, the actual compensation due the successful bidder shall be the unit price multiplied by the actual number of such units performed on the project by Contractor and approved by the Solid Waste Management Division.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail; however, if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any cause, or is omitted, then the amount set forth in the “Total” column for the item shall prevail and shall be divided by the estimated quantity of the item and the price thus obtained shall be the unit price.

In case of a discrepancy between the bid set forth on the bid schedule and the numerical bid set forth in ePro system, the information on the bid schedule shall prevail.



**Barstow Sanitary Landfill  
PHASE 1B LINER CONSTRUCTION PROJECT**

Item No.	Approx. Quant.	Meas. Unit	Item Description	Unit Price	Total
1	1	LS	MOBILIZATION		
2	1	LS	CONSTRUCTION SUPPORT TASKS		
3	1	LS	PROJECT SURVEY		
4	1	LS	RECORD DRAWINGS		
5	15.8	AC	Clear, Grub, Demolition, Removals		
6A	160,000	CY	Unclassified Excavation/Transport to South Stockpile		
6B	360,000	CY	Unclassified Excavation/Transport to North Stockpile/Provide Daily Cover Soil for Contract Operator		
7	5,000	CY	Unclassified Excavation to Fill		
8	400,000	SF	Compacted/Screened 1" Minus Material Floor		
9	400,000	SF	Geosynthetic Clay Liner (GCL) Floor		
10A	400,000	SF	60-mil Geomembrane (Textured Both Sides) Encapsulation Geomembrane		
10B	400,000	SF	60-mil Geomembrane (Textured Both Sides) Geomembrane Floor		
11	400,000	SF	Geotextile 12-ounce (Floor)		
12	400,000	SF	LCRS Gravel (Floor)		
13	400,000	SF	Geotextile 8-ounce (Floor)		
14	180,000	SF	Geosynthetic Clay Liner, GCL (Slopes and Roadway/Benches)		
15A	180,000	SF	60 Mil Encapsulation Geomembrane (Textured Both Sides) (Slopes and Roadway/Benches)		
15B	180,000	SF	60 Mil Geomembrane (Textured Both Sides) (Slopes and Roadway/Benches)		
16	180,000	SF	16 oz Geotextile (Slopes and Roadway/Benches)		
17A	75,000	SF	Plastic Liner Cover (Scrim) (Details 3/D4, 4/D4, 5/D4, and 6/D3)		
17B	75,000	SF	HDPE Geotextile Ballast (Wind Defender) (Details 3/D4, 4/D4, 5/D4, and 6/D3)		
18	400,000	SF	Protective Cover Soil (Floor)		
19	70,000	SF	Protective Cover Soil (Slopes, First 12' Vertical)		
20	50,000	SF	Protective Cover Soil (Roadway/Benches)		
21	120	LF	Construct Horizontal Anchor at Existing Refuse Limit (Per Detail 7/D2)		
22	275	LF	Construct Slope Liner Join (Per Detail 9/D1)		
23	1,200	LF	Construct Anchor Trench at Berm (Per Detail 12/D1)		
24	300	LF	Construct Anchor Trench at South Roadway (Per Detail 11/D1)		

Item No.	Approx. Quant.	Meas. Unit	Item Description	Unit Price	Total
25	1,400	LF	Construct Anchor Trench at West Perimeter Road (Per Detail 3/D4)		
26	125	LF	Construct Slope Liner Termination (Per Detail 10/D1)		
27	2,600	LF	Construct Slope to Base Liner Transition (Per Detail 6/D1)		
28A	425	LF	Construct Liner Join at Phase 1A South Bench (Per Detail 6/D2)		
28B	1	EA	Construct Liner Join at LCRS Bench Crossing (Per Detail 5/D2)		
29	1,050	LF	Construct LCRS Header (Per Detail 1/D1 and 1/D2)		
30	2,200	LF	Construct LCRS Lateral (Per Detail 2/D2)		
31	540	LF	Construct 6" Solid HDPE LCRS Riser Pipe (Per Detail 3/D3)		
32	540	LF	LCRS Access Road/Bench Collector (Per Details 7/D1)		
33A	40	LF	Construct LFG Pipe Road Crossing (Per Detail 2/D3)		
33B	50	LF	Construct LFG Pipe Access Road Crossing (Per Detail 6/D3)		
33C	100	LF	Construct LCRS Pipe Access Road Crossing (Per Detail 6/D3)		
34	11	EA	Construct LCRS Pipe Junction (Per Detail 6/D4)		
35	15	EA	Construct LFG/Test Port/LCRS Riser Pipe Termination Support (Per Detail 1/D4)		
36	500	LF	Construct 4" Solid LFG Collection Pipe (Per Detail 1/D3)		
37A	2,300	LF	Construct 4" Slotted LFG Evacuation Pipe (Per Detail 8/D4)		
37B	70	LF	Construct 4" Slotted LFG Migration Collection Pipe (Per Detail 1/D3)		
38	50	LF	Construct Wrapped Gravel (Per Detail 3/D2)		
39	2,000	CY	Waste Removal/Reconsolidation		
40	3,500	CY	Alluvium/Unsuitable Material Removal		
41	400,000	SF	Subgrade Surface Preparation - Floor		
42	180,000	SF	Subgrade Surface Preparation - Slope, Roadway/ Benches		
43			Not Used		
44	2,800	SF	Construct Embankment Protection (Per Detail 4/D3)		
45	500	SF	Down Drain Embankment Protection (Per Detail 1/6)		
46	36	LF	Rip Rap Pad/Rip Rap Drainage Outlet (Per Detail 13/D1)		
47	35,000	SF	Construct 12-Inch Thick Access Road Driving Surface (1-Inch Plus to 3-Inch Minus Material Size) - (Per Detail 8/D1)		

Item No.	Approx. Quant.	Meas. Unit	Item Description	Unit Price	Total
48	24,000	SF	6-Inch CMB over 12 oz/sy Geotextile Berm Road (Per Detail 2/D3)		
49	15	EA	Install Class I Flexible Post Delineator (Soil Mount) Per Cal Trans A-73C; Stencil Purpose of Pipe Riser on Delineator		
50	2,000	LF	Construct Tortoise Fence (Per Detail 5/D5)		
51	4	EA	PCC/McCarthy inlet to flume Down Drain (Per Detail 1/7)		
52	350	LF	Flume down drain (Per Detail 2/7)		
53	140	SF	Rip Rap Pad (Per Detail 4/7)		
54	30	EA	Gravelbag Chevrons (Per Detail 1/D5) (L = 10')		
55	86,600	LF	Fiber Rolls (Per Detail 2/D5 and 3/D5) (11,000 South; 75,540 N)		
56	1	LS	Leak Location Testing		
<b>PROJECT TOTAL:</b>				<b>\$</b>	

1. The PROJECT will be bid on a UNIT PRICE basis, and quantities are to be VERIFIED by the Bidders. Final determination of quantities and associated costs for each progress payment will be subject to approval by the Construction Manager. The Contractor shall have no claim for compensation, or loss of profit, as a result of the deletion or reduction in quantities.
2. SWMD reserves the right to delete any specific item on the bid schedule in its entirety. Should SWMD elect not to proceed with a specified item of work, it will be deleted from the Contract and the cost deleted from the Contract Sum.
3. **THE AWARD OF THIS CONTRACT WILL BE BASED ON THE LOWEST RESPONSIVE AND RESPONSIBLE TOTAL BID.**

## BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, \_\_\_\_\_,  
as Principal, and \_\_\_\_\_, as Surety, an admitted Surety  
insurer pursuant to Code of Civil Procedure, Section 995.120, legally doing business in California  
at \_\_\_\_\_, are held  
and firmly bound unto San Bernardino County, hereinafter called the County, in the penal sum of  
TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal submitted to  
County for the work described below for the payment of which sum in lawful money of the  
United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators,  
successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted  
the accompanying bid dated \_\_\_\_\_, 20\_\_\_\_, for\_ the **“Phase 1B Liner  
Construction Project at the Barstow Sanitary Landfill in Barstow, California”** project.

NOW THEREFORE, if the Principal shall not withdraw said bid within the period specified in  
County’s Bid Documents after the opening of the bid, or, if no period be specified, within sixty  
(60) days after said opening; and if the Principal is given Notice of Intent to Award Contract, and  
shall within the period specified therefore, or, if no period be specified, within five (5) Working  
Days after the prescribed forms are presented to it for signature, return executed copies of the  
Agreement to the County, in accordance with the bid as accepted, shall deliver the required proof  
of insurance coverages prior to the commencement of performance of services hereunder, and  
give bond with good and sufficient surety or sureties, as may be required, for the faithful  
performance and proper fulfillment of such contract and for the payment for labor and materials  
used for the performance of the contract, or in the event of the withdrawal of said bid within the  
period specified or the failure to enter into such contract, obtain insurances, and give such bonds  
within the time specified, if the Principal shall pay the County the difference between the amount  
specified in said bid and the amount for which the County may procure the required work and/or  
supplies if the latter amount be in excess of the former, together with all costs incurred by the  
County in again calling for bids, then the above obligation shall be void and of no effect,  
otherwise to remain in full force and virtue.

Surety, for value received, hereby stipulates and agrees that no change, extension of time,  
alteration or addition to the terms of the contract or the call for bids, or to the work to be  
performed thereunder, or the specification accompanying the same, shall in any way affect its  
obligation under this bond, and it does hereby waive notice of any such change, extension of  
time, alteration or addition to the terms of said contract or the call for bids, or to the work, or the  
specifications.

In the event suit is brought upon this bond by the County and judgment is recovered, Surety shall  
pay all costs incurred by the County in such suit, including a reasonable attorney’s fee to be fixed  
by the court.

## BID BOND (Continued)

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

(Corporate Seal)

Principal

By

Title

(Corporate Seal)

Surety

By

Title

(Attach Attorney-in-Fact Certificate)

Note: The standard printed bond form of any bonding company acceptable to the County may be used in lieu of the foregoing approved sample bond form provided the security stipulations protecting the County are not in any way reduced by use of the surety company's printed standard form.

## BID SECURITY FORM

(Note: This form is used if cash, cashier's check or certified check accompanies bid)

Accompanying this proposal is a deposit of cash, or a cashier's or certified check payable to the order of SAN BERNARDINO COUNTY for and on behalf of the Solid Waste Management Division, hereinafter referred to as "County", for \_\_\_\_\_ dollars (\$ \_\_\_\_\_), this amount being ten percent (10%) of the total amount of the bid. The proceeds of this deposit shall become the property of said County provided that the bid of the undersigned shall be accepted by the said County through action of its legally constituted contracting authorities and the undersigned shall fail to execute a contract and furnish the required proof of insurance coverage, the Faithful Performance Bond and the Payment Bond, within the stipulated time; otherwise, the deposit shall be returned to the undersigned. The proceeds of this deposit shall also become the property of the County if the undersigned shall withdraw its bid within the period of sixty (60) days after the date set for the opening thereof, unless otherwise required by law, and notwithstanding the award of the contract to another bidder.

\_\_\_\_\_  
BIDDER

IN WITNESS WHEREOF, we hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

NOTE: If the bidder desires to issue a surety bond instead of cash or a check, the Bid Bond form on Page 19 or an acceptable equivalent must be executed. The sum of this bond shall be not less than ten percent (10%) of the total amount of the bid.

**(PAGE LEFT BLANK)**

**NOT FOR BID**

## CONTRACTOR'S LICENSING STATEMENT

The undersigned is licensed in accordance with the laws of the State of California providing for the registration of Contractors. Please print or type.

### INDIVIDUAL CONTRACTORS:

Contractor's License Number \_\_\_\_\_  
Name of Contractor \_\_\_\_\_  
Signature of Contractor \_\_\_\_\_  
Business Address \_\_\_\_\_

### PARTNERSHIPS:

Name \_\_\_\_\_ Contractor's License No. \_\_\_\_\_  
Business Address \_\_\_\_\_

#### Partners signing on behalf of partnership:

Signature \_\_\_\_\_ Title \_\_\_\_\_  
Address \_\_\_\_\_

Signature \_\_\_\_\_ Title \_\_\_\_\_  
Address \_\_\_\_\_

Signature \_\_\_\_\_ Title \_\_\_\_\_  
Address \_\_\_\_\_

Signature \_\_\_\_\_ Title \_\_\_\_\_  
Address \_\_\_\_\_

### CORPORATIONS:

Name \_\_\_\_\_ Contractor's License No. \_\_\_\_\_

Business Address \_\_\_\_\_

Corporation organized under  
the laws of the State of: \_\_\_\_\_

\_\_\_\_\_  
Signature of President of Corporation or Duly Authorized Officer or Agent



## LIST OF SUBCONTRACTORS

The bidder is required to furnish the following information in accordance with the provisions of Section 4100 et seq. of the Public Contract Code. The bidder certifies that all subcontractor(s) listed below are currently the holder of valid contractor's license(s) in the State of California and the license(s) is the correct class of license for the work to be performed by the subcontractor(s). The bidder certifies that it and all subcontractor(s) listed below have registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. The bidder agrees that no contractor or subcontractor may be awarded a contract for public work or perform work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

**SUBCONTRACTOR'S BUSINESS  
NAME AND ADDRESS  
(AS IT APPEARS ON LICENSE)**

**SPECIFIC DESCRIPTION OF  
THE PORTION OF THE WORK TO  
BE DONE BY SUBCONTRACTOR**

\_\_\_\_\_  
Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
City State Zip Code

Phone: ( ) \_\_\_\_\_

Contractor Lic. No. \_\_\_\_\_ Percent of Total Contract: \_\_\_\_\_

DIR Registration No. \_\_\_\_\_

\_\_\_\_\_  
Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
City State Zip Code

Phone: ( ) \_\_\_\_\_

Contractor License No. \_\_\_\_\_ Percent of Total Contract: \_\_\_\_\_

DIR Registration No. \_\_\_\_\_

(CONTINUED ON TO NEXT PAGE)

\_\_\_\_\_  
Name \_\_\_\_\_  
\_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
City State Zip Code \_\_\_\_\_  
Phone: ( ) \_\_\_\_\_  
\_\_\_\_\_  
Contractor License No. \_\_\_\_\_ Percent of Total Contract: \_\_\_\_\_  
\_\_\_\_\_  
DIR Registration No. \_\_\_\_\_

\_\_\_\_\_  
Name \_\_\_\_\_  
\_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
City State Zip Code \_\_\_\_\_  
Phone: ( ) \_\_\_\_\_  
\_\_\_\_\_  
Contractor License No. \_\_\_\_\_ Percent of Total Contract: \_\_\_\_\_  
\_\_\_\_\_  
DIR Registration No. \_\_\_\_\_

Do not list alternative contractors for the same work.

## NON-COLLUSION DECLARATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid.

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

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

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

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

## NON-COLLUSION DECLARATION

TO BE EXECUTED BY EACH SUBCONTRACTOR AND SUBMITTED  
WITH BID OR WITHIN FOUR DAYS AFTER BID OPENING

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid.

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

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

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

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

CONTRACT BOND

BOND NUMBER \_\_\_\_\_

PUBLIC WORK

EFFECTIVE DATE \_\_\_\_\_

**PERFORMANCE BOND**

KNOW ALL PERSONS BY THESE PRESENTS: That we,

\_\_\_\_\_  
(Name of Principal)

\_\_\_\_\_, as Principal  
(Principal's Address)

and \_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Surety's Address)

a corporation organized and existing under the laws of the State of \_\_\_\_\_, and authorized to transact surety business in the State of California, as Surety, are held and firmly bound unto San Bernardino County in the penal sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), lawful money of the United States of America, for the payment whereof, well and truly to be made, we hereby bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of the above obligation is such that, whereas the Principal has entered into a contract dated \_\_\_\_\_, 20\_\_\_\_, (the "Contract") with San Bernardino County to do and perform the following work, to-wit:

Project Name: **Phase 1B Liner Construction Project at the Barstow Sanitary Landfill in Barstow, California**

Project #: **20.30.0119**

Now, therefore if the hereby Principal, his, her or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract and any alteration thereof made as therein provided, on his, her or their part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning and shall indemnify, defend and hold harmless San Bernardino County and its officers, agents, and employees, as therein stipulated, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and effect.

If the said Principal shall fail to perform the work contracted to be performed the Surety, upon written demand of San Bernardino County, shall perform the work in conformance with the Contract Documents.

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

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Contract Documents accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed or to the Contract Documents thereunder.

This bond is deemed to have been entered into at San Bernardino, California.

IN WITNESS WHEREOF, the Principal and Surety have caused this bond to be executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by its undersigned representative(s) pursuant to authority of its governing body.

Principal  
(Have Signature(s) Notarized)

Name \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Surety  
(Have Signature Notarized and  
Attach Power of Attorney)

Name \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

CONTRACT BOND

BOND NUMBER \_\_\_\_\_

PUBLIC WORK

EFFECTIVE DATE \_\_\_\_\_

**PAYMENT BOND  
(LABOR AND MATERIALS)**

KNOW ALL PERSONS BY THESE PRESENTS: That we,

\_\_\_\_\_  
(Name of Principal)

\_\_\_\_\_, as Principal  
(Principal's Address)

and \_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Surety's Address)

a corporation organized and existing under the laws of the State of \_\_\_\_\_, and authorized to transact surety business in the State of California, as Surety, are held and firmly bound unto San Bernardino County in the penal sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), lawful money of the United States of America, for the payment whereof, well and truly to be made, we hereby bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of the above obligation is such that, whereas the Principal has entered into a contract dated \_\_\_\_\_, 20\_\_\_\_, (the "Contract") with San Bernardino County to do and perform the following work, to-wit:

Project Name: **Phase 1B Liner Construction Project at the Barstow Sanitary Landfill in Barstow, California**

Project #: **20.30.0119**

Now, therefore, if the hereby bounded Principal, his, her or its heirs, executors, administrators, successors or assigns or subcontractors shall fail to pay any of the persons named in California Civil Code section 9100, or amounts due under the California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal and subcontractors pursuant to section 13020 of the California Unemployment Insurance Code with respect to the work and labor, that Surety will pay for the same, and also, in case suit is brought upon the bond, a reasonable attorney's fee, to be fixed by the court.

This bond shall inure to the benefit of any of the persons named in California Civil Code section 9100 so as to give a right of action to those persons or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Contract Documents accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed or to the Contract Documents thereunder.

This bond is deemed to have been entered into at San Bernardino, California.

IN WITNESS WHEREOF, the Principal and Surety have caused this bond to be executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by its undersigned representative(s) pursuant to authority of its governing body.

Principal  
(Have Signature(s) Notarized)

(Seal)

Name \_\_\_\_\_  
By \_\_\_\_\_  
Title \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
Phone \_\_\_\_\_

Surety  
(Have Signature Notarized and  
Attach Power of Attorney)

(Seal)

Name \_\_\_\_\_  
By \_\_\_\_\_  
Title \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
Phone \_\_\_\_\_



## CONTRACTOR'S AFFIDAVIT AND FINAL RELEASE

This is to certify that \_\_\_\_\_, hereinafter "the undersigned," declares to San Bernardino County that it has paid in full for all materials, supplies, labor (at applicable prevailing wage rates), services, tools, equipment and all other bills contracted for by the undersigned or by any of the undersigned's agents, employees or subcontractors used in or contributing to the execution of its contract with San Bernardino County with regard to the building, erection, construction, or repair of that certain work of improvement known as: \_\_\_\_\_ situated in San Bernardino County, State of California, more particularly described as follows: \_\_\_\_\_.

The undersigned declares that it knows of no unpaid debts or claims arising out of said Contract which would constitute grounds for any third party to claim a stop notice of any unpaid sums owing to the undersigned.

Further, for valuable consideration, the receipt of which is hereby acknowledged, the undersigned does hereby fully release and acquit San Bernardino County and all agents and employees of the County, and each of them, from any and all claims, debts, demands, or causes of action which exist or might exist in favor of the undersigned and San Bernardino County or which relate in any way to the work performed by the undersigned with regard to the above-referenced construction project.

Further, the undersigned expressly acknowledges its awareness of and waives the benefits of paragraph 1542 of the Civil Code of the State of California which provides: "A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."

This release is intended to be a full and general release of any and all claims which the undersigned now has or may, in the future, have against San Bernardino County and/or its agents and employees with regard to any matter arising from the construction of the above-referenced project or the contract between the County and the Contractor with respect thereto whether such claims are now known or unknown, or are suspected or unsuspected.

I declare under penalty of perjury under the laws of the State of California that the above is true and correct and that this Contractor's Affidavit and Final Release is executed at \_\_\_\_\_, California.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Name of Entity

Signature: \_\_\_\_\_

Print Name and Title: \_\_\_\_\_

# **STATE PREVAILING WAGE DETERMINATIONS**

**For The**

**PHASE 1B LINER CONSTRUCTION  
PROJECT AT THE  
BARSTOW SANITARY LANDFILL  
BARSTOW, CALIFORNIA**

# GENERAL PREVAILING WAGE DETERMINATIONS 2018-1 JOURNEYMAN DETERMINATIONS

General prevailing wage determinations  
made by the director of industrial relations



Pursuant to California Labor Code part 7,  
chapter 1, article 2, sections 1770, 1773, and 1773.1

## STATEWIDE

Page	Determination
1	Boilermaker-Blacksmith
2	Iron Worker
2A	Electrical Utility Lineman (a)
2A-1	Electrical Utility Lineman (c)
2B-2B2	Telecommunications Technician
2B3	Telephone Installation Worker
2D-2F	Tree Trimmer (High Voltage Line Clearance)
2H	Stator Rewinder
2I	Electrical Utility Lineman (b)
2J	Metal Roofing
2K-2L	Driver (On/Off-Hauling To/From Construction Site)

## SOUTHERN CALIFORNIA

Page	Determination
3	Asbestos Worker, Heat and Frost Insulator (d)
18D	Asbestos and Lead Abatement (Laborer) (e)
10E	Building/Construction Inspector and Field Soils and Material Tester +
4	Carpenter
10A-10B	Cranes, Pile Driver and Hoisting Equipment (Operating Engineer) +
20	Cement Mason
10	Dredger (Operating Engineer) (e)
5	Drywall Installer (Carpenter)
6	Elevator Constructor (e)
3A	Fence Builder (Carpenter) (e)

11C	Fire Safety and Miscellaneous Sealing (e) +
16	Guniting Worker (Laborer) (e)
21-D	Horizontal Directional Drilling (Laborer)(e)
17	Housemover (Laborer)
13	Laborer
10F	Landfill Worker (Operating Engineer) (e)
18A	Landscape Irrigation Laborer
18C	Landscape Maintenance Laborer (e)
10C	Landscape Operating Engineer (e)
11B	Light Fixture Maintenance
4A	Modular Furniture Installer (Carpenter) (e)
7	Operating Engineer +
18E	Parking and Highway Improvement (Striping, slurry & seal coat operations-Laborer) (e)
21	Teamster +
18-B	Tree Maintenance (Laborer) (e)
15	Tunnel Worker (Laborer)

+ Includes shift pay determinations.

\* A single asterisk after the expiration date of a determination indicates that no increase is required for projects advertised while that determination is in effect. The determination remains in effect until it is canceled, modified, or superseded by a new determination by the Director of Industrial Relations. A new determination will become effective 10 days after it is issued. Contact the Office of the Director - Research Unit at (415) 703-4774 after 10 days from the expiration date, if no subsequent determination is issued.

a. State of California, except Del Norte, Modoc, and Siskiyou. For Pole Restoration and Treatment classifications in Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Siskiyou, Tulare and Ventura - see page 2A-1)

b. Includes Del Norte, Modoc and Siskiyou Counties.

c. Pole Restoration and Treatment classifications in Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tulare and Ventura.

d. Includes San Diego County; excludes Mono County.

e. Includes San Diego County.

**If you cannot find a job classification needed to execute a contract in the Director's general prevailing wage determinations, please contact the Office of the Director - Research Unit, P.O. Box 420603, San Francisco, CA 94142, (415) 703-4774. Because it may necessitate a wage survey, you should allow 45 days prior to the bid advertisement date for such request. Include in your request the project name or bid number, the classifications needed, job description if available, the bid advertisement date, and location of the project(s).**

**OBTAINED AT: <http://www.dir.ca.gov/oprl/2018-1/PWD/index.htm>**

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Asbestos Worker, Heat and Frost Insulator<sup>#</sup>**

**Determination:**

SC-3-5-1-2020-2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

July 4, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Daily Overtime Hourly Rate (2 X)	Saturday Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (2 X)	Sunday/ Holiday Overtime Hourly Rate
Mechanic	\$45.39 <sup>a</sup>	\$10.78 <sup>b</sup>	\$8.12 <sup>c</sup>	\$3.42	\$1.49	\$0.00	8.0	\$69.20	\$91.895 <sup>d</sup>	\$114.59	\$91.895 <sup>e</sup>	\$114.59	\$114.59 <sup>f</sup>

**Determination:**

SC-3-5-3-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

July 4, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Daily Overtime Hourly Rate (2 X)	Saturday Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (2 X)	Sunday/ Holiday Overtime Hourly Rate
Hazardous Material Handler Mechanic	\$21.34 <sup>g</sup>	\$5.78 <sup>h</sup>	\$6.17	\$0.00	\$0.82	\$0.00	8.0	\$34.11	\$44.78	\$0.00	\$44.78	\$0.00	\$44.78 <sup>i</sup>

**Note:**

Asbestos removal workers must be trained and the work conducted according to the Code of Federal Regulations 29 CFR 1926.58, the California Labor Code 6501.5 and the California Code of Regulations, Title 8, Section 5208. Contractors must be certified by the Contractors' State License Board and registered with the Division of Occupational Safety and Health (DOSH). For further information, contact the Asbestos Contractors Abatement Registration Unit, DOSH at (510) 286-7362.

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes 6.5% of employees gross wage for dues/service fee check-off plus \$0.25 for supplemental dues.

<sup>b</sup> Includes \$0.01 for Occupational Health Plan.

<sup>c</sup> Pursuant to Labor Code Sections 1773.1 and 1773.8, the amount paid for the employer payment may vary resulting in a lower taxable Basic Hourly Rate, but the Total Hourly Rates for Straight Time and Overtime may not be less than the general prevailing rate of per diem wages.

<sup>d</sup> Rate applies to the first 2 overtime hours. Applies to all daily overtime hours on maintenance and asbestos abatement projects.

<sup>e</sup> Rate applies to first 8 hours worked on new construction. Applies to all Saturday hours on maintenance and asbestos abatement projects.

<sup>f</sup> \$159.98 per hour for work on Labor Day. For maintenance and asbestos abatement projects, Sundays and observed holidays may be worked at the time and one half rate.

<sup>g</sup> Includes 6.5% of employees gross wage for dues/service fee check-off plus \$0.06 for supplemental dues.

<sup>h</sup> Includes \$0.40 for medical monitoring in compliance with industry regulations procedures and \$0.01 for Occupational Health Plan.

<sup>i</sup> \$76.79 per hour for work on Labor Day.

NOT FOR BIDD

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Fire Safety and Miscellaneous Sealing**

**Determination:**

SC-3-5-4-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

August 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate <sup>d</sup>	Health and Welfare <sup>e</sup>	Pension	Vacation and Holiday	Other	Hours	Total Hourly Rate	Daily and Saturday Overtime Hourly Rate (1 ½ X) <sup>a</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)	Sunday/ Holiday Overtime Hourly Rate (3 X) <sup>b</sup>
Asbestos Worker, Fire Safety Technician – Class I (0-2000 hrs) <sup>c</sup>	\$18.49	\$9.66	\$0.00	\$0.90	\$0.05	8.0	\$29.10	\$38.345	\$47.59	\$66.08
Asbestos Worker, Fire Safety Technician – Class II (2001-4000 hrs) <sup>c</sup>	\$23.79	\$9.66	\$0.00	\$1.26	\$0.05	8.0	\$34.76	\$46.655	\$58.55	\$82.34
Asbestos Worker, Fire Safety Technician – Class III (4001-6000 hrs) <sup>c</sup>	\$25.83	\$9.66	\$8.12	\$1.33	\$0.05	8.0	\$44.99	\$57.905	\$70.82	\$96.65
Asbestos Worker, Fire Safety Technician – Class IV (6001 or more hrs) <sup>c</sup>	\$29.97	\$9.66	\$8.12	\$1.53	\$0.05	8.0	\$49.33	\$64.315	\$79.30	\$109.27



**Wages and Employer Payments (Shift):**

Classification (Journeyman) (Shift)	Basic Hourly Rate <sup>d</sup>	Health and Welfare <sup>e</sup>	Pension	Vacation and Holiday	Other	Hours	Total Hourly Rate	Daily and Saturday Overtime Hourly Rate (1 ½ X) <sup>f</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)	Sunday/ Holiday Overtime Hourly Rate (3 X) <sup>b</sup>
Asbestos Worker, Fire Safety Technician – Class I (0-2000 hrs) <sup>c</sup>	\$18.49	\$9.66	\$0.00	\$0.90	\$0.05	9	\$29.10	\$38.345	\$47.59	\$66.08
Asbestos Worker, Fire Safety Technician – Class II (2001-4000 hrs) <sup>c</sup>	\$23.79	\$9.66	\$0.00	\$1.26	\$0.05	9	\$34.76	\$46.655	\$58.55	\$82.34
Asbestos Worker, Fire Safety Technician – Class III (4001-6000 hrs) <sup>c</sup>	\$25.83	\$9.66	\$8.12	\$1.33	\$0.05	9	\$44.99	\$57.905	\$70.82	\$96.65
Asbestos Worker, Fire Safety Technician – Class IV (6001 or more hrs) <sup>c</sup>	\$29.97	\$9.66	\$8.12	\$1.53	\$0.05	9	\$49.33	\$64.315	\$79.30	\$109.27

**Determination:**

SC-204-X-18-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

August 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.

**Wages and Employer Payments:**

Classification (Journeyman)	Basic Hourly Rate <sup>d</sup>	Health and Welfare	Pension	Vacation and Holiday <sup>h</sup>	Training	Other	Hours	Total Hourly Rate	Daily and Saturday Overtime Hourly Rate (1 ½ X) <sup>i</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)	Sunday/ Holiday Overtime Hourly Rate (3 X)
Plumber, Fire Safety Technician – Class I (0-2000 hrs) <sup>c</sup>	\$19.67	\$8.10	\$0.00	\$0.00	\$0.10	\$1.25	8.0	\$29.12	\$38.955	\$48.790	\$68.460
Plumber, Fire Safety Technician – Class II (2001-4000 hrs) <sup>c</sup>	\$25.32	\$8.10	\$0.00	\$0.00	\$0.10	\$1.25	8.0	\$34.77	\$47.430	\$59.480	\$83.580
Plumber, Fire Safety Technician – Class III (4001-6000 hrs) <sup>c</sup>	\$28.26	\$8.10	\$6.77	\$0.00	\$0.10	\$1.25	8.0	\$44.48	\$58.610	\$71.880	\$98.420
Plumber, Fire Safety Technician – Class IV (6001 or more hrs) <sup>c</sup>	\$32.59	\$8.10	\$6.77	\$0.00	\$0.10	\$1.25	8.0	\$48.81	\$65.105	\$80.040	\$109.910

**Wages and Employer Payments (Shift):**

Classification (Journey person) (Shift)	Basic Hourly Rate <sup>d</sup>	Health and Welfare	Pension	Vacation and Holiday <sup>h</sup>	Training	Other	Hours	Total Hourly Rate	Daily and Saturday Overtime Hourly Rate (1 ½ X) <sup>i</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)	Sunday/ Holiday Overtime Hourly Rate (3 X)
Plumber, Fire Safety Technician – Class I (0-2000 hrs) <sup>c</sup>	\$20.65	\$8.10	\$0.00	\$0.00	\$0.10	\$1.25	8.0	\$30.10	\$40.425	\$50.750	\$71.400
Plumber, Fire Safety Technician – Class II (2001-4000 hrs) <sup>c</sup>	\$26.53	\$8.10	\$0.00	\$0.00	\$0.10	\$1.25	8.0	\$35.98	\$49.245	\$61.900	\$87.210
Plumber, Fire Safety Technician – Class III (4001-6000 hrs) <sup>c</sup>	\$29.59	\$8.10	\$6.77	\$0.00	\$0.10	\$1.25	8.0	\$45.81	\$60.605	\$74.540	\$102.410
Plumber, Fire Safety Technician – Class IV (6001 or more hrs) <sup>c</sup>	\$34.08	\$8.10	\$6.77	\$0.00	\$0.10	\$1.25	8.0	\$50.30	\$67.340	\$83.020	\$114.380

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

<sup>a</sup> Rate applies to the first 2 daily overtime hours and the first 8 hours worked on Saturday. All other overtime is at the Sunday & Holiday rate.

<sup>b</sup> No work shall be performed on Labor Day, except in special cases of extreme emergency and then only when triple (3) times is paid.

<sup>c</sup> The 1st man on a job site shall be a Class IV Fire Safety Technician. A Class IV must be on a job site at all times.

<sup>d</sup> Includes an amount per hour worked for Administrative Dues.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Carpenter and Related Trades<sup>#</sup>**

**Determination:**

SC-23-31-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

Area 1: Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura counties.

Area 2: Inyo, Kern, and Mono counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate <sup>a</sup>	Health and Welfare	Pension	Vacation and Holiday <sup>b</sup>	Training	Other <sup>c</sup>	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>d</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>e</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Carpenter <sup>f g</sup> , Cabinet Installer, Insulation Installer, Hardwood Floor Worker, Acoustical Installer (Area 1)	\$43.76	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.32	\$88.20	\$88.20	\$110.08
Carpenter <sup>f g</sup> , Cabinet Installer, Insulation Installer, Hardwood Floor Worker, Acoustical Installer (Area 2)	\$43.19	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$65.75	\$87.345	\$87.345	\$108.94

Classification (Journey person)	Basic Hourly Rate <sup>a</sup>	Health and Welfare	Pension	Vacation and Holiday <sup>b</sup>	Training	Other <sup>c</sup>	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>d</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>e</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Pile Driveman <sup>h</sup> , Derrick Bargeman, Rockslinger, Bridge or Dock Carpenter, Cable Splicer	\$43.89	\$8.00	\$5.41	\$7.09	\$0.57	\$1.49	8.0	\$66.45	\$88.395	\$88.395	\$110.34
Bridge Carpenter <sup>f</sup>	\$43.89	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.45	\$88.395	\$88.395	\$110.34
Shingler (Area 1) <sup>f</sup>	\$43.89	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.45	\$88.395	\$88.395	\$110.34
Shingler (Area 2) <sup>f</sup>	\$43.33	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$65.89	\$87.555	\$87.555	\$109.22
Saw Filer (Area 1)	\$43.85	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.41	\$88.335	\$88.335	\$110.26
Saw Filer (Area 2)	\$43.19	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$65.75	\$87.345	\$87.345	\$108.94
Table Power Saw Operator (Area 1)	\$43.86	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.42	\$88.35	\$88.35	\$110.28
Table Power Saw Operator (Area 2)	\$44.29	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.85	\$88.995	\$88.995	\$111.14
Pneumatic Nailer or Power Stapler (Area 1)	\$44.01	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.57	\$88.575	\$88.575	\$110.58
Pneumatic Nailer or Power Stapler (Area 2)	\$43.45	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.01	\$87.735	\$87.735	\$109.46
Roof Loader of Singles (Area 1)	\$31.13	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$53.69	\$69.255	\$69.255	\$84.82
Roof Loader of Shingler (Area 2)	\$31.08	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$53.64	\$69.18	\$69.18	\$84.72
Scaffold Builder	\$34.96	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$57.52	\$75.00	\$75.00	\$92.48
Millwright <sup>f</sup>	\$44.26	\$8.00	\$5.41	\$7.09	\$0.62	\$1.64	8.0	\$67.02	\$89.15	\$89.15	\$111.28
Head Rockslinger	\$43.99	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.55	\$88.545	\$88.545	\$110.54
Rock Bargeman or Scowman	\$43.79	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.35	\$88.245	\$88.245	\$110.14
Diver, Wet (Up To 50 Ft. Depth) <sup>i</sup>	\$95.78 <sup>j</sup>	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$118.34	\$166.23	\$166.23	\$214.12
Diver, (Stand-By) <sup>i</sup>	\$47.89 <sup>j</sup>	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$70.45	\$94.395	\$94.395	\$118.34
Diver's Tender <sup>i</sup>	\$46.89	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$69.45	\$92.895	\$92.895	\$116.34
Assistant Tender (Diver's) <sup>i</sup>	\$43.89	\$8.00	\$5.41	\$7.09	\$0.62	\$1.44	8.0	\$66.45	\$88.395	\$88.395	\$110.34

**Determination:**

SC-31-741-1-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

May 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>b</sup>	Training	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X) <sup>k</sup>	Holiday Overtime Hourly Rate (2 X)
Terrazzo Installer	\$40.84	\$8.00	\$5.41	\$4.59	\$0.57	8.0	\$59.41	\$79.83	\$79.83	\$100.25
Terrazzo Finisher	\$34.34	\$8.00	\$5.41	\$4.59	\$0.57	8.0	\$52.91	\$70.08	\$70.08	\$87.25

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Basic Hourly Rates for Area 2 include an additional amount deducted for vacation/holiday.

<sup>b</sup> Includes an amount for supplemental dues.

<sup>c</sup> Includes an amount for Annuity.

- 
- <sup>d</sup> All overtime worked Mon - Fri shall be paid at 1 1/2 times the straight time rate for the first four (4) hours and double (2x) the straight time for work performed after twelve (12) hours.
  - <sup>e</sup> First eight (8) hours worked paid at 1 1/2 times the straight time rate, all hours after that paid at double (2x) the straight time rate. Saturdays in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the Employer.
  - <sup>f</sup> When performing welding work requiring certification, classification will receive an additional \$1.00 per hour.
  - <sup>g</sup> A Carpenter who performs work of forming in the construction of open cut sewers or storm drains shall receive a premium of thirteen cents (\$0.13) per hour in addition to his Carpenter's scale. This premium shall apply only on an operation in which horizontal lagging is used in conjunction with Steel H-Beams driven or placed in pre-drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms, which work is performed by pile drivers.
  - <sup>h</sup> When performing welding work requiring certification, classification will receive an additional \$1.00 per hour. An additional \$0.50 per hour when handling or working with new pressure-treated creosote piling or timber, or driving of used pressure-treated creosote piling.
  - <sup>i</sup> Shall receive a minimum of 8 hours pay for any day or part thereof.
  - <sup>j</sup> For specific rates over 50 ft depth, contact the Office of the Director – Research Unit. Rates for Technicians, Manifold Operators, Pressurized Submersible Operators, Remote Control Vehicle Operators, and Remote Operated Vehicle Operators, as well as rates for Pressurized Bell Diving and Saturation Diving are available upon request.
  - <sup>k</sup> Saturdays in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the Employer. Work on Sunday, if it is the 7th consecutive workday, shall be paid at double (2x) the straight-time rate.



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Modular Furniture Installer (Carpenter)#**

**Determination:**

SC-23-31-16-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

December 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura Counties

**Wages and Employer Payments:**

Classification (Journeyman)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1 ½ X)	6 <sup>th</sup> Workday Overtime Hourly Rate <sup>b</sup> (1 ½ X)	7 <sup>th</sup> Workday/ Holiday Overtime Hourly Rate (2 X)
Modular Installer: Installer	\$20.00	\$5.19	\$1.86	\$1.85	\$0.10	\$0.03	8.0	\$29.03	\$39.03	\$39.03	\$49.03
Modular Installer: Lead Installer	\$22.00	\$5.19	\$1.86	\$1.85	\$0.10	\$0.03	8.0	\$31.03	\$42.03	\$42.03	\$53.03

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.



**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes an amount for Supplemental Dues.

<sup>b</sup> Rate applies to the first 4 daily overtime hours and first 12 hours worked on a sixth (6<sup>th</sup>) consecutive day. All other daily overtime is paid the 7<sup>th</sup> Workday/Holiday rate.

NOT FOR BID

<sup>e</sup> Includes an amount for Occupational Health and Research.

<sup>f</sup> Rate applies to the first 2.5 daily overtime hours on the 2nd shift; first 3 daily overtime hours on the 3rd shift; and the first 7.5 hours (2nd shift) and first 7 hours (3rd shift) worked on Saturday. All other overtime is at the Sunday & Holiday rate.

<sup>g</sup> When 2 or 3 shifts are employed, the 2nd shift shall work 7.5 hours for 8 hours pay; the 3rd shift shall work 7 hours for 8 hours pay.

<sup>h</sup> Vacation/Holiday shall be paid at time and one half for all overtime hours and is included in the Basic Hourly Rate.

<sup>i</sup> Rate applies to the first 2 daily overtime hours and the first 10 hours worked on Saturday. All other overtime is at the Sunday & Holiday rate.

NOT FOR BID

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Fence Builder (Carpenter)#**

**Determination:**

SC-23-31-20-2020-2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Other <sup>a</sup>	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>b</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Sunday/ Holiday Overtime Hourly Rate
Fence Builder	\$40.26	\$8.00	\$5.25	\$6.09	\$0.62	\$0.76	8.0	\$60.98	\$81.11	\$81.11	\$101.24

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes an amount for Annuity.

<sup>b</sup> Rate applies to the first 4 overtime hours. All other time is paid at the Sunday and Holiday overtime hourly rate.

<sup>c</sup> Saturdays in the same work week may be worked at straight-time for the first 8 hours if the job is shut down during the normal work week due to inclement weather, or reasons beyond the control of the employer.

NOT FOR BID

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: CRANES, PILE DRIVER AND HOISTING EQUIPMENT (OPERATING ENGINEER) #**

**Determination:**

SC-23-63-2-2020-2B

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group 1	\$49.60	8	\$78.59	\$103.390	\$103.390	\$128.19
Group 2	\$50.38	8	\$79.37	\$104.560	\$104.560	\$129.75
Group 3	\$50.67	8	\$79.66	\$104.995	\$104.995	\$130.33
Group 4	\$50.81	8	\$79.80	\$105.205	\$105.205	\$130.61
Group 5	\$51.03	8	\$80.02	\$105.535	\$105.535	\$131.05
Group 6	\$51.14	8	\$80.13	\$105.700	\$105.700	\$131.27
Group 7	\$51.26	8	\$80.25	\$105.880	\$105.880	\$131.51
Group 8	\$51.43	8	\$80.42	\$106.135	\$106.135	\$131.85
Group 9	\$51.60	8	\$80.59	\$106.390	\$106.390	\$132.19
Group 10	\$52.60	8	\$81.59	\$107.890	\$107.890	\$134.19
Group 11	\$53.60	8	\$82.59	\$109.390	\$109.390	\$136.19
Group 12	\$54.60	8	\$83.59	\$110.890	\$110.890	\$138.19
Group 13	\$55.60	8	\$84.59	\$112.390	\$112.390	\$140.19

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$11.85
Pension <sup>d</sup>	\$12.15
Vacation and Holiday <sup>e</sup>	\$3.55
Training	\$1.05
Other	\$0.39

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: CRANES, PILE DRIVER AND HOISTING EQUIPMENT  
(OPERATING ENGINEER, SPECIAL SHIFT) #**

**Determination:**

SC-23-63-2-2020-2B1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification (Journeyman)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group 1	\$50.10	8	\$79.09	\$104.140	\$104.140	\$129.19
Group 2	\$50.88	8	\$79.87	\$105.310	\$105.310	\$130.75
Group 3	\$51.17	8	\$80.16	\$105.745	\$105.745	\$131.33
Group 4	\$51.31	8	\$80.30	\$105.955	\$105.955	\$131.61
Group 5	\$51.53	8	\$80.52	\$106.285	\$106.285	\$132.05
Group 6	\$51.64	8	\$80.63	\$106.450	\$106.450	\$132.27
Group 7	\$51.76	8	\$80.75	\$106.630	\$106.630	\$132.51
Group 8	\$51.93	8	\$80.92	\$106.885	\$106.885	\$132.85
Group 9	\$52.10	8	\$81.09	\$107.140	\$107.140	\$133.19
Group 10	\$53.10	8	\$82.09	\$108.640	\$108.640	\$135.19
Group 11	\$54.10	8	\$83.09	\$110.140	\$110.140	\$137.19
Group 12	\$55.10	8	\$84.09	\$111.640	\$111.640	\$139.19
Group 13	\$56.10	8	\$85.09	\$113.140	\$113.140	\$141.19

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$11.85
Pension <sup>d</sup>	\$12.15
Vacation and Holiday <sup>e</sup>	\$3.55
Training	\$1.05
Other	\$0.39

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: CRANES, PILE DRIVER AND HOISTING EQUIPMENT  
(OPERATING ENGINEER, MULTI-SHIFT) #**

**Determination:**

SC-23-63-2-2020-2B2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Hours <sup>f</sup>	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group 1	\$50.60	8	\$79.59	\$104.890	\$104.890	\$130.19
Group 2	\$51.38	8	\$80.37	\$106.060	\$106.060	\$131.75
Group 3	\$51.67	8	\$80.66	\$106.495	\$106.495	\$132.33
Group 4	\$51.81	8	\$80.80	\$106.705	\$106.705	\$132.61
Group 5	\$52.03	8	\$81.02	\$107.035	\$107.035	\$133.05
Group 6	\$52.14	8	\$81.13	\$107.200	\$107.200	\$133.27
Group 7	\$52.26	8	\$81.25	\$107.380	\$107.380	\$133.51
Group 8	\$52.43	8	\$81.42	\$107.635	\$107.635	\$133.85
Group 9	\$52.60	8	\$81.59	\$107.890	\$107.890	\$134.19
Group 10	\$53.60	8	\$82.59	\$109.390	\$109.390	\$136.19
Group 11	\$54.60	8	\$83.59	\$110.890	\$110.890	\$138.19
Group 12	\$55.60	8	\$84.59	\$112.390	\$112.390	\$140.19
Group 13	\$56.60	8	\$85.59	\$113.890	\$113.890	\$142.19

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$11.85
Pension <sup>d</sup>	\$12.15
Vacation and Holiday <sup>e</sup>	\$3.55
Training	\$1.05
Other	\$0.39



### **Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### **Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### **Classifications:**

#### **Group 1**

Engineer Oiler

#### **Group 2**

Truck Crane Oiler

#### **Group 3**

A-Frame or Winch Truck Operator  
Ross Carrier Operator (Jobsite)

#### **Group 4**

Bridge-Type Unloader and Turntable Operator  
Helicopter Hoist Operator  
Snobble Unit (pin-n-go or similar type)

#### **Group 5**

Hydraulic Boom Truck/Knuckleboom  
Stinger Crane (Austin-Western or similar type)  
Tugger Hoist Operator (1 drum)

#### **Group 6**

Bridge Crane Operator  
Cretor Crane Operator  
Hoist Operator (Chicago Boom and similar type)  
Lift Mobile Operator  
Lift Slab Machine Operator (Vagtborg and similar types)  
Material Hoist and/or Manlift Operator  
Polar Gantry Crane Operator  
Prentice Self-Loader  
Self Climbing Scaffold (or similar type)

Shovel, Dragline, Clamshell Operator (over ¾ yd and up to 5 cu yds, M.R.C.)

Silent Piler

Tugger Hoist Operator (2 drum)

#### **Group 7**

Pedestal Crane Operator  
Shovel, Dragline, Clamshell Operator (over 5 cu yds, M.R.C.)  
Tower Crane Repairman  
Tugger Hoist Operator (3 drum)

#### **Group 8**

Crane Operator (up to and including 25 ton capacity)  
Crawler Transporter Operator  
Derrick Barge Operator (up to and including 25 ton capacity)  
Hoist Operator, Stiff Legs, Guy Derrick or similar type (up to and including 25 ton capacity)  
Shovel, Dragline, Clamshell Operator (over 7 cu yds M.R.C.)

#### **Group 9**

Crane Operator (over 25 tons, up to and including 50 ton M.R.C.)  
Derrick Barge Operator (over 25 tons, up to and including 50 ton M.R.C.)  
Highline Cableway Operator



Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 25 tons, up to and including 50 ton M.R.C.)

K-Crane

Polar Crane Operator

Self Erecting Tower Crane Operator Maximum Lifting Capacity ten (10) tons

#### Group 10

ABI/Fundex Machine

Crane Operator (over 50 tons, up to and including 100 ton M.R.C.)

Derrick Barge Operator (over 50 tons, up to and including 100 ton M.R.C.)

Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 50 tons, up to and including 100 ton M.R.C.)

Mobile Tower Crane Operator (over 50 tons, up to and including 100 ton M.R.C.)

Shovel, Dragline, Clamshell Operator (over 10 cu. yds.)

#### Group 11

Crane Operator (over 100 tons, up to and including 200 ton M.R.C.)

Derrick Barge Operator (over 100 tons, up to and including 200 ton M.R.C.)

Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 100 tons, up to and including 200 ton M.R.C.)

Mobile Tower Crane Operator (over 100 tons, up to and including 200 ton M.R.C.)

Tower Crane Operator and Tower Gantry

#### Group 12

Crane Operator (over 200 tons, up to and including 300 ton M.R.C.)

Derrick Barge Operator (over 200 tons, up to and including 300 ton M.R.C.)

Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 200 tons, up to and including 300 ton M.R.C.)

Mobile Tower Crane Operator (over 200 tons, up to and including 300 ton M.R.C.)

#### Group 13

Crane Operator (over 300 tons)

Derrick Barge Operator (over 300 tons)

Helicopter Pilot

Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 300 tons)

Hydraulically Controlled Lift Gantry Operator BCR Lift System (over 300 tons)

Mobile Tower Crane Operator (over 300 tons)

#### MISCELLANEOUS PROVISIONS:

1. Operators on hoists with three drums shall receive fifteen cents (15¢) per hour additional pay to the regular rate of pay. The additional pay shall be added to the regular rate and become the base rate for the entire shift.
2. All heavy duty repairman and heavy duty combination shall receive one dollar (\$1.00) per hour tool allowance in addition to their regular rate of pay and this shall become their base rate of pay.
3. Employees required to suit up and work in a hazardous material environment, shall receive two dollars per hour in addition to their regular rate of pay, and that rate shall become the basic hourly rate of pay.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> For classifications within each group, see Pages 4 and 5.

<sup>b</sup> Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.

<sup>c</sup> Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

<sup>d</sup> Includes an amount for Annuity.

<sup>e</sup> Includes an amount withheld for supplemental dues.

<sup>f</sup> The Third Shift shall work 6.5 hours, exclusive of meal period, for which 8 hours straight-time shall be paid at the non-shift rate, Monday through Friday.

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: TUNNEL (OPERATING ENGINEER) #**

**Determination:**

SC-23-63-2-2020-2C

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journeyman)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group 1	\$50.10	8	\$79.09	\$104.140	\$104.140	\$129.19
Group 2	\$50.88	8	\$79.87	\$105.310	\$105.310	\$130.75
Group 3	\$51.17	8	\$80.16	\$105.745	\$105.745	\$131.33
Group 4	\$51.31	8	\$80.30	\$105.955	\$105.955	\$131.61
Group 5	\$51.53	8	\$80.52	\$106.285	\$106.285	\$132.05
Group 6	\$51.64	8	\$80.63	\$106.450	\$106.450	\$132.27
Group 7	\$51.76	8	\$80.75	\$106.630	\$106.630	\$132.51
Group 8	\$53.11	8	\$82.10	\$108.655	\$108.655	\$135.21
Group 9	\$52.06	8	\$81.05	\$107.080	\$107.080	\$133.11

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$11.85
Pension <sup>d</sup>	\$12.15
Vacation and Holiday <sup>e</sup>	\$3.55
Training	\$1.05
Other	\$0.39

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: TUNNEL (OPERATING ENGINEER) (MULTI-SHIFT) #**

**Determination:**

SC-23-63-2-2020-2C1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journeyman)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group 1	\$50.10	7.5	\$79.09	\$104.140	\$104.140	\$129.19
Group 2	\$50.88	7.5	\$79.87	\$105.310	\$105.310	\$130.75
Group 3	\$51.17	7.5	\$80.16	\$105.745	\$105.745	\$131.33
Group 4	\$51.31	7.5	\$80.30	\$105.955	\$105.955	\$131.61
Group 5	\$51.53	7.5	\$80.52	\$106.285	\$106.285	\$132.05
Group 6	\$51.64	7.5	\$80.63	\$106.450	\$106.450	\$132.27
Group 7	\$51.76	7.5	\$80.75	\$106.630	\$106.630	\$132.51
Group 8	\$53.11	7.5	\$82.10	\$108.655	\$108.655	\$135.21
Group 9	\$52.06	7.5	\$81.05	\$107.080	\$107.080	\$133.11

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$11.85
Pension <sup>d</sup>	\$12.15
Vacation and Holiday <sup>e</sup>	\$3.55
Training	\$1.05
Other	\$0.39

### **Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### **Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### **Classifications:**

#### **Group 1**

Heavy Duty Repairman Helper

#### **Group 2**

Skiploader (wheel type up to  $\frac{3}{4}$  yd. without attachment)

#### **Group 3**

Chainman

Power-Driver Jumbo Form Setter Operator

#### **Group 4**

Dinkey Locomotive or Motorman (up to and including 10 tons)

Rodman

#### **Group 5**

Bit Sharpener

Equipment Greaser (Grease Truck)

Instrumentman

Slip Form Pump Operator (power driven hydraulic lifting device for concrete forms)

Tugger Hoist Operator (1 drum)

Tunnel Locomotive Operator (over 10 and up to and including 30 tons)

Welder-General

#### **Group 6**

Backhoe Operator (up and including  $\frac{3}{4}$  yd.) Small Ford, Case or similar types

Drill Doctor

Grouting Machine Operator

Heading Shield Operator

Heavy Duty Repairman

Jumbo Pipe Carrier

Loader Operator (Athey, Euclid, Sierra and similar types)

Mucking Machine Operator (1/4 yd rubber tired, rail or track type)

Pneumatic Concrete Placing Machine Operator (Hackley-Presswell or similar type)

Pneumatic Heading Shield (Tunnel)

Pumpcrete Gun Operator

Tractor Compressor Drill Combination Operator

Tugger Hoist Operator (2 drum)

Tunnel Locomotive Operator (over 30 tons)

#### **Group 7**

Heavy Duty Repairman-Welder Combination

#### **Group 8**

Party Chief

#### **Group 9**

Tunnel Mole Boring Machine Operator

## MISCELLANEOUS PROVISIONS:

1. Operators on hoists with three drums shall receive fifteen cents (15¢) per hour additional pay to the regular rate of pay. The additional pay shall be added to the regular rate and become the base rate for the entire shift.
2. All heavy duty repairman and heavy duty combination shall receive one dollar (\$1.00) per hour tool allowance in addition to their regular rate of pay and this shall become their base rate of pay.
3. Employees required to suit up and work in a hazardous material environment, shall receive Two Dollars (\$2.00) per hour in addition to their regular rate of pay, and that rate shall become the basic hourly rate of pay.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> For classifications within each group, see Page 3.

<sup>b</sup> Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.

<sup>c</sup> Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

<sup>d</sup> Includes an amount for Annuity.

<sup>e</sup> Includes an amount withheld for supplemental dues.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER<sup>#</sup>**

**Determination:**

SC-23-63-2-2020-2D

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension <sup>b</sup>	Vacation and Holiday <sup>c</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>d</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>e</sup> (1½ x)	Sunday/ Holiday Overtime Hourly Rate (2 x)
Group 1	\$49.03	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$78.02	\$102.535	\$102.535	\$127.05
Group 2	\$50.81	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$79.80	\$105.205	\$105.205	\$130.61
Group 3	\$52.81	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$81.80	\$108.205	\$108.205	\$134.61

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER#  
(SPECIAL SHIFT)**

**Determination:**  
SC-23-63-2-2020-2D1

**Issue Date:**  
August 22, 2020

**Expiration date of determination:**  
June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**  
All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension <sup>b</sup>	Vacation and Holiday <sup>c</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>d</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>e</sup> (1½ x)	Sunday/ Holiday Overtime Hourly Rate (2 x)
Group 1	\$49.53	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$78.52	\$103.285	\$103.285	\$128.05
Group 2	\$51.31	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$80.30	\$105.955	\$105.955	\$131.61
Group 3	\$53.31	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$82.30	\$108.955	\$108.955	\$135.61



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER#  
(MULTI-SHIFT)**

**Determination:**  
SC-23-63-2-2020-2D2

**Issue Date:**  
August 22, 2020

**Expiration date of determination:**  
June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**  
All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension <sup>b</sup>	Vacation and Holiday <sup>c</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>d</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>e</sup> (1½ x)	Sunday/ Holiday Overtime Hourly Rate (2 x)
Group 1	\$50.03	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$79.02	\$104.035	\$104.035	\$129.05
Group 2	\$51.81	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$80.80	\$106.705	\$106.705	\$132.61
Group 3	\$53.81	\$11.85	\$12.15	\$3.55	\$1.05	\$0.39	8	\$82.80	\$109.705	\$109.705	\$136.61

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday



provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Classifications:**

**Group 1**

- Field Soils and Materials Tester
- Field Asphaltic Concrete (Soils and Materials Tester)
- Field Earthwork (Grading Excavation and Filling)
- Roof Inspector
- Water Proofer

**Group 2**

- AWS-CWI Welding Inspector
- Building/Construction Inspector
- Licensed Grading Inspector
- Reinforcing Steel
- Reinforced Concrete

- Pre-Tension Concrete
- Post-Tension Concrete
- Structural Steel and Welding Inspector
- Glue-Lam and truss Joints
- Truss-Type Joint Construction
- Shear Wall and Floor System used as diaphragms
- Concrete batch Plant
- Spray-Applied Fireproofing
- Structural masonry

**Group 3**

- Nondestructive Testing (NDT)

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> For classifications within each group, see Page 4.

<sup>b</sup> Includes an amount for Annuity.

<sup>c</sup> Includes an amount withheld for supplemental dues.

<sup>d</sup> Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.

<sup>e</sup> Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: OPERATING ENGINEER<sup>#</sup>**

**Determination:**

SC-23-63-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group 1	\$48.25	8	\$77.24	\$101.365	\$101.365	\$125.49
Group 2	\$49.03	8	\$78.02	\$102.535	\$102.535	\$127.05
Group 3	\$49.32	8	\$78.31	\$102.970	\$102.970	\$127.63
Group 4	\$50.81	8	\$79.80	\$105.205	\$105.205	\$130.61
Group 6	\$51.03	8	\$80.02	\$105.535	\$105.535	\$131.05
Group 8	\$51.14	8	\$80.13	\$105.700	\$105.700	\$131.27
Group 10	\$51.26	8	\$80.25	\$105.880	\$105.880	\$131.51
Group 12	\$51.43	8	\$80.42	\$106.135	\$106.135	\$131.85
Group 13	\$51.53	8	\$80.52	\$106.285	\$106.285	\$132.05
Group 14	\$51.56	8	\$80.55	\$106.330	\$106.330	\$132.11
Group 15	\$51.64	8	\$80.63	\$106.450	\$106.450	\$132.27
Group 16	\$51.76	8	\$80.75	\$106.630	\$106.630	\$132.51
Group 17	\$51.93	8	\$80.92	\$106.885	\$106.885	\$132.85
Group 18	\$52.03	8	\$81.02	\$107.035	\$107.035	\$133.05
Group 19	\$52.14	8	\$81.13	\$107.200	\$107.200	\$133.27
Group 20	\$52.26	8	\$81.25	\$107.380	\$107.380	\$133.51
Group 21	\$52.43	8	\$81.42	\$107.635	\$107.635	\$133.85
Group 22	\$52.53	8	\$81.52	\$107.785	\$107.785	\$134.05
Group 23	\$52.64	8	\$81.63	\$107.950	\$107.950	\$134.27
Group 24	\$52.76	8	\$81.75	\$108.130	\$108.130	\$134.51
Group 25	\$52.93	8	\$81.92	\$108.385	\$108.385	\$134.85

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$11.85
Pension <sup>d</sup>	\$12.15
Vacation and Holiday <sup>e</sup>	\$3.55
Training	\$1.05
Other	\$0.39

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: OPERATING ENGINEER (SPECIAL SHIFT) #**

**Determination:**

SC-23-63-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journeyman)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group 1	\$48.75	8	\$77.74	\$102.115	\$102.115	\$126.49
Group 2	\$49.53	8	\$78.52	\$103.285	\$103.285	\$128.05
Group 3	\$49.82	8	\$78.81	\$103.720	\$103.720	\$128.63
Group 4	\$51.31	8	\$80.30	\$105.955	\$105.955	\$131.61
Group 6	\$51.53	8	\$80.52	\$106.285	\$106.285	\$132.05
Group 8	\$51.64	8	\$80.63	\$106.450	\$106.450	\$132.27
Group 10	\$51.76	8	\$80.75	\$106.630	\$106.630	\$132.51
Group 12	\$51.93	8	\$80.92	\$106.885	\$106.885	\$132.85
Group 13	\$52.03	8	\$81.02	\$107.035	\$107.035	\$133.05
Group 14	\$52.06	8	\$81.05	\$107.080	\$107.080	\$133.11
Group 15	\$52.14	8	\$81.13	\$107.200	\$107.200	\$133.27
Group 16	\$52.26	8	\$81.25	\$107.380	\$107.380	\$133.51
Group 17	\$52.43	8	\$81.42	\$107.635	\$107.635	\$133.85
Group 18	\$52.53	8	\$81.52	\$107.785	\$107.785	\$134.05
Group 19	\$52.64	8	\$81.63	\$107.950	\$107.950	\$134.27
Group 20	\$52.76	8	\$81.75	\$108.130	\$108.130	\$134.51
Group 21	\$52.93	8	\$81.92	\$108.385	\$108.385	\$134.85
Group 22	\$53.03	8	\$82.02	\$108.535	\$108.535	\$135.05
Group 23	\$53.14	8	\$82.13	\$108.700	\$108.700	\$135.27
Group 24	\$53.26	8	\$82.25	\$108.880	\$108.880	\$135.51
Group 25	\$53.43	8	\$82.42	\$109.135	\$109.135	\$135.85

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$11.85
Pension <sup>d</sup>	\$12.15
Vacation and Holiday <sup>e</sup>	\$3.55
Training	\$1.05
Other	\$0.39

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: OPERATING ENGINEER (MULTI-SHIFT)#**

**Determination:**

SC-23-63-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journeyman)	Basic Hourly Rate	Hours <sup>f</sup>	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group 1	\$49.25	8	\$78.24	\$102.865	\$102.865	\$127.49
Group 2	\$50.03	8	\$79.02	\$104.035	\$104.035	\$129.05
Group 3	\$50.32	8	\$79.31	\$104.470	\$104.470	\$129.63
Group 4	\$51.81	8	\$80.80	\$106.705	\$106.705	\$132.61
Group 5	\$51.91	8	\$80.90	\$106.855	\$106.855	\$132.81
Group 6	\$52.03	8	\$81.02	\$107.035	\$107.035	\$133.05
Group 7	\$52.13	8	\$81.12	\$107.185	\$107.185	\$133.25
Group 8	\$52.14	8	\$81.13	\$107.200	\$107.200	\$133.27
Group 9	\$52.24	8	\$81.23	\$107.350	\$107.350	\$133.47
Group 10	\$52.26	8	\$81.25	\$107.380	\$107.380	\$133.51
Group 11	\$52.36	8	\$81.35	\$107.530	\$107.530	\$133.71
Group 12	\$52.43	8	\$81.42	\$107.635	\$107.635	\$133.85
Group 13	\$52.53	8	\$81.52	\$107.785	\$107.785	\$134.05
Group 14	\$52.56	8	\$81.55	\$107.830	\$107.830	\$134.11
Group 15	\$52.64	8	\$81.63	\$107.950	\$107.950	\$134.27
Group 16	\$52.76	8	\$81.75	\$108.130	\$108.130	\$134.51
Group 17	\$52.93	8	\$81.92	\$108.385	\$108.385	\$134.85
Group 18	\$53.03	8	\$82.02	\$108.535	\$108.535	\$135.05
Group 19	\$53.14	8	\$82.13	\$108.700	\$108.700	\$135.27
Group 20	\$53.26	8	\$82.25	\$108.880	\$108.880	\$135.51



Group 21	\$53.43	8	\$82.42	\$109.135	\$109.135	\$135.85
Group 22	\$53.53	8	\$82.52	\$109.285	\$109.285	\$136.05
Group 23	\$53.64	8	\$82.63	\$109.450	\$109.450	\$136.27
Group 24	\$53.76	8	\$82.75	\$109.630	\$109.630	\$136.51
Group 25	\$53.93	8	\$82.92	\$109.885	\$109.885	\$136.85

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$11.85
Pension <sup>d</sup>	\$12.15
Vacation and Holiday <sup>e</sup>	\$3.55
Training	\$1.05
Other	\$0.39

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

## Classifications:

### Group 1

Bargeman  
Brakeman  
Compressor Operator  
Ditchwitch, with seat or similar type equipment  
Elevator Operator - Inside  
Engineer Oiler  
Forklift Operator (includes loed, lull or similar types – under 5 tons)  
Generator Operator  
Generator, Pump or Compressor Plant Operator  
Heavy Duty Repairman Helper  
Pump Operator  
Signalman  
Switchman

### Group 2

Asphalt-Rubber Plant Operator (Nurse Tank Operator)  
Concrete Mixer Operator – Skip Type  
Conveyor Operator  
Fireman  
Forklift Operator (includes loed, lull or similar types – over 5 tons)  
Hydrostatic Pump Operator  
Oiler Crusher (Asphalt or Concrete Plant)  
Petromat Laydown Machine  
PJU Side Dump Jack  
Rotary Drill Helper (Oilfield)  
Screening and Conveyor Machine Operator (or similar types)  
Skiploader (Wheel type up to  $\frac{3}{4}$  yd. without attachment)  
Tar Pot Fireman  
Temporary Heating Plant Operator  
Trenching Machine Oiler

### Group 3

Asphalt Rubber Blend Operator  
Bobcat or similar type (Skid Steer, with all attachments)  
Equipment Greaser (rack)  
Ford Ferguson (with dragtype attachments)  
Helicopter Radioman (ground)  
Stationary Pipe Wrapping and Cleaning Machine Operator

### Group 4

Asphalt Plant Fireman  
Backhoe Operator (mini-max or similar type)  
Boring Machine Operator  
Boring System Electronic Tracking Locator  
Boxman or Mixerman (asphalt or concrete)  
Chip Spreading Machine Operator  
Concrete Cleaning Decontamination Machine Operator  
Concrete Pump Operator (small portable)  
Drilling Machine Operator, Small Auger types (Texoma Super Economatic, or similar types – Hughes 100 or 200, or similar types – drilling depth of 30 maximum)  
Equipment Greaser (grease truck)  
Excavator Track/Rubber-Tired-with all attachments (Operating weight under 21,000 lbs)  
Guard Rail Post Driver Operator  
Highline Cableway Signalman  
Hydra-Hammer-Aero Stomper  
Hydraulic Casing Oscillator Operator – drilling depth of 30' maximum  
Micro Tunneling Operator (above ground tunnel)  
Power Concrete Curing Machine Operator  
Power Concrete Saw Operator  
Power – Driver Jumbo Form Setter Operator  
Power Sweeper Operator  
Rock Wheel Saw/Trencher  
Roller Operator (compacting)  
Screed Operator (asphalt or concrete)  
Trenching Machine Operator (up to 6 ft.)  
Vacuum or Muck Truck

### Group 5 (for multi-shift rate, see Pages 5 and 6)

Equipment Greaser (Grease Truck/Multi-Shift)

### Group 6

Articulating Material Hauler  
Asphalt Plant Engineer  
Batch Plant Operator  
Bit Sharpener  
Concrete Joint Machine Operator (canal and similar type)  
Concrete Placer Operator  
Concrete Planer Operator  
Dandy Digger  
Deck Engine Operator  
Deck Engineer



Derrickman (oilfield type)  
Drilling Machine Operator, Bucket or Auger types  
(Calweld 100 bucket or similar types – Watson  
1000 auger or similar types – Texoma 330, 500 or  
600 auger or similar types – drilling depth of 45'  
maximum)  
Drilling Machine Operator (including water wells)  
Forced Feed Loader  
Hydraulic Casing Oscillator Operator – drilling depth  
of 45' maximum  
Hydro Seeder Machine Operator (straw, pulp or seed)  
Jackson Track Maintainer, or similar type  
Kalamazoo Switch Tamper, or similar type  
Machine Tool Operator  
Maginnis Internal Full Slab Vibrator  
Mechanical Berm, Curb or Gutter (concrete or  
asphalt)  
Mechanical Finisher Operator (concrete, Clary-  
Johnson-Bidwell or similar)  
Micro Tunnel System Operator (below ground)  
Pavement Breaker Operator  
Railcar Mover  
Road Oil Mixing Machine Operator  
Roller Operator (asphalt or finish)  
Rubber-Tired Earthmoving Equipment (single  
engine, up to and including 25 yds. struck)  
Self-Propelled Tar Pipelining Machine Operator  
Skiploader Operator (crawler and wheel type, over  
¾ yds. and up to and including 1½ yds.)  
Slip Form Pump Operator (power driven hydraulic  
lifting device for concrete forms)  
Tractor Operator – Bulldozer, Tamper-Scraper  
(single engine, up to 100 H.P. flywheel and similar  
types, up to and including D-5 and similar types)  
Tugger Hoist Operator (1 drum)  
Ultra High Pressure Waterjet Cutting Tool System  
Operator  
Vacuum Blasting Machine Operator  
Volumetric Mixer Operator  
Welder - General

**Group 7 (for multi-shift rate, see Pages 5 and 6)**

Welder - General (Multi-Shift)

**Group 8**

Asphalt or Concrete Spreading Operator (tamping or  
finishing)  
Asphalt Paving Machine Operator (barber greene or  
similar type, one (1) Screedman)  
Asphalt-Rubber Distributor Operator

Backhoe Operator (up to and including ¾ yds.)  
small ford, case or similar  
Backhoe Operator (over ¾ yd. and up to 5 cu. yds.  
M.R.C.)  
Barrier Rail Mover (BTM Series 200 or similar types)  
Cast in Place Pipe Laying Machine Operator  
Cold Foamed Asphalt Recycler  
Combination Mixer and Compressor Operator  
(gunite work)  
Compactor Operator – Self Propelled  
Concrete Mixer Operator – Paving  
Crushing Plant Operator  
Drill Doctor  
Drilling Machine Operator, Bucket or Auger types  
(Calweld 150 bucket or similar types – Watson  
1500, 2000, 2500 auger or similar types –  
Texoma 700, 800 auger or similar types – drilling  
depth of 60' maximum)  
Elevating Grader Operator  
Excavator Track/Rubber-Tired with all attachments  
(Operating Weight 21,000 lbs – 100,000 lbs)  
Global Positioning System/GPS (or Technician)  
Grade Checker  
Gradall Operator  
Grouting Machine Operator  
Heavy Duty Repairman/Pump Installer  
Heavy Equipment Robotics Operator  
Hydraulic Casing Oscillator Operator – drilling depth  
of 60' maximum  
Hydraulic Operated Grout Plant (excludes hand  
loading)  
Kalamazoo Ballast Regulator or similar type  
Klemm Drill Operator or similar types  
Kolman Belt Loader and similar type  
Le Tourneau Blob Compactor or similar type  
Lo Drill  
Loader Operator (Athey, Euclid, Sierra and similar  
types)  
Master Environmental Maintenance Mechanic  
Mobark Chipper or similar types  
Ozzie Padder or similar types  
P.C. 490 Slot Saw  
Pneumatic Concrete Placing Machine Operator  
(Hackley-Presswell or similar type)  
Prentice 721E Hydro-Ax  
Pumpcrete Gun Operator  
Rock Drill or Similar Types (see Miscellaneous  
Provision #4 for additional information regarding  
this classification)  
Rotary Drill Operator (excluding caison type)

Rubber-Tired Earth Moving Equipment Operator (single engine, caterpillar, euclid, atthey wagon, and similar types with any and all attachments over 25 yds. and up to and including 50 cu yds. struck)

Rubber-Tired Earth Moving Equipment Operator (multiple engine – up to and including 25 yds. struck)

Rubber-Tired Scraper Operator (self-loading paddle wheel type – John Deere, 1040 and similar single unit)

Self-Propelled Curb and Gutter Machine Operator Shuttle Buggy

Skiploader Operator (crawler and wheel type over 1 ½ yds. up to and including 6 ½ yds.)

Soil Remediation Plant Operator (CMI, Envirotech or Similar)

Soil Stabilizer and Reclaimer (WR-2400)

Somero SXP Laser Screed

Speed Swing Operator

Surface Heaters and Planer Operator

Tractor Compressor Drill Combination Operator

Tractor Operator (any type larger than D-5 – 100 flyweel H.P. and over, or similar – bulldozer, tamper, scraper and push tractor, single engine)

Tractor Operator (boom attachments)

Traveling Pipe Wrapping, Cleaning and Bending Machine Operator)

Trenching Machine Operator (over 6 ft. depth capacity, manufacturer's rating)

Trenching Machine with Road Miner Attachment (over 6ft. depth capacity, manufacturer's rating – Oiler or Journeyman Trainee required)

Ultra High Pressure Waterjet Cutting Tool System Mechanic

Water Pull (compaction)

**Group 9 (for multi-shift rate, see Pages 5 and 6)**

Heavy Duty Repairman (Multi-Shift)

**Group 10**

Backhoe Operator (over 5 cu. yds. M.R.C.)

Drilling Machine Operator, Bucket or Auger types (Calweld 200 B bucket or similar types – Watson 3000 or 5000 auger or similar types – Texoma 900 auger or similar types – drilling depth of 105' maximum)

Dual Drum Mixer

Dynamic Compactor LDC350 or similar types

Heavy Duty Repairman-Welder combination

Hydraulic Casing Oscillator Operator – drilling depth of 105' maximum

Monorail Locomotive Operator (diesel, gas or electric)

Motor Patrol – Blade Operator (single engine)

Multiple Engine Tractor Operator (euclid and similar type – except quad 9 cat.)

Pneumatic Pipe Ramming Tool and similar types

Pre-stressed Wrapping Machine Operator (2 Operators required)

Rubber – Tired Earth Moving Equipment Operator (single engine, over 50 yds. struck)

Rubber – Tired Earth Moving Equipment Operator (multiple engine, euclid caterpillar and similar – over 25 yds. and up to 50 yds. struck)

Tower Crane Repairman

Tractor Loader Operator (crawler and wheel-type over 6 ½ yds.)

Welder – Certified

Woods Mixer Operator (and similar pugmill equipment)

**Group 11 (for multi-shift rate, see Pages 5 and 6)**

Heavy Duty Repairman – Welder Combination (Multi-Shift)

Welder – Certified (Multi-Shift)

**Group 12**

Auto Grader Operator

Automatic Slip Form Operator

Backhoe Operator (over 7 cu. yds. M.R.C.)

Drilling Machine Operator, Bucket or Auger types (Calweld, auger 200 CA or similar types – Watson, auger 6000 or similar types – hughes super duty, auger 200 or similar types – drilling depth of 175' maximum)

Excavator Track/Rubber Tired- with all attachments (Operating Weight 100,000 lbs. – 200,000 lbs.)

Hoe Ram or similar with compressor

Hydraulic Casing Oscillator Operator – drilling depth of 175' maximum

Mass Excavator Operator – less than 750 cu. yds.

Mechanical Finishing Machine Operator

Mobile Form Traveler Operator

Motor Patrol Operator (multi-engine)

Pipe Mobile Machine Operator

Rubber-Tired Earth Moving Equipment Operator (multiple engine, euclid, caterpillar and similar type, over 50 cu. yds. struck)

Rubber-Tired Self-Loading Scraper Operator  
(paddle-wheel-auger type self-loading – (two (2)  
or more units)

**Group 13**

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Push-Pull System  
(single engine, up to and including 25 yds. struck)

**Group 14**

Canal Liner Operator

Canal Trimmer Operator

Drilling Machine Operator, Bucket or Auger types  
(Calweld, auger 200 CA or similar types –  
watson, auger 6000 or similar types – hughes  
super duty, auger 200 or similar types – drilling  
depth of 300' maximum)

Remote Controlled Earth Moving Operator (\$1.00  
per hour additional to base rate)

Wheel Excavator Operator (over 750 cu. yds. per  
hour)

**Group 15**

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Push-Pull System  
(single engine, caterpillar, euclid, atney wagon,  
and similar types with any and all attachments  
over 25 and up to and including 50 cu. yds.  
struck)

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Push-Pull System  
(multiple engine - up to and including 25 yds.  
struck)

**Group 16**

Excavator Track/Rubber Tired – with all attachments  
(Operating Weight exceeding 200,000 lbs.)

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Push-Pull System  
(single engine, over 50 yds. struck)

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Push-Pull System  
(multiple engine, euclid, caterpillar, and similar,  
over 25 yds. and up to 50 yds. struck)

**Group 17**

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Push-Pull System  
(multiple engine, euclid, caterpillar, and similar  
type, over 50 cu. yds. struck)

Tandem Tractor Operator (operating crawler type  
tractors in tandem – Quad 9 and similar type)

**Group 18**

Rubber-Tired Earth Moving Equipment Operator,  
Operating in Tandem (scrapers, belly dumps, and  
similar types in any combination, excluding  
compaction units - single engine, up to and  
including 25 yds. struck)

**Group 19**

Rotex Concrete Belt Operator

Rubber-Tired Earth Moving Equipment Operator,  
Operating in Tandem (scrapers, belly dumps, and  
similar types in any combination, excluding  
compaction units - single engine, caterpillar,  
euclid, atney wagon, and similar types with any  
and all attachments over 25 yds. and up to and  
including 50 cu. yds. struck)

Rubber-Tired Earth Moving Equipment Operator,  
Operating in Tandem (scrapers, belly dumps, and  
similar types in any combination, excluding  
compaction units - multiple engines, up to and  
including 25 yds. struck)

**Group 20**

Rubber-Tired Earth Moving Equipment Operator,  
Operating in Tandem (scrapers, belly dumps, and  
similar types in any combination, excluding  
compaction units - single engine, over 50 yds.  
struck)

Rubber-Tired Earth Moving Equipment Operator,  
Operating in Tandem (scrapers, belly dumps, and  
similar types in any combination, excluding  
compaction units - multiple engine, euclid,  
caterpillar and similar, over 25 yds. and up to 50  
yds. struck)

**Group 21**

Rubber-Tired Earth Moving Equipment Operator,  
Operating in Tandem (scrapers, belly dumps, and  
similar types in any combination, excluding  
compaction units - multiple engine, euclid,  
caterpillar and similar type, over 50 cu. yds.  
struck)

**Group 22**

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Tandem Push-Pull  
System (single engine, up to and including 25  
yds. struck)

**Group 23**

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Tandem Push-Pull  
System (single engine, caterpillar, euclid, atthey  
wagon, and similar types with any and all  
attachments over 25 yds. and up to and including  
50 cu. yds. struck)

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Tandem Push-Pull  
System (multiple engine, up to and including 25  
yds. struck)

**Group 24**

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Tandem Push-Pull  
System (single engine, over 50 yds. Struck)

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Tandem Push-Pull  
System (multiple engine, euclid, caterpillar and  
similar, over 25 yds. and up to 50 yds. struck)

**Group 25**

Concrete Pump Operator-Truck Mounted

Pedestal Concrete Pump Operator

Rubber-Tired Earth Moving Equipment Operator,  
Operating Equipment with the Tandem Push-Pull  
System (multiple engine, euclid, caterpillar and  
similar over 50 cu. yds struck)

**MISCELLANEOUS PROVISIONS:**

1. Operators on hoists with three drums shall receive fifteen cents (15¢) per hour additional pay to the regular rate of pay. The additional pay shall be added to the regular rate and become the base rate for the entire shift.
2. All heavy duty repairman and heavy duty combination shall receive one dollar (\$1.00) per hour tool allowance in addition to their regular rate of pay and this shall become their base rate of pay.
3. Employees required to suit up and work in a hazardous material environment, shall receive Two Dollars (\$2.00) per hour in addition to their regular rate of pay, and that rate shall become the basic hourly rate of pay.
4. A review of rock drilling is currently pending. The minimum acceptable rate of pay for this classification or type of work on public works projects is Laborer and Related Classifications/Group 5 (Driller) as published in the Director's General Prevailing Wage Determinations. However, the published rate for the craft/classification of Operating Engineer/Group 8 (Rock Drill or Similar Types) may be used by contractors to perform rock drilling on public works projects.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> For classifications within each group, see Pages 7 through 11.

<sup>b</sup> Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.

<sup>c</sup> Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

<sup>d</sup> Includes an amount for Annuity.

<sup>e</sup> Includes an amount withheld for supplemental dues.

<sup>f</sup> The Third Shift shall work 6.5 hours, exclusive of meal period, for which 8 hours straight-time shall be paid at the non-shift rate, Monday through Friday.



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Laborer and Related Classifications #**

**Determination:**

SC-23-102-2-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

**Wages and Employer Payments:**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>b</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>cd</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Group 1	\$36.39	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8.0	\$59.88	\$78.075	\$78.075	\$96.27
Group 2	\$36.94	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8.0	\$60.43	\$78.900	\$78.900	\$97.37
Group 3	\$37.49	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8.0	\$60.98	\$79.725	\$79.725	\$98.47
Group 4	\$39.04	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8.0	\$62.53	\$82.050	\$82.050	\$101.57
Group 5	\$39.39	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8.0	\$62.88	\$82.575	\$82.575	\$102.27

**Classification Groups:**

**Group 1**

Boring Machine Helper (Outside)  
Certified Confined Space Laborer  
Cleaning and Handling of Panel Forms  
Concrete Screeding for Rough Strike-Off  
Concrete, Water Curing  
Demolition Laborer, the cleaning of brick if performed by an employee performing any other phase of demolition work, and the cleaning of lumber  
Fiberoptic Installation, Blowing, Splicing, and Testing Technician on public right-of-way only  
Fire Watcher, Limbers, Brush Loaders, Pilers and Debris Handlers  
Flagman  
Gas, Oil and/or Water Pipeline Laborer  
Laborer, Asphalt-Rubber Material Loader  
Laborer, General or Construction  
Laborer, General Cleanup  
Laborer, Jetting  
Laborer, Temporary Water and Air Lines  
Plugging, Filling of Shee-Bolt Holes; Dry Packing of Concrete and Patching  
Post Hole Digger (Manual)  
Railroad Maintenance, Repair Trackman and Road Beds; Streetcar and Railroad Construction Track Laborers  
Rigging and Signaling  
Scaler  
Slip Form Raisers  
Tarmen and Mortar Man  
Tool Crib or Tool House Laborer  
Traffic Control by any method  
Water Well Driller Helper  
Window Cleaner  
Wire Mesh Pulling - All Concrete Pouring Operations

**Group 2**

Asphalt Shoveler  
Cement Dumper (on 1 yard or larger mixer and handling bulk cement)  
Cesspool Digger and Installer  
Chucktender  
Chute Man, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundations, footings, curbs, gutters and sidewalks  
Concrete Curer-Impervious Membrane and Form Oiler  
Cutting Torch Operator (Demolition)  
Fine Grader, Highways and Street Paving, Airport, Runways, and similar type heavy construction  
Gas, Oil and/or Water Pipeline Wrapper-Pot Tender and Form Man  
Guinea Chaser  
Headerboard Man-Asphalt  
Installation of all Asphalt Overlay Fabric and Materials used for Reinforcing Asphalt  
Laborer, Packing Rod Steel and Pans  
Membrane Vapor Barrier Installer  
Power Broom Sweepers (small)  
Riprap, Stonepaver, placing stone or wet sacked concrete  
Roto Scraper and Tiller  
Sandblaster (Pot Tender)  
Septic Tank Digger and Installer (leadman)  
Tank Scaler and Cleaner  
Tree Climber, Faller, Chain Saw Operator, Pittsburgh Chipper and similar type Brush Shredders  
Underground Laborer, including Caisson Bellow

**Group 3**

Asphalt Installation of all fabrics  
Buggymobile Man  
Compactor (all types including Tampers, Barko, Wacker)  
Concrete Cutting Torch  
Concrete Pile Cutter  
Driller, Jackhammer, 2 1/2 ft. drill steel or longer  
Dri Pak-it Machine  
Gas, Oil and/or Water Pipeline Wrapper - 6-inch pipe and over by any method, inside and out  
Impact Wrench, Multi-Plate  
Kettlemen, Potmen and Men applying asphalt, lay-kold, creosote, lime caustic and similar type materials  
Laborer, Fence Erector  
Material Hoseman (Walls, Slabs, Floors and Decks)  
Operators of Pneumatic, Gas, Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs, and similar mechanical tools not separately classified herein; operation of remote controlled robotic tools in connection with Laborers work  
Pipelayer's backup man, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services  
Power Post Hole Digger  
Rock Slinger  
Rotary Scarifier or Multiple Head Concrete Chipping Scarifier  
Steel Headerboard Man and Guideline Setter

Trenching Machine, Hand Propelled

#### **Group 4**

Any Worker Exposed to Raw Sewage  
Asphalt Raker, Luteman, Ironer, Asphalt  
Dumpman, and Asphalt Spreader Boxes  
(all types)

Concrete Core Cutter (walls, floors or  
ceilings), Grinder or Sander

Concrete Saw Man, Cutting Walls or Flat  
Work, Scoring old or new concrete

Cribber, Shorer, Lagging, Sheeting and  
Trench Bracing, Hand-Guided Lagging  
Hammer

Head Rock Slinger

High Scaler (including drilling of same)

Laborer, Asphalt-Rubber Distributor

Bootman

Laser Beam in connection with Laborer's  
work

Oversize Concrete Vibrator Operator, 70  
pounds and over

Pipelayer

Prefabricated Manhole Installer  
Sandblaster (Nozzleman), Water Blasting,  
Porta Shot-Blast

Subsurface Imaging Laborer

Traffic Lane Closure, certified

#### **Group 5**

Blasters Powderman

Driller

Toxic Waste Removal

Welding, certified or otherwise in connection  
with Laborers' work

#### **Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

#### **Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> For classification within each group, see next page.

<sup>b</sup> Includes an amount per hour worked for supplemental dues

<sup>c</sup> Any hours worked over 12 hours in a single workday are double (2) time.

<sup>d</sup> Saturdays in the same work week may be worked at straight-time if job is shut down during work week due to inclement weather or similar Act of God, or a situation beyond the employers control.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Parking and Highway Improvement (Striping, Slurry and Seal Coat Operations-Laborer)#**

**Determination:**

SC-23-102-6-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday <sup>b</sup>	Training	Other	Hours <sup>c</sup>	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	6 <sup>th</sup> & 7 <sup>th</sup> Day Overtime Hourly Rate <sup>d</sup> (1½ x)	Holiday Overtime Hourly Rate (2 X)
Group 1	\$39.06	\$8.00	\$6.26	\$5.11	\$1.32	\$0.50	8.0	\$60.25	\$79.78	\$79.78	\$99.31
Group 2	\$40.36	\$8.00	\$6.26	\$5.11	\$1.32	\$0.50	8.0	\$61.55	\$81.73	\$81.73	\$101.91
Group 3	\$42.37	\$8.00	\$6.26	\$5.11	\$1.32	\$0.50	8.0	\$63.56	\$84.745	\$84.745	\$105.93
Group 4	\$44.11	\$8.00	\$6.26	\$5.11	\$1.32	\$0.50	8.0	\$65.30	\$87.355	\$87.355	\$109.41

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.



**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**CLASSIFICATION GROUPS:**

**Group 1**

Protective coating, Pavement sealing (repairs and filling of cracks by any method to parking lots, game courts and playgrounds, and tracks, whether indoor or outdoor)  
Truck Mounted Attenuator  
Automatous Truck Mounted Attenuator  
Installation of carstops  
Traffic Control Person & Serviceman; including work of installing and protecting utility covers, traffic delineating devices, posting of no parking and notifications for public convenience  
Asphalt Repair  
Equipment Repair Technician  
Truncated Dome Assistant  
Decorative Asphalt Surfacing Applicator Assistant

**Group 2**

Traffic Surface Abrasive Blaster  
Pot Tender  
Traffic Control Person/Certified Traffic Control Person  
Repairing and filling of cracks and surface cleaning on streets, highways, and airports by any means, and other work not directly connected with the application of slurry seal  
Slurry Seal Squeegeeman (finisher)  
Bob Cat/Skid Steer  
Seal Roller  
Forklift

**Group 3**

Traffic Delineating Device Applicator  
Traffic Protective System Installer  
Pavement Marking Applicator

Slurry Seal Applicator Operator (Line Driver- including self-contained distribution units, aggregate spreader truck)  
Shuttleman (loader/slurry machine operations) operation of all related machinery and equipment; handling of related materials  
Truncated Dome Technician  
Decorative Asphalt Surfacing Applicator

**Group 4**

Traffic Striping Applicator  
Slurry Seal Mixer Operator  
Power Broom Sweeper (operation of all related trucks, machinery and equipment; Handling of related materials)

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> For classifications within each group, see Page 2.

<sup>b</sup> Includes an amount per hour worked for Supplemental Dues.

<sup>c</sup> Straight-time hours: 8 consecutive hours per day. 40 hours over 5 consecutive days, Monday through Sunday shall constitute a week's work at straight time.

<sup>d</sup> The sixth consecutive day in the same work week may be worked at straight-time if job is shut down during work week due to inclement weather.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: TUNNEL WORKER (LABORER)**

**Determination:**

SC-23-102-12-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura Counties.

**Wages and Employer Payments:**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday <sup>b</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>c</sup> (1½ X)	Saturday Overtime Hourly Rate <sup>c</sup> (1½ X)	Sunday/ Holiday Overtime Hourly Rate (2 X)
Group I	\$42.54	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8	\$66.03	\$87.30	\$87.30	\$108.57
Group II	\$42.86	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8	\$66.35	\$87.78	\$87.78	\$109.21
Group III	\$43.32	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8	\$66.81	\$88.47	\$88.47	\$110.13
Group IV <sup>d</sup>	\$44.01	\$8.00	\$9.31	\$4.87	\$0.70	\$0.61	8	\$67.50	\$89.505	\$89.505	\$111.51

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Classifications:**

**Group I**

Batch Plant Laborer  
Bottom Lander  
Changehouseman  
Dumpman  
Outside Dumpman  
Loading and Unloading Agitator Cars  
Nipper  
Pot Tender using mastic or other materials  
Rollover Dumpman  
Shotcrete Man (helper)  
Subsurface Laborer (non-miner)  
Swamper/Brakemen (Brakeman and Switchman on tunnel work)  
Tool Man  
Top Lander  
Tunnel Materials Handling Man

**Group II**

Bull Gang Mucker  
Trackman  
Chemical Grout Jetman  
Chucktender  
Cabletender  
Concrete crew-include Rodders and Spreaders  
Grout Mixerman  
Grout Pumpman  
Operating of Troweling and/or Grouting Machines  
Vibratorman  
Jack Hammer Pneumatic Tools (except driller)

**Group III**

Blaster  
Driller  
Powderman  
Cherry Pickerman

**Group IV**

Grout Gunman  
Jackleg Miner  
Jumbo Man  
Kemper and other Pneumatic Concrete Placer Operator  
Miner - Tunnel (hand or machine)  
Micro-Tunneling, Micro-Tunneling Systems  
Nozzleman  
Powderman-Primer House  
Primer Man  
Sandblaster  
Segment Erector  
Steel Form Raiser and Setter  
Timberman, Retimberman, wood or steel  
Tunnel Concrete Finisher

**Group IV**

Shaft and Raise Work<sup>d</sup>  
Diamond Driller

<sup>a</sup> For classifications within each group, see Page 2.

<sup>b</sup> Includes an amount per hour worked for supplemental dues.

<sup>c</sup> All work performed over 12 hours in a single work day shall be paid for at double time (2x).

<sup>d</sup> The classification "Shaft and Raise Work" shall be applicable to all work from the entrance to the shaft or raise and including surge chambers. This classification shall apply to all work involving surge chambers up to ground level.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Cement Mason<sup>#</sup>**

**Determination:**

SC-23-203-2-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura Counties.

**Wages and Employer Payments:**

Classification (Journeyman)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>b</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>b</sup> <sub>c</sub>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Cement Mason, Curb and Gutter Machine Operator; Clary and Similar Type of Screed Operator (Cement only); Grinding Machine Operator (all types); Jackson Vibratory, Texas Screed and Similar Type Screed Operator; Scoring Machine Operator	\$38.50	\$8.27	\$9.86	\$7.14	\$0.64	\$0.24	8.0	\$64.65	\$83.90	\$83.90	\$103.15
Magnesite, magnesite-terrazzo and mastic composition, Epoxy, Urethanes and exotic coatings, Dex-O-Tex	\$38.62	\$8.27	\$9.86	\$7.14	\$0.64	\$0.24	8.0	\$64.77	\$84.08	\$84.08	\$103.39
Floating and Troweling Machine Operator	\$38.75	\$8.27	\$9.86	\$7.14	\$0.64	\$0.24	8.0	\$64.90	\$84.275	\$84.275	\$103.65

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes an amount for supplemental dues.

<sup>b</sup> Rate applies to the first 4 daily overtime hours and the first 12 hours worked on Saturday. All other time is paid at the double time (2X) rate.

<sup>c</sup> Saturday in the same work week may be worked at straight-time rate, up to 8 hours on Saturday or when the employee has worked a total of 40 hours in the work week, if it is not reasonably possible for any individual employee on a particular job site to complete 40 hours of work on a 8 hour day, Monday through Friday, due to inclement weather or similar act of God or a situation beyond the control of the contractor.

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: #TEAMSTER (APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)**

**Determination:**

SC-23-261-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>b</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group I	\$32.59	8	\$63.63	\$79.93	\$79.93	\$96.22
Group II	\$32.74	8	\$63.78	\$80.15	\$80.15	\$96.52
Group III	\$32.87	8	\$63.91	\$80.35	\$80.35	\$96.78
Group IV	\$33.06	8	\$64.10	\$80.63	\$80.63	\$97.16
Group V	\$33.09	8	\$64.13	\$80.68	\$80.68	\$97.22
Group VI	\$33.12	8	\$64.16	\$80.72	\$80.72	\$97.28
Group VII	\$33.37	8	\$64.41	\$81.10	\$81.10	\$97.78
Group VIII	\$33.62	8	\$64.66	\$81.47	\$81.47	\$98.28
Group IX	\$33.82	8	\$64.86	\$81.77	\$81.77	\$98.68
Group X	\$34.12	8	\$65.16	\$82.22	\$82.22	\$99.28
Group XI	\$34.62	8	\$65.66	\$82.97	\$82.97	\$100.28

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$19.62
Pension	\$6.00
Vacation and Holiday <sup>c</sup>	\$3.15
Training	\$1.82
Other	\$0.45



**Wages and total hourly rates (including employer payments):**

Classification <sup>d</sup> (Subjourneyman)	Basic Hourly Rate	Total Hourly Rate	Hours	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>b</sup> (1½x)	Sunday/Holiday Overtime Hourly Rate (2 x)
0-2000 hours	\$18.80	\$48.69	8	\$58.09	\$58.09	\$67.49
2001-4000 hours	\$20.80	\$50.94	8	\$61.34	\$61.34	\$71.74
4001-6000 hours	\$22.80	\$53.19	8	\$64.59	\$64.59	\$75.99

Over 6000 hours and thereafter at journeyman rates.

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$19.62
Pension	\$6.00
Vacation and Holiday <sup>c</sup>	\$2.00 (\$2.25 for 2001-4000 hours; \$2.50 for 4001-6000 hours)
Training	\$1.82
Other	\$0.45

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: #TEAMSTER (SPECIAL SHIFT)**  
**(APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)**

**Determination:**

SC-23-261-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>b</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group I	\$33.09	8	\$64.13	\$80.68	\$80.68	\$97.22
Group II	\$33.24	8	\$64.28	\$80.90	\$80.90	\$97.52
Group III	\$33.37	8	\$64.41	\$81.10	\$81.10	\$97.78
Group IV	\$33.56	8	\$64.60	\$81.38	\$81.38	\$98.16
Group V	\$33.59	8	\$64.63	\$81.43	\$81.43	\$98.22
Group VI	\$33.62	8	\$64.66	\$81.47	\$81.47	\$98.28
Group VII	\$33.87	8	\$64.91	\$81.85	\$81.85	\$98.78
Group VIII	\$34.12	8	\$65.16	\$82.22	\$82.22	\$99.28
Group IX	\$34.32	8	\$65.36	\$82.52	\$82.52	\$99.68
Group X	\$34.62	8	\$65.66	\$82.97	\$82.97	\$100.28
Group XI	\$35.12	8	\$66.16	\$83.72	\$83.72	\$101.28

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$19.62
Pension	\$6.00
Vacation and Holiday <sup>c</sup>	\$3.15
Training	\$1.82
Other	\$0.45



**Wages and total hourly rates (including employer payments):**

Classification <sup>d</sup> (Subjourneyman)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>b</sup> (1½x)	Sunday/Holiday Overtime Hourly Rate (2 x)
0-2000 hours	\$18.80	8	\$48.69	\$58.09	\$58.09	\$67.49
2001-4000 hours	\$20.80	8	\$50.94	\$61.34	\$61.34	\$71.74
4001-6000 hours	\$22.80	8	\$53.19	\$64.59	\$64.59	\$75.99

Over 6000 hours and thereafter at journeyman rates.

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$19.62
Pension	\$6.00
Vacation and Holiday <sup>c</sup>	\$2.00 (\$2.25 for 2001-4000 hours; \$2.50 for 4001-6000 hours)
Training	\$1.82
Other	\$0.45

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY  
THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE  
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: #TEAMSTER (SECOND SHIFT)**  
**(APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)**

**Determination:**

SC-23-261-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and total hourly rates (including employer payments):**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Hours <sup>e</sup>	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>b</sup> (1½ x)	Sunday/Holiday Overtime Hourly Rate (2 x)
Group I	\$33.59	8	\$64.63	\$81.43	\$81.43	\$98.22
Group II	\$33.74	8	\$64.78	\$81.65	\$81.65	\$98.52
Group III	\$33.87	8	\$64.91	\$81.85	\$81.85	\$98.78
Group IV	\$34.06	8	\$65.10	\$82.13	\$82.13	\$99.16
Group V	\$34.09	8	\$65.13	\$82.18	\$82.18	\$99.22
Group VI	\$34.12	8	\$65.16	\$82.22	\$82.22	\$99.28
Group VII	\$34.37	8	\$65.41	\$82.60	\$82.60	\$99.78
Group VIII	\$34.62	8	\$65.66	\$82.97	\$82.97	\$100.28
Group IX	\$34.82	8	\$65.86	\$83.27	\$83.27	\$100.68
Group X	\$35.12	8	\$66.16	\$83.72	\$83.72	\$101.28
Group XI	\$35.62	8	\$66.66	\$84.47	\$84.47	\$102.28

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$19.62
Pension	\$6.00
Vacation and Holiday <sup>c</sup>	\$3.15
Training	\$1.82
Other	\$0.45

**Wages and total hourly rates (including employer payments):**

Classification <sup>d</sup> (Subjourneyman)	Basic Hourly Rate	Hours <sup>e</sup>	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1½ x)	Saturday Overtime Hourly Rate <sup>b</sup> (1½x)	Sunday/Holiday Overtime Hourly Rate (2 x)
0-2000 hours	\$18.80	8	\$48.69	\$58.09	\$58.09	\$67.49
2001-4000 hours	\$20.80	8	\$50.94	\$61.34	\$61.34	\$71.74
4001-6000 hours	\$22.80	8	\$53.19	\$64.59	\$64.59	\$75.99

Over 6000 hours and thereafter at journeyman rates.

**Employer Payments:**

Type of Fund	Amount per Hour
Health and Welfare	\$19.62
Pension	\$6.00
Vacation and Holiday <sup>c</sup>	\$2.00 (\$2.25 for 2001-4000 hours; \$2.50 for 4001-6000 hours)
Training	\$1.82
Other	\$0.45

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Classifications:**

**Group I**

Warehouseman and Teamster

**Group II**

Driver of Vehicle or Combination of Vehicles - 2 axles  
Traffic Control Pilot Car, excluding moving heavy  
equipment permit load  
Truck Mounted Power Broom

**Group III**

Driver of Vehicle or Combination of Vehicles - 3 axles  
Bootman  
Cement Mason Distribution Truck  
Fuel Truck Driver  
Water Truck - 2 axles  
Dump Truck of less than 16 yards water level  
Erosion Control Driver

**Group IV**

Driver of Transit Mix Truck-Under 3 yds  
Dumpcrete Truck Less than 6½ yards water level  
Truck Repairman Helper

**Group V**

Water Truck 3 or more axles  
Warehouseman Clerk  
Slurry Truck Driver

**Group VI**

Driver of Transit Mix Truck - 3 yds or more  
Dumpcrete Truck 6½ yds water level and over  
Driver of Vehicle or Combination of Vehicles - 4 or  
more axles  
Driver of Oil Spreader Truck  
Dump Truck 16 yds to 25 yds water level

Side Dump Trucks

Flow Boy Dump Trucks

**Group VII**

A Frame, Swedish Crane or Similar  
Forklift Driver  
Ross Carrier Driver

**Group VIII**

Dump Truck of 25 yds to 49 yards water level  
Truck Repairman  
Water Pull Single Engine  
Welder

**Group IX**

Truck Repairman Welder  
Low Bed Driver, 9 axles or over

**Group X**

Working Truck Driver  
Truck Greaser and Tireman - \$0.50 additional for  
Tireman  
Pipeline and Utility Working Truck Driver, including  
Winch Truck and Plastic Fusion, limited to Pipeline  
and Utility Work  
Dump Truck and Articulating - 50 yards or more water  
level  
Water Pull Single Engine with attachment

**Group XI**

Water Pull Twin Engine  
Water Pull Twin Engine with attachments  
Winch Truck Driver - \$0.25 additional when operating  
a Winch or similar special attachment

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> For classifications within each group, see Page 7.

<sup>b</sup> Rate applies to the first 4 daily overtime hours on weekdays and the first 12 hours on Saturday. All other overtime is paid at the Sunday/Holiday double-time rate.

<sup>c</sup> Includes an amount for Supplemental Dues.

<sup>d</sup> Subjourneyman may be employed at a ratio of one subjourneyman for every five journeyman.

<sup>e</sup> The third shift shall work 6.5 hours, exclusive of meal period, for which 8-hours straight time shall be paid at the non-shift rate, Monday through Friday.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Drywall Installer/Lather (Carpenter)<sup>#</sup>**

**Determination:**

SC-31-X-41-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura counties.

**Wages and Employer Payments:**

Classification (Journeyman)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other <sup>b</sup>	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Drywall Installer/Lather	\$43.76	\$8.00	\$5.41	\$7.09	\$0.62	\$1.77	8.0	\$66.65	\$88.53	\$88.53	\$110.41

**Determination:**

SC-31-X-41-2021-1A

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director - Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura counties

**Wages and Employer Payments:**

Classification (Journeyman)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Stocker, Scrapper	\$14.00	\$4.00	\$0.00	\$7.09	\$0.62	\$0.00	8.0	\$25.71	\$32.71	\$32.71	\$39.71

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes an amount per hour worked for supplemental dues.

<sup>b</sup> Includes an amount for Annuity.

<sup>c</sup> Rate applies to the first 4 daily overtime hours and to the first 8 hours on Saturday. All other overtime will be paid the Sunday and Holiday double time rate. Saturdays in the same workweek may be worked at straight-time if job is shut down during the normal work week due to inclement weather.



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Elevator Constructor<sup>#</sup>**

**Determination:**

SC-62-X-999-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

December 31, 2021<sup>\*\*</sup> The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Los Angeles, Orange, Riverside, San Diego, Santa Barbara and Ventura counties. Portions of Kern, San Bernardino and San Luis Obispo counties are detailed below <sup>a</sup>.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension <sup>b</sup>	Vacation and Holiday <sup>c</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>d</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>d</sup>	Sunday/ Holiday Overtime Hourly Rate
Mechanic	\$59.32	\$15.875	\$19.31	\$5.39	\$0.64	\$0.54	8.0	\$101.075	\$130.735	\$130.735	\$160.395
Mechanic (employed in industry more than 5 years)	\$59.32	\$15.875	\$19.31	\$6.58	\$0.64	\$0.54	8.0	\$102.265	\$131.925	\$131.925	\$161.585
Helper <sup>e</sup>	\$41.52	\$15.875	\$19.31	\$3.77	\$0.64	\$0.54	8.0	\$81.655	\$102.415	\$102.415	\$123.175
Helper (employed in industry more than 5 years) <sup>e</sup>	\$41.52	\$15.875	\$19.31	\$4.60	\$0.64	\$0.54	8.0	\$82.485	\$103.245	\$103.245	\$124.005

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Applies to that portion of these counties south of the Tehachapi Line. For more information contact the Office of the Director – Research Unit.

<sup>b</sup> Includes an amount for Annuity Trust Fund.

<sup>c</sup> Includes an amount for 8 paid holidays.

<sup>d</sup> For Contract Service work only. All other overtime is paid at the Sunday/Holiday rate.

<sup>e</sup> Ratio: The total number of Helpers employed shall not exceed the number of Mechanics on any one job. When removing old and installing new cables on existing elevator installations, the Company may use two (2) Helpers, Apprentices or Assistant Mechanics to one (1) Mechanic. Two (2) Helpers, Apprentices or Assistant Mechanics to each three (3) Mechanics may be employed in Contract Service work only. For more information on the use of Helpers, contact the Office of the Director – Research Unit.



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Dredger (Operating Engineer)\***

**Determination:**

SC-63-12-23-2020-2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

July 31, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare	Pension <sup>a</sup>	Vacation and Holiday <sup>b</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Sunday Overtime Hourly Rate (2 X)	Holiday Overtime Hourly Rate (3X)
Chief Engineer, Deck Captain	\$53.40	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$84.95	\$111.65	\$111.65	\$138.35	\$191.75
Leverman	\$56.40	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$87.95	\$116.15	\$116.15	\$144.35	\$200.75
Watch Engineer, Deckmate	\$50.32	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$81.87	\$107.03	\$107.03	\$132.19	\$182.51
Winchman (Stern Winch on Dredge)	\$49.77	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$81.32	\$106.205	\$106.205	\$131.09	\$180.86
Fireman-Oiler, Leveehand, Deckhand (can operate anchor scow under direction of mate), Bargeman	\$49.23	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$80.78	\$105.395	\$105.395	\$130.01	\$179.24
Dozer Operator	\$50.43	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$81.98	\$107.195	\$107.195	\$132.41	\$182.84

Classification	Basic Hourly Rate	Health and Welfare	Pension <sup>a</sup>	Vacation and Holiday <sup>b</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Sunday Overtime Hourly Rate (2 X)	Holiday Overtime Hourly Rate (3X)
Hydrographic Surveyor	\$51.86	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$83.41	\$109.34	\$109.34	\$135.27	\$187.13
Barge Mate	\$49.84	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$81.39	\$106.31	\$106.31	\$131.23	\$181.07
Welder	\$51.82	\$11.85	\$12.65	\$5.85	\$1.05	\$0.15	8.0	\$83.37	\$109.28	\$109.28	\$135.19	\$187.01

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes an amount for annuity.

<sup>b</sup> Includes an amount for supplemental dues.

<sup>c</sup> Rate applies to the first 4 daily overtime hours and first 12 hours on Saturdays. All other time is paid at the Sunday overtime rate.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Landfill Worker (Operating Engineer)**

**Determination:**

SC-63-12-41-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

March 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura Counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare <sup>a</sup>	Pension	Vacation and Holiday	Training	Other <sup>b</sup>	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Mechanic	\$22.15	\$4.21	\$1.05	\$1.78	\$0.06	\$3.80	8.0	\$33.05	\$44.125	\$44.125	\$55.20
Lead Equipment Operator	\$20.15	\$4.12	\$0.95	\$1.61	\$0.06	\$3.44	8.0	\$30.33	\$40.405	\$40.405	\$50.48
Lead Truck Driver/ Equipment Operator	\$19.15	\$4.07	\$0.90	\$1.52	\$0.06	\$3.26	8.0	\$28.96	\$38.535	\$38.535	\$48.11
Truck Driver – End Dump/ Walking Floor/Low Bed	\$18.15	\$4.02	\$0.85	\$1.44	\$0.06	\$3.08	8.0	\$27.60	\$36.675	\$36.675	\$45.75
Truck Driver – Roll Off/Transfer Station Loader Operator/ Maintenance/ Fueler/ Mechanic Helper	\$17.15	\$3.98	\$0.80	\$1.35	\$0.06	\$2.90	8.0	\$26.24	\$34.815	\$34.815	\$43.39
Scale House	\$16.15	\$3.93	\$0.75	\$1.27	\$0.06	\$2.72	8.0	\$24.88	\$32.955	\$32.955	\$41.03
Load Checker/ Water Truck Driver/ Parts Runner	\$14.00	\$3.70	\$0.50	\$0.85	\$0.06	\$1.81	8.0	\$20.92	\$27.92	\$27.92	\$34.92
Laborer	\$14.00	\$3.61	\$0.40	\$0.68	\$0.06	\$1.45	8.0	\$20.20	\$27.20	\$27.20	\$34.20

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

<sup>a</sup> Includes an amount for Sick Leave.

<sup>b</sup> Amount for employee stock ownership.

<sup>c</sup> Rate applies to the sixth consecutive day of work.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Gunitite Worker (Laborer)**

**Determination:**

SC-102-345-1-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate <sup>a</sup>	Health and Welfare	Pension	Vacation and Holiday <sup>b</sup>	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Daily Overtime Hourly Rate (2 X)	Saturday Overtime Hourly Rate (1 ½ X) <sup>d e</sup>	Saturday Overtime Hourly Rate (2 X) <sup>e</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Ground Wire Man, Nozzleman, Rodman	\$45.05	\$8.00	\$7.60	\$6.00	\$0.09	8.0	\$66.74	\$89.265	\$111.79	\$89.265	\$111.79	\$111.79
Gunman	\$44.10	\$8.00	\$7.60	\$6.00	\$0.09	8.0	\$65.79	\$87.84	\$109.89	\$87.84	\$109.89	\$109.89
Reboundman	\$40.56	\$8.00	\$7.60	\$6.00	\$0.09	8.0	\$62.25	\$82.53	\$102.81	\$82.53	\$102.81	\$102.81
Entry-Level Gunitite Worker Step 1 <sup>f</sup> (0-1000 hours)	\$28.30	\$4.93	\$6.71	\$6.00	\$0.06	8.0	\$46.00	\$60.15	\$74.30	\$60.15	\$74.30	\$74.30
Entry-Level Gunitite Worker Step 2 <sup>f</sup> (1001- 2000 hours)	\$30.30	\$4.93	\$6.71	\$6.00	\$0.06	8.0	\$48.00	\$63.15	\$78.30	\$63.15	\$78.30	\$78.30

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

<sup>a</sup> Employees working from a Bos'n's Chair or suspended from a rope or cable shall receive \$0.40/hour above this rate.

<sup>b</sup> Includes an amount per hour worked for Supplemental Dues.

<sup>c</sup> Rate applies to the first 3 overtime hours.

<sup>d</sup> Rate applies to the first 11 overtime hours.

<sup>e</sup> In the event it is not reasonably possible to complete forty (40) hours of work on an eight (8) hour day shift, Monday through Friday, then the balance of the forty (40) hours may be worked on Saturday at the straight time rate.

<sup>f</sup> Ratio is one Entry-Level Gunitite Worker for the 1st 4 Journeymen on the job (although the Entry-Level Gunitite Worker may be the 2nd worker on the job) and 1 Entry-Level Gunitite Worker for every 4 Journeymen thereafter (the Entry-Level Gunitite Worker may not be on the job until after all 4 Journeymen are on the job).

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Housemover (Laborer)**

**Determination:**

SC-102-507-1-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other <sup>b</sup>	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>c</sup> <sup>d</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Housemover	\$36.44	\$8.00	\$9.31	\$4.87	\$0.70	\$0.51	8.0	\$59.83	\$78.05	\$78.05	\$96.27

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.



---

<sup>a</sup> Includes Supplemental Dues contribution.

<sup>b</sup> Include an amount for Contract Administration Fund (\$0.07), Contract Compliance Trust Fund (\$0.30), Industry Fund (\$0.08), and Laborers Trusts' Administrative Trust Fund (\$0.06).

<sup>c</sup> Any hours over 12 hours in a single workday are double time.

<sup>d</sup> If the employee is unable to complete the forty (40) hours during the normal workweek, Monday through Friday, due to inclement weather or a situation beyond the employers control, then the balance of the forty (40) hours may be worked on Saturday at the straight-time rate in the same workweek.

NOT FOR BID

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Asbestos and Lead Abatement (Laborer)**

**Determination:**

SC-102-882-1-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

July 31, 2022\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other <sup>b</sup>	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate <sup>c</sup> (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (2 X)
Asbestos and Lead Abatement Worker	\$37.49	\$8.10	\$10.07	\$4.97	\$0.75	\$0.51	8.0	\$61.89	\$80.635	\$80.635	\$99.38

**Note:**

Asbestos Abatement must be trained and the work conducted according to the Code of Federal Regulations 29 CFR 1926.58, the California Labor Code 6501.5 and the California Code of Regulations Title 8, Section 5208. Contractors must be certified by the Contractors' State License Board and registered with the Division of Occupational Safety and Health (DOSH). For further information, contact the Asbestos Contractors Abatement Registration Unit, DOSH at (916) 574-2993.

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the

[Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

<sup>a</sup> Includes an amount for supplemental dues.

<sup>b</sup> Includes amounts for Center for Contract Compliance, Contract Administration Fund, Industry Fund, and Laborers' Trust Administrative Trust Fund.

<sup>c</sup> Saturdays in the same work week may be worked at straight-time if the job is shut down during the normal work week due to inclement weather, or reasons beyond the control of the employer.

NOT FOR BIDDING

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Horizontal Directional Drilling (Laborer)<sup>#</sup>**

**Determination:**

SC-102-1184-1-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X) <sup>b</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Group 1 (Drilling Crew Laborer)	\$37.85	\$8.00	\$5.66	\$3.40	\$0.40	\$0.99	8.0	\$56.30	\$75.225	\$75.225	\$94.15
Group 2 (Vehicle Operator/ Hauler)	\$38.02	\$8.00	\$5.66	\$3.40	\$0.40	\$0.99	8.0	\$56.47	\$75.480	\$75.480	\$94.49
Group 3 (Horizontal Directional Drill Operator)	\$39.87	\$8.00	\$5.66	\$3.40	\$0.40	\$0.99	8.0	\$58.32	\$78.255	\$78.255	\$98.19
Group 4 (Electronic Tracking Locator, Subsurface Imaging Laborer)	\$41.87	\$8.00	\$5.66	\$3.40	\$0.40	\$0.99	8.0	\$60.32	\$81.255	\$81.255	\$102.19

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the

[Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes an amount for Supplemental Dues.

<sup>b</sup> In the event, due to inclement weather, major equipment breakdown, or similar Act of God, it is not reasonably possible to complete forty (40) hours of work Monday through Friday, then the balance of the forty (40) hours may be worked on Saturday at the straight-time rate.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: LANDSCAPE/IRRIGATION LABORER/TENDER#**

**Determination:**

SC-102-X-14-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

July 31, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1 ½ X)	Saturday Overtime Hourly Rate <sup>b</sup> (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (2 X)
Landscape/Irrigation Laborer	\$34.58	\$8.00	\$9.31	\$4.87	\$0.70	\$0.48	8.0	\$57.94	\$75.23	\$75.23	\$92.52
Landscape Hydro Seeder	\$35.68	\$8.00	\$9.31	\$4.87	\$0.70	\$0.48	8.0	\$59.04	\$76.88	\$76.88	\$94.72

**Determination:**

SC-102-X-14-2021-1A

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

July 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties.

### Wages and Employer Payments:

Classification	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1 ½ X)	Saturday Overtime Hourly Rate <sup>b</sup> (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (2 X)
Landscape/Irrigation Tender <sup>c</sup>	\$15.53	\$2.65	\$1.35	\$1.03	\$0.00	\$0.00	8.0	\$20.56	\$28.325	\$28.325	\$36.09

### Recognized holidays:

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### Travel and/or subsistence payment:

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes an amount per hour worked for Supplemental Dues.

<sup>b</sup> Rate applies to first 4 daily overtime hours and the first 12 hours on Saturday. All other time is paid at the Sunday and Holiday double-time rate.

<sup>c</sup> The first employee on the jobsite shall be a Landscape/Irrigation Laborer; the second employee on the jobsite must be an Apprentice or a Landscape/Irrigation Laborer; and the third and fourth employees may be Tenders. The fifth employee on the jobsite shall be a Landscape/Irrigation Laborer; the sixth employee must be an Apprentice or a Landscape/Irrigation Laborer; and the seventh and eighth employees may be Tenders. Thereafter, Tenders may be employed with Landscape/Irrigation Laborers in a 50/50 ratio on each jobsite. However, plant establishment may be performed exclusively by Landscape/Irrigation Tenders without the supervision of a Journeyman.



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: TREE MAINTENANCE (LABORER) <sup>1</sup>**

(APPLIES ONLY TO ROUTINE TREE MAINTENANCE WORK, NOT CONSTRUCTION AND/OR LANDSCAPE CONSTRUCTION) <sup>2</sup>

**Determination:**

SC-102-X-20-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

June 30, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura Counties.

**Wages and Employer Payments:**

Classification <sup>a</sup> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>b</sup> (1 ½ X)	Sunday/Holiday Overtime Hourly Rate (2 X)
Senior Tree Trimmer	\$22.10	\$2.55	\$2.00	\$2.47	\$0.00	\$0.30	8.0	\$29.42	\$40.47	\$51.52
Tree Trimmer	\$20.10	\$2.55	\$2.00	\$2.27	\$0.00	\$0.30	8.0	\$27.22	\$37.27	\$47.32
Groundperson	\$18.20	\$2.55	\$2.00	\$2.12	\$0.00	\$0.30	8.0	\$25.17	\$34.27	\$43.37

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

<sup>1</sup> This determination does not apply to the work of a landscape laborer employed on landscape construction (work incidental to construction or post-construction maintenance during the plant installation and establishment period) or to tree trimming work involving line clearance.

<sup>2</sup> This determination does not apply to the work of a landscape laborer employed on landscape construction (work incidental to construction or post-construction maintenance during the plant installation and establishment period) or to tree trimming work involving line clearance.

<sup>a</sup> There shall be at least one Senior Tree Trimmer on crews of three or more.

<sup>b</sup> Monday thru Saturday shall constitute a workweek. Rate applies to first 4 overtime hours Monday thru Saturday, and all time worked in excess of forty (40) hours per workweek. All other time is paid at the Sunday and Holiday double-time rate.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Light Fixture Maintenance**

**Determination:**

SC-830-61-1-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

April 1, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Riverside County. For other counties please contact the Office of the Director – Research Unit prior to Bid Advertisement at (415) 703-4774.

**Wages and Employer Payments:**

Classification (Journeyman)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1½ X)	Saturday/Sunday Overtime Hourly Rate (1½ X)	Holiday Overtime Hourly Rate (2 X)
Lighting Maintenance Service Person	\$14.00	\$0.29	\$0.00	\$0.34	\$0.00	8.0	\$14.63	\$21.63	\$21.63	\$28.63

**Determination:**

SC-830-61-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

April 1, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within **San Bernardino** County. For other counties please contact the Office of the Director – Research Unit prior to Bid Advertisement at (415) 703-4774.

### Wages and Employer Payments:

Classification	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (1 ½ X)
Lighting Maintenance Service Person	\$14.00	\$2.43	\$0.39	\$0.00	\$0.50	8.0	\$17.32	\$24.32	\$24.32

### Recognized holidays:

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### Travel and/or subsistence payment:

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Boilermaker-Blacksmith #**

**Determination:**

C-14-X-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

September 30, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within the State of California

**Wages and Employer Payments:**

<b><u>Classification</u></b> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension <sup>a</sup>	Vacation and Holiday	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (2 X)
Boilermaker-Blacksmith (Area 1) <sup>b</sup>	\$46.03	\$8.57	\$18.44 <sup>c</sup>	\$7.90 <sup>c</sup>	\$3.90	\$0.74	8.0	\$85.58	\$121.765 <sup>d</sup>	\$121.765 <sup>d</sup>	\$157.95
Boilermaker-Blacksmith (Area 2) <sup>b</sup>	\$49.62	\$8.57	\$22.30 <sup>c</sup>	\$6.00 <sup>c</sup>	\$4.40	\$0.74	8.0	\$91.63	\$130.59 <sup>d</sup>	\$130.59 <sup>d</sup>	\$169.55
Boilermaker-Blacksmith (Area 3) <sup>b</sup>	\$45.60	\$8.57	\$20.52 <sup>c</sup>	\$5.50 <sup>c</sup>	\$4.40	\$0.74	8.0	\$85.33	\$121.14 <sup>d</sup>	\$121.14 <sup>d</sup>	\$156.95

**Determination:**

C-14-X-2-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

September 30, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within the State of California

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension <sup>a</sup>	Vacation and Holiday	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (2 X)
Boilermaker-Blacksmith Helper <sup>e</sup> (Area 1) <sup>b</sup>	\$25.32	f	\$0.73 <sup>c</sup>	\$0.00	\$3.90	\$0.74	8.0	\$30.69	\$43.715 <sup>d</sup>	\$43.715 <sup>d</sup>	\$56.74
Boilermaker-Blacksmith Helper <sup>e</sup> (Area 2) <sup>b</sup>	\$27.29	f	\$0.73 <sup>c</sup>	\$0.00	\$4.40	\$0.74	8.0	\$33.16	\$47.17 <sup>d</sup>	\$47.17 <sup>d</sup>	\$61.18
Boilermaker-Blacksmith Helper <sup>e</sup> (Area 3) <sup>b</sup>	\$25.08	f	\$0.73 <sup>c</sup>	\$0.00	\$4.40	\$0.74	8.0	\$30.95	\$43.855 <sup>d</sup>	\$43.855 <sup>d</sup>	\$56.76

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm)

[Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes amount for Annuity Trust Fund.

<sup>b</sup> **Area 1:** Imperial, Inyo, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, San Luis Obispo (only that portion that is within a 25-mile radius of the city of Santa Maria), and Ventura Counties.

**Area 2:** Alameda, Contra Costa, Marin, Monterey, Sacramento, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties.

**Area 3:** All other remaining counties.

<sup>c</sup> Contribution is factored at the applicable overtime multiplier for each overtime hour worked.

<sup>d</sup> Rate applies to the first 2 daily overtime hours and the first 10 hours worked on Saturday. All other overtime is paid at the Sunday/Holiday rate.

<sup>e</sup> One Helper shall be employed on each job of 5 to 10 employees.

<sup>f</sup> Helpers will be eligible for Health & Welfare benefits after completing 2000 hours.



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Iron Worker #**

**Determination:**

C-20-X-1-2020-1

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

December 31, 2020\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within the State of California

**Wages and Employer Payments:**

<u><b>Classification</b></u> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>a</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>a</sup>	Sunday/ Holiday Overtime Hourly Rate (2 X)
Iron Worker (Ornamental, Reinforcing, Structural) (Area 1) <sup>b</sup>	\$42.50	\$10.05	\$13.32	\$5.30 <sup>c</sup>	\$0.72	\$4.465	8.0	\$76.355	\$97.605	\$97.605	\$118.855
Fence Erector (Area 1) <sup>b</sup>	\$36.08	\$7.88	\$8.99	\$3.92 <sup>c</sup>	\$0.51	\$3.585	8.0	\$60.965	\$79.005	\$79.005	\$97.045
Iron Worker (Ornamental, Reinforcing, Structural) (Area 2) <sup>b</sup>	\$41.00	\$10.05	\$13.32	\$5.30 <sup>c</sup>	\$0.72	\$4.465	8.0	\$74.855	\$95.355	\$95.355	\$115.855
Fence Erector (Area 2) <sup>b</sup>	\$34.58	\$7.88	\$8.99	\$3.92 <sup>c</sup>	\$0.51	\$3.585	8.0	\$59.465	\$76.755	\$76.755	\$94.045

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the

[Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday. All other overtime is at the Sunday/Holiday rate.

<sup>b</sup> **Area 1:** Alameda, Contra Costa, San Francisco, San Mateo, and Santa Clara Counties.

**Area 2:** Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Imperial, Inyo, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo, and Yuba Counties.

<sup>c</sup> Includes supplemental dues.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Electrical Utility Lineman #**

**Determination:**

C-61-X-3-2020-2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

May 31, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within the State of California, except Del Norte, Modoc, and Siskiyou Counties. (For Del Norte, Modoc and Siskiyou - see determination C-61-X-8)

**Wages and Employer Payments:**

<u><b>Classification</b></u> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (2 X)	Saturday Overtime Hourly Rate (2 X)	Sunday/ Holiday Overtime Hourly Rate
Lineman, Cable Splicer #	\$59.14	\$7.50	\$11.21 <sup>a</sup>	\$0.30 <sup>b</sup>	\$0.65 <sup>c</sup>	8.0	\$80.57	\$142.43	\$142.43	\$142.43
Powderman	\$52.81	\$7.50	\$10.47 <sup>a</sup>	\$0.26 <sup>b</sup>	\$0.57 <sup>c</sup>	8.0	\$73.19	\$128.41	\$128.41	\$128.41
Groundman	\$36.12	\$7.50	\$10.43 <sup>a</sup>	\$0.18 <sup>b</sup>	\$0.40 <sup>c</sup>	8.0	\$55.71	\$93.48	\$93.48	\$93.48

**Determination:**

C-61-X-4-2020-1

**Issue Date:**

February 22, 2020

**Expiration date of determination:**

December 31, 2020\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within the State of California, except Del Norte, Imperial, Inyo, Kern, Kings, Los Angeles, Modoc, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Siskiyou, Tulare, and Ventura Counties. (For Del Norte, Modoc, and Siskiyou – see determination C-61-X-8. For Imperial, Inyo, Kern, Kings, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tulare, and Ventura Counties– see determination C-61-X-5)

**Wages and Employer Payments:**

<u>Classification</u> (Journeyman)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (1 ½ X)
Pole Restoration Journeyman	\$30.71	\$5.75	\$0.85 <sup>a</sup>	\$0.83	8.0	\$39.06	\$54.88	\$54.88 <sup>d</sup>	\$54.88
After 1 year	\$30.71	\$5.75	\$0.85 <sup>a</sup>	\$1.42	8.0	\$39.65	\$55.47	\$55.47 <sup>d</sup>	\$55.47
After 3 years	\$30.71	\$5.75	\$0.85 <sup>a</sup>	\$2.01	8.0	\$40.24	\$56.06	\$56.06 <sup>d</sup>	\$56.06
After 6 years	\$30.71	\$5.75	\$0.85 <sup>a</sup>	\$2.60	8.0	\$40.83	\$56.65	\$56.65 <sup>d</sup>	\$56.65
Senior Technician <sup>e</sup>	\$19.87	\$5.75	\$0.85 <sup>a</sup>	\$0.53	8.0	\$27.60	\$37.84	\$37.84 <sup>d</sup>	\$37.84
After 1 year	\$19.87	\$5.75	\$0.85 <sup>a</sup>	\$0.91	8.0	\$27.98	\$38.22	\$38.22 <sup>d</sup>	\$38.22
After 3 years	\$19.87	\$5.75	\$0.85 <sup>a</sup>	\$1.29	8.0	\$28.36	\$38.60	\$38.60 <sup>d</sup>	\$38.60
After 6 years	\$19.87	\$5.75	\$0.85 <sup>a</sup>	\$1.68	8.0	\$28.75	\$38.99	\$38.99 <sup>d</sup>	\$38.99
Pole Treatment Journeyman	\$27.44	\$5.75	\$0.85 <sup>a</sup>	\$0.74	8.0	\$35.60	\$49.73	\$49.73 <sup>d</sup>	\$49.73
After 1 year	\$27.44	\$5.75	\$0.85 <sup>a</sup>	\$1.27	8.0	\$36.13	\$50.26	\$50.26 <sup>d</sup>	\$50.26
After 3 years	\$27.44	\$5.75	\$0.85 <sup>a</sup>	\$1.80	8.0	\$36.66	\$50.79	\$50.79 <sup>d</sup>	\$50.79
After 6 years	\$27.44	\$5.75	\$0.85 <sup>a</sup>	\$2.32	8.0	\$37.18	\$51.31	\$51.31 <sup>d</sup>	\$51.31
Pole Restoration and Treatment <sup>e</sup> Technician (First 6 months)	\$15.38	\$5.75	\$0.85 <sup>a</sup>	\$0.41	8.0	\$22.85	\$30.77	\$30.77 <sup>d</sup>	\$30.77

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Electrical Utility Lineman**

**Determination:**

C-61-X-5-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

March 3, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Kern, Kings, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tulare, and Ventura Counties.

**Wages and Employer Payments:**

<u><b>Classification</b></u> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (1 ½ X)
Pole Restoration Journeyman	\$26.11	\$5.00	\$0.60 <sup>a</sup>	\$0.00	8.0	\$32.49	\$45.94	\$45.94 <sup>b</sup>	\$45.94
After 6 months	\$26.11	\$5.00	\$0.60 <sup>a</sup>	\$1.21	8.0	\$33.70	\$47.145	\$47.145 <sup>b</sup>	\$47.145
After 3 years	\$26.11	\$5.00	\$0.60 <sup>a</sup>	\$1.86	8.0	\$34.35	\$47.795	\$47.795 <sup>b</sup>	\$47.795
After 6 years	\$26.11	\$5.00	\$0.60 <sup>a</sup>	\$2.21	8.0	\$34.70	\$48.145	\$48.145 <sup>b</sup>	\$48.145
Senior Technician <sup>c</sup>	\$16.89	\$5.00	\$0.60 <sup>a</sup>	\$0.00	8.0	\$23.00	\$31.70	\$31.70 <sup>b</sup>	\$31.70
After 6 months	\$16.89	\$5.00	\$0.60 <sup>a</sup>	\$0.78	8.0	\$23.78	\$32.48	\$32.48 <sup>b</sup>	\$32.48
After 3 years	\$16.89	\$5.00	\$0.60 <sup>a</sup>	\$1.20	8.0	\$24.20	\$32.90	\$32.90 <sup>b</sup>	\$32.90
After 6 years	\$16.89	\$5.00	\$0.60 <sup>a</sup>	\$1.43	8.0	\$24.43	\$33.13	\$33.13 <sup>b</sup>	\$33.13
Pole Treatment Journeyman	\$23.33	\$5.00	\$0.60 <sup>a</sup>	\$0.00	8.0	\$29.63	\$41.645	\$41.645 <sup>b</sup>	\$41.645
After 6 months	\$23.33	\$5.00	\$0.60 <sup>a</sup>	\$1.08	8.0	\$30.71	\$42.725	\$42.725 <sup>b</sup>	\$42.725
After 3 years	\$23.33	\$5.00	\$0.60 <sup>a</sup>	\$1.66	8.0	\$31.29	\$43.305	\$43.305 <sup>b</sup>	\$43.305
After 6 years	\$23.33	\$5.00	\$0.60 <sup>a</sup>	\$1.97	8.0	\$31.60	\$43.615	\$43.615 <sup>b</sup>	\$43.615
Pole Restoration and Treatment <sup>c</sup> Technician (First 6 months)	\$14.00	\$5.00	\$0.60 <sup>a</sup>	\$0.65	8.0	\$20.67	\$27.88	\$27.88 <sup>b</sup>	\$27.88

<b><u>Classification</u></b> (Journeyperson)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (1 ½ X)
Pole Restoration and Treatment <sup>c</sup> Technician (After 6 months)	\$14.00	\$5.00	\$0.60 <sup>a</sup>	\$0.65	8.0	\$20.67	\$27.88	\$27.88 <sup>b</sup>	\$27.88
Pole Restoration and Treatment <sup>c</sup> Technician (After 3 years)	\$14.00	\$5.00	\$0.60 <sup>a</sup>	\$1.00	8.0	\$21.02	\$28.23	\$28.23 <sup>b</sup>	\$28.23
Pole Restoration and Treatment <sup>c</sup> Technician (After 6 years)	\$14.00	\$5.00	\$0.60 <sup>a</sup>	\$1.18	8.0	\$21.20	\$28.41	\$28.41 <sup>b</sup>	\$28.41

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

<sup>a</sup> In addition, an amount equal to 3% of the Basic Hourly Rate is added to the Total Hourly Rate and overtime hourly rates for the National Employees Benefit Board.

<sup>b</sup> Saturdays may be scheduled as a make-up day at the regular straight time rate.

<sup>c</sup> The Ratio of Technicians to Journeymen may not exceed 4 to 1. However, if the Journeyman is assisted by a maximum of two Senior Technicians, three additional Technicians may be added per Senior Technician

<b><u>Classification</u></b> (Journeyman)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (1 ½ X)
Pole Restoration and Treatment <sup>e</sup> Technician (After 6 months)	\$15.75	\$5.75	\$0.85 <sup>a</sup>	\$0.42	8.0	\$23.24	\$31.35	\$31.35 <sup>d</sup>	\$31.35

### Recognized holidays:

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### Travel and/or subsistence payment:

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> In addition, an amount equal to 3% of the Basic Hourly Rate is added to the Total Hourly Rate and overtime hourly rates for the National Employees Benefit Board

<sup>b</sup> This amount is factored at the applicable overtime rate.

<sup>c</sup> Includes \$0.01 to LMCC; the remaining amount is factored at the applicable overtime rate.

<sup>d</sup> Saturdays may be scheduled as a make-up day at the regular straight time rate.

<sup>e</sup> The Ratio of Technicians to Journeymen may not exceed 4 to 1. However, if the Journeyman is assisted by a maximum of two Senior Technicians, three additional Technicians may be added per Senior Technician



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Electrical Utility Lineman #**

**Determination:**

C-61-X-8-2020-1

**Issue Date:**

February 22, 2020

**Expiration date of determination:**

January 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Del Norte, Modoc and Siskiyou counties.

**Wages and Employer Payments:**

<u>Classification</u> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (2X)	Saturday Overtime Hourly Rate (2X)	Sunday/ Holiday Overtime Hourly Rate (2X)
Lineman, Heavy Line Equipment man, Certified Lineman Welder, Pole Sprayer	\$53.82	\$7.50	\$13.51 <sup>a</sup>	\$0.81 <sup>b</sup>	\$0.14 <sup>c</sup>	8.0	\$75.78	\$132.16	\$132.16	\$132.16
Cable Splicer	\$60.28	\$7.50	\$13.71 <sup>a</sup>	\$0.90 <sup>b</sup>	\$0.16 <sup>c</sup>	8.0	\$82.55	\$145.69	\$145.69	\$145.69
Line Equipment Operator	\$46.29	\$7.50	\$10.09 <sup>a</sup>	\$0.69 <sup>b</sup>	\$0.13 <sup>c</sup>	8.0	\$64.70	\$113.19	\$113.19	\$113.19
Powderman	\$40.37	\$7.40	\$8.11 <sup>a</sup>	\$0.61 <sup>b</sup>	\$0.11 <sup>c</sup>	8.0	\$56.60	\$98.89	\$98.89	\$98.89
Groundman First 1040 Hours	\$21.53	\$7.40	\$7.55 <sup>a</sup>	\$0.32 <sup>b</sup>	\$0.06 <sup>c</sup>	8.0	\$36.86	\$59.41	\$59.41	\$59.41
Groundman 1041-2080 Hours	\$26.91	\$7.40	\$7.71 <sup>a</sup>	\$0.40 <sup>b</sup>	\$0.08 <sup>c</sup>	8.0	\$42.50	\$70.69	\$70.69	\$70.69
Groundman 2081+ Hours	\$33.37	\$7.40	\$7.90 <sup>a</sup>	\$0.50 <sup>b</sup>	\$0.09 <sup>c</sup>	8.0	\$49.26	\$84.21	\$84.21	\$84.21
Pole Sprayer Trainee First six months	\$46.12	\$7.40	\$8.28 <sup>a</sup>	\$0.69 <sup>b</sup>	\$0.12 <sup>c</sup>	8.0	\$62.61	\$110.91	\$110.91	\$110.91
Pole Sprayer Trainee Second six months	\$48.33	\$7.40	\$8.35 <sup>a</sup>	\$0.72 <sup>b</sup>	\$0.13 <sup>c</sup>	8.0	\$64.93	\$115.55	\$115.55	\$115.55
Pole Sprayer Trainee Third six months	\$49.94	\$7.40	\$8.40 <sup>a</sup>	\$0.75 <sup>b</sup>	\$0.13 <sup>c</sup>	8.0	\$66.62	\$118.93	\$118.93	\$118.93

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Telecommunications Technician**

**Determination:**

C-422-X-1-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

April 3, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within San Francisco, San Mateo and Santa Clara Counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Hours	Total Hourly Rate	Overtime Hourly Rate (1 ½ X) <sup>b</sup>	Holiday Overtime Hourly Rate (2 ½ X)
Telecommunications Technician	\$44.93	\$7.65	\$4.06	\$3.11	\$0.00	8.0	\$59.75	\$82.215	\$127.145

<sup>a</sup> \$3.97 for employees with 7 years of service but less than 15 years, \$4.84 for 15 years but less than 25 years, \$5.70 for over 25 years.

<sup>b</sup> Rate applies to work in excess of eight hours daily and for all hours over 40 hours in a week. Rate applies to all hours worked on Sunday.

**Determination:**

C-422-X-1-2021-1A

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

April 3, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Alameda, Contra Costa, Los Angeles, Marin, Orange, Riverside, San Diego and Ventura Counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>c</sup>	Training	Hours	Total Hourly Rate	Overtime Hourly Rate (1 ½ X) <sup>b</sup>	Holiday Overtime Hourly Rate (2 ½ X)
Telecommunications Technician	\$43.97	\$7.65	\$3.97	\$3.04	\$0.00	8.0	\$58.63	\$80.615	\$124.585

<sup>c</sup> \$3.89 for employees with 7 years of service but less than 15 years, \$4.74 for 15 years but less than 25 years, \$5.58 for over 25 years.

**Determination:**

C-422-X-1-2021-1B

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

April 3, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Imperial, Kern, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>d</sup>	Training	Hours	Total Hourly Rate	Overtime Hourly Rate (1 ½ X) <sup>b</sup>	Holiday Overtime Hourly Rate (2 ½ X)
Telecommunications Technician	\$42.80	\$7.65	\$3.87	\$2.96	\$0.00	8.0	\$57.28	\$78.68	\$121.48

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

<sup>d</sup> \$3.79 for employees with 7 years of service but less than 15 years, \$4.61 for 15 years but less than 25 years, \$5.43 for over 25 years.

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Includes an amount equal to 3% of the Basic Hourly Rate for the National Employees Benefit Board. This amount is factored at the applicable overtime rate. Pursuant to Labor Code Sections 1773.1 and 1773.8, the amount paid for this employer payment may vary resulting in a lower taxable basic hourly wage rate, but the total hourly rates for straight time and overtime may not be less than the general prevailing rate of per diem wages.

<sup>b</sup> This amount is factored at the applicable overtime rate.

<sup>c</sup> This amount includes \$0.01 for the National Labor-Management Cooperation Committee, and the remainder of the amount is for the Administrative Maintenance Fund. This amount (AMF) is factored at the applicable overtime rate.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Telecommunications Technician**

**Determination:**

C-422-X-10-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:** April 3, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Del Norte, Inyo, Mono, San Bernardino and Santa Barbara Counties.

**Wages and Employer Payments:**

Classification (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday <sup>a</sup>	Training	Hours	Total Hourly Rate	Overtime Hourly Rate (1 ½ X) <sup>b</sup>	Holiday Overtime Hourly Rate (2 ½ X)
Telecommunications Technician	\$42.80	\$7.65	\$3.87	\$2.96	\$0.00	8.0	\$57.28	\$78.68	\$121.48

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm)

<sup>a</sup> \$3.79 for employees with 7 years of service but less than 15 years, \$4.61 for 15 years but less than 25 years, \$5.43 for over 25 years.

<sup>b</sup> Rate applies to work in excess of eight hours daily and for all hours over 40 hours in a week. Rate applies to all hours worked on Sunday.

[Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**NOT FOR BID**



GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Stator Rewinder #**

**Determination:**

C-738-1412-7-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

March 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within the State of California

**Wages and Employer Payments:**

<u>Classification</u> (Journey person)	Basic Hourly Rate	Health and Welfare	Pension	Vacation	Holiday	Training	Hours	Total Hourly Rate <sup>a</sup>	Daily Overtime Hourly Rate (1 ½ X) <sup>ab</sup>	Saturday Overtime Hourly Rate (1 ½ X) <sup>a</sup>	Sunday Overtime Hourly Rate (2 X) <sup>a</sup>	Holiday Overtime Hourly Rate (2 ½ X) <sup>a</sup>
Stator Rewinder	\$15.20	\$1.36 <sup>c</sup>	\$2.18 <sup>c</sup>	\$0.29 <sup>cd</sup>	\$0.58	\$0.29 <sup>c</sup>	8.0	\$19.90	\$29.56	\$29.56	\$39.22	\$48.88
Stator Rewinder Helper	\$14.00	\$1.26 <sup>c</sup>	\$2.01 <sup>c</sup>	\$0.27 <sup>ce</sup>	\$0.54	\$0.27 <sup>c</sup>	8.0	\$18.35	\$27.26	\$27.26	\$36.16	\$45.07

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm)

[Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

<sup>a</sup> Does not include any additional amount that may be required for vacation pay.

<sup>b</sup> Rate applies to the first 4 daily overtime hours and the first 12 hours on Saturday. After 12 hours daily, the Sunday double-time rate applies.

<sup>c</sup> Contributions are factored at the appropriate overtime multiplier

<sup>d</sup> Rate applies to the first two years of employment only: for employment over two years, \$.58 per hour worked; for employment over five years, \$.73 per hour worked; for employment over seven years, \$.88 per hour worked; for employment over fifteen years, \$1.17 per hour worked; for employment over twenty years, \$1.46 per hour worked; for employment over thirty years, \$1.75 per hour worked.

<sup>e</sup> Rates apply to the first two years of employment only: for employment over two years, \$.54 per hour worked; for employment over five years, \$.67 per hour worked; for employment over seven years, \$.81 per hour worked; for employment over fifteen years, \$1.08 per hour worked; for employment over twenty years, \$1.35 per hour worked; for employment over thirty years, \$1.62 per hour worked.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Driver (On/Off-Hauling To/From Construction Site)**

**Determination:**

C-DT-830-261-10-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

March 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director - Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Imperial, Inyo, Los Angeles, Mono, Orange, Riverside, San Bernardino and San Diego Counties.

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare <sup>a</sup>	Pension	Vacation and Holiday <sup>b</sup>	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) <sup>c</sup>	Sunday/ Holiday Overtime Hourly Rate (1 ½ X)
Driver: Dump Truck	\$17.00	\$2.05	\$0.085	\$0.33	\$0.00	\$0.00	8.0	\$19.465	\$27.965	\$27.965

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

\* There is no predetermined increase applicable to this determination

---

<sup>a</sup> The contribution applies to all work up to \$355.00 per month.

<sup>b</sup> \$0.65 after 2 years of service

\$0.98 after 5 years of service

\$1.31 after 9 years of service

<sup>c</sup> Rate applies to work in excess of eight (8) hours daily and forty (40) hours weekly.

**NOT FOR BID**

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Metal Roofing Systems Installer<sup>#</sup>**

**Determination:**  
C-MR-2021-1F

**Issue Date:**  
February 22, 2021

**Expiration date of determination:**

June 30, 2021<sup>\*</sup> Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Los Angeles, Orange, Riverside and San Bernardino Counties. (REF: 166-102-1)

**Wages and Employer Payments:**

Classification	Basic Hourly Rate <sup>a</sup>	Health and Welfare	Pension <sup>b</sup>	Vacation and Holiday	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate <sup>c</sup> (1 ½ X)	Saturday Overtime Hourly Rate <sup>c</sup> (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (2 X)
Metal Roofing Systems Installer	\$48.28	\$11.12	\$17.54	\$0.00	\$0.82	\$0.68	8.0	\$78.44	\$102.58	\$102.58	\$126.72

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the [Prevailing Wage Apprentice Determinations Website](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp) (<http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp>).

\* There is no predetermined increase applicable to this determination.

<sup>a</sup> Includes amount withheld for Working Dues.

<sup>b</sup> Pursuant to Labor Code Sections 1773.1 and 1773.8, the amount paid for this employer payment may vary resulting in a lower taxable basic hourly wage rate, but the total hourly rates for straight time and overtime may not be less than the general prevailing rate of per diem wages.

<sup>c</sup> Rate applies for the first 4 overtime hours Monday through Friday and the first 12 hours worked on Saturday. All other time is paid at the Sunday/Holiday overtime rate. Saturdays in the same workweek may be worked at straight-time if job is shut down during the normal workweek due to inclement weather.

NOT FOR BIDD

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)**

**Determination:**

C-MT-830-261-12-2021-1

**Issue Date:**

February 22, 2021

**Expiration date of determination:**

March 31, 2021\* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:**

All localities within Inyo, Mono and San Bernardino Counties.

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (1 ½ X)
Driver: Mixer Truck	\$19.05	\$6.66 <sup>a</sup>	\$1.71	\$1.17 <sup>b</sup>	\$0.00	\$0.00	8.0	\$28.59	\$38.115 <sup>c</sup>	\$38.115

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.



---

\* There is no predetermined increase applicable to this determination.

<sup>a</sup> The contribution applies to all hours until \$1155.24 is paid for the month.

<sup>b</sup> \$1.54 after 7 years of service. \$1.91 after 14 years of service.

<sup>c</sup> Rate applies to work in excess of eight (8) hours daily and forty (40) hours weekly.

**NOT FOR BID**

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS  
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1  
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**Craft: Tree Trimmer (High Voltage Line Clearance)**

**Determination:**

C-TT-61-1245-12-2020-2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

May 29, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kern, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties. (REF: 61-1245-12)

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare <sup>a</sup>	Pension <sup>b</sup>	Vacation	Holiday	Hours	Total Hourly Rate	Daily/Saturday/Sunday Overtime Hourly Rate (2X)
Tree Trimmer	\$36.05	\$7.50	\$9.90	\$0.75	\$0.75	8.0	\$54.95	\$92.08
Trimmer Trainee: Start (0-6 Months)	\$25.23	\$7.50	\$6.49	\$0.53	\$0.53	8.0	\$40.28	\$66.27
Trimmer Trainee: 6-12 Months	\$28.84	\$7.50	\$7.63	\$0.61	\$0.61	8.0	\$45.19	\$74.90
Trimmer Trainee: After 12 Months	\$32.44	\$7.50	\$8.72	\$0.68	\$0.68	8.0	\$50.02	\$83.43
Ground person First 6 Months	\$21.63	\$7.50	\$1.15	\$0.46	\$0.46	8.0	\$31.20	\$53.48
Ground person After 6 Months	\$23.43	\$7.50	\$1.80	\$0.50	\$0.50	8.0	\$33.73	\$57.86

**Determination:**

C-TT-61-465-5-2020-2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

May 29, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within San Diego County.

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare	Pension <sup>b</sup>	Vacation	Holiday	Hours	Total Hourly Rate	Daily/ Saturday/ Sunday Overtime Hourly Rate (2X)
Tree Trimmer	\$36.05	\$7.50	\$9.90	\$0.75	\$0.75	8.0	\$54.95	\$92.08
Trimmer Trainee: Start (0-6 Months)	\$25.23	\$7.50	\$6.49	\$0.53	\$0.53	8.0	\$40.28	\$66.27
Trimmer Trainee: 6-12 Months	\$28.84	\$7.50	\$7.63	\$0.61	\$0.61	8.0	\$45.19	\$74.90
Trimmer Trainee: After 12 Months	\$32.44	\$7.50	\$8.72	\$0.68	\$0.68	8.0	\$50.02	\$83.43
Ground person First 6 Months	\$21.63	\$7.50	\$1.15	\$0.46	\$0.46	8.0	\$31.20	\$53.48
Ground person After 6 Months	\$23.43	\$7.50	\$1.80	\$0.50	\$0.50	8.0	\$33.73	\$57.86

**Determination:**

C-TT-61-465-5A-2020-2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

May 29, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Imperial County.

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare <sup>a</sup>	Pension <sup>b</sup>	Vacation	Holiday	Hours	Total Hourly Rate	Daily/ Saturday/ Sunday Overtime Hourly Rate (2X)
Tree Trimmer	\$36.05	\$7.50	\$9.90	\$0.75	\$0.75	8.0	\$54.95	\$92.08
Trimmer Trainee: Start (0-6 Months)	\$25.23	\$7.50	\$6.49	\$0.53	\$0.53	8.0	\$40.28	\$66.27
Trimmer Trainee: 6-12 Months	\$28.84	\$7.50	\$7.63	\$0.61	\$0.61	8.0	\$45.19	\$74.90
Trimmer Trainee: After 12 Months	\$32.44	\$7.50	\$8.72	\$0.68	\$0.68	8.0	\$50.02	\$83.43
Ground person First 6 Months	\$21.63	\$7.50	\$1.15	\$0.46	\$0.46	8.0	\$31.20	\$53.48
Ground person After 6 Months	\$23.43	\$7.50	\$1.80	\$0.50	\$0.50	8.0	\$33.73	\$57.86

**Determination:**

C-TT-61-47-3-2020-2

**Issue Date:**

August 22, 2020

**Expiration date of determination:**

May 29, 2021\*\* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Localities:**

All localities within Inyo, Los Angeles, Mono, Orange, Riverside, San Bernardino, Santa Barbara, and Ventura Counties.

**Wages and Employer Payments:**

Classification	Basic Hourly Rate	Health and Welfare <sup>a</sup>	Pension <sup>b</sup>	Vacation	Holiday	Hours	Total Hourly Rate	Daily/ Saturday/ Sunday Overtime Hourly Rate (2X)
Tree Trimmer	\$36.05	\$7.50	\$9.90	\$0.75	\$0.75	8.0	\$54.95	\$92.08
Trimmer Trainee: Start (0-6 Months)	\$25.23	\$7.50	\$6.49	\$0.53	\$0.53	8.0	\$40.28	\$66.27
Trimmer Trainee: 6-12 Months	\$28.84	\$7.50	\$7.63	\$0.61	\$0.61	8.0	\$45.19	\$74.90
Trimmer Trainee: After 12 Months	\$32.44	\$7.50	\$8.72	\$0.68	\$0.68	8.0	\$50.02	\$83.43
Ground person First 6 Months	\$21.63	\$7.50	\$1.15	\$0.46	\$0.46	8.0	\$31.20	\$53.48
Ground person After 6 Months	\$23.43	\$7.50	\$1.80	\$0.50	\$0.50	8.0	\$33.73	\$57.86

**Recognized holidays:**

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or subsistence payment:**

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the [Director's General Prevailing Wage Determinations Website](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm) (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

<sup>a</sup> Includes an amount for Health Reimbursements Accounts.

<sup>b</sup> An amount equal to 3% of the Basic Hourly Rate is added to the total hourly rate and overtime hourly rates for the National Employees Benefit Board and is factored at the applicable overtime multiplier. Pursuant to Labor Code Sections 1773.1 and 1773.8, the amount paid for this employer payment may vary resulting in a lower taxable basic hourly wage rate, but the total hourly rates for straight time and overtime may not be less than the general prevailing rate of per diem wages. Includes amount for National Electrical Annuity Plan.

NOT FOR BID

# **STANDARD CONTRACT**

**For The**

**PHASE 1B LINER CONSTRUCTION  
PROJECT AT THE  
BARSTOW SANITARY LANDFILL  
BARSTOW, CALIFORNIA**





Contract Number

SAP Number

## Public Works

Department Contract Representative  
Telephone Number

Darren Meeka, Deputy Director  
(909) 386-8703

Contractor  
Contractor Representative  
Telephone Number  
Contract Term  
Original Contract Amount  
Amendment Amount  
Total Contract Amount  
Cost Center

IT IS HEREBY AGREED AS FOLLOWS:

### CONSTRUCTION AGREEMENT

This Construction Agreement ("Agreement" or "Contract") is made effective this \_\_\_\_\_, 2021 ("Agreement Date") by and between SAN BERNARDINO COUNTY ("County") and \_\_\_\_\_ ("Contractor") for the \_\_\_\_\_ ("Project").

### ARTICLE I

#### CONTRACT DOCUMENTS AND INTERPRETATION

##### 1.1 DEFINITIONS

The meanings of all capitalized terms used in the Contract Documents and not otherwise defined herein are contained in the General Conditions. If not defined in the General Conditions, they shall have the meaning assigned to them elsewhere in the Contract Documents. If not defined in the General Conditions or elsewhere, they shall have the meanings reasonably understood to apply to them by the context of the portion of the Contract Documents where such terms are used.

## 1.2 CONTRACT DOCUMENTS

The "Contract Documents" except for modifications issued after execution of this Agreement, consist of the following documents, all of which are either attached hereto as exhibits or are incorporated herein by this reference:

- 1.2.1 Advertisement For Bids (SAP Project No. **XX XX XXXX**), dated Month Date, Year.
- 1.2.2 Bidder's Proposal, dated Month Date, Year.
- 1.2.3 General Conditions
- 1.2.4 Performance Bond
- 1.2.5 Labor and Material Bond
- 1.2.6 Special Conditions
- 1.2.7 Bid Documents, entitled "\_\_\_\_\_".
- 1.2.8 Technical Specifications, entitled "\_\_\_\_\_".
- 1.2.9 Drawings, entitled "\_\_\_\_\_".
- 1.2.10 Addendum No. 1, dated \_\_\_\_\_.
- 1.2.11 Addendum No. 2, dated \_\_\_\_\_.
- 1.2.12 Certified copy of the record of action of the Board of Supervisors, San Bernardino County meeting of \_\_\_\_\_.

## 1.3 ENTIRE AGREEMENT

The Contract Documents represent the entire and integrated agreement between County and Contractor, all other representations or statements, whether verbal or written, are merged herein. The Agreement may be amended only by written modification. The San Bernardino County Board of Supervisors, or its authorized designee, must approve any amendment to this Agreement.

## ARTICLE II

### THE WORK

#### 2.1 SCOPE OF WORK

2.1.1 Contractor will furnish all materials, labor, tools, equipment, apparatus, facilities, transportation, construction, landscaping, clean-up, and all other construction services of any type necessary to complete all Work in strict conformity with the Contract Documents. Except with regard to any material to be provided and/or installed by County, Contractor shall fully commission and turn over a complete operational and fully functional Project to County. Without limiting the generality of this Section, Contractor shall provide the following Work and services:

a. Contractor shall provide, install and complete as specified and pay for all labor, materials and equipment, tools, supplies, construction equipment and machinery, construction, start-up and testing, utilities, transportation, and other facilities and services (including any temporary materials, equipment, supplies and facilities) necessary for the proper execution and completion of the complete, operational, and fully functional Project, including the permanent interconnection for electricity, natural gas, water supply, and

any other utilities and demonstration of fully satisfactory operation of all systems and equipment. The County will pay connection fees directly to the utilities for all permanent water and electrical connections.

b. Contractor shall supervise and direct the Work, and shall furnish the services of all supervisors, forepersons, skilled and unskilled labor, and all other personnel necessary to construct the complete, operational, and fully functional Project. Contractor shall provide, manage and organize such personnel as necessary to complete the Work in accordance with all requirements of the Contract Documents.

c. Contractor shall obtain, at Contractor's expense, all governmental and private approvals, permits and licenses, required to complete the Work; provided, however, County will be responsible for paying the cost of all County imposed fees necessary for the Project. Contractor shall construct a complete, operational, and fully functional Project in full compliance with all Applicable Laws, codes and standards (both public and private), including but not limited to, the standards included and warranties expressed in the Contract Documents and manufacturer's recommendations pertaining to individual items of equipment or systems.

## **2.2 STANDARD OF PERFORMANCE**

In addition to and without limiting Contractor's other obligations under the Contract Documents, Contractor shall at all times in its performance of its obligations under the Contract Documents conform to the following general standards of performance:

**2.2.1** Comply with the requirements of the Contract Documents;

**2.2.2** Comply with Applicable Laws;

**2.2.3** Conform to the standard of care applicable to those who provide construction of the type called for by this Agreement for projects of a scope and complexity that is comparable to the Project;

**2.2.4** Furnish efficient business administration of the Work, utilizing senior level management and other qualified personnel to manage the Work; and

**2.2.5** Apply its best and highest skill and attention to completing the Work in an expeditious and economical manner, consistent with the express best interests of the County and within the limitations of the Contract Sum and Contract Time.

## **ARTICLE III**

### **TIME FOR PERFORMANCE**

#### **3.1 CONTRACT TIME**

The Date of Commencement of the Work shall be fixed in a Notice to Proceed (NTP) issued by the County. If County's issuance of a NTP is delayed due to Contractor's failure to provide insurance documents or bonds within ten (10) calendar days after the date of award of the Contract by the Board of Supervisors or Chief Executive Officer, one (1) Working Day will be deducted from the number of days to achieve Final Completion of the Work for every day of delay in County's receipt of such documents. This right is in addition to and does not affect County's right to demand forfeiture of Contractor's Bid Security, or any other rights or remedies available to County if Contractor persistently delays in providing the required documentation. Contractor agrees to promptly commence the Work required by this Contract within ten (10) Working Days of the date specified in the NTP issued by the County and achieve Final Completion of the entire Work within ( ) Working Days after the Date of Commencement ("Contract Time"). The Contract Time may be extended only by the written authorization of the County. In addition, the Contractor shall complete the following Project Milestone within the following specified number of Working Days from the date of the NTP:

1. Complete Scope of Work of the "Unit X Phase X Construction Project at the LANDFILL NAME Sanitary Landfill" within **NUMBER (XX) Working Days** from NTP;
2. Gain Beneficial Occupancy in the Unit X Phase X of "Unit 2 Phase X Construction Project at the LANDFILL NAME Sanitary Landfill" within **NUMBER (XX) Working Days** from NTP.

## 3.2 LIQUIDATED DAMAGES

**3.2.1** County and Contractor recognize that time is of the essence in this Agreement and that the County may suffer financial loss, including but not limited to, the loss of grant funds, additional contract administration expenses, and loss of public use if the Work is not completed within the Contract Time, including any extensions thereof allowed in accordance with the Contract Documents.

**3.2.2** Contractor and County agree to liquidate damages with respect to Contractor's failure to achieve Final Completion of the Work within the Contract Time. The Parties intend for the liquidated damages set forth herein to apply to this Contract as set forth in Government Code Section 53069.85. Contractor acknowledges and agrees that the liquidated damages are intended to compensate County solely for Contractor's failure to meet the deadline for Final Completion and shall not excuse Contractor from liability from any other breach, including any failure of the Work to conform to the requirements of the Contract Documents.

**3.2.3** In the event that Contractor fails to achieve Final Completion of the Work within the Contract Time, Contractor agrees to pay County **DOLLARS AND HUNDREDTHS ( ) per day** for each Working Day that Final Completion is delayed.

**3.2.4** Contractor acknowledges and agrees that the foregoing liquidated damages have been set based on an evaluation by County of damages that it will incur in the event of the late completion of the Work. Contractor and County agree that because of the nature of the Project it would be impractical or extremely difficult to fix the amount of actual damages incurred by the County due to a delay in completion of the Work. Accordingly, the County and Contractor have agreed to such liquidated damages to fix Contractor's costs and to avoid later disputes. It is understood and agreed by Contractor that any liquidated damages payable pursuant to this Agreement are not a penalty and that such amounts are not manifestly unreasonable under the circumstances existing as of the effective date of this Agreement.

**3.2.5** It is further mutually agreed that County shall have the right to deduct liquidated damages against progress payments or retainage and that the County will issue a unilateral Construction Change Directive and reduce the Contract Sum accordingly. In the event the remaining unpaid Contract Sum is insufficient to cover the full amount of liquidated damages, Contractor shall pay the difference to County.

## ARTICLE IV

### CONTRACT SUM

#### 4.1 CONTRACT SUM

**4.1.1 Total Compensation.** County shall pay the Contractor, and Contractor agrees to accept, in current funds for the Contractor's complete performance of the Work in accordance with the Contract Documents the Contract Sum of:

**BASE BID**.....

**4.1.2 All Inclusive Price.** The Contract Sum, subject to additions and deductions, is the total amount payable by County to Contractor for performance of the Work under the Contract Documents and is deemed to cover all costs arising out of or related to the performance of the Work, including, without limitation, the effects of natural elements upon the Work, unforeseen difficulties or obstructions affecting the performance of the Work (including, without limitation, unforeseen conditions at the Site that do not constitute Differing Site

Conditions) and fluctuations in market conditions and price escalations (whether occurring locally, nationally or internationally) from any cause, including, without limitation, causes beyond the control or foreseeability of the Contractor.

#### **4.2 RETENTION**

Payment shall not be made more often than once each thirty (30) days, nor shall amount paid be in excess of ninety-five percent (95%) of the Contract Sum at time of Final Completion. Applications for Payment shall not be deemed properly completed unless certified payrolls and any other mandatory submittals have been properly completed and submitted for each week worked during the time period covered by said payment request. Final payment is to be made sixty (60) days subsequent to filing of Notice of Completion. Contractor may, upon Contractor's written request, and approved by the Board of Supervisors, at Contractor's expense, deposit substitute securities, as stated in Government Code Section 16430, and as authorized by Public Contract Code 22300, in lieu of retention monies withheld to insure performance.

#### **4.3 PAYMENT BY ELECTRONIC FUND TRANSFER**

Contractor shall accept all payments from County via electronic funds transfer (EFT) directly deposited into the Contractor's designated checking or other bank account. Contractor shall promptly comply with directions and accurately complete forms provided by County required to process EFT payments.

### **ARTICLE V**

### **BONDS, INDEMNITY AND INSURANCE**

#### **5.1 BONDS**

Contractor will furnish a Labor and Material Payment Bond in an amount equal to one hundred percent (100%) of the Contract Sum, and a Performance Bond in an amount equal to one hundred percent (100%) of the Contract Sum. The Bonds must comply with all requirements in the Contract Documents, be on County approved bond forms, and be secured from a surety company satisfactory to the County within ten (10) calendar days of the award of the Contract. The Bonds shall remain in full force and effect for a period of one (1) year following the date of filing of the Notice of Completion. The Performance Bond shall name the County as beneficiary under the bond.

#### **5.2 INDEMNIFICATION**

The Contractor agrees to indemnify, defend (with counsel reasonably approved by County) and hold harmless the County and its authorized officers, employees, agents, and volunteers (Indemnitees) from any and all claims, actions, losses, damages, and/or liability arising out of this Contract from any cause whatsoever, including the acts, errors or omissions of any person and for any costs or expenses incurred by the Indemnitees on account of any claim except where such indemnification is prohibited by law. This indemnification provision shall apply regardless of the existence or degree of fault of Indemnitees. The Contractor's indemnification obligation applies to the Indemnitee's "passive" negligence but does not apply to the Indemnitee's "sole" or "active" negligence or "willful misconduct" within the meaning of Civil Code Section 2782.

#### **5.3 INSURANCE**

The Contractor agrees to provide insurance set forth in accordance with the requirements herein. If the Contractor uses existing coverage to comply with these requirements and that coverage does not meet the specified requirements, the Contractor agrees to amend, supplement or endorse the existing coverage to do so.

Without in anyway affecting the indemnity herein provided and in addition thereto, the Contractor shall secure and maintain throughout the contract term the following types of insurance with limits as shown:

### 5.3.1 Basic Insurance Requirements

#### a. Additional Insured

All policies, except for the Workers' Compensation, Errors and Omissions and Professional Liability policies, shall contain endorsements naming the County and its authorized officers, employees, agents, and volunteers as additional insureds with respect to liabilities arising out of the performance of services hereunder. The additional insured endorsements shall not limit the scope of coverage for the County to vicarious liability but shall allow coverage for the County to the full extent provided by the policy. Such additional insured coverage shall be at least as broad as Additional Insured (Form B) endorsement form ISO, CG 2010.11 85.

#### b. Waiver of Subrogation Rights

The Contractor shall require the carriers of required coverages to waive all rights of subrogation against the County, its officers, employees, agents, volunteers, contractors and subcontractors. All general or auto liability insurance coverage provided shall not prohibit the Contractor and Contractor's employees or agents from waiving the right of subrogation prior to a loss or claim. The Contractor hereby waives all rights of subrogation against the County.

#### c. Policies Primary and Non-Contributory

All policies required herein are to be primary and non-contributory with any insurance or self-insurance programs carried or administered by the County.

#### d. Severability of Interests

The Contractor agrees to ensure that coverage provided to meet these requirements is applicable separately to each insured and there will be no cross liability exclusions that preclude coverage for suits between the Contractor and the County or between the County and any other insured or additional insured under the policy.

#### e. Proof of Coverage

The Contractor shall furnish Certificates of Insurance to the County Department administering the contract evidencing the insurance coverage at the time the contract is executed, additional endorsements, as required shall be provided prior to the commencement of performance of services hereunder, which certificates shall provide that such insurance shall not be terminated or expire without thirty (30) days written notice to the Department, and Contractor shall maintain such insurance from the time Contractor commences performance of services hereunder until the completion of such services. Within fifteen (15) days of the commencement of this contract, the Contractor shall furnish a copy of the Declaration page for all applicable policies and will provide complete certified copies of the policies and endorsements immediately upon request.

#### f. Acceptability of Insurance Carrier

Unless otherwise approved by Risk Management, insurance shall be written by insurers authorized to do business in the State of California and with a minimum "Best" Insurance Guide rating of "A- VII".

#### g. Deductibles and Self-Insured Retention

Any and all deductibles or self-insured retentions in excess of \$10,000 shall be declared to and approved by Risk Management.

#### h. Failure to Procure Coverage

In the event that any policy of insurance required under this contract does not comply with the requirements, is not procured, or is canceled and not replaced, the County has the right but not the obligation or duty to cancel the contract or obtain insurance if it deems necessary and any premiums paid by the County will be promptly



reimbursed by the Contractor or County payments to the Contractor will be reduced to pay for County purchased insurance.

i. Insurance Review

Insurance requirements are subject to periodic review by the County. The Director of Risk Management or designee is authorized, but not required, to reduce, waive or suspend any insurance requirements whenever Risk Management determines that any of the required insurance is not available, is unreasonably priced, or is not needed to protect the interests of the County. In addition, if the Department of Risk Management determines that heretofore unreasonably priced or unavailable types of insurance coverage or coverage limits become reasonably priced or available, the Director of Risk Management or designee is authorized, but not required, to change the above insurance requirements to require additional types of insurance coverage or higher coverage limits, provided that any such change is reasonable in light of past claims against the County, inflation, or any other item reasonably related to the County's risk.

Any change requiring additional types of insurance coverage or higher coverage limits must be made by amendment to this contract. Contractor agrees to execute any such amendment within thirty (30) days of receipt.

Any failure, actual or alleged, on the part of the County to monitor or enforce compliance with any of the insurance and indemnification requirements will not be deemed as a waiver of any rights on the part of the County.

**5.3.2 Insurance Specifications**

a. Workers' Compensation/Employers Liability

A program of Workers' Compensation insurance or a state-approved, self-insurance program in an amount and form to meet all applicable requirements of the Labor Code of the State of California, including Employer's Liability with \$250,000 limits covering all persons including volunteers providing services on behalf of the Contractor and all risks to such persons under this Contract.

If Contractor has no employees, it may certify or warrant to the County that it does not currently have any employees or individuals who are defined as "employees" under the Labor Code and the requirement for Workers' Compensation coverage will be waived by the County's Director of Risk Management.

With respect to Contractors that are non-profit corporations organized under California or Federal law, volunteers for such entities are required to be covered by Workers' Compensation insurance.

b. Commercial/General Liability Insurance

The Contractor shall carry General Liability Insurance covering all operations performed by or on behalf of the Contractor providing coverage for bodily injury and property damage with a combined single limit of not less than one million dollars (\$1,000,000), per occurrence. The policy coverage shall include:

- (a) Premises operations and mobile equipment.
- (b) Products and completed operations.
- (c) Broad form property damage (including completed operations).
- (d) Explosion, collapse and underground hazards.
- (e) Personal injury
- (f) Contractual liability.
- (g) \$2,000,000 general aggregate limit

c. Automobile Liability Insurance



Primary insurance coverage shall be written on ISO Business Auto coverage form for all owned, hired and non-owned automobiles or symbol 1 (any auto). The policy shall have a combined single limit of not less than one million dollars (\$1,000,000) for bodily injury and property damage, per occurrence.

If the Contractor is transporting one or more non-employee passengers in performance of contract services, the automobile liability policy shall have a combined single limit of two million dollars (\$2,000,000) for bodily injury and property damage per occurrence.

If the Contractor owns no autos, a non-owned auto endorsement to the General Liability policy described above is acceptable.

d. Construction Contract Insurance

Construction contracts for projects over one million (\$1,000,000) and less than three million (\$3,000,000) require limits of not less than three million (\$3,000,000) in General Liability and Auto Liability coverage.

Construction contracts for projects over three million (\$3,000,000) and less than five million (\$5,000,000) require limits of not less than five million (\$5,000,000) in General Liability and Auto Liability coverage.

Construction contracts for projects over five million (\$5,000,000) and less than ten million (\$10,000,000) require limits of not less than ten million (\$10,000,000) in General Liability and Auto Liability.

Construction contracts for projects over ten million (\$10,000,000) require limits of no less than two times the total estimated cost of the project in General Liability and Auto Liability.

e. Continuing Products/Completed Operations Liability Insurance

Continuing Products/Completed Operations Liability Insurance with a limit of not less than five million (\$5,000,000) for each occurrence for at least three years following substantial completion of the work on projects over one million (\$1,000,000).

f. Course of Construction/Installation (Builder's Risk) Property Insurance

Course of Construction/Installation (Builder's Risk) Property Insurance providing all risk, including theft coverage for all property and materials to be used on the project. The insurance policy shall not have any coinsurance penalty.

g. Contractor's Pollution Liability Insurance

Contractor's Pollution Liability Insurance with a combined single limit of not less than ten million (\$10,000,000) per claim or occurrence and a separate aggregate for the contract project. The required additional insured endorsement shall protect the County without any restrictions.

If insurance coverage is provided on a "claims made" policy, the "retroactive date" shall be shown and must be before the date of the start of the contract work. The claims made insurance shall be maintained or "tail" coverage provided to the County for a minimum of five (5) years after contract completion.

h. Umbrella Liability Insurance

An umbrella (over primary) or excess policy may be used to comply with limits or other primary coverage requirements. When used, the umbrella policy shall apply to bodily injury/property damage, personal injury/advertising injury and shall include a "dropdown" provision providing primary coverage for any liability not covered by the primary policy. The coverage shall also apply to automobile liability.

i. Subcontractor Insurance Requirements

The Contractor agrees to require all parties or subcontractors, including architects, engineers, or others it hires or contracts with related to the performance of this contract to provide insurance covering the contracted operations with the basic requirements for all contracts in Sections 5.3.1 and the insurance specifications for all contracts in 5.3.2, (including waiver of subrogation rights) and naming the County as an additional insured. The Contractor agrees to monitor and review all such coverage and assumes all responsibility ensuring that such coverage is provided as required here. Subcontractors shall meet the following minimum General Liability and Auto Liability coverage:

- i. Subcontractor contracts under one million (\$1,000,000) require limits of not less than one million (\$1,000,000) in General Liability and Auto Liability coverage.
- ii. Subcontractor contracts over one million (\$1,000,000) and less than three million (\$3,000,000) require limits of not less than three million (\$3,000,000) in General Liability and Auto Liability coverage.
- iii. Subcontractor contracts over three million (\$3,000,000) and less than five million (\$5,000,000) require limits of not less than five million (\$5,000,000) in General Liability and Auto Liability coverage.
- iv. Subcontractor contracts over five million (\$5,000,000) require limits of not less than ten million (\$10,000,000) in General Liability and Auto Liability coverage.

## **ARTICLE VI**

### **CONTRACTOR'S DUTIES AND RESPONSIBILITIES**

#### **6.1 GENERAL SCOPE OF WORK**

**6.1.1** Contractor shall provide all materials, labor, equipment, and undertake all efforts necessary or appropriate to construct the Project in accordance with the requirements of the Contract Documents, all governmental approvals, all Applicable Law, and all other applicable safety, environmental and other requirements taking into account the constraints affecting the Project Site. Except as otherwise specifically provided in this Contract, all materials, services and efforts necessary to achieve Final Completion of the Project and elements thereof on or before the deadlines provided in the Contract Documents shall be Contractor's sole responsibility. The costs of all such materials, services and efforts are included in the Contract Sum.

**6.1.2** The Contractor and all Subcontractors shall obtain any required licenses from the local jurisdiction where the Project is located (i.e. local City or County), prior to commencement of Work.

#### **6.2 BEFORE STARTING WORK**

Contractor shall submit the following to County for review and acceptance within fourteen (14) calendar days after the Date of Commencement fixed in County's Notice to Proceed, and as a condition to payment: (i) detailed Project Schedule including each deadline specified in the Contract Documents; (ii) Schedule of Submittals; (iii) material Procurement Schedule; and (iv) a Schedule of Values in accordance with the requirements of the General Conditions and other Contract Documents.

#### **6.3 INITIAL CONFERENCE**

Within twenty (20) calendar days after the Date of Commencement fixed in County's Notice to Proceed, a conference attended by County and Contractor and others as appropriate will be held to establish a working understanding among the Parties as to the Work and to discuss the schedules, progress meetings, procedures for handling submittals, processing Applications for Payment, maintaining required records, coordination with Contractor Team Members, and other Project administration matters.

#### **6.4 EVALUATION OF PRELIMINARY SUBMITTALS**

At least ten (10) calendar days before submission of the first Application for Payment, a conference attended by Contractor, County and others as appropriate, will be held to review for acceptability the submittals required by the Contract Documents. No progress payment shall be made to Contractor until the required submittals are acceptable to County. The detailed Project Schedule will be acceptable to County as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Time, but such acceptance will neither impose on County responsibility for the sequencing, scheduling or progress of the Work nor interfere with nor relieve Contractor from Contractor's full responsibility therefore. The format and structure of the Project Schedule will be set forth in the Contract Documents and approved by County. County's acceptance shall not be deemed to confirm that the schedule is a reasonable plan for performing the Work. Contractor's schedule of submittal will be acceptable to County as providing a workable arrangement for reviewing and processing the required submittals.

## **6.5 CONSTRUCTION**

Contractor shall perform Construction in accordance with the requirements of the Contract Documents.

**6.5.1** Construction shall be performed by Contractor and Subcontractors and suppliers who are selected, paid and acting in accordance with the procedures outlined in the Contract Documents.

**6.5.2** The Contractor shall keep the County informed of the progress and quality of the Work in the form of periodic written reports and meetings, as determined by the County, but no less than monthly.

**6.5.3** As a condition of final payment to Contractor, Contractor shall provide written certification that the Work has been constructed in accordance with the Contract Documents.

## **ARTICLE VII**

### **CONTRACTOR'S REPRESENTATIONS AND WARRANTIES**

In order to induce County to enter into this Agreement, Contractor makes the following representations and warranties:

**7.1** Contractor has visited the Site and has reasonably examined the nature and extent of the Work, Site, locality, actual conditions, as-built conditions, and all federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.

**7.2** Contractor has reasonably examined all reports of exploration and tests of subsurface conditions, as-built drawings, drawings or reports available for construction purposes, of physical conditions, or conditions which may be apparent at the Site and accepts the criteria set forth in these documents and the Contract Documents to the extent of the information contained in these documents upon which the Contractor is entitled to rely. Contractor agrees that except for the information so identified, Contractor does not and shall not rely on any other information contained in these documents.

**7.3** After Contract award, Contractor will conduct or obtain any additional examinations, investigations, explorations, tests, reports and studies, including but not limited to geotechnical investigations that pertain to the surface and subsurface conditions, as-built conditions, underground facilities and all other physical conditions at or contiguous to the Site as Contractor considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.

**7.4** Contractor has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, test, reports and studies with the terms and conditions of the Contract Documents.

**7.5** Contractor has given County prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered before Contract award in or among the Contract Documents and actual conditions and the written resolution thereof through Addenda issued by County is acceptable to Contractor.

**7.6** Contractor is duly organized, existing and in good standing under applicable state law, and is duly qualified to conduct business in the State of California.

**7.7** Contractor has duly authorized the execution, delivery and performance of this Agreement, the other Contract Documents and the Work to be performed herein. The Contract Documents do not violate or create a default under any instrument, agreement, order or decree binding on Contractor.

**7.8** Contractor certifies that neither it nor its principals, or other key decision makers, or subcontractors is presently disbarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency. See the System for Award Management ([www.sam.gov](http://www.sam.gov)). Contractor agrees that signing this Contract shall constitute signature of this Certification.

**7.9** During the term of the Contract, Contractor shall not discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, sexual orientation, age, or military and veteran status. Contractor shall comply with Executive Orders 11246, 11375, 11625, 12138, 12432, 12250, 13672, Title VII of the Civil Rights Act of 1964, the California Fair Housing and Employment Act and other applicable Federal, State and County laws and regulations and policies relating to equal employment and contracting opportunities, including laws and regulations hereafter enacted.

**7.10** Contractor agrees to comply with the Americans with Disabilities Act of 1990, as amended (42 U.S.C. 12101 et seq.), which prohibits discrimination on the basis of disability, as well as all applicable regulations and standards issued pursuant to the Americans with Disabilities Act. Contractor will also comply with the current edition of the California Building Code (California Code of Regulations, Title 24, Part 2).

**7.11** Contractor agrees to comply and certify compliance with the Drug Free Workplace Act of 1990 per Government Code Section 8350 et seq.

**7.12** Contractor acknowledges it will comply with the provisions of Public Contract Code section 4100-4114 regarding subcontractors. The Contractor hereby agrees to reimburse the County for costs incurred by the awarding authority in the substitution of subcontractors. Where a hearing is held pursuant to the provisions of Chapter 4 of the Public Contract Code (commencing with Section 4100) by the awarding authority or a duly appointed hearing officer, the County shall prepare and certify a statement of all costs incurred by the County for investigation and conduct of the hearing, including the costs of any hearing officer and shorthand reporter appointed. The statement shall then be sent to the Contractor who shall reimburse the County for such costs. If not paid separately, such reimbursement may be deducted from any money due and owing to the Contractor prior to acceptance of the Work. For the purposes of a hearing for the substitution of subcontractors (pursuant to the Public Contract Code commencing with Section 4100) the awarding authority shall be the Director of the Department of Public Works, or his/her designee.

**7.13** The Contractor hereby agrees to comply with the State Labor Code and certifies through signature of this Contract that, in accordance with Section 3700 of the State Labor Code, Contractor is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and will comply with such provisions before commencing the performance of the Work of this Contract.

**7.14** The Contractor acknowledges that he will be held responsible for compliance with the provisions of Sections 1777.5 and 1776 of the State Labor Code.

**7.15** Contractor shall comply with Senate Bill 854 (Chapter 28, Statutes of 2014) and Senate Bill 96 (Chapter 28, Statutes of 2017) including, but not limited to, the following requirements: (1) no contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial

Relations pursuant to Labor Code section 1725.5; (2) no contractor or subcontractor may be awarded a contract for public work or perform work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5; (3) this Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations; (4) Contractor shall post job site notices regarding compliance monitoring and enforcement by the Department of Industrial Relations; and (5) Contractor must submit certified payroll at least monthly to the Labor Commissioner in a format prescribed by the Labor Commissioner.

**7.16** As required by Labor Code section 1771.1(a) "A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded."

**7.17** Contractor shall adhere to the County's Travel Management Policy (08-02 and 08-02SP) when travel is pursuant to this Contract and for which reimbursement is sought from the County. In addition, Contractor is encouraged to utilize local transportation services, including but not limited to, the Ontario International Airport.

## **ARTICLE VIII**

### **PROJECT ACCESS, RECORD RETENTION AND AUDITS**

**8.1** At all times during construction of the Project, Contractor shall coordinate with the County to provide employees, subcontractors, and consultants of County reasonable unrestricted access to observe, monitor and inspect the Project. The County's access to observe, monitor and inspect shall include the right to review all documents and files relating to the Project, as well as construction on the Site, including all tests and inspections relating to construction of the Project.

**8.2** Contractor expressly acknowledges it is aware of and will comply with all record retention and audit requirements contained in the Contract Documents. These requirements include, but are not limited to, the maintenance of an Official Project File that must be preserved a minimum of five (5) years, the protection of records from fire or other damage, the maintenance of all records in accordance with generally accepted accounting principles, and the agreement that the County or its designated representative shall have the right to review, to audit, and to copy any records and supporting documentation pertaining to the performance of this Agreement.



## ARTICLE IX

### MISCELLANEOUS PROVISIONS

#### 9.1 INDEPENDENT CONTRACTOR

Contractor is, and shall be, acting at all times in the performance of this Agreement as an independent Contractor. Contractor shall secure at its expense, and be responsible for any and all payment of all taxes, social security, state disability insurance compensation, unemployment compensation and other payroll deductions for Contractor and its officers, agents and employees and all business licenses, if any, in connection with the services to be performed hereunder.

#### 9.2 COUNTY EMPLOYEES AND OFFICIALS

Contractor shall employ no County official nor any regular County employee in the Work performed pursuant to this Agreement. No officer or employee of County shall have any financial interest in this Agreement in violation of applicable provisions of law.

Contractor agrees to provide or has already provided information on former San Bernardino County administrative officials (as defined below) who are employed by or represent Contractor. The information provided includes a list of former County administrative officials who terminated County employment within the last five years and who are now officers, principals, partners, associates or members of the business. The information also includes the employment with or representation of Contractor. For purposes of this provision, "County Administrative Official" is defined as a member of the Board of Supervisors or such officer staff, Chief Executive Officer or member of such officer staff, County department or group head, assistant department or group head, or any employee in the Exempt Group, Management Unit or Safety Management Unit.

#### 9.3 INACCURACIES OR MISREPRESENTATIONS

If during the course of the administration of this agreement, the County determines that the Contractor has made a material misstatement or misrepresentation or that materially inaccurate information has been provided to the County, this contract may be immediately terminated. If this contract is terminated according to this provision, the County is entitled to pursue any available legal remedies.

#### 9.4 COOPERATION BETWEEN ALL SYSTEM CONTRACT CONTRACTORS

This Contract is but one of the County contracts which are or will be necessary to keep, operate and maintain the County's Solid Waste Disposal System ("**Disposal System**"), including without limit for the overall expansion, operation, maintenance, remediation and closure of the Disposal System. Specifically, but not by way of limitation, the County has entered, or will enter, into the following contracts with third parties: (i) construction contracts related to various aspects of the expansion, remediation and closure of the Disposal System; (ii) contracts for the management of the foregoing construction contracts, to the extent the County does not manage such contracts with its own employees; (iii) a contract for the aggregate processing operation at the Mid-Valley Sanitary Landfill; (iv) contracts for the operation and maintenance of the landfill gas collection systems located at various County Landfills; (v) the lease of the landfill gas collection systems and lease of the rights to the landfill gas collected by such systems; (vi) a contract for the operation of the Baker Transfer Station; (vii) a Development Contract with the City of Rialto regarding various aspects of the expansion of the Mid-Valley Sanitary Landfill; and (viii) a contract for performing day to day operations at the facilities comprising the Disposal System. These contracts, together with this Contract, will collectively be referred to as "**All System Contracts**".

In performing its duties under this Contract, Contractor shall be required, pursuant to direction provided by the Contract Administrator, to coordinate such performance with the performance of the duties required of the contractors under each of the other All System Contracts. Likewise, the contractors under each of the other All System Contracts will be required to coordinate the performance of the duties required of it under the terms of

its contract with the performance of the duties required of the contractors under each of the other All System Contracts, including this Contract. The goal of the County is to maximize, in the aggregate, the effectiveness of performance of the duties required under all of the All System Contracts to keep, operate and maintain the Solid Waste Disposal System, rather than to maximize the effectiveness of performance of duties required to be performed under any single All System Contract.

## 9.5 IRAN CONTRACTING ACT OF 2010

(Public Contract Code sections 2200 et seq.)

(Applicable for all Contracts of one million dollars (\$1,000,000) or more)

In accordance with Public Contract Code section 2204(a), the Contractor certifies that at the time the Contract is signed, the Contractor signing the Contract is not identified on a list created pursuant to subdivision (b) of Public Contract Code section 2203 (<http://www.dgs.ca.gov/pd/Resources/PDLegislation.aspx>) as a person (as defined in Public Contract Code section 2202(e)) engaging in investment activities in Iran described in subdivision (a) of Public Contract Code section 2202.5, or as a person described in subdivision (b) of Public Contract Code section 2202.5, as applicable.

Contractors are cautioned that making a false certification may subject the Contractor to civil penalties, termination of existing contract, and ineligibility to bid on a contract for a period of three (3) years in accordance with Public Contract Code section 2205.

## 9.6 NOTICES

Any notices or special instructions required to be given in writing under this Agreement shall be given either by personal delivery to Contractor's agent (as designated by Contractor) or to County's Engineer and County Counsel as the situation shall warrant, or by enclosing the same in a sealed envelope, postage prepaid, and depositing the same in the United States Postal Service, addressed as follows:

### COUNTY

### CONTRACTOR

Department of Public Works  
Solid Waste Management Division  
222 W. Hospitality Lane, 2<sup>nd</sup> Fl.  
San Bernardino, CA 92415-0017



## ARTICLE X

The contract is delivered by \_\_\_\_\_, Contractor, to County for acceptance by its Board of Supervisors at San Bernardino, California, and is deemed to have been entered into at San Bernardino, California.

IN WITNESS WHEREOF, the Board of Supervisors of San Bernardino County has caused this Contract to be subscribed by its duly authorized officers, in its behalf, and the said party of the second part has signed this Contract.

### BOARD OF SUPERVISORS

► \_\_\_\_\_  
, Chairman, Board of Supervisors

Dated: \_\_\_\_\_  
SIGNED AND CERTIFIED THAT A COPY OF THIS  
DOCUMENT HAS BEEN DELIVERED TO THE  
CHAIRMAN OF THE BOARD

Clerk of the Board of Supervisors  
San Bernardino County

By \_\_\_\_\_  
Deputy

\_\_\_\_\_  
(Print or type name of corporation, company, contractor, etc.)

By \_\_\_\_\_  
(Authorized signature - sign in blue ink)

Name \_\_\_\_\_  
(Print or type name of person signing contract)

Title \_\_\_\_\_  
(Print or Type)

Dated: \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

### FOR COUNTY USE ONLY

Approved as to Legal Form

► \_\_\_\_\_  
, County Counsel

Date \_\_\_\_\_

Reviewed for Contract Compliance

► \_\_\_\_\_

Date \_\_\_\_\_

Reviewed/Approved by Department

► \_\_\_\_\_

Date \_\_\_\_\_

# **GENERAL CONDITIONS**

**For The**

**PHASE 1B LINER CONSTRUCTION  
PROJECT AT THE  
BARSTOW SANITARY LANDFILL  
BARSTOW, CALIFORNIA**

## Table of Contents

1	GENERAL PROVISIONS .....	1
1.1	Basic Definitions .....	1
1.2	Correlation and Intent of the Contract Documents .....	5
1.3	Capitalization .....	7
1.4	Interpretation .....	7
1.5	Execution of Contract Documents .....	9
1.6	Ownership and Use of Drawings, Specifications and Other Instruments of Service .....	10
1.7	Publicity .....	11
2	SAN BERNARDINO COUNTY'S DUTIES AND RESPONSIBILITIES .....	11
2.1	General .....	11
2.2	Reserved .....	11
2.3	Information and Services Required of the County .....	11
2.4	County's Right to Stop the Work .....	12
2.5	County's Right to Carry Out the Work .....	12
2.6	Suspensions of Operations .....	13
2.7	Prohibited Interests .....	13
2.8	County's Right to Order Extraordinary Measures .....	13
2.9	Authority of the Department and Division .....	14
2.10	Authority of Board .....	14
2.11	Materials Furnished by County .....	14
3	CONTRACTOR'S DUTIES AND RESPONSIBILITIES .....	15
3.1	General .....	15
3.2	Request for Information ("RFI") .....	15
3.3	Supervision and Construction Procedures .....	15
3.4	Labor and Materials .....	17
3.5	Warranty and Correction .....	21
3.6	Taxes .....	22
3.7	Permits, Fees and Notices .....	22
3.8	Allowances .....	23
3.9	Contractor's Key Personnel and Subcontractors .....	23
3.10	Documents and Samples at the Site .....	24
3.11	Shop Drawings, Product Data and Samples .....	25
3.12	Site Conditions .....	28
3.13	Use of Site .....	29
3.14	Cutting and Patching .....	31
3.15	Cleaning Up .....	31
3.16	Access to Work .....	34
3.17	Royalties, Patents and Copyrights .....	34
3.18	Indemnification .....	35
3.19	Signs and Advertising .....	35
3.20	Coordination with Neighboring Property .....	35
3.21	Nondiscrimination .....	35
3.22	Mandatory Provisions in Specifications .....	36
3.23	Plans and Specifications .....	36
3.24	Contractor Responsibility .....	38
3.25	Meetings .....	39
3.26	Sanitation and Power Supply .....	39

3.27	Clean Air Act, Clean Water Act, Environmental Protection Agency, Energy Efficiency, and California State Water Resources Control Board .....	39
4	ADMINISTRATION OF THE CONTRACT .....	40
4.1	County's Project Representative .....	40
4.2	Administration of the Contract .....	40
4.3	Claims and Disputes .....	41
4.4	Dispute Resolution .....	45
5	SUBCONTRACTORS .....	52
5.1	Award of Subcontracts .....	52
5.2	Subcontractor Relations .....	52
5.3	Contingent Assignment of Subcontractor and Material Supply Agreements .....	54
6	CONSTRUCTION BY COUNTY OR BY SEPARATE CONTRACTORS .....	55
6.1	County's Right to Perform Construction and to Award Separate Contracts .....	55
6.2	County's Right to Clean Up .....	55
6.3	Independent Testing .....	56
7	CHANGES IN THE WORK .....	56
7.1	General .....	56
7.2	Change Orders .....	57
7.3	Construction Change Directives .....	58
7.4	Computation of Cost or Credit for Changes .....	58
7.5	Authority to Approve Changes .....	61
7.7	Contractor Originated Change Order Request (COR) .....	62
7.8	Audit Rights .....	62
8	SCHEDULE AND EXTENSIONS OF TIME .....	63
8.1	Definitions .....	63
8.2	Progress and Completion .....	63
8.3	Contractor's Schedules .....	64
8.4	Delays and Extensions of Time .....	67
8.5	Liquidated Damages .....	70
9	PAYMENTS AND COMPLETION .....	71
9.1	Contract Sum .....	71
9.2	Schedule of Values .....	71
9.3	Applications for Payment .....	71
9.4	Decisions to Withhold Payment .....	76
9.5	Progress Payments .....	78
9.6	Substantial Completion .....	79
9.7	Partial Occupancy or Use .....	80
9.8	Final Completion and Final Payment .....	81
10	PROTECTION OF PERSONS AND PROPERTY .....	85
10.1	Safety Precautions and Programs .....	85
10.2	Safety of Persons and Property .....	86
10.3	Hazardous Materials .....	89
10.4	Contractor Materials .....	90
10.5	Emergencies .....	90
10.6	Protection of the Work .....	90
10.7	Protection of Existing Property .....	90
11	INSURANCE AND BONDS .....	91
11.1	Performance Bond and Payment Bond .....	91
11.2	Insurance .....	92
12	UNCOVERING AND CORRECTION OF WORK .....	97

12.1	Uncovering of Work .....	97
12.2	Correction of Work .....	97
12.3	Acceptance of Nonconforming Work.....	99
13	TERMINATION OR SUSPENSION OF THE CONTRACT .....	99
13.1	Termination by the Contractor .....	99
13.2	Termination by the County for Cause .....	99
13.3	Suspension by the County .....	101
13.4	Termination by the County for Convenience.....	102
13.5	Authority of County .....	103
13.6	Termination by Acts of God .....	103
14	EMPLOYMENT OF LABOR/WAGE RATES .....	103
14.1	Determination of Prevailing Rates .....	103
14.2	Subcontractors.....	104
14.3	Payment of Prevailing Rates.....	104
14.4	Prevailing Rate Penalty.....	105
14.5	Payroll Records .....	105
14.6	Limits on Hours of Work.....	106
14.7	Penalty for Excess Hours.....	106
14.8	Contractor Responsibility .....	107
14.9	Employment of Apprentices .....	107
14.10	Apprenticeship Certificate .....	107
14.11	Ratio of Apprentices to Journeymen .....	107
14.12	Exemption from Ratios.....	108
14.13	Contributions to Trust Funds.....	109
14.14	Contractor's Compliance.....	109
14.15	Contractor's Compliance with Law.....	110
14.16	Equal Employment Opportunity .....	110
14.17	Senate Bill 854 Requirements .....	111
15	MISCELLANEOUS PROVISIONS .....	117
15.1	Governing Law.....	117
15.2	Successors and Assigns.....	117
15.3	Written Notice .....	117
15.4	Rights and Remedies.....	117
15.5	Tests and Inspections.....	118
15.6	Record Retention and Audits.....	119
15.7	Independent Contractor.....	121
15.8	Keys and Access .....	121
15.9	Survival of Terms.....	121
15.10	Cooperation With Labor.....	122
15.11	No Personal Liability .....	123
15.12	Antitrust Claims.....	123
15.13	Compliance with Restrictions.....	124
15.14	Legal Requirements.....	124
15.15	Third Party .....	124
	END OF GENERAL CONDITIONS.....	125

# 1 GENERAL PROVISIONS

## 1.1 Basic Definitions

**1.1.1 Acceleration Proposal Request.** County's written request to Contractor to submit an itemized proposal for Extraordinary Measures in order to achieve early completion of all or a portion of the Work when the need for such measures is not due to the fault of the Contractor.

**1.1.2 Addenda.** The Addenda or Addendum consist of the written clarifications of the Bid Documents issued by the County prior to the execution of the Contract.

**1.1.3 Applicable Law.** State, federal and local laws, statutes, ordinances, building codes, rules and regulations relating to the Work.

**1.1.4 As-BUILTs.** The Contractor's daily, current and complete on-site set of Plans and Specifications showing all changes, modifications and revisions performed during the progress of the Project construction.

**1.1.5 Board.** The Board of Supervisors for San Bernardino County.

**1.1.6 Bid Documents.** The documents contained in the bid packages including, but not limited to, advertisement for bids, instructions to bidders, bid proposal, non-collusion declaration, sample standard contract, contractor's affidavit and final release, sample bond forms, State wage determinations, general conditions, special conditions, technical specifications and Project drawings/plans.

**1.1.7 Change Order.** A Change Order is a written document prepared by the County reflecting the agreement between the County and Contractor for: a change in the terms or conditions of the Contract, if any; a specific Scope Change in the Work; the amount of the adjustment, if any, in the Contract Sum; and the extent of the adjustment, if any, in the Contract Time. The Change Order must be signed by an authorized representative of the County and Contractor.

**1.1.8 Change Order Request (COR).** As more specifically described herein below, a Change Order Request is a written document originated by the Contractor, which describes an instruction(s) issued by the County after the effective date of the Contract, which Contractor believes to be a Scope Change that may result in changes to the Contract Sum or Contract Time or, which describes the need for or desirability of a change in the Work proposed by Contractor.

**1.1.9 Construction Change Directive.** A Construction Change Directive is a unilateral written order prepared and signed by the County, directing Contractor to perform a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both.

**1.1.10 Contract.** The Contract Documents form the Contract (“Contract” or “Agreement”).

**1.1.11 Contract Documents.** The Contract Documents consist of the documents enumerated as such in the Contract between County and Contractor, including, but not limited to, all Addenda issued prior to and Modifications issued after the effective date of the Contract, Plans/drawings, Specifications, request for qualifications, instructions to bidders, general conditions, special conditions and bonds.

**1.1.12 Contract Sum.** The term “Contract Sum” means the amount of compensation stated in the Contract for the performance of the Work. The Contract Sum may be adjusted only by Change Order, Construction Change Directive, or written amendment to the Contract.

**1.1.13 Contractor.** The individual, partnership, corporation, joint venture, or other legal entity entering into the Contract with the County to perform the Work.

**1.1.14 County.** San Bernardino County.

**1.1.15 Date of Commencement.** The date for commencement of the Work fixed by County in a Notice to Proceed to Contractor.

**1.1.16 Day(s).** The terms “day” or “days” mean calendar days unless otherwise specifically designated in the Contract Documents. The term “Work Day” or “Working Day” shall mean any calendar day except Saturdays, Sundays and County recognized legal holidays.

**1.1.17 Defective Work.** Any or all of the Work, which is unsatisfactory, faulty, omitted, incomplete or deficient, in material, workmanship or operation, or which does not conform to the requirements of the Contract Documents, directives of the County, applicable code requirements, or the requirements of any inspection, reference standard, test, or approval specified in the Contract Documents.

**1.1.18 Department.** San Bernardino County Department of Public Works.

**1.1.19 Deputy Director.** The Deputy Director for the Department of Public Works – Solid Waste Management Division.

**1.1.20 Director.** The Director of the Department of Public Works.

**1.1.21 Division.** San Bernardino County Department of Public Works – Solid Waste Management Division. The Division is represented by the Deputy Director.

**1.1.22 Engineer.** The licensed Engineer that designed the Project.



**1.1.23** Extraordinary Measures. Measures implemented by Contractor at County's direction to expedite the progress of construction of all or a portion of the Work, including, without limitation, (i) working additional shifts or overtime, (ii) supplying additional manpower, equipment, and facilities, and (iii) submitting a recovery schedule for resequencing performance of the Work or other similar measures, as more specifically described in Paragraph 2.8.

**1.1.24** Final Completion. The term Final Completion is the date, evidenced by the County's approval of Contractor's Final Application for Payment, when the Work has been completed and the requirements for Project closeout set forth in the Contract Documents including, but not limited to, those set forth in Paragraph 9.8 below, have been satisfactorily completed. May be demonstrated by the recording of a Notice of Completion by the County.

**1.1.25** Final Payment. County's payment of the Contract Sum due to Contractor for the entire Work, less only the sums which County is specifically allowed to withhold under the terms of the Contract Documents and Applicable Law.

**1.1.26** Modifications. A Modification is (i) a written amendment to the Contract signed by duly authorized representatives of the Parties, (ii) a Change Order, or (iii) a Construction Change Directive.

**1.1.27** Notice of Completion. Document that is submitted by the County to the County Recorder for filing and recordation when all Work called for in the Construction Documents has been completed.

**1.1.28** Notice to Proceed. The Notice to Proceed is a document issued by the County fixing the Date of Commencement for the Work. The Contract Time for Contractor's performance of the Work is measured in Working Days.

**1.1.29** Owner. San Bernardino County or its duly authorized representative.

**1.1.30** Parties. The County and Contractor may be referred to collectively in the Contract Documents from time to time as the Parties.

**1.1.31** Plans/Drawings. The Drawings, profiles, cross-sections, working drawings, and supplemental drawings or reproductions thereof, reviewed by the County or its authorized agent, which show the locations, character, dimensions, or details of the Work.

**1.1.32** Project. The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the County or by Separate Contractors.

**1.1.33** Project Manager. County's Project Manager, identified by County in writing, is the County's Project Representative, who interprets and defines the County's policies,

renders decisions with respect to Contractor's performance of the Work, approves Contractor's Applications for Payment, reviews and approves Contractor's schedules and submittals, reviews and approves Change Order Requests and Change Orders and Construction Change Directives, reviews all quantity calculations related to pay quantities, reviews and approves changes in the Contract Time, concurs in any defective Work notification, and reviews and determines Substantial Completion of the Work and Final Completion of the Work. The extent and limits of the authority of any designee of the County's Project Manager shall be set forth in writing. Contractor shall be entitled to rely on the decisions and information provided by such written designee subject to the limitations of authority set forth in writing. All correspondence and electronic communication shall flow through the Project Manager. The Project Manager does not have the authority to approve a Change Order, written amendment to the Contract or Change Order Directive on behalf of the County. Contractor acknowledges that all Change Orders, Change Order Requests, Construction Change Directives, and amendments to the written Contract require the approval of the Director, or his/her designee, and may also require the approval of the Board.

**1.1.34 Project Representative.** Those individuals designated by the Parties in writing with authority to render decisions in connection with the Work and the Contract.

**1.1.35 Scope Change.** A Scope Change is Work that is not reasonably inferable from the Contract Documents upon which the Contract Sum is based, by a Contractor with the skill, experience, and expertise necessary for the proper, timely, and orderly completion of the Work, and is (i) materially inconsistent with, or (ii) a material change in the quantity, quality, or other substantial deviation in, the Contract Documents upon which the Contract Sum is based; and are necessary to correct an error, omission or defect in the Contract Documents, which cannot reasonably be corrected in the construction process.

**1.1.36 Separate Contractors.** The term Separate Contractors means licensed contractors performing a portion of the Project under separate contracts with the County.

**1.1.37 Site.** The physical area designated in the Contract Documents for Contractor's performance of the Work.

**1.1.38 Specifications.** The portion of the Contract Documents consisting of the written requirements for labor, materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services, including all Work and services defined in the Standard specifications, reference specifications, technical specifications, special provisions, General Conditions, and specifications in supplemental agreements between the County and Contractor.

**1.1.38.1** Article, Paragraph, and Subparagraph titles and other identifications of subject matter in the Specifications are intended as an aid in locating and recognizing the various requirements in the Specifications. Except where the titling

forms a part of the text, such as beginning words of a sentence or where the title establishes the subject, the titles are subordinate to and do not define, limit, or restrict the Specification text. Underlining or capitalizing of any words in the text does not signify or mean that such words convey special or unique meanings having a precedence over any other part of the Contract Documents. Specification text shall govern over titling and shall be understood to be and interpreted as a whole. The listings of various Sections of the Specifications are for convenience only and do not control the Contractor in dividing the Work among the subcontractors or establish the extent of the Work to be performed or provided by any Subcontractor or trade. **Contractor is solely responsible for providing the complete Work without respect to where or how the various parts of the Work may be indicated or specified.**

**1.1.39 Subcontractor.** A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the Site. The term "Subcontractor" does not include a Separate Contractor or subcontractors of a Separate Contractor.

**1.1.40 Sub-subcontractor.** A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the Site.

**1.1.41 Substantial Completion.** Substantial Completion is defined to mean the state in the progress of the Work when the Work is sufficiently complete in accordance with the Contract Documents as determined by the County so that the County can occupy and utilize the Work for its intended use and as further defined in the Contract.

**1.1.42 Work.** The term "Work" means the construction and other services required by, and reasonably inferable from, the Contract Documents as amended by Contract Modifications, whether completed or partially completed, and includes all labor, materials, equipment, tools, and services provided or to be provided by Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project, and includes products purchased by Contractor from third parties, and thereafter sold to County by Contractor.

**1.1.43 Written Amendment to Contract** – An amendment to the Contract which may change the Contract Sum or Contract Time, as necessary, due to unforeseen circumstances at the Project, additional Work required as a result of changes in Applicable Laws, or other appropriate facts necessitating a Contract amendment.

## **1.2 Correlation and Intent of the Contract Documents**

**1.2.1 Complementary Documents.** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. All Work mentioned or indicated in the Contract

Documents, and all Work reasonably inferable from them, shall be performed by the Contractor as part of the Contract unless it is specifically indicated in the Contract Documents that such work is to be done by others.

**1.2.2**     Order of Precedence. In the event of conflict between any of the Contract Documents the provision placing a more stringent requirement on the Contractor shall prevail. The Contractor shall provide the better quality or greater quantity of Work and/or materials unless otherwise directed by County in writing. In the event none of the Contract Documents place a more stringent requirement or greater burden on the Contractor, the controlling provision shall be that which is found in the document with higher precedence. In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following order of precedence, with “(1)” being the highest:

- (1)     Permits;
- (2)     Modifications;
- (3)     Specifications;
- (4)     Detailed Plans/Drawings;
- (5)     Large Scale Plans/Drawings;
- (6)     Small Scale Plans/Drawings;
- (7)     The Contract, including all exhibits, and Addenda with later Addenda having priority over earlier Addenda;
- (8)     Special Conditions, if any;
- (9)     General Conditions; and
- (10)    Bid Documents.

**1.2.2.1**     Nothing herein shall relieve the Contractor of its obligation to notify the County of any inconsistencies in the Contract Documents. 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 the County in writing for such further written explanations as may be necessary.

**1.2.2.2**     In the case of conflict or inconsistency in the Contract Documents, the conflict or inconsistency must be brought to the attention of the County for written clarification obtained from the County before proceeding with the Work affected by the conflict or inconsistencies. Failure to obtain such written clarification from the County will constitute waiver of any claim by Contractor related to such conflict or inconsistency.

**1.2.2.3**     All Work shall conform to the Contract Documents. No change therefrom shall be made without review and written acceptance by County.

**1.2.3**     Organization. Organization of the Specifications into divisions, sections, and articles, and sequential order of Plans/Drawings shall not control the Contractor in

dividing the Work among Subcontractors or in establishing the extent of the Work to be performed.

**1.2.4** Well-Known Terms. Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

**1.2.5** Contractor Deviations. No deviations by the Contractor from the Contract Documents relating to any portion of the services, materials, labor, or equipment required for the Work shall be construed to set a precedent with respect to subsequent interpretation of the Contract Documents or performance of the Work unless such a deviation is memorialized in a Modification to the Contract.

**1.2.6** Complete Agreement. The Contract Documents constitute the full and complete understanding of the Parties and supersede any previous agreements or understandings, oral or written, with respect to the subject matter hereof. The Contract may be modified only by a written instrument signed by both Parties or pursuant to Article 7.

### **1.3 Capitalization**

Terms capitalized in these General Conditions include those which are (i) specifically defined, (ii) the titles of numbered articles, and identified references to paragraphs, subparagraphs and clauses in the document or (iii) titles of other Contract Documents or forms.

### **1.4 Interpretation**

**1.4.1** Omitted Articles. In the interest of brevity, the Contract Documents frequently omit articles such as “the” and “an”, but the fact that an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement. The use of the word “including,” when following any general statement, shall not be construed to limit such statement to specific items or matters set forth immediately following such word or to similar items or matters whether or not non-limiting language (such as “without limitation, “but not limit to,” or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement.

**1.4.2** References to Contract Documents. Where “as indicated”, “as detailed”, or words of similar import are used, it shall be understood that the reference is made to any one of the Contract Documents.

**1.4.3** Severability. In the event any article, section, sub-article, paragraph, subparagraph, sentence, clause, or phrase contained in the Contract Documents shall be determined, declared, or adjudged invalid, illegal, unconstitutional, or otherwise unenforceable such determination, declaration, or adjudication shall in no manner affect



the other articles, sections, sub-articles, paragraphs, subparagraphs, sentences, clauses, or phrases of the Contract Documents, which shall remain in full force and effect as if the article, section, sub-article, paragraph, subparagraph, sentence, clause, or phrase declared, determined, or adjudged invalid, illegal, unconstitutional, or otherwise unenforceable was not originally contained in the Contract Documents.

**1.4.4 Provisions Deemed Inserted.** Each and every provision and clause required by law to be inserted in the Contract Documents shall be deemed to be inserted herein and the Contract Documents shall be read and enforced as though such provision or clause is included herein and, if through mistake or otherwise, any such provision is not inserted or not correctly inserted, then upon application of either Party, the Contract Documents shall forthwith be physically amended to make such insertion or correction.

**1.4.5 Headings Not Controlling.** The various headings contained in the Contract Documents are inserted for convenience only and shall not affect the meaning or interpretation of the Contract or any provision thereof.

**1.4.6 Singular/Plural/Gender Terms.** Whenever the context so requires, the use of the singular number shall be deemed to include the plural and vice versa. Each gender shall be deemed to include any other gender, and each shall include corporation, partnership, trust, or other legal entity whenever the context so requires.

**1.4.7 Technical/Non-Technical Words.** Unless otherwise stated in the Contract Documents, technical words and abbreviations contained in the Contract Documents are used in accordance with commonly understood construction industry meanings; and non-technical words and abbreviations are used in accordance with their commonly understood meanings.

**1.4.8 Referenced Standards.** Bulletins, standards, rules, methods of analysis or test, and specification of other agencies, engineering societies or industrial associations may be referred to in the Contract Documents. Reference may also be made to applicable ordinances, codes or regulations of any political subdivision having jurisdiction. These refer to the latest edition, including amendments in effect and published at the time of advertising the Project for bid, unless specifically referred to by edition, volume or date.

**1.4.9 Interpretation.** Should any provision of this Contract require interpretation, it is agreed that the person or persons interpreting or construing the same shall not apply a presumption that the terms of this Contract shall be more strictly construed against one party by reason of the rule of construction that a document is to be construed more strictly against the party who itself or through its agent or counsel prepared the same or caused the same to be prepared; it being agreed that the agents and counsel of all of the parties have participated equally in the negotiation and preparation of this Contract. The language in all parts of this Contract shall be in all cases construed simply, fairly, equitably and reasonably, according to its plain meaning and not strictly for or against any of the parties.

## **1.5 Execution of Contract Documents**

**1.5.1 Signatures.** The Contract shall be signed by the authorized representatives of the County and Contractor.

**1.5.2 Contractor Representations Concerning Contract Documents and Site Investigation.** By executing the Contract, Contractor represents and warrants that: (i) the Contract Documents are sufficiently detailed to enable Contractor to determine the cost of the Work within the Contract Sum and Contract Time; (ii) it has visited the Project Site, familiarized itself with the local conditions under which the Work is to be performed including, without limitation, the conditions contained in any test results and/or reports provided to or obtained by Contractor, and the conditions reflected on any Site surveys provided to or obtained by the Contractor; (iii) it is fully experienced, qualified and competent to perform the Work set forth in the Contract Documents; (iv) it is properly equipped, organized and financed to perform the Work; (v) it is properly permitted and licensed by California and all other governmental entities to perform the Work required by the Contract and that it will retain only properly licensed Subcontractors to perform the Work of the Contract; (vi) it has familiarized itself with all conditions bearing upon transportation, disposal, handling, and storage of materials; (vii) it has familiarized itself with the availability of labor, water, electric power, and roads; (viii) it has familiarized itself with uncertainties of weather or similar observable physical conditions at the Project Site; (ix) it has familiarized itself with the character of equipment and facilities needed during performance of the Work; (x) it has familiarized itself with the staging and material storage constraints of the Project Site and surrounding buildings and will confine its staging and storage operations to approved areas; (xi) it shall maintain the immediate surrounding areas of the Project Site in a clean and safe manner at all times; (xii) it will coordinate its construction activities with County's Separate Contractors, if any, performing work on the Project Site; (xiii) it will adhere to the assigned transit route identified by the County; and (xiv) it will adhere to and be bound by conditions set forth in the Contract Documents and any regulatory agency, utility, or governmental entity with jurisdiction over the Project. In addition, and without limiting the foregoing warranties, Contractor represents and warrants to County that prior to executing the Contract:

**(1)** Contractor has familiarized itself and will continuously familiarize itself throughout performance of the Work with the nature and extent of the Contract Documents, the Work, the Project Site, the identified existing conditions of the Project Site and locality, and all laws, rules, ordinances, and regulations of all government authorities and utilities having jurisdiction over the Project that may affect costs, progress, performance, or furnishing of the Work;

**(2)** Contractor has reviewed and carefully studied all examinations, investigations, explorations, tests, reports and studies provided to Contractor by County which pertain to the physical conditions at or contiguous to the Project Site or conditions which otherwise may affect the cost, progress, performance or furnishing of the Work, within the Contract Time and Construction Schedule. Contractor may rely upon the accuracy



of the technical data contained in such documents but not upon nontechnical data, interpretations, opinions or conditional statements contained therein;

(3) Contractor has reviewed all information and data shown or indicated on the Contract Documents with respect to existing underground facilities at or contiguous to the Project Site;

(4) As of the effective date of the Contract, Contractor has no knowledge of any conflicts, errors, or discrepancies in the Contract Documents other than those which Contractor has notified County of in writing prior to executing the Contract; and

(5) Contractor is experienced and competent in the interpretation and use of Specifications and Drawings, and in the use of materials, equipment and construction techniques as are required to successfully complete the Project. Contractor shall, at its own expense, employ any and all experts necessary to successfully complete the Work required by the Contract Documents.

## **1.6 Ownership and Use of Drawings, Specifications and Other Instruments of Service**

**1.6.1 Ownership of Contract Documents.** All Drawings, Specification, plans, sketches and other documents, including copies thereof, furnished by the County are and shall remain the property of the County and may be required to be returned to the County at the Contractor's expense. They are to be used only with respect to this Project and are not to be used on any other project. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the County's common law copyright or other reserved rights.

**1.6.2 Contractor's Assignment of Copyrights.** Project related documents created, prepared, or issued by Contractor, or its Subcontractors, including any Drawings, Specifications, and electronic data are "work for hire", and shall become the property of the County when prepared and shall be delivered to County whenever requested. The Contractor hereby assigns to the County, without reservation, all copyrights to all Project related documents, models, photographs, and other written expressions created by the Contractor.

**1.6.3 Submissions to County.** A copy of every technical memorandum and report prepared by Contractor shall be submitted to the County to demonstrate progress toward completion of Work. In the event County rejects or has comments on any such work product, County shall identify specific requirements for satisfactory completion by Contractor. Contractor shall provide County with Project related documents in reproducible or electronic format, upon County's written request. All Project related documents shall be turned over to County upon termination of this Agreement or Final Completion, whichever occurs first.

## **1.7 Publicity**

The Contractor, its agents, employees, subcontractors and suppliers shall not engage in any communication or correspondence with persons not directly involved in the construction of the Project, concerning any aspect of the construction of the Project, without the express written consent of County. All communications to the media, or in response to inquiries made by private citizens, shall be issued solely through the County.

## **2 COUNTY'S DUTIES AND RESPONSIBILITIES**

### **2.1 General**

The County shall designate the Project Manager(s) defined in Paragraphs 4.1 below, in writing. Whenever the Contract Documents require or permit the County to take or request an action or approve or disapprove of an action or request made by another Party, the reference to "County" shall mean the County's Project Manager unless the Contract Documents or context make it clear that another person is authorized to act as the County's Project Manager. All communications to the County shall be made through the County's Project Manager. The Contractor shall not be entitled to rely on directions (nor shall it be required to follow the directions) from anyone outside the scope of that person's authority as set forth in written authorization pursuant to the Contract. Direction and decisions made by the County's Project Manager shall be binding on the County. Contractor acknowledges that all Change Orders, Change Order Requests, Construction Change Directives and amendments to the written Contract require the approval of the Director, or his/her designee, and may also require the approval of the Board.

### **2.2 Reserved**

### **2.3 Information and Services Required of the County**

**2.3.1 Approvals for Permanent Structures.** Except for the permits, fees, and other such items set forth under Subparagraph 3.7.1, that are the responsibility of the Contractor under the Contract Documents, the County shall pay for necessary assessments and charges reasonably required for construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

**2.3.2 Existing Utilities: Removal, Relocation and Protection.** In accordance with California Government Code Section 4215, the County shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project Site which are not identified in the Contract Documents provided by County. Contractor shall be compensated for the costs of locating, repairing damage not due to the Contractor's failure to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Contract Documents with reasonable accuracy, and for equipment on the Project Site necessarily idled during such work. Contractor shall not be assessed Liquidated Damages for delay in completion of the Work when such delay is caused by the failure of the County or the utility provider to provide for removal or relocation of such utility facilities. Nothing in this

Paragraph shall be deemed to require the County to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Project Site can be inferred from the presence of other visible facilities, such as buildings, meters and junction boxes, on or adjacent to the Project Site. If the Contractor encounters utility facilities not identified by the County in the Contract Documents, the Contractor shall immediately notify, in writing, the County. In the event that such utility facilities are owned by a public utility, the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a price determined in accordance with Article 7 herein.

**2.3.3 Surveys.** Contractor shall be responsible for locating, and shall locate prior to performing any Work, all utility lines, including telephone, cable, television, and fiber optic lines and cables, sewer lines, water pipes, gas lines, electrical lines, including, without limitation, all buried pipelines and buried telephone cables, and shall perform the Work in such a manner so as to avoid damaging any such lines, cables, pipes, and pipelines.

**2.3.4 Time for Furnishing.** Information or services required of the County by the Contract Documents shall be furnished by the County with reasonable promptness.

## **2.4 County's Right to Stop the Work**

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph 12.2 or fails to carry out Work in accordance with the Contract Documents, the County may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the County to stop the Work shall not give rise to a duty on the part of the County to exercise this right for the benefit of the Contractor or any other person or entity. The County's right to stop the Work is in addition to and without prejudice to any other rights or remedies of the County.

## **2.5 County's Right to Carry Out the Work**

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a forty-eight (48) hour period after receipt of written notice from the County to commence and continue correction of such default or neglect with diligence and promptness, the County may after such forty-eight (48) hour period give the Contractor a second written notice to correct such deficiencies within a second forty-eight (48) hour period. If the Contractor within such second forty-eight (48) hour period after receipt of such second notice fails to commence and continue to correct any deficiencies, the County, without prejudice to other remedies the County may have, may correct such deficiencies. In such case an appropriate Construction Change Directive shall be issued deducting from payments then or thereafter due the Contractor, the cost of correcting such deficiencies, including compensation for any additional design services and expenses made necessary by such default, neglect, or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the County. The County's

right to carry out the Work is in addition to and without prejudice to any other rights or remedies of the County.

## **2.6 Suspensions of Operations**

In addition to the County's right to stop the Work set forth in these General Conditions, the Contractor shall, upon receipt of County's written notice and within the time stated therein, suspend shipment and delivery of material and stop any part or all of the Work and operations under the Contract for such period or periods of time as the County may deem advisable and designate in said notice. Upon receipt of such notice to suspend operations, the Contractor shall immediately confer with the County concerning the probable duration of such suspension and stoppage, delays, and extensions of time resulting therefrom as well as the reduction and possible elimination of the Contractor's field cost and such other costs and expenses as may result directly from such Work stoppage. Upon written notice from the County to resume operations, the Contractor shall promptly resume all or any part of the Work and operations including securing of materials required by said resumption notice. Contractor shall be compensated for suspension in accordance with Article 13 herein.

## **2.7 Prohibited Interests**

No official of the 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 County structural, engineering, inspection, construction or material supply contract or any subcontract in connection with construction of the Project, shall become directly or indirectly interested financially in this Contract or in any part thereof. No officer, employee, attorney, engineer or inspector of or for County who is authorized in such capacity and on behalf of County to exercise any executive, supervisory or other similar functions in connection with construction of Project shall become directly or indirectly interested financially in this Contract in any part thereof. Contractor shall receive no compensation and shall repay County for any compensation received by Contractor hereunder, should Contractor aid, abet or knowingly participate in violation of this Section.

## **2.8 County's Right to Order Extraordinary Measures**

**2.8.1 Non-Compensable Extraordinary Measures.** In the event the County determines that the performance of the Work, or any portion thereof, has not progressed or reached the level of completion required by the Contract Documents due to causes within the control of Contractor, the County shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction, including, without limitation, (i) working additional shifts or overtime, (ii) supplying additional manpower, equipment, and facilities and (iii) submitting a recovery schedule for re-sequencing performance of the Work or other similar measures as defined as Extraordinary Measures in Paragraph 1.1 above. Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion as required by the Contract Documents. The Contractor shall not be entitled to an adjustment in the Contract Sum in connection with the Extraordinary Measures

required by the County under or pursuant to this section. The County may exercise the rights furnished the County under or pursuant to this section as frequently as the County deems necessary to ensure that the Contractor's performance of the Work will comply with the Contract Time or interim completion dates set forth in the Contract Documents. If Contractor or its Subcontractors fail to implement or commence Extraordinary Measures within ten (10) calendar days of County's written demand, County may, without prejudice to other remedies take corrective action at the expense of the Contractor and shall reduce the Contract Sum.

**2.8.2 Compensable Extraordinary Measures.** County, in its discretion, may issue a written request to the Contractor asking Contractor to submit an itemized proposal for Extraordinary Measures in order to achieve early completion of all or a portion of the Work, due to no fault of the Contractor, in a form acceptable to County within ten (10) calendar days after County's issuance of the Acceleration Proposal Request.

## **2.9 Authority of the Department and Division**

**2.9.1** The Division shall represent the County and shall decide, within the provisions of the Specifications and Drawings, all questions which may arise concerning the quality or acceptability of materials furnished and Work performed.

**2.9.2** All questions concerning substitutions, selections, materials, colors and textures shall be submitted to the Division for approval.

**2.9.3** In all cases requiring interpretation of the Drawings and/or Specifications, the decision of the Division shall be final.

**2.9.4** Final determination of the acceptable fulfillment of the Contract on the part of the Contractor shall be made by the Department.

**2.9.5** The Director is authorized to represent the County regarding any suspension or termination of this Contract. The Board must approve any assignment of this Contract.

## **2.10 Authority of Board**

The Board has the final authority in all matters affecting the Work.

## **2.11 Materials Furnished by County.**

**2.11.1** Materials furnished by the County will be available at locations designed in the Contract Documents, or if not designated in the Contract Documents, they will be delivered to a single location of County's choice within the Project area. They shall be hauled to the site of installation by the Contractor at its expense, including any necessary loading and unloading that may be involved. The cost of handling and placing materials furnished by the County shall be considered as included in the Contract Sum.

**2.11.2** The Contractor will be held responsible for all materials furnished to it, and it shall pay all demurrage and storage charges. Furnished materials, after delivery to Contractor, lost or damaged from any cause whatsoever shall be replaced by the Contractor. The Contractor will be liable to the County for the cost of replacing lost or damaged furnished material and such costs may be deducted from any monies due or to become due the Contractor.



### **3 CONTRACTOR'S DUTIES AND RESPONSIBILITIES**

#### **3.1 General**

The Contractor shall perform the Work in accordance with the Contract Documents. The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the County, or of the County's Separate Contractors, in their administration of the Contract, or by tests, inspections, or approvals required or performed by persons other than the Contractor.

#### **3.2 Request for Information ("RFI").**

If the Contractor encounters any condition which the Contractor believes, in good faith and with reasonable basis, is the result of an ambiguity, conflict, error or omission in the Contract Documents (collectively the "Conditions"), it shall be the affirmative obligation of the Contractor to timely notify the County, in writing, of the Conditions encountered and to request information from the County necessary to address and resolve any such Conditions. If the Contractor fails to timely notify the County in writing of any Conditions encountered and the Contractor proceeds to perform any portion of the Work containing or affected by such Conditions, the Contractor shall bear all costs associated with or required to correct, remove, or otherwise remedy any portion of the Work affected thereby without adjustment of the Contract Time or the Contract Sum. The Contract Time shall not be subject to adjustment in the event that the Contractor fails to timely request information from the County.

#### **3.3 Supervision and Construction Procedures**

**3.3.1 Contractor's Means and Methods.** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention, and provide sufficient supervision to assure proper coordination and timely completion of Project. The methods and means adopted by the Contractor shall be such as to secure a quality of Work satisfactory to the County and to enable the Contractor to complete the Work by the Contract Time. The Contractor shall be responsible for and have control over construction means, methods, techniques, sequences, and procedures for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences, or procedures may not be safe, the Contractor shall give timely written notice within ten (10) calendar days to the County, such notice shall include proposed changes by Contractor, and Contractor shall not proceed with that portion of the Work without further instructions from the County. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences, or procedures without acceptance of changes proposed by the Contractor, the County shall be solely responsible for any resulting loss or damage.

**3.3.2 Contractor's Vicarious Liability.** Contractor shall be responsible to County for acts and omissions of Contractor's employees, Consultants, Subcontractors, Sub-subcontractors, and their agents and employees, and any other persons or entities performing any of the Work under a direct or indirect contract (or other arrangement) with the Contractor.

**3.3.3 Property Lines and Encroachments.** If required by County, prior to the commencement of the Work on the Project Site, County shall have all property corners and benchmarks verified and established by a State licensed land surveyor, shall locate the Project, together with all grades, lines, and levels necessary for the Work, on the Project Site, establishing necessary reference marks from which the Work can progress accurately and shall furnish Contractor with reasonable evidence of such verification, noting any errors, inconsistencies, or omissions discovered during such verification. The Contractor shall not disturb survey monuments, lot stakes (tagged), or bench marks without the consent of the County. The Contractor shall bear the expense of replacing any that may be disturbed without permission. Replacement shall be done only under the direction of a Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within California. After all lines are staked out and before foundation Work is commenced, Contractor shall review with County the placement of all buildings and other permanent facilities to be constructed on the Site. Any encroachments resulting from the Contractor's locating or constructing the Work on adjacent properties to the Project Site as revealed by a survey of the foundations or an "as-built" survey, except for encroachments arising from errors or omissions not reasonably discoverable by Contractor in the Contract Documents, shall be the sole responsibility of Contractor, and Contractor shall commence the remedy of such encroachments within thirty (30) calendar days after discovery thereof (unless circumstances require a more rapid response), at Contractor's sole cost and expense, either by the removal of the encroaching improvement (and the subsequent reconstruction of such improvement on the Project Site) or by agreement with the owner of the adjacent property, in a form and substance satisfactory to County in its sole discretion, providing a permanent easement for such encroachment.

**3.3.4 Inspection of Work In Place.** The Contractor shall be responsible for the inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

**3.3.5 Contractor's Representative.** Contractor shall employ competent Project Staff as deemed necessary by Contractor. Any Project Staff member and any replacement member shall be subject to the approval of the County. Upon notice from the County requesting replacement of any Project Staff member who is unsatisfactory to the County, Contractor shall in a timely manner, but in no event longer than twenty-four (24) hours after notification, replace such member with a competent member satisfactory to the County.

**3.3.5.1 Superintendent.** The Contractor shall provide an onsite full-time superintendent to assure proper coordination and timely completion.



### **3.4 Labor and Materials**

**3.4.1 Coordination.** The Contractor shall coordinate its Work with that of all others on the Project including deliveries, storage, installations, and construction utilities. The Contractor shall be responsible for the space requirements, locations, and staging of its equipment in areas and locations approved by County. Where the proper and most effective space requirements, locations, and routing cannot be made as indicated in the Contract Documents, the Contractor shall meet with all others involved before installation to plan the most effective and efficient method of overall installation.

**3.4.2 Temporary or Permanent Work.** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, sewer and electrical utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

**3.4.3 Labor Discipline.** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. Contractor shall not permit the possession or use of alcohol or illegal drugs on the jobsite nor shall the Contractor allow an employee, Subcontractor, material man, or any other person under the influence of alcohol or illegal drugs, or who is otherwise incapacitated to work on the Project.

**3.4.4 Skilled Labor.** None but skilled workmen shall be employed on any portion of the Work. When required in writing by the County, the Contractor, Subcontractor or Sub-Subcontractor shall discharge any person who is, in the reasonable opinion of the County, incompetent, unfaithful, disorderly or otherwise unsatisfactory, and shall not again employ such discharged person on the Work except with the written consent of the County. Such discharge shall not be the basis of any claim for compensation or damages against the County or any of its officers or agents.

**3.4.5 Procurement and Installation of Materials and Equipment.** Contractor shall: (i) place orders for all materials and equipment, taking into account current market and delivery conditions necessary to meet the Construction Schedule; (ii) purchase and expedite the procurement of long lead time items to obtain their delivery by the required dates; and (iii) arrange for alternate sources for the supply of critical materials and equipment to maintain the schedule. Should Contractor fail in this duty, County reserves the right to order such materials and equipment as the County may deem advisable to maintain the schedule for the Work or the Contract Time and all expenses shall be charged to and paid for by Contractor within the Contract Sum. Contractor shall keep the County informed of the status of procurement and shall promptly notify County in writing of any materials or equipment which may not be available within the time scheduled or necessary for the Project. The Contractor shall be responsible for the

space requirements, locations, and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations and routing cannot be made as indicated, the Contractor shall meet with all others involved, including, but not limited to, County, Engineer, and Subcontractors before installation, to plan the most effective and efficient method of overall installation.

#### **3.4.6 Substitution of Materials, Process or Equipment.**

**3.4.6.1** Whenever any particular material, process, or equipment is indicated in the Contract Documents by patent, proprietary, manufacturer or brand name, with or without the words “or equal”, only such items shall be provided unless the County’s prior written approval is obtained for the substitution. The burden of proving the quality of any material, process, or equipment proposed for substitution shall rest with the Contractor.

**3.4.6.2** If any substitution request offered by the Contractor is not found to be equivalent or cannot be delivered to the Site in compliance with the Project Schedule, Contractor shall furnish and install the material specified in the Contract Documents.

**3.4.6.3** Proposals for substitutions shall be submitted to the County using an approved format. Unless otherwise approved in writing by County, no substitution will be considered or allowed by the County without Contractor’s delivery of the following to County:

- (1)** A full explanation of the proposed substitution and submittal of all supporting data including technical information, complete manufacturers catalogs, brochures, drawings, samples, warranties, certified copies of test results, installation instructions, operating procedures, and other descriptive information to substantiate Contractor’s claim of equivalent quality and necessary for a complete evaluation of the proposal;
- (2)** A complete description of the difference between the requirements of the Contract Documents and the proposed substitution, the comparative advantages and disadvantages of each, and the reasons the substitution is advantageous and necessary, including the benefits of the County and the Work in the event the substitution is acceptable;
- (3)** A description of aspects of the Contract Documents affected by the proposal;
- (4)** The adjustment, if any, in the Contract Sum in the event the substitution is acceptable;
- (5)** The adjustment, if any, in the Contract Time and impact to the Construction Schedule;
- (6)** The estimated cost of any engineering, design, or agency fees required for Work of all trades directly or indirectly affected by the substitution;
- (7)** A list of projects, to the extent known, where the subject of the request was used and the results; and
- (8)** Other information reasonably necessary to fully evaluate the substitution request.

**3.4.6.4** By submitting a substitution request, Contractor will be deemed to certify to the County that (i) the proposed substitution is equal to or exceeds all requirements of the pertinent Contract Documents as reasonably determined by Contractor; (ii) Contractor accepts the warranty and correction obligations in connection with the proposed substitution as if originally specified; (iii) the cost data presented is complete and includes all related costs under Contract; (iv) Contractor will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects; (v) Contractor waives all Claims for additional costs related to the substitution which subsequently become apparent; and (vi) Contractor accepts all responsibility for direct or indirect costs and/or time impacts as result of the substitution.

**3.4.6.5** Contractor shall submit to County, or its designated representative (i.e. Engineer) all requests for substitutions, including products to be reviewed as an approved equal, together with substantiating data, within 20 days after the award of the Contract, or as otherwise stated in the Contract Documents. Following commencement of construction, substitutions requested by the Contractor will be considered only when one or more of the following conditions are met and documented by Contractor:

- (1) Specified item fails to comply with regulatory requirements; or
- (2) Specified item has been discontinued by the manufacturer; or
- (3) Specified item, through no fault of the Contractor, is unavailable in the time frame required to meet the Project Schedule; or
- (4) Specified item, through subsequent information disclosure, will not perform properly or fit in designated space; or
- (5) Manufacturer declares specified product to be unsuitable for intended use or refuses to warrant installation of product.

**3.4.6.6** The County has reviewed the technical and aesthetic qualities of materials specified, and in no case will the County accept a substitution of a product with a lower cost which does not extend credit to the County.

**3.4.6.7** No incomplete request for substitution will be considered by the County, and products for which insufficient information is submitted will be disapproved by the County for lack of substantiating data.

**3.4.6.8** Failure of the Contractor to submit proposed substitutions for approval in the manner described may be deemed sufficient cause for disapproval by the County of any substitution otherwise proposed.

**3.4.6.9** Contractor shall proceed with performance of the Work as required by the Contract Documents and shall not modify such requirements in accordance with any substitution request unless the County approves such request in a written order. In the event County approves a substitution request and Contractor furnishes a material, process or article more expensive than that specified, the difference in cost shall be borne entirely by Contractor. Any engineering, design fees or agency fees required to make adjustments in material or work of all trades directly or indirectly affected by the approved substituted item shall be borne entirely by Contractor.

**3.4.7 Reference Standards.** Any material specified by reference to the number, symbol, or title of a standard such as that of the American Society for Testing Materials ("ASTM"), Underwriters Laboratories, Factory Mutual, a product or commercial standard, or similar standards, shall comply with the requirements of the latest revisions thereof and any supplement or amendment thereto in effect on the date of the Contract. The standards referred to, except as specifically modified in the Specifications, shall have the same force as if they were printed in full within the Contract Documents. Whenever a product is specified in accordance with such a Reference Standard, the Contractor shall present a certification from the manufacturer and test data to substantiate compliance, when requested by the County or required by the Specifications, certifying that the product complies with the particular standard or specification.

**3.4.8 Manufacturer's Instruction.** Where it is required in the Contract Documents that materials, products, processes, equipment or the like be installed or applied in accordance with manufacturer's instructions, directions or specifications or words to this effect, it shall be construed to mean that said application or installation shall be in strict accord with current printed instructions furnished by the manufacturer of the material concerned for use under conditions similar to those at the jobsite. If there is a conflict between manufacturer's instructions and Applicable Law or the Contract Documents, Contractor shall notify County in writing to request clarification.

**3.4.9 Workmanship, Materials and Manufactured Items.** All workmanship, equipment, materials, and articles incorporated in the Work are to be of the most suitable grade of their respective kinds for the purpose; and equipment, materials, and parts shall be new, best quality, undamaged, and free from defects.

**3.4.9.1** All materials to be incorporated in the Work shall be protected from damage during shipping, delivery, storage, and handling, and after installation until acceptance of the Work.

**3.4.9.2** Material and work quality shall be subject to the Project Manager's approval.

**3.4.9.3** Materials and work quality not conforming to the requirements of the Contract Documents shall be considered defective and will be subject to rejection.

**3.4.9.4** Defective work or material, whether in place or not, shall be removed immediately from the Site by the Contractor, at its expense, when so directed by the Project Manager.

**3.4.9.5** If the Contractor fails to replace any defective or damaged work or material after reasonable notice, the Project Manager may cause such work or materials to be replaced. The replacement expense will be deducted from the amount to be paid to the Contractor.

### **3.5 Warranty and Correction**

**3.5.1 Warranty.** The Contractor warrants to the County that: (i) materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents; (ii) the Work will be of good quality and free from defects; (iii) the Work will conform to the requirements of the Contract Documents; and (iv) Contractor will deliver a Project free of stop notice claims. Work not conforming to these requirements, including substitutions not properly approved by the County, shall be deemed defective. Contractor warranty excludes improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the County, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Paragraph 12.2 herein.

**3.5.2 Commencement of Correction Periods.** In accordance with Paragraph 12.2 herein, in addition to warranties required elsewhere in the Contract Documents, Contractor shall, and hereby does, warrant all Work for a period of one (1) year commencing from the date of Final Completion of the Work and shall repair or replace any and all such Work, together with any other Work which may be displaced in so doing, that may prove defective in workmanship and/or materials, without expense whatsoever to County.

**3.5.2.1** This paragraph does not in any way limit the warranty on any items for which a longer guarantee is specified, or on any items for which a manufacturer gives a warranty for a longer period.

**3.5.3 No Limitation.** Nothing contained in this Section shall be construed to establish a period of limitation with respect to other obligations that the Contractor might have under the Contract Documents. Establishment of the one-year period for correction of Work relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligation other than specifically to correct the Work. Neither the making of Final Payment nor the use or occupancy of the work, in whole or in part, by County shall constitute acceptance of Work not in accordance with the Contract Documents or relieve the Contractor from liability for faulty or defective Work.

**3.5.4 Overlap.** Where any warranties provided under the Contract Documents overlap, conflict, or are duplicative, Contractor shall be bound by the more stringent requirements.

**3.5.5 County's Right to Correct.** If Contractor fails to commence corrections within forty-eight (48) hours after receipt of written notice, County, under the provisions of Article 12 herein, will proceed to have defects repaired and made good at the expense



of Contractor and its performance bond surety, plus fifteen percent (15%) for County's overhead and administrative expense. County may charge such costs against any payment due Contractor. If, in the opinion of the County, defective work creates a dangerous or hazardous condition or requires immediate correction or attention to prevent further loss to the County or to prevent interruption of operations of the County, the County may take immediate action, give notice, make such correction, or provide such attention and the cost of such correction or attention shall be charged against the Contractor. Such action by the County will not relieve the Contractor of the warranties provided in this Section or elsewhere in the Contract Documents.

**3.5.6 Procurement and Assignment of Warranties.** Contractor shall obtain in the name of County, or transfer or assign to County or County's designee prior to the time of Final Completion of the Work, any and all warranties or guarantees which Contractor is required to obtain pursuant to the Contract Documents and which Contractor obtained from any other person or entity other than Contractor including, but not limited to, Subcontractors and manufacturers, and further agrees to perform the Work in such a manner so as to preserve any and all such warranties. Contractor shall secure written warranties from all Subcontractors in the form approved by County. Contractor and its Subcontractors shall offer any warranty upgrades or extensions that are offered by manufacturers of any equipment or system in the Project to the County.

**3.5.7 Survival of Warranties.** The provisions of this Paragraph 3.5 shall survive Contractor's completion of the Work or termination of Contractor's performance of the Work.

### **3.6 Taxes**

**3.6.1 Payment.** The Contractor shall pay all applicable sales, consumer, use, and similar taxes for the Work provided by the Contractor and such taxes shall be included in the Contract Sum.

**3.6.2 Liability for Employee Payments.** Contractor accepts full liability for the payment of any and all contributions, deductions, or taxes for social security, unemployment insurance, old age and survivor's benefits, medical and health benefits, or for any other purpose not or hereafter imposed under any Applicable Law measured by the wages, salary or other remuneration paid to persons employed by or on behalf of Contractor for the Work. Contractor covenants and agrees to observe and fully comply with all Applicable Law, including procurement of any necessary occupational licenses, permits and inspection certificates.

### **3.7 Permits, Fees and Notices**

**3.7.1 Responsibility for Permits and Fees.** Except for the permits, approvals, government fees, licenses and inspections which have been identified and designated elsewhere in the Contract Documents to be provided by the County, Contractor shall identify and obtain all permits, certificates, licenses, fees, approvals and inspections

necessary or required for the proper execution and completion of the Work, or which are customarily secured after execution of the Contract and shall submit to County copies of receipts for reimbursement within the Contract Sum. All such permits, licenses and certificates shall be delivered to the County before Contractor submits a final Application for Payment. Unless stated otherwise in the Contract Documents, the County will pay connection fees directly to the utilities for all permanent water and electrical connections.

**3.7.2 Notices.** The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities applicable to performance of the Work.

**3.7.3 Bonds.** The Contractor shall procure and pay for all bonds required of the County by any public or private entity with jurisdiction over the project. Contractor shall prepare all applications, supply all necessary backup material, and furnish the surety with any required personal undertakings. The Contractor shall also obtain and pay all charges for all approvals for street closings, traffic regulation, parking meter removal, and other similar matters as may be necessary or appropriate from time to time for the performance of the Work.

**3.7.4 Compliance with Applicable Law.**

**3.7.4.1** Contractor is responsible to perform all Work in accordance with the requirements of local agencies and inspectors having jurisdiction over the Work. If the Contractor observes that any portions of the Contract Documents are at variance with Applicable Law, Contractor shall promptly notify the County in writing.

**3.7.4.2** If the Contractor performs any Work when the Contractor knows or should have reasonably known it would be contrary to Applicable Law, Contractor shall assume full responsibility therefore and shall bear all costs (within the Contract Sum) directly or indirectly attributable to the correction of the Work. If Contractor fails to comply with any such codes, laws, ordinances, rules, and regulations, County may (without prejudice to any of its other rights or remedies) issue an order suspending all or any part of the Work.

### **3.8 Allowances**

Contractor shall include in the Contract Sum and Schedule of Values all Allowances provided for in the Contract Documents. Items covered by Allowances shall be supplied for such amounts approved by Owner. All expenditures for Allowances shall be separately itemized in each Application for Payment and are subject to County's prior approval. County shall not reimburse Contractor for Allowance costs in excess of the amounts specified in the Schedule of Values without County's prior written approval of such costs.

### **3.9 Contractor's Key Personnel and Subcontractors**

**3.9.1 Contractor's Project Manager.** The Contractor's Project Manager, as designated in the Agreement or as otherwise approved in writing by County, shall: (i) be present at



the Project Site at all times that any Work is in progress and at any time that any Subcontractor or employee of Contractor is present at the Site; (ii) attend all job meetings; (iii) be actively involved throughout all phases of construction of the Project; (iv) maintain oversight of the Project at all times; (v) have full authority to represent and act on behalf of the Contractor for all purposes under this Agreement; (vi) supervise and direct the Work using his or her best skill and attention; (vii) be responsible for the means, methods, techniques, sequences, and procedures used for the Work; (viii) adequately coordinate all portions of the Work; and (ix) act as the principal contact with County and all Subcontractors and inspectors on the Project. A biography or resume of Contractor's Project Manager, or any proposed designee, shall be submitted to the County at the preconstruction meeting.

**3.9.2 Contractor's Key Personnel.** In addition to its designated Project Manager, Contractor represents to County that certain additional key personnel, designated in the Agreement or as otherwise approved in writing by County, including but not limited to, the superintendent, will perform services required by the Contract Documents. County may at any time elect to add job categories to the Contractor's key personnel list.

**3.9.3 Changes in Contractor's Project Manager, Key Personnel and Subcontractors.** Contractor shall not make changes to its Project Manager, key personnel or Subcontractors, or reduce their responsibilities for this Project without the prior written approval of the County. Prior to making any changes to the Project Manager, key personnel, or Subcontractors, the Contractor shall submit the qualifications and experience of the Contractor's proposed replacement for the County's approval. If County determines, in its sole discretion, that the performance of any person or entity employed by Contractor is unsatisfactory, then at the written request of County, Contractor shall remove, reassign, or replace such individual or entity without increase in the Contract Sum and such individual or entity shall not be reemployed on the Project without the prior written approval of County.

**3.9.4 Qualifications and Licenses.** Work furnished by or on behalf of Contractor shall be performed by persons: (i) qualified to perform the Work assigned to them; and (ii) licensed to practice their respective trades or professions where required by Applicable Law in the State where the Project is located. Contractor's Project Manager, key personnel, and Subcontractors shall be experienced in projects of similar nature and complexity to the Project and must provide County with resumes of education, training, and relevant experience whenever requested and shall be approved by County prior to their assignment to the Project.

### **3.10 Documents and Samples at the Site**

**3.10.1 As-Built and Record Documents.** Contractor shall maintain at the Project Site and shall make available to County, one copy of the Contract Documents, Addenda, requests for information, bulletins, Change Orders and other Modifications to the Contract Documents, approved Construction Documents, Shop Drawings, Product

Data, Samples and mock-ups, permits, inspection reports, test results, daily logs, schedules, subcontracts, and purchase orders in good order (the "Record Documents"). The Record Documents shall include a set of As-Built Construction Documents, which shall be continuously updated during the prosecution of the Work. The prints for As-Built Construction Documents will be a set of blackline prints produced by Contractor and approved by County at the start of construction. Contractor shall maintain said set in good condition and shall use colored pencils to mark-up said set with "record information" in a legible manner to show; (i) deviations from the County-approved Construction Documents made during construction; (ii) details in the Work not previously shown; (iii) changes to existing conditions or existing conditions found to differ from those shown on any existing Construction Documents; (iv) the actual installed position of equipment, piping, conduits, light switches, electric fixtures, circuiting, ducts, dampers, access panels, control valves, drains, openings, and stubouts; and (v) such other information as County may reasonably request.

**3.10.2 Condition to Payment.** Contractor's obligation to keep Record Documents current, including As-Built Construction Documents, and to make them available to County is a condition precedent to County's duty to process Applications for Payment. The Contractor shall provide a written certification of this monthly review, signed by the County's Project Manager, and attach same to each Application for Payment. Within thirty (30) calendar days after Substantial Completion or earlier termination of the Agreement and as a condition precedent to Final Payment, Contractor shall provide final approved Record Documents including, but not limited to, As-Built Construction Documents and approved Shop Drawings. Contractor's obligations under Paragraph 3.10 shall survive completion of the Work or termination of Contractor's performance of the Work.

**3.10.3 Daily Logs.** Contractor shall maintain a daily log containing a record of weather, Contractor's own forces working on Site, Subcontractors working on the Site, number of workers for each Subcontractor on Site, materials delivered, Work accomplished, problems encountered and other similar relevant data as the County may reasonably require. The daily log shall be signed by Contractor's Superintendent, submitted within 24 hours (next working day) to County's Project Manager and shall be made available to others as directed by County.

### **3.11 Shop Drawings, Product Data and Samples**

**3.11.1 Shop Drawings.** Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor, Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

**3.11.2 Product Data.** Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

**3.11.3 Samples.** Samples are physical examples which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

**3.11.4 Purpose.** Shop Drawings, Product Data, Samples, and similar submittals ("Submittals") are not Contract Documents. The list of required Submittals is designated in the Specifications. The purpose of these Submittals is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents, the way by which the Contractor proposes to conform to the information given and expressed in the Contract Documents.

**3.11.5 Contractor's Submittals.**

**3.11.5.1 Prompt Submittals.** The Contractor shall review for compliance with the Contract Documents, confirm, and deliver to the County, Submittals within the timeframes required by the Contract Documents and with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the County or of separate Contractors. Contractor's complete and timely submission of submittals in conformity with the Submittal Schedule (identified in the Specifications) is a material consideration of the Contract. In the event that the County reasonably determines that all or any portion of any Submittal fails to comply with the requirements of the Contract Documents and/or such Submittals are not otherwise complete and accurate so as to require re-submission more than one time, Contractor shall bear all costs (within the Contract Sum) associated with the review and approval of such resubmitted Submittals. No adjustment to the Contract Time or the Contract Sum shall be granted by the County to the Contractor on account of Contractor's failure to make timely submission of any Submittals.

**3.11.5.2 Contractor's Confirmation of Submittals.** After checking and verifying all field measurements and after complying with applicable procedures specified in the Specifications, Contractor shall submit to County in compliance with the Submittal Schedule for review and approval, or for other appropriate action, one (1) reproducible transparency (sepia) and four (4) opaque prints (unless otherwise specified in the Specifications) of all Shop Drawings and other Submittals, which shall 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 Submittal. All Submittals will be identified as the County may reasonably require and shall include at a minimum the name of the Project, name of the Contractor, be numbered consecutively and referenced to the Project Drawings or Specification section affected. Submittals shall be combined for singular assemblies, items or materials. The data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data in order to enable County to review the information as required.

- (1)** Before submission of each Submittal, Contractor shall have determined and verified quantities and dimensions, specified

performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed and coordinated each Submittal with other Submittals and with the requirements of the Work and the Contract Documents.

- (2) Shop Drawings shall show in detail the size, sections, and dimensions of all members; the arrangement and construction of all connections and joints, and other pertinent details; also, all holds, straps, and other fittings required by other contractors for attaching their work. When required by the County, engineering computations shall be submitted. The Contractor shall be responsible for delivering copies of Shop Drawings to all other persons whose work is dependent thereon.
- (3) At the time of each submission, Contractor shall give County specific written notice of each variation that the Submittal may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Submittal submitted to County for review and approval of each such variation.
- (4) If the Shop Drawings or manufacturer's data show variations from the Contract Document requirements because of standard shop practice or other reason, the Contractor shall make specific mention of such variations in its letter of transmittal.
- (5) By reviewing and submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and conditions related thereto, and has checked and coordinated the information contained within such Submittals with the requirements of the Work, of the Contract Documents and of the Shop Drawings for related Work.

**3.11.6 Review by County.** Unless Contractor is notified in writing of a specific need for an extended period of time due to the nature or extent of the Shop Drawings being submitted, County shall utilize its best efforts to complete Shop Drawing review within a maximum of ten (10) calendar days. Submittals made by Contractor which are not required by the Contract Documents may be returned without action by the County. County's review and approval will be general and for compliance with design intent and 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). Review of Shop Drawings shall not relieve the Contractor from the responsibility for proper fitting and construction of the Work, nor from furnishing materials and work required by the Contractor which may not be indicated on the

reviewed Shop Drawings. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make corrections required by County, and shall return the required number of corrected copies of Submittals and submit as required new Submittals for review and approval. Contractor shall direct specific attention in writing to any and all revisions other than the corrections called for by County on previous Submittals.

**3.11.7 Performance.** The Contractor shall perform no portion of the Work requiring review of Submittals until the County has reviewed the respective Submittal. Such Work shall be in accordance with the approved Submittals and the Contract Documents, and no Work shall be started without obtaining prior written approval from the County.

**3.11.8 Approved Submittals.** The Work shall be performed in accordance with approved Submittals and the Contractor shall not be relieved of responsibility for variations from requirements of the Contract Documents by the County's approval of Shop Drawings, Product Data, Samples, or similar submittals unless the Contractor has specifically informed the County in writing of such deviation at the time of submittal and a Change Order or Construction Change Directive has been issued, authorizing the variations. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by the County's approval thereof.

**3.11.9 Resubmission.** Contractor shall direct specific attention, in writing, on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those required by the County on previous submittals. In the absence of such written notice the County's approval of a resubmission shall not apply to such revisions.

**3.11.10 Conflicts, Errors or Omissions.** If Contractor discovers any conflicts, omissions, or errors in Shop Drawings or other submittals, Contractor shall notify the County and receive written instruction before proceeding with the affected Work.

**3.11.11 Maintenance at Site.** The Contractor shall maintain at the Site of the Project, at all times, a complete file of County reviewed Shop Drawings and manufacturers' data of his own and all Subcontractors.

### **3.12 Site Conditions**

**3.12.1** The Contractor represents that it has taken the necessary steps to ascertain the nature, location and extent of the Work, and that it has investigated and satisfied itself as to the general and local conditions which are applicable to the Work, such as:

- (1) conditions bearing on transportation, disposal and storage of materials;
- (2) the availability of labor, water, power and roads;
- (3) normal weather conditions;
- (4) physical conditions at the Site;
- (5) the conditions of the ground;
- (6) the character of equipment and facilities needed prior to and during the performance of Work



**3.12.2** To the extent the Contractor encounters subsurface conditions or hazardous materials which differ materially from that actually known by the Contractor, or from those ordinarily known to exist or contained in information about the Site made available to Contractor prior to the deadline to submit bids, or generally recognized as inherent in the area, then notice by the Contractor shall be immediately given to the County, before conditions are disturbed, and in no event later than two (2) business days after the first observance of the conditions. If such conditions could not have been reasonably identified by Contractor's Site investigations and available existing data, and the Contractor incurs an increase or decrease in costs or delays as a result of such concealed conditions, such conditions may be subject to a Change Order.

Should any existing utilities or services be disturbed, disconnected or damaged during construction, the Contractor shall be responsible, at no additional cost or time to the County, for all expenses and consequential damages of whatever nature arising from such disturbance or the replacement or repair thereof and shall repair such items as required to maintain continuing service, including emergency repairs.

**3.12.3** The Contractor is responsible for foreseeable site conditions and toxic materials to the extent described in the Contract Documents and/or could be reasonably inferred by the Contractor based on its experience and expertise on similar projects.

**3.12.4** **Reserved.**

**3.12.5** The Contractor shall verify the location and depth (elevation of all existing utilities and services before performing excavation Work.

### **3.13 Use of Site**

**3.13.1** Site Constraints. Prior to mobilization on the Project Site, the Contractor shall submit to the County for approval a Site Constraint Plan including layout drawings to scale as required to fully describe the proposed locations of all temporary construction facilities and controls. This plan shall show the proposed activities in each portion of the Work area and identify the areas of limited use or nonuse. This plan shall also show proposed vehicle access routes and traffic control. Contractor shall confine operations at the Project to the areas designated in the Contract Documents and the approved Site Constraint Plan and within the hours permitted by codes, laws, ordinances, permits, or the County, and shall not unreasonably encumber the Project Site or the adjoining sidewalks, streets, and alleyways with any material, equipment, or debris. In that regard, Contractor shall keep the Site and surroundings clean and in a safe condition in accordance with Paragraph 3.15 herein and the Specifications. Contractor shall use only those locations designated on the approved Site Construction Plan for locating Contractor's trailers, staging areas, lay-down areas, and other construction operations. The Contractor shall not unreasonably encumber the Site with any materials or equipment, nor permit any persons on the Site, or any activity at the Site, except as the

presence of those persons, or that activity, is directly related to the Project. The Contractor shall be liable for any and all damage cause by it to the County premises.

**3.13.2 Coordination.** Contractor expressly acknowledges that County, its own forces, and County's Separate Contractors may be working simultaneously with Contractor on the Project during certain periods of time in certain portions of the Project Site. Contractor and County will take all steps necessary in connection with the construction Work not to interfere with the use and occupancy of the Project Site by County's Separate Contractors and personnel to minimize any interruption of services to such person, including, without limitation, utilities, ingress and egress, and parking. Contractor further agrees to coordinate its construction activities with all others performing work on the Project Site, including deliveries, storage, and installation. Contractor shall meet and consult with County from time to time at County's request to insure that Contractor and County are fully advised of all other construction activities on the Project Site, and Contractor shall take such steps as are reasonably necessary at County's request to coordinate its Work with the Work of County's Separate Contractors on the Project Site.

**3.13.3 Security.** The Contractor shall be responsible for providing security at the Site of the Work with all such costs included in the Contract Sum. A temporary fence shall surround the Project Site unless otherwise required by County. All security provided by Contractor shall be coordinated with County's existing security personnel, if any. In addition, the Contractor shall take all necessary precautions and provide enclosures, barricades, security guards, signs, notices, shoring, bracing, passageways, lights, and such other materials, equipment, and services as may be required (including, without limitation, such protections as may be required by Applicable Laws) for the protection of: (i) all person who may be on the Project Site or in other areas affected by the Contractor's operations; and (ii) the County's and any third party's personal and real property. Contractor shall execute all repairs to land, roadways, structures, utilities, sidewalks, parkways and alleys damaged by the operations under this Contract.

**3.13.4 Utility Interruption.** When it is necessary to interrupt any existing utility service, a minimum of fourteen (14) calendar days advance written request for interruption of services shall be given by the Contractor to the County. Interruption of these services shall be of the shortest possible duration and shall be approved by the County in advance of such interruption. In the event that such notices and approvals are not secured prior to interruption in utility services the Contractor shall be financially liable for any and all damages suffered by the County and third parties due to unauthorized interruption.

**3.13.5 Parking.** The Contractor shall coordinate and obtain all construction related parking. The cost of all Contractor parking shall be included in the Contract Sum.



### **3.14 Cutting and Patching**

**3.14.1 Responsibility.** Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

**3.14.2 Separate Contractors.** Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the County or County's Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. Contractor shall not cut or otherwise alter such construction by the County or a Separate Contractor except with written consent of the County.

**3.14.3 Finish Surfaces.** Cutting, drilling or other mechanical change to surfaces constituting final finish, including but not limited to, glass, marble, tile mosaic, finish wood, finish metals, etc., necessary for the fastening, installation, securing, and/or insertion of any devices, equipment, and/or materials shall be accomplished with special care. If requested by the County, Contractor shall submit procedures for finish changes to be done by any trades other than the one installing the specific finish material. Failure to obtain County approval shall place full responsibility upon the Contractor for any extra cost occasioned by unacceptable finish-surface.

### **3.15 Cleaning Up**

**3.15.1 Continuous Obligations.** The Contractor shall keep the Project Site and surrounding area free from accumulation of waste materials or rubbish at all times. As construction is completed on a daily basis, paved surfaces adjoining the Project shall be broomed clean and other surfaces of the Project Site raked clean. If the Contractor defaults or neglects to maintain the Project free from accumulation of waste and rubbish as set forth above, and fails within a twenty-four (24) hour period after receipt of oral notice, subsequently confirmed in writing, to commence and continue correction of such default or neglect with diligence and promptness, the County may after such twenty-four (24) hour period, immediately, without prejudice to other remedies the County may have, correct such deficiencies. In such case, an appropriate Construction Change Directive shall be issued deducting from payments then and thereafter due the Contractor the cost of correcting such deficiencies. If payment then and thereafter due the Contractor is not sufficient to cover such amounts, the Contractor shall pay the difference to the County on demand.

**3.15.2 Cleaning and Environmental Controls.**

- (1)** Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- (2)** Remove waste materials, debris and rubbish from site and dispose off-site legally.
- (3)** The Contractor shall take appropriate action to insure that no dust originates from the Project Site.
- (4)** Spoil sites shall not be located where spoil shall be washed back into a street gutter, storm drain, runoff conveyance or ocean.

- (5) Water containing mud, silt, or other pollutants from activities, shall not be allowed to enter the ocean or placed in locations that may be subject to storm runoff.

**3.15.3 Water Pollution Control.** Contractor must comply with all requirements of the California State Water Resources Control Board, including the statewide General Permit for Discharges of Storm Waters Associated with Construction Sites (See Order No. 2009-0009-DWQ). This includes, but is not limited to, paying all appropriate fees, filing all required documentation, and complying with all the regulations of the State Water Resources Control Board.

As part of the County's Storm Water Management Program, implementation of minimum Best Management Practices (BMPs) is required for this Contract. The Contractor is directed to comply with applicable requirements of the BMPs that are specified under this section to reduce pollutants from entering the storm drain system.

The Contractor shall maintain copies of these BMP fact sheets (guidance paper) at the Project Site and shall make these fact sheets available during construction activities. Best Management Practices shall be defined as any program, technology, progress, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces pollution. These BMPs have been selected from the California Storm Water Best Management Practice Handbook, Municipal Industrial, and Construction Volumes (May 1993). These handbooks contain a full description of each BMP and provide for its implementation. Copies of the handbook may be obtained from:

San Bernardino County  
Environmental Management Division  
825 East Third Street – Room 201  
San Bernardino, CA 92415-0835  
Telephone No. (909) 387-8112

As a minimum, the Contractor shall implement the following BMPs in conjunction with all its activities construction operations:

- B.1. Site Planning Consideration  
Preservation of Existing Vegetation (ESC02)
- B.2. Construction Practices  
Structure Construction and Painting (CA03)  
Spill Prevention and Control (CA12)  
Dust Control (ESC21)  
Storm Drain Inlet Protection (ESC54)
- B.3. Vehicle & Equipment Management  
Vehicle & Equipment Cleaning (CA30)

Vehicle & Equipment Maintenance (CA32)

B.4. Material Management

Solid Waste Management (CA20)

Concrete Waste Management (CA23)

Sanitary/Septic Waste Management (CA24)

**3.15.3.1** Additional BMPs. Contractor may be required to implement additional BMPs as a result of a change in actual field conditions, Contractor activities, or construction operations. When more than one BMP is listed under each category, the Contractor shall select the appropriate and necessary BMPs in order to achieve the BMP objective.

**3.15.3.2** Enforcement. The County, as a permittee, is subject to enforcement actions by the Regional Water Quality Control Board, U.S. Environmental Protection Agency, environmental groups and private citizens. The Contractor shall be responsible for the costs and for any liability imposed by law as a result of the Contractor's failure to comply and/or less than complete implementation with the requirement set forth in this section "Water Pollution Control". Cost and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the County or the Contractor. In addition to any remedy authorized by law, so much of the money due to the Contractor under the Contract that shall be considered necessary by the County may be retained by the County until disposition has been made of the costs and liabilities.

**3.15.3.3** Maintenance. Contractor shall ensure the proper implementation and functioning of BMPs control measures, and shall regularly inspect and maintain the construction site for the BMPs identified in Section 3.15.3 above. The Contractor shall identify corrective actions and time frames to address any damaged measures or reinstate any BMPs that have been discontinued.

**3.15.4** Final Completion. In order to achieve Final Completion of the Work, the Contractor must remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials as well as the requirements set forth in the Contract Documents. In addition to the general cleaning, the Contractor must perform the following special cleaning requirements:

- (1) Remove putty stains from glazing, then wash and polish glazing;
- (2) Remove marks, stains, fingerprints, and other soil or dirt from glass, painted, stained, or decorated work;
- (3) Remove temporary protection and clean and polish floors and waxed surfaces;

- (4) Clean and polish hardware and plumbing trim; remove stains, dust, dirt, plaster, and paint;
- (5) Remove spots, soil, plaster, and paint from tile work, and wash tile;
- (6) Clean all fixtures and equipment, remove excess lubrication, clean light fixtures and lamps, polish metal surfaces;
- (7) Vacuum-clean carpeted surfaces and remove any stains; and
- (8) Remove debris from roofs, downspout, and drainage system.

### **3.16 Access to Work**

The Contractor shall provide the County and its respective Project Managers, Consultants, and other persons authorized by the County, access to the Work in preparation and progress wherever located. Contractor shall provide safe and proper facilities for such access and for inspection.

### **3.17 Royalties, Patents and Copyrights**

**3.17.1 Contractor Must Secure Rights.** The Contractor shall secure in writing from all patentees, copyright holders, and assignees of all Project-related documents, all copyrights, assignments, and licenses related to such expression (e.g., designs, drawings, Contract Documents, specifications, documents in computer form, etc.) as necessary to allow the County the full, unlimited, and unencumbered use of that expression for the execution, operation, maintenance, modernization or expansion of the Project. The Contractor shall immediately convey all such copyrights, assignments, and licenses to the County without reservation. In the case of products, materials, systems, etc., protected by patent, the Contractor shall not specify or cause to be specified any infringing use of a patent. The Contractor shall pay all royalties and license fees.

**3.17.2 Infringement.** Should the Contractor become aware of or receive notice of potential infringement of any intellectual property right related to the Project, regardless of the source of that awareness or notice, in addition to its indemnity obligation, the Contractor shall (a) immediately cease the copying and any other activity which is the potential source of infringement; and within seven (7) calendar days (b) investigate the potential infringement; (c) submit to the County copies of all documents relating to that awareness, the notice, or the object thereof; and (d) issue to the County a complete written response and analysis of the potential infringement and the course of action recommended by the Contractor. The Contractor shall submit to the County a supplement of the initial report within seven (7) calendar days of the Contractor's receipt of, or awareness of, additional related information. Nothing in this Agreement shall be deemed to relieve the Contractor of its obligations under this Article, nor shall the County's receipt of the information indicated in this Article give rise to any duty or obligation on the part of County.

**3.17.3 Assignment of Rights.** The Contractor offers and agrees to assign to the County all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act [Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code of the State of California], arising from purchases of goods, services or materials pursuant to the performance of the Work. This assignment will be made and become effective at the time the County tenders Final Payment to the Contractor, without further acknowledgement by the Parties.

### **3.18 Indemnification**

The Contractor agrees to indemnify, defend (with counsel reasonably approved by County) and hold harmless the County and its authorized officers, employees, agents and volunteers (Indemnitees) from any and all claims, actions, losses, damages, and/or liability arising out of this contract from any cause whatsoever, including the acts, errors or omissions of any person and for any costs or expenses incurred by the Indemnitees on account of any claim except where such indemnification is prohibited by law. This indemnification provision shall apply regardless of the existence or degree of fault of Indemnitees. The Contractor's indemnification obligation applies to the Indemnitee's "passive" negligence but does not apply to the Indemnitee's "sole" or "active" negligence or "willful misconduct" within the meaning of Civil Code Section 2782.

### **3.19 Signs and Advertising**

Contractor shall not place or maintain any advertising signs, bills, or posters, nor shall it allow the same to be placed in or about the Project Site, or on any structure, fence, or barricade located on the Project Site, except as may be specified herein or approved in writing by the County, which approval shall not be unreasonably withheld, delayed, or conditioned. County shall have the right to reasonably approve the size, style, text, and location of any Contractor sign placed on the Project Site or on any structure, fence, or barricade located at the Project Site. Notwithstanding any other provision of the Contract Documents, County shall have complete discretion with respect to placement of Subcontractor and Sub-subcontractor signs on the Project Site.

### **3.20 Coordination with Neighboring Property**

Contractor shall coordinate with adjoining property businesses, tenants, and their customers and contractors to provide access to neighboring property and shall implement measures to minimize disruption to operations and occupancy of neighboring property businesses, tenants, and their customers and contractors.

### **3.21 Nondiscrimination**

During the term of the Contract, Contractor shall not discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status,



sex, gender, gender identity, gender expression, sexual orientation, age, or military and veteran status. Contractor shall comply with Executive Orders 11246, 11375, 11625, 12138, 12432, 12250, 13672, Title VII of the Civil Rights Act of 1964, the California Fair Housing and Employment Act and other applicable Federal, State and County laws and regulations and policies relating to equal employment and contracting opportunities, including laws and regulations hereafter enacted.

Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement.

### **3.22 Mandatory Provisions in Specifications**

Any mention in the sections of the Specifications or indication on the Drawings of articles, materials, operations, or methods requires that the Contractor provide each item mentioned or indicated, or quality or subject or qualifications noted. The Contractor shall perform according to conditions stated each operation prescribed; and provide therefore all necessary labor, equipment, transportation and incidentals, even though such mention of articles, materials, operations, methods, quality, qualifications or conditions is not expressed in complete sentences.

### **3.23 Plans and Specifications**

**3.23.1** Unless otherwise provided in the Contract Documents, the County will furnish the Plans and Specifications to the successful Contractor on electronic media (CD) at no cost. If the successful Contractor requires a paper copy of the Plans and Specifications the Division will provide one copy without charge. Any additional paper copies will be provided by the Division to Contractor at \$0.10 per page.

#### **3.23.2 Familiarity with Plans and Specifications.**

**3.23.2.1** Contractor shall carefully examine the Contract Documents, all applicable codes and the Site. The submission of a bid shall be conclusive evidence that the Contractor has investigated and has personal knowledge of the conditions to be encountered as to character, quality, scope of Work to be performed, and quantities of materials to be furnished. Submission of a bid also infers that the Contractor has knowledge of the use to which the Work is to be put, and the climatological conditions to which it shall be exposed. Any uncertainties by the Contractor shall be submitted to the County in writing at least eight (8) days (or within the time designated in the Advertisement for Bids, Instructions to Bidders, or otherwise in Bid Documents) prior to the opening of bids, and failure to do so constitutes a waiver of any future claim.

**3.23.2.2** It shall be the responsibility of Contractor to be so thoroughly familiar with all details of the Project, including all Contractor and Subcontractor work, that the following shall be brought to the attention of the County for clarification in sufficient time to give the County time to respond before an error is made in the bid or in construction:

- (1) Errors and omissions in the Drawings and Specifications;
- (2) Work shown on the Drawings or in the Specifications which, if so constructed, would result in confusion or interference with other work or the work of other trades, including the location of fixtures and equipment.
- (3) Any noted violations of applicable codes.

**3.23.2.3** Changes to the Contract Sum will not be approved for the cost of correction work where such work could have been avoided by proper examination of the Drawings and Specifications by the Contractor, and the Work will be held in abeyance pending instructions from the County.

**3.23.3 Interpretation of Plans and Specifications.**

**3.23.3.1** In general, the Drawings will show dimensions, positions, and kind of construction; and the Specifications will define materials, quantities, and methods. Any Work called for on the Drawings and not mentioned in the Specifications, or vice versa, shall be performed as though fully set forth in both. Work not particularly detailed, marked or specified, shall be the same as similar parts that are detailed, marked or specified.

**3.23.3.2** Every part of the Work, as shown on the Drawings and described in the Specifications, must be complete and finished. No deviations are to be made from the Drawings or Specifications without previously obtaining written authorization from the County. Failure to obtain such written clarification from the County will constitute waiver of any claim by Contractor related to such conflict or inconsistency.

**3.23.3.3** The Drawings shall be accurately followed as to scale, except where figures are given to determine dimensions, which in all cases shall be calculated from figures shown on the Drawings and take preference to scale measurements. Large scale details take precedence over small drawings in all cases, full-scale drawings have preference. Obvious discrepancies between scale and figured dimensions, not marked "not to scale," must be brought to the County's attention before proceeding with the Work affected by the discrepancy. Failure to submit any such discrepancies in writing shall constitute a waiver of future claims.

**3.23.3.4** Architectural and structural Drawings take precedence over electrical and mechanical Drawings in regard to location and arrangement of fixtures, outlets, and equipment. Electrical and mechanical Drawings take precedence in describing and specifying equipment and in describing the diagrammatic requirements. If the Contractor has any question regarding precedence noted in this Paragraph, a written clarification shall be obtained from the County, and the failure to do so constitutes a waiver of any claim.

**3.23.3.5** Should an error or inconsistency be found in the Specifications or Drawings, or in the Work done by others affecting Contractor's Work, the Contractor



shall notify the County at once, and the County will issue instructions as to procedure. If the Contractor proceeds with the Work so affected without such instructions, it will make good any resulting damage or defects in his or adjacent work. This includes typographical errors in the Specifications and notational errors on the Drawings where doubtful of interpretation.

**3.23.3.6** The general character of the detailed Work is shown on the Drawings, but minor modifications may be made in details when needed to more fully explain the Work and the same shall be considered part of the Contract. Should any detail submitted after award of Contract, in the opinion of the Contractor, be more elaborate than the scale Drawings and the Specifications indicate, written notice thereof shall be given to the County prior to the performing the Work pursuant to Article 7. The claim will then be considered and, if justified, said detail drawings will be amended or the extra work authorized. Contractor's failure to provide the County with the required notice shall relieve the County of any claim.

**3.23.3.7** Where on any Drawing a portion of the Work is drawn out and the remainder is indicated in outline, the drawn-out parts shall apply also to all other like portions of the Work. Where ornament or other detail is indicated on starting only, such detail shall be continued throughout the course of parts in which it occurs and shall also apply to all other similar parts in the Work unless otherwise indicated.

#### **3.23.4 Accuracy of Plans and Specifications**

**3.23.4.1** Omissions from the Plans and Specifications shall not relieve the Contractor from the responsibility of furnishing, making, or installing all items required by law or code or usually furnished, made or installed in a project of the scope and general character indicated by the Plans and Specifications.

**3.23.4.2** The topography of Site and existence and location of utilities indicated on Plans are in accordance with the best information obtainable, but cannot be guaranteed. They shall be investigated and verified at the Site by the Contractor before starting the Work. The Contractor shall be held responsible for any damage to, and for maintenance and protection of, existing utilities, fences and remaining structures.

#### **3.23.5 Division of Specifications.**

For convenience, the Specifications are arranged in various trade sections, but such segregation shall not be considered as limiting the Work of any Subcontractor or trade. The Contractor shall be solely responsible for all Subcontractor arrangements of the Work regardless of the location or provision in the Specifications.

### **3.24 Contractor Responsibility**

The Contractor shall be responsible for all acts and omissions of Contractor's agents, employees, and Subcontractors and their respective agents and employees.

### **3.25 Meetings**

Construction meetings shall be held at the jobsite as scheduled by the County's Project Manager or as requested by the Contractor. Details regarding jobsite meetings will be arranged at the pre-construction conference.

### **3.26 Sanitation and Power Supply**

#### **3.26.1 Sanitation.**

Adequate sanitary conveniences of an approved type for the use of persons employed on the Site, and properly secluded from the public observation, shall be provided and maintained by the Contractor in such a manner and at such points as shall be required by the County. These conveniences shall be maintained at all times without nuisance and their use shall be strictly enforced. Upon completion of the Work, they shall be removed from the premises, leaving the premises clean and free from nuisance.

#### **3.26.2 Power Supply.**

All electrical power required for construction uses or other purposes shall be provided by the Contractor at Contractor's expense.

### **3.27 Clean Air Act, Clean Water Act, Environmental Protection Agency, Energy Efficiency, and California State Water Resources Control Board**

During the performance of this contract, the Contractor and all Subcontractors shall:

- 3.27.1** Comply with all applicable standards, orders, or requirements issued under the Clean Air Act of 1970 (including section 306), including all amendments, and all regulations implementing the Clean Air Act.
- 3.27.2** Comply with all applicable standards, orders, or requirements issued under the Clean Water Act of 1972 (including section 508), including all amendments, and all regulations implementing the Clean Water Act.
- 3.27.3** Comply with all applicable standards, orders, or requirements issued under Environmental Protection Agency regulations.
- 3.27.4** Comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163), including all amendments, and all regulations implementing the Energy Policy and Conservation Act.
- 3.27.5** Comply with all requirements of the California State Water Resources Control Board, including the statewide General Permit for Discharges of Storm Waters Associated with Construction Sites (See Order No. 2009-009-DWQ). This includes, but is not limited to, paying all appropriate fees, filing all required documentation, and complying with all the regulations of the State Water Resources Control Board.

### **3.28 Travel Management Policy**

Contractor shall adhere to the County's Travel Management Policy (08-02 and 08-02SP1) when travel is pursuant to this Contract and for which reimbursement is sought from the County. In addition, Contractor is encouraged to utilize local transportation services, including but not limited to, the Ontario International Airport.

## **4 ADMINISTRATION OF THE CONTRACT**

### **4.1 County's Project Representative**

The County's Project Manager identified by the County in writing is the County's Project Representative. The County's Project Manager shall serve as a single point transmission of County's instructions and approvals, and receive all information required to be provided by Contractor. County's Project Manager shall be on-site on an as-needed basis to monitor progress, quality of work, and Contract and schedule compliance.

### **4.2 Administration of the Contract**

**4.2.1 Site Visits.** The County's Project Manager will visit the Site at intervals appropriate to the stage of the Contractor's operations to become familiar with the progress and quality of the portion of the Work completed and to determine if the Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents.

**4.2.2 No Estoppel.** Neither the County nor its Project Manager will be responsible for Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The County and its Project Manager will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work. Approval and/or acceptance of all or any portion of the Work shall in no way relieve the Contractor from its obligation to construct each portion of the Work in accordance with the Contract Documents and the County shall not be estopped or otherwise prevented from asserting any claim it might have against the Contractor as a result of any such acceptance or approval.

**4.2.3 Determination of Payment Amounts by Project Manager.** The County's Project Manager will review Contractor's Application for Payment and determine the amount of payment due Contractor.

**4.2.4 Rejection of Work Testing and Inspection.** The County has the authority to reject Work that does not conform to the Contract Documents. Whenever the County considers it necessary or advisable, it will require inspection or testing of the Work in accordance with Paragraph 15.5 below, whether or not such Work is fabricated, installed or completed. However, neither this authority nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or

responsibility of the County to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

**4.2.5 Submittal Review.** The County will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data, and Samples.

**4.2.6 Contract Modifications.** The County's Project Manager will prepare Change Orders, Construction Change Directives, and written amendments to the Contract. All Change Orders, Construction Change Directives, and written amendments to the Contract involving changes in the Contract Sum or Contract Time require approval by Director and/or Board.

**4.2.7 Substantial Completion and Project Closeout.** The County's Project Manager will conduct inspections to determine the date or dates of Substantial Completion and the date of Final Completion, review written warranties and related close-out documents required by the Contract and assembled by the Contractor, and will issue a final authorization for payment upon Contractor's satisfaction of the requirements of the Contract Documents.

### **4.3 Claims and Disputes**

**4.3.1 Definitions.** The term "Claim" or "Claims" shall mean a separate demand by the Contractor for: (i) a time extension (ii) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to this Contract and payment of which is not otherwise expressly provided or the Contractor is not otherwise entitled to; or (iii) an amount the payment of which is disputed by the County.

**4.3.2 Notification of Third-Party Claims.** County shall provide Contractor with prompt written notice upon County's receipt of any third party claim relating to the Contract.

**4.3.3 Notice and Time Limits on Claims.** If the Contractor wishes to make a Claim for an increase in the Contract Sum or an extension of the Contract Time, the Contractor shall give the County written notice thereof within ten (10) calendar days after the occurrence of the event giving rise to such Claim. The written notice must comply with the requirements of this Article 4 and Article 8, if applicable, herein. This notice shall be given by the Contractor before proceeding to execute Work affected by the event, except in an emergency endangering life or property, in which case the Contractor shall proceed in accordance with Article 10 below.

**4.3.4 Resolution.** The County will issue a Change Order, a Construction Change Directive, or a written amendment to the Contract, to Contractor within a reasonable period of time after County's approval of any Claim, specifying the additional cost and/or time, if any, approved by County.

**4.3.5 Continuing Contract Performance.** Contractor shall not delay or postpone any Work pending resolution of any disputes or disagreements, except as the County and Contractor may otherwise agree in writing. Pending final resolution of a Claim, the Contractor shall proceed diligently with performance of the Contract and the County shall continue to make payments for undisputed Work in accordance with the Contract Documents. In the event of disputed work, County shall have the right to unilaterally issue a Construction Change Directive and Contractor shall continue performance pending resolution of the dispute and shall maintain the accounting and cost data described in Paragraph 7.4 herein.

**4.3.6 Claims for Concealed or Unknown Conditions.** The Contractor shall promptly, and before the following conditions are disturbed, notify the County, in writing, of any:

- (1) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
- (2) Subsurface or latent physical conditions at the Site differing from those indicated by information about the Site made available to bidders prior to the deadline for submitting bids.
- (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 Documents.

**4.3.6.1** The County shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, shall issue a Change Order or written amendment to the Contract, under the procedures described in the Contract.

**4.3.6.2** In the event that a dispute arises between the County and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

**4.3.7 Claims for Additional Cost and/or Time.**

**4.3.7.1 General.** If Contractor wishes to make a Claim for an increase in the Contract Sum and/or Contract Time, Contractor shall provide written notice within ten (10) calendar days, as provided in Paragraph 4.3.3 herein, before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Article 10. If the Contractor believes additional cost is involved for reasons including, but not limited to: (i) any written interpretation; (ii) a Verbal Change in the Work as more specifically described in Subparagraph 7.5.2 below; (iii) failure of payment by the County; or (iv) any order by



the County to stop Work where the Contractor was not at fault, Contractor shall file Claims in accordance with the procedures established herein. Compliance with the notice and Claim submission procedures described in this Paragraph is a condition precedent to the right to commence litigation, file a Government Code Claim, or commence any other legal action. No claim or issues not raised in a timely notice and timely Claim submitted under this Paragraph may be asserted in any Government Code Claim, subsequent litigation, or legal action.

**4.3.7.1.1** The provisions of Section 4.3 and 4.4 constitute a non-judicial claim settlement procedure, and also step one of a two step claim presentment procedure by agreement under Section 930.2 of the California Government Code. Specifically, step one is compliance with this contract claims procedure and filing/administering timely contract claims in accordance with the Contract Documents. Step two is filing a timely Government Code Section 910 claim in accordance with the California Government Code. Any Government Code Section 910 claims shall be presented in accordance with the Government Code and shall affirmatively indicate Contractor's prior compliance with the claims procedure herein and previous dispositions under the claims procedure. These provisions shall survive termination, breach or completion of the Contract. Contractor shall bear all costs incurred in the preparation and submission of a claim.

**4.3.7.2** Certification of Claim.

- (1) Contractor, under penalty of perjury under the laws of the State of California, shall submit with the Claim its and its Subcontractors' certification that:
  - (a) The Claim is made in good faith;
  - (b) Supporting data are accurate and complete to the best of the Contractor's knowledge and belief; and
  - (c) The amount requested accurately reflects the Contract adjustment for which the Contractor believes the County is liable.
- (2) The certification shall be executed by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.
- (3) If a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, California Government Code Sections 12650 et seq.) the County will be entitled to the remedies set forth in the California False Claims Act in addition to all other remedies provided by law. The Contractor may be subject to criminal prosecution.
- (4) In regard to any Claim or portion of a Claim for Subcontractor work, the Contractor shall fully review said Claim and certify said Claim, under

penalty of perjury under the laws of the State of California, to have been made in good faith and in accordance with this Contract.

- (5) Failure to furnish certification as required hereinbefore will result in the Contractor waiving its rights to the subject Claim.

**4.3.7.3** Content of Written Notice. Contractor shall waive all rights to assert a Claim for Additional Cost and/or Time unless such notice is given as required in this Section. The written notice shall set forth:

- (1) The date of the event or occurrence giving rise to the claim and, if applicable, the date when the event ceased;
- (2) The nature of the event or occurrence and reasons for which the Contractor believes additional cost and/or time will or may be due;
- (3) The quantification of the costs involved together with the accounting and cost data described in Section 7.4 herein;
- (4) A Critical Path Method ("CPM") schedule analysis supporting any request for any additional time; and
- (5) Contractor's plan for mitigating such costs and/or delay.

**4.3.7.4** Back-up Documentation. In addition to the initial ten (10) day written notice required herein, Contractor shall submit detailed backup documentation for its Claim including, but not limited to, contract provisions, specifications, drawings, Request for Information, correspondence, meeting minutes, and the like, within thirty (30) calendar days from Contractor's initial written notice. Failure to provide either this backup documentation or an explanation acceptable to the County for the cause of the Contractor's delay in submitting this documentation as herein indicated shall constitute Contractor's waiver of any and all rights associated with the Claim. Except where provided by law, the County shall not be liable for special or consequential damages, and claims shall not include special or consequential damages.

**4.3.7.5** Remedies Related to Delays.

- (1) For Claims relating to extensions of Contract Time, due to Compensable County-Caused delays, as described in Article 8 herein, Contractor may be entitled to an equitable adjustment of the Contract Sum and Contract Time provided Contractor otherwise complies with this Paragraph 4.3.
- (2) For Claims relating to extensions of Contract Time due to Non-Compensable Force Majeure events, as described in Article 8 herein, Contractor may be entitled to an equitable adjustment of the Contract Time, subject to the limitations set forth in Article 8 below, but shall not be entitled to adjustment of the Contract Sum.



- (3) For Claims relating to extensions of the Contract Time due to rain delays/inclement weather, Contractor shall not be entitled to adjustment of the Contract Time unless and until the number of unworkable days due to the effects of rain/inclement weather exceed the number of days set forth in Subparagraph 8.4.1.3 below. In such event, the Contract Time shall be equitably adjusted, but Contractor shall not be entitled to adjustment of the Contract Sum.

#### **4.4 Dispute Resolution**

**4.4.1** Claims between the County and the Contractor of \$375,000.00 or less shall be resolved in accordance with the procedures established in Part 3, Chapter 1, Article 1.5 of the California Public Contract Code Sections 20104 et seq.; provided however that California Public Contract Code Section 20104.2(a) shall not supersede the requirements of the Contract Documents with respect to the Contractor's notification to the County of such claim or extend the time for giving of such notice as provided in the Contract Documents.

**4.4.1.1** Pursuant to Public Contract Code Section 20104(c), the current provisions of Article 1.5 of Chapter 1 of Part 3 of the Public Contract code (commencing with Section 20104) dealing with the mediation and arbitration of public works claims are incorporated herein and applicable provisions are set forth below.

Public Contract Code Section 20104 (a)(1): This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and a local agency.

(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b)(1) "Public work" means "public works contract" as defined in Section 1101 but does not include any work or improvement contracted for by the state or the Regents of the University of California.

(2) "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

Public Contract Code Section 20104.2: For any claim subject to this article, the following requirements apply:

(a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment.

Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

(b)(1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

(c)(1) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of

the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by 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.

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

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b)(1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

(3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

Public Contract Code Section 20104.6: (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

**4.4.1.2** Pursuant to Assembly Bill 626 (2015-2016 Reg. Sess.) the text of Public Contract Code section 9204 is included as follows:

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3) (A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

- (i) The Department of Water Resources as to any project under the jurisdiction of that department.
  - (ii) The Department of Transportation as to any project under the jurisdiction of that department.
  - (iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.
  - (iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.
  - (v) The Military Department as to any project under the jurisdiction of that department.
  - (vi) The Department of General Services as to all other projects.
  - (vii) The High-Speed Rail Authority.
- (4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.
- (5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.
- (d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.
- (B) The claimant shall furnish reasonable documentation to support the claim.
- (C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.
- (D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.
- (2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt



requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier

subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

**4.4.2** Except as provided for in Subparagraph 4.4.1, any other claims, disputes or other matters in controversy shall be resolved as follows. In lieu of, or prior to litigation, the Parties shall endeavor to settle disputes by mediation in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect unless the Parties mutually agree otherwise to a different method of alternative dispute resolution. Mediation shall be non-binding and utilize services of a mediator mutually acceptable to the Parties. If the Parties cannot agree on a mediator, then the American Arbitration Association shall appoint a mediator trained in construction industry disputes.

**4.4.3** Any dispute which cannot be resolved between the Parties shall be resolved through litigation in a court of competent jurisdiction of the State of California. Venue for any such litigation concerning this Project or Agreement shall be in the Superior Court



of California, San Bernardino County, San Bernardino District and Contractor agrees to incorporate this provision into all subcontracts.

**4.4.3.1** Each Party hereby waives any law or rule of court that would allow them to request or demand a change of venue. If any third party brings an action or claim concerning this Contract, the Parties hereto agree to use their best efforts to obtain a change of venue to the Superior Court of California, San Bernardino County, San Bernardino District.

## **5 SUBCONTRACTORS**

### **5.1 Award of Subcontracts**

**5.1.1 Subcontractor Listing.** The Contractor shall list its Subcontractors, and shall make no substitution except in accordance with Public Contract Code Sections 4100 et seq. ("Subcontractor Listing Law").

**5.1.1.1 Substitution Process.** Any request of the Contractor to substitute a listed Subcontractor will be considered by the County only if such request is in strict conformity with this Paragraph 5.1 and Chapter 4 of the California Public Contract Code (commencing with Section 4100). All costs and fees, including all costs of the hearing, incurred by the County in the review and evaluation of a request to substitute a listed Subcontractor shall be borne by the Contractor; such costs and fees may be deducted by the County from the Contract Sum then or thereafter due the Contractor. For purposes of a hearing for the substitution of subcontractors (pursuant to the Public Contract Code commencing with Section 4100) the awarding authority shall be the Director of the Department of Public Works, or his/her designee.

**5.1.1.2 Responsibilities of Contractor upon Substitution of Subcontractor.** Neither the substitution nor the County's consent to Contractor's substitution of a listed Subcontractor shall relieve Contractor from its obligation to complete the Work within the Contract Time and for the Contract Sum. In the event that the County determines that revised or additional Submittals are required of the newly substituted Subcontractor, the County shall promptly notify the Contractor, in writing, of such requirement and the time for Submittal. In the event that the revised or additional Submittals are not submitted by Contractor within the time specified, Contractor shall be solely responsible for delays in the Work arising from the untimely Submittal. Contractor shall reimburse the County for all fees and costs incurred or associated with the processing, review and evaluation of any revised or additional Submittals required pursuant to this paragraph; the County may deduct such fees and costs from any portion of the Contract Sum then or thereafter due the Contractor. In the event that additional or revised Submittals are required pursuant to this paragraph, such requirement shall not result in an increase to the Contract Time or the Contract Sum.

### **5.2 Subcontractor Relations**

**5.2.1 Agreements.** By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward

the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by Contract Documents, assumes toward the County. Each such agreement shall preserve and protect the rights of the County under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the County. The Contractor shall require each Subcontractor to enter into similar agreements with their Sub-subcontractors. The Contractor shall make available to each Subcontractor, prior to the execution of the agreement, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph. At a minimum, each agreement shall:

- (1) Require that the Work being performed pursuant to such agreement, as the case may be, be performed in accordance with the requirements and intent of the Contract Documents and provide no less than five percent (5%) retainage unless otherwise indicated in Agreement between the County and Contractor;
- (2) Require submissions of Applications for Payment in the form required by the Contract Documents, together with invoices and billings supporting such applications and conditional and unconditional lien releases in the form required by the Contract Documents completed by it and by its Sub-Subcontractors as a condition to the disbursement of any progress payment next due and owing to it;
- (3) Require the Subcontractor, Sub-Subcontractor or supplier, as the case may be, to maintain insurance coverage as provided in the Contract Documents and to file required certificates of such coverage and additional insured endorsements with County, and, upon County's request, to provide copies of such insurance policies to County.
- (4) Require each Subcontractor, Sub-Subcontractor, and supplier to furnish to Contractor or the applicable Subcontractor, as the case may be, in a timely fashion all information necessary for transmittal of Submittals and the reports required herein;
- (5) Require that each Subcontractor and supplier continue to perform under its subcontract if the Contract is terminated and if County takes an assignment of the subcontract or supply agreement and requests the Subcontractor or supplier to continue such performance;
- (6) Require each Subcontractor, Sub-Subcontractor, and supplier to remove all debris created by its activities;
- (7) Provide that in the event that County accepts the conditional assignment of the subcontract, County shall only be responsible to the Subcontractor

for those obligations that accrue subsequent to County's acceptance of the assignment;

- (8) Require the Subcontractor to resolve all disputes involving County according to the dispute resolution procedure established in Paragraph 4.4 herein;
- (9) Contractor shall cause each subcontract to expressly include the following requirement:

"The County and entities and agencies designated by the County shall have access to and the right to audit and the right to copy at the County's cost all of Subcontractor's and supplier's books, records, contracts, correspondence, instructions, Drawings, receipts, vouchers, purchase orders, and memoranda relating to the Work. Subcontractor shall preserve all such records and other items for a period of at least five (5) years after Final Completion." and

- (10) Require the Subcontractor engaged upon the Site to arrange the storage of materials and equipment and performance of his Work so as to interfere as little as possible with other persons engaged in Work for the County upon the same Site.

**5.2.2 Precedence.** If any provision of any Subcontractor supply agreement is inconsistent with any provision of the Contract Documents or the intent of the Contract Documents, then the Contract Documents shall control.

**5.2.3 Payments.** Contractor shall make payment to Subcontractor within seven (7) days of receipt of each progress payment, in accordance with Public Contract Code Section 10262 and Business and Professions Code Section 7108.5. County hereby reserves the right, upon written notice to Contractor, to make, at any time, and from time-to-time, payments directly to each Subcontractor, and, if such rights shall be exercised by County, then such amount shall be credited against the Contract Sum due to Contractor hereunder and County shall be relieved and released from the obligation to make such payment to Contractor and Contractor shall be relieved and released as to County from the obligation to make such payments to each Subcontractor paid by County, but not from any of the other obligations and responsibilities of Contractor to County under the Contract Documents.

**5.2.4 Contractor Responsibility.** The Contractor shall be responsible for all acts and omissions of Subcontractors and for all Contract Work regardless of any subcontracts. All interest of the County in the Subcontractor's work shall be coordinated through the Contractor.

### **5.3 Contingent Assignment of Subcontractor and Material Supply Agreements**

Each Subcontractor and supplier agreement for a portion of the Work is assigned by the Contractor to the County provided that:

- (1) Assignment is effective only after termination of the Contract by the County only for those subcontracts which the County accepts by notifying the Subcontractor or supplier, and Contractor in writing;
- (2) Assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract; and
- (3) Upon exercise of this right of assignment, County has the right to reassign the agreement.

## **6 CONSTRUCTION BY COUNTY OR BY SEPARATE CONTRACTORS**

### **6.1 County's Right to Perform Construction and to Award Separate Contracts**

**6.1.1 County's Right to Perform.** The County reserves the right to perform construction or operations related to the Project with the County's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the Site. If the Contractor claims that delay or additional cost is involved because of such action by the County, the Contractor shall make such Claim as provided in Paragraph 4.3 herein.

#### **6.1.2 Reserved.**

**6.1.3 Coordination.** The County shall provide for coordination of the activities of the County's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other Separate Contractors and the County in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the Construction Schedule deemed necessary after a joint review and mutual agreement. Upon County's written approval, the revised Construction Schedule shall then constitute the schedule to be used by the Contractor, Separate Contractors, and the County until subsequently revised and approved by County.

**6.1.4 Cooperation.** Each Contractor or Subcontractor engaged upon the Site shall arrange the storage of materials and equipment and performance of his work so as to interfere as little as possible with other persons engaged in work for the County upon the same Site.

### **6.2 County's Right to Clean Up**

If a dispute arises among the Contractor, Separate Contractors, and the County as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the County may clean up and allocate the cost among those responsible.

### **6.3 Independent Testing**

**6.3.1 County Testing.** The County will employ and pay for services of an independent testing laboratory to perform services specifically required by the governing code authority, as detailed in the Specification, and as additionally requested by County.

**6.3.2 Contractor Duties.** The Contractor shall:

- (1) Notify the County and the testing laboratory sufficiently in advance of the required test to allow for its assignment of personnel and scheduling of tests;
- (2) Cooperate with testing and inspection personnel provide access to the Work and to offsite fabrication facilities;
- (3) Furnish copies and records of mill test reports;
- (4) Employ and pay for services of the same independent testing laboratory to perform additional inspections, sampling, and testing required when initial tests indicate Work does not comply with Contract requirements;
- (5) Be responsible for all scheduling of inspections and tests; and
- (6) Not proceed with Work requiring inspection if the appropriate inspector is absent.

**6.3.3 Material testing.** All material testing which conforms to or meets specified standards in the following categories shall be paid for by the County. Material tests in the following categories which fail to meet specified standard shall be paid for by the Contractor:

- (1) Soil density tests
- (2) Concrete compression tests
- (3) Grout compression tests
- (4) Mortar compression tests
- (5) Testing of masonry units
- (6) Testing of reinforcing steel
- (7) Structural steel
- (8) Anchors and fasteners

Unless stated otherwise in the Contract Documents, any other required or specified tests shall be paid by the Contractor and shall be performed by a qualified testing laboratory approved by the County.

## **7 CHANGES IN THE WORK**

### **7.1 General**

**7.1.1 County's Right to Order Changes.** The County, without invalidating the Contract, may authorize changes in the Work consisting of additions, deletions, or other revisions, with the Contract Sum and Contract Time being adjusted accordingly, if necessary. All such changes in the Work shall be authorized by Change Order, Construction Change Directive, or Written Amendment to Contract, and Contractor shall perform such changes in the Work according to the applicable requirements of the Contract Documents. The County is not required to provide notice to Contractor's



sureties of Change Orders, Contract Change Directives or Written Amendment to Contract.

**7.1.2 Basis for Agreement.** A Change Order or Written Amendment to Contract shall be based upon agreement between the County and Contractor. A Construction Change Directive may or may not be agreed to by the Contractor.

**7.1.3 No Estoppel.** Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with the change, unless otherwise provided in the Change Order, Construction Change Directive, or Written Amendment to Contract. A change in the Contract Sum or the Contract Time shall be accomplished only by Change Order, Construction Change Directive, or Written Amendment to Contract. Accordingly, no course of conduct or dealings between the Parties, nor express or implied acceptance of alterations or additions to the Work and no Claim that the Contract has been abandoned or the County has been unjustly enriched by any alteration or addition to the Work shall be the basis of any Claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.

**7.1.4 Change in Work.** The County may at any time make any change, modification or addition to the Work by written Change Order, Construction Change Directive, or Written Amendment to Contract, including but not limited to changes:

- (1) in the Specifications or Drawings;
- (2) in the sequence, method or manner of performance of the Work;
- (3) in the County furnished facilities, equipment, materials, services or Site; or
- (4) directing acceleration in the performance of the Work.

## **7.2 Change Orders**

**7.2.1 Computation.** Methods used in determining adjustments to the Contract Sum by Change Order or Written Amendment to Contract may include those listed in Paragraph 7.4 below.

**7.2.2 Accord and Satisfaction.** Agreement on any Change Order or Written Amendment to Contract shall be a full compromise and settlement of all adjustments to Contract Time and Contract Sum, and compensation for any and all delay, extended or additional field and home office overhead, disruption, acceleration, inefficiencies, lost labor or equipment productivity, differing site conditions, construction interferences and other extraordinary or consequential damages (hereinafter called "Impacts"), including any ripple or cumulative effect of said Impacts on the overall Work under the Contract arising directly or indirectly from the performance of Work described in the Change Order or Written Amendment to Contract. By execution of any Change Order or Written Amendment to Contract, Contractor agrees that the Change Order or Written Amendment to Contract constitutes a complete accord and satisfaction with respect to

all claims for schedule extension, Impacts, or any costs of whatsoever nature, character or kind arising out of or incidental to the Change Order or Written Amendment to Contract. No action, conduct, omission, product failure or course of dealing by the County shall act to waive, modify, change, or alter the requirement that (i) Change Orders, Construction Change Directive, or Written Amendment to Contract must be in writing, signed by the County and Contractor and; (ii) that such written Change Orders, Construction Change Directives, or Written Amendment to Contract are the exclusive method for effectuating any change to the Contract Sum and/or Contract Time.

### **7.3 Construction Change Directives**

**7.3.1 Use.** A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

**7.3.2 Duty to Proceed.** Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the Work involved and advise the County of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

**7.3.3 Disagreement.** If the Contractor does not promptly indicate its disagreement with the method of pricing provided in the Construction Change Directive, Contractor shall be deemed to agree with the method of pricing the change. If the Contractor indicates its disagreement with the method of pricing or if no method of pricing is provided in the Construction Change Directive, the increase in cost or credit to the Contract Sum for the change shall be determined by cost in accordance with Subparagraph 7.4.1(3) and the provisions of Subparagraphs 7.4.2, 7.4.3 and 7.4.4 shall apply to the change.

**7.3.4 Agreement.** A Construction Change Directive is effective immediately whether or not it is signed by the Contractor. If the Contractor signs a Construction Change Directive such agreement shall be effective immediately and shall be recorded as a Change Order.

### **7.4 Computation of Cost or Credit for Changes**

**7.4.1 Cost or Credit.** The cost or credit to the County resulting from a change in the Work shall be determined by County by one or more of the following methods:

- (1) Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- (2) Unit prices stated in the Contract Documents or subsequently agreed upon;
- (3) By cost, as defined in (a), (b), (c) and (d) below, properly itemized and supported by sufficient substantiating data to permit evaluation, plus agreed to markup for overhead and profit as defined in (e) below. Such



costs shall be itemized by craft directly allocable to the change in the Work:

- (a) Cost of materials, including cost of transportation and delivery;
- (b) Cost of labor, including social security, and unemployment insurance, and fringe benefits required by agreement and Workers' Compensation insurance;
- (c) Rental value of equipment and machinery, exclusive of hand tools;
- (d) Sales tax; insurance; permit costs and bond premiums;
- (e) Mark-up to Contractor, Subcontractors, and Sub-subcontractor for overhead, profit and other expenses which are not specifically included in (a) through (d) above shall not exceed the following amounts:
  - (i) Fifteen (15%) of the cost of that portion of the Extra Work to be performed by the Contractor with its own forces.
  - (ii) Fifteen percent (15%) of the cost of that portion of the Work to be performed by a Subcontractor or Sub-subcontractor with its own forces, plus 5% for the Contractor. Total combined Contractor, Subcontractor, and Sub-subcontractor fee shall not exceed 20%.
- (f) Cost of Extra Work shall not include any of the following:
  - (i) Superintendent(s)
  - (ii) Assistant Superintendent(s)
  - (iii) Project Engineer(s)
  - (iv) Project Manager(s)
  - (v) Scheduler(s)
  - (vi) Estimator(s)
  - (vii) Incidental Drafting or Detailing
  - (viii) Small tools (Replacement value does not exceed \$300)
  - (ix) Office expenses including staff, materials and supplies
  - (x) On-Site or off-site trailer and storage rental and expenses

- (xi) Site fencing
- (xii) Utilities including gas, electric, sewer, water, telephone, facsimile, copier equipment
- (xiii) Data processing personnel and equipment
- (xiv) Federal, state, or local business income and franchise taxes
- (xv) Overhead and Profit beyond that authorized by Section 7.4.1(3)(e)

**7.4.2 Credits.** The amount of credit to be allowed by the Contractor to the County for a deletion or change, which results in a net decrease in the Contract Sum, shall be actual net cost as determined herein. The amount of deduct/credit for liquidated damages shall be in accordance with the Agreement. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase/decrease, if any, with respect to that change.

**7.4.3 Contractor Maintenance of Records.** In the event that Contractor is directed to perform any changes to the Work, or should Contractor encounter conditions which the Contractor believes would obligate the County to adjust the Contract Sum and/or the Contract Time, Contractor shall maintain detailed records of the cost of such changes on a daily basis. Such records shall include without limitation hourly records for labor and construction equipment and itemized records of materials and equipment used each day in connection with the performance of any change to the Work. In the event that more than one change to the Work is performed by the Contractor in a Working Day, Contractor shall maintain separate records of labor, construction equipment, materials, and equipment for each such change. In the event that any Subcontractor or Sub-subcontractor, of any tier, shall provide or perform any portion of any change to the Work, Contractor shall require that each such Subcontractor and Sub-subcontractor maintain records in accordance with this Article. Each daily record maintained hereunder shall be signed by Contractor's Project Representative; such signature shall be deemed Contractor's representation and warranty that all information contained therein is true, accurate, complete, and relates only to the change referenced therein. All records maintained by a Subcontractor and Sub-subcontractor, of any tier, relating to the costs of a change in the Work shall be signed by such Subcontractor's authorized Project Manager or Superintendent. Such records shall be forwarded to County's Project Manager on the day the Work is performed (same day) for independent verification. In the event that Contractor shall fail or refuse, for any reason, to maintain or make available for inspection, review, and/or reproduction such records, adjustments to the Contract Sum or Contract Time, if any, on account of any change to the Work shall be determined by County which shall be binding upon Contractor. Contractor's obligation to maintain records hereunder is in addition to, and not in lieu of, any other

Contractor obligation under the Contract Documents with respect to changes to the Work.

**7.4.4 Payment of Undisputed Amounts.** Pending final determination of the total cost of a Change, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by an approved Change Order, Construction Change Directive or Written Amendment to Contract, indicating the Parties' agreement with part or all of such costs.

## **7.5 Authority to Approve Changes**

**7.5.1 County's Project Manager's Authority.** The County's Project Manager must authorize any change in the Work. Such changes shall be effected by written order approved by the Director or County Board of Supervisors and shall be binding on the Contractor.

**7.5.2 Verbal Changes.** Any oral order, direction, instruction, interpretation, or determination from the County (collectively "Verbal Change") which, in the opinion of the Contractor, causes a Scope Change in the Work, or otherwise requires an adjustment to the Contract Sum or the Contract Time, shall be treated as a Change Order Request only if the Contractor gives the County written notice within ten (10) calendar days of the Verbal Change and prior to acting in accordance therewith. Time is of the essence in Contractor's written notice pursuant to the preceding sentence, so that the County can promptly investigate and consider alternative measures to address the Verbal Change giving rise to Contractor's notice. Accordingly, Contractor acknowledges that its failure, for any reason, to give written notice within ten (10) calendar days of such Verbal Change shall be deemed Contractor's waiver of any right to assert or Claim any entitlement to an adjustment of the Contract Time or the Contract Sum on account of such Verbal Change. The written notice shall state the date, circumstances, extent of adjustment to the Contract Sum or the Contract Time, if any, requested and the source of the Verbal Change. Any such Verbal Change shall not be treated as a change and the Contractor hereby waives any Claim for any adjustment to the Contract Sum or the Contract Time on account thereof.

**7.5.3 Unauthorized Work.** Any Work performed by the Contractor not indicated on the Contract Documents or any changes in the Work performed or provided by the Contractor without notice to the County and written approval by County, shall be considered unauthorized by the County and performed at the sole expense of the Contractor. Unauthorized work so performed will not be measured or paid for and no extension of Contract Time will be granted on account thereof. Any such unauthorized work may be ordered removed at the Contractor's sole cost and expense. The failure of the County to direct or order removal of such unauthorized work shall not constitute acceptance or approval of such work nor relieve the Contractor from any liability on account thereof.

## **7.6 County Originated Proposal Request**

County may issue a request, in writing, to Contractor, describing a proposed change to the Work and requesting the Contractor submit an itemized proposal in a format acceptable to County within ten (10) calendar days after County issues the request. The Contractor's proposal shall include an analysis of impacts to Contract Sum and Contract Time, if any, to perform additional work, or delete Work, as applicable, including the effects and impacts, if any, on unchanged Work, estimates of costs (broken down by the cost categories listed in the Agreement and/or Paragraph 7.4 herein), and Contractor's proposed methods to minimize costs, delay, and disruption to the performance of the Work. If Contractor fails to submit a written proposal within such period of time, it shall be presumed that the change described in the County's original proposal request will not result in an increase to the Contract Sum or Contract Time and the change shall be performed by Contractor without additional compensation. County's proposal request does not authorize the Contractor to commence performance of the change, unless otherwise specified in writing. If County desires that the proposed change be performed, the Work shall be authorized according to the Change Order or Construction Change Directive procedures set forth above.

## **7.7 Contractor Originated Change Order Request (COR)**

If the Contractor alleges that instructions issued by the County after the effective date of the Contract may result in changes to the Contract Sum or Contract Time or if the Contractor otherwise becomes aware of the need for or desirability of a change in the Work, Contractor may submit a written Change Order Request ("COR") to the County in writing, in a format acceptable to County and in accordance with the notice provisions and other requirements of Paragraph 4.3 above for Claims. The COR must specify the reasons for the proposed change, cost impacts and relevant circumstances and impacts on the Construction Schedule. The document shall be complete in its description of the Work, its material and labor quantities and detail, and must support and justify the Costs and credits claimed by the Contractor. A CPM schedule fragnet is required to support and justify any additional Contract Time of performance requested by the Contractor. The County will not review any COR which is incomplete. The Contractor may request additional compensation and/or time through a COR but not for instances that occurred more than ten (10) calendar days prior to the notice date. Contractor's failure to initiate a COR within this ten-day period or to provide detailed back-up documentation to substantiate the COR within thirty (30) calendar days of the initial written notice shall be deemed a waiver of the right to adjustment of the Contract Sum or the Contract Time for the alleged change. Any COR that is approved by the County will be incorporated in a Change Order, Construction Change Directive or Written Amendment to Contract. If the COR is denied by the County, the Contractor shall not proceed with the Work described in the COR.

## **7.8 Audit Rights**

With respect to any Change Order, Construction Change Directive or Written Amendment to Contract resulting in an increase in the Contract Sum, the Contractor shall afford (and shall require its Subcontractors to afford) access to the County at all reasonable times to any books, correspondence, instructions, receipts, vouchers, memoranda and records of any kind relating thereto, all of which shall be maintained by the appropriate parties for a period of at least five

(5) years from and after the date the County makes payment on account of such Change Order, Construction Change Directive or Written Amendment to Contract. The Contractor authorizes the County (and shall requires its Subcontractors to authorize the County) to check directly with any suppliers of labor and material with respect to any item chargeable to the County, to confirm balances due and to obtain sworn statements and waiver of liens, all if the County so elects.

## **8 SCHEDULE AND EXTENSIONS OF TIME**

### **8.1 Definitions**

**8.1.1 Contract Time.** The Contract Time is the period of time allocated in the Contract Documents from the date of commencement provided in County's Notice to Proceed for Final Completion of the Work.

**8.1.2 Commencement.** The Date of Commencement of the Work is the date provided in County's Notice to Proceed.

**8.1.3 Substantial Completion.** The date of Substantial Completion is the date determined by County and certified by the County in accordance with Paragraph 9.6 below and the terms of this Agreement.

### **8.2 Progress and Completion**

**8.2.1 Time is of the Essence.** Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement and any Modifications relating to Substantial Completion or Contract Time the Contractor agrees and confirms that the Contract Time is a reasonable period for performing the Work and that Contractor is able to complete the Work by that date.

**8.2.2 Commencement.** The Contractor shall not knowingly prematurely commence operations on the Site or elsewhere prior to the effective date of insurance and bonds required to be furnished by the Contractor to County as specified in the Agreement. The Date of Commencement of the Work shall not be changed by the effective date of such insurance and bonds.

**8.2.3 Completion.** The Contractor shall proceed expeditiously with adequate labor and supervision to achieve Final Completion within the Contract Time.

**8.2.4 Notice to Proceed.** The Contractor shall commence the Work required by this Contract within ten (10) calendar days of the date specified in the notice from the County to proceed with the Work.

**8.2.5 Expeditious Work.** Contractor shall proceed expeditiously with adequate forces and shall complete the Work by the date specified in the Contract Documents. If Contractor is not diligently proceeding with the prosecution of the Work as scheduled, Contractor shall, immediately and at no additional cost to the County, take measures



necessary, including working such overtime, and additional shifts as may be required to correct such delays.

### **8.3 Contractor's Schedules**

**8.3.1 Project Schedule.** Unless otherwise provided in the Agreement or Technical Specifications, within fourteen (14) calendar days after the Date of Commencement, Contractor shall submit a baseline Project Schedule for the Work for comment and approval by County. The baseline Project Schedule shall include, but not be limited to:

- (1) A CPM format that incorporates all activities with descriptions, sequence, logic relationships, duration estimates, resource-loading, and other information required for all pre-construction and construction activities.
- (2) Activities to be integrated and shown in the CPM network shall include all milestones representing the Contractor's submittal dates and activities representing the County's review period of each submittal (which review period shall in no case be scheduled for less than 15 working days); Contractor's procurement of materials and equipment; submittals; manufacture and/or fabrication, testing and delivery to the jobsite of special material and major equipment; equipment installation and preliminary, final and performance testing of equipment or systems.
- (3) Activities showing the start and finish dates for all temporary works; all construction of mock-ups, and prototypes and/or samples.
- (4) Activities showing start and finish dates of owner-furnished items and interface requirements dates with other contractors; regulatory agency approvals; and permits required for the performance of the work.
- (5) Activities showing start and finish of tenant programming (as appropriate), modular furniture, tenant improvement work and phased occupancy.
- (6) Close-out activities.
- (7) The schedule shall consider all foreseeable factors or risks affecting or which may affect the performance of the work, including historical and predicted weather conditions, Applicable Laws, regulations or collective bargaining agreements pertaining to labor, transportation, traffic, air quality, noise and any other applicable regulatory requirements.
- (8) The Contractor shall attach a narrative report which explains assumptions used for activity durations, its assumptions regarding crew sizes, equipment requirements and production rates, any potential areas of concern or specific areas requiring coordination it may have identified and any long-lead time materials or equipment.
- (9) Time units for all schedules shall be in Working Days.



Upon the County's approval, the Project Schedule shall be deemed to be a Contract Document. Any revisions or updates to the Project Schedule are subject to review and approval by County.

**8.3.1.1** The County's review of the form and general content of the baseline Project Schedule is for the purpose of determining, in its judgment, whether the following requirements are satisfied:

- (1)** Schedules are suitable for monitoring progress of the Work;
- (2)** Schedules provide necessary data about the timing of the County's decisions on the County furnished items, including furniture, equipment and occupancy;
- (3)** Schedules are in sufficient detail to demonstrate adequate planning for the Work; and
- (4)** Schedules represent a practical plan to complete the Work within the Contract Time.

**8.3.1.2** Contractor shall plan, develop, supervise, control, and coordinate the performance of the Work so that the progress and the sequence and timing of Work activities conform to the current accepted Project Schedule. Contractor shall continuously obtain from Subcontractors information and dates about the planning for and progress of the Work, the ordering and fabrication of materials, required Submittals, and the delivery of equipment, shall coordinate and integrate such information and data into updated Project Schedules and "As-Built" Drawings and specifications, and shall monitor the progress of the Work and the delivery of equipment. Contractor shall act as the expeditor of potential and actual delays, interruptions, hindrances, or disruptions for its own forces and those forces of Subcontractors, regardless of tier. Contractor shall cooperate with the County in the development of the Project Schedule and updated Project Schedules.

**8.3.1.3** The County's acceptance of or its review comments about any Project Schedule or scheduling data shall not relieve Contractor from its sole responsibility to plan for, perform, and complete the Work by the Contract Time. Acceptance of or review comments about any Project Schedule shall not transfer responsibility for any Project Schedule to the County nor imply their agreement with (1) any assumption upon which such schedule is based on or (2) any matter underlying or contained in such schedule.

**8.3.1.4** Failure of the County to discover errors or omissions in schedules that it has reviewed, or to inform Contractor that Contractor, Subcontractors, or others are behind schedule, or to direct or enforce procedures for complying with the Project Schedule shall not relieve Contractor from its sole responsibility to perform and complete the Work by the Contract Time and shall not be a cause for an adjustment of Contract Time or the Contract Sum.

**8.3.2 Format.** Unless otherwise provided in the Agreement or Technical Specifications, the Project Schedule shall be in a detailed precedence CPM or Microsoft type format satisfactory to the County, which shall also: (i) provide a graphic representation of all activities and events that will occur during performance of the Work; (ii) identify each phase of construction and maintenance; and (iii) set forth dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents (hereinafter referred to as Milestone Dates). At a minimum the Project Schedule shall depict the schedule for Work on a discipline by discipline and trade by trade basis and tasks within each discipline and trade. The Project Schedule shall include: (i) proposed activity sequences and durations; (ii) Milestone Dates for receipt and approval of pertinent information, including County-supplied information and approvals by public authorities having jurisdiction over the Project; (iii) dates for preparation and processing of Shop Drawings, Product Data, and Samples; (iv) dates for delivery of materials or equipment requiring long-lead time procurement; (v) County's occupancy/use requirements showing portions of the Project having occupancy priority; (vi) the estimated date of Substantial Completion and Final Completion; and (vii) other information reasonably required by County. Upon review and acceptance by the County of the baseline Project Schedule, the baseline Project Schedule shall be deemed part of the Contract Documents. If not accepted, the baseline Project Schedule shall be promptly revised by the Contractor in accordance with the recommendations of the County and re-submitted for acceptance.

**8.3.3 Updates.** With each Application for Payment submitted by Contractor (other than the Final Application for Payment), the Contractor shall submit to the County an updated Project Schedule revised to include, at a minimum:

**8.3.3.1** Monthly update/status of electronic database shall include recording of all Actual Start Dates and Actual Finish Dates and status of activities in progress.

**8.3.3.2** Review of "planned" versus "actual" work force allocations and progress for the preceding month.

**8.3.3.3** Reviews of revisions, added or deleted work and how those activities are being integrated into the Contractor's work plan.

**8.3.3.4** Review of the Contractor's interface and coordination with other work on the Project.

**8.3.3.5** Review of all impacts to the Work during the preceding month and to date, Contractor evaluation of those impacts and any recovery plans or remedial actions required to comply with the contract schedule.

If the Contractor does not submit an updated Project Schedule with an Application for Payment, County may withhold payment, in whole or in part. In the event any update to the Project Schedule indicates any delays to the Contract Time that are the fault of Contractor or others for whom Contractor is responsible, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if

necessary. In no event shall any Project Schedule Update constitute an adjustment in the Contract Time, any deadline, or the Contract Sum unless any such adjustment is agreed to by the County and authorized pursuant to Change Order, Construction Change Directive, or Written Amendment to Contract.

**8.3.4 Extraordinary Measures.** In the event the County determines that the performance of the Work has not progressed or reached the level of completion required by the Contract Documents, the County shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction, including, without limitation, the Extraordinary Measures as provided in Paragraph 2.8 herein.

**8.3.5 Early Completion.** While the Contractor may schedule completion of the Project earlier than the date established by the Contract Documents, no additional compensation shall become due the Contractor for the use of float time between the Contractor's projected early completion date and the date for Final Completion established by the Contract Documents except any bonus or penalty provisions set forth in the Contract Documents, which would take precedence over and supersede this Paragraph.

**8.3.6 Schedule of Submittals.** Unless otherwise provided in the Agreement or Technical Specifications, within ten (10) calendar days after the Date of Commencement, the Contractor shall prepare and keep current, for the County's review and approval, a Schedule of Submittals for Shop Drawings, Product Data, Samples, and similar submittals, coordinated with the baseline Project Schedule and allowing the County reasonable time to review. Contractor shall be solely responsible for any delay, disruption, impact, loss of efficiency or other loss, arising directly or indirectly from Contractor's failure to manage submittals properly.

**8.3.7 Procurement Schedule.** Unless otherwise provided in the Agreement or Technical Specifications, within ten (10) calendar days after the Date of Commencement, Contractor shall prepare and keep current, for County's approval, a schedule for procurement of materials and equipment which is coordinated with the baseline Project Schedule and allows the County reasonable time to review. Contractor is solely responsible for any delay, disruption, impact, loss of efficiency, or other loss arising directly or indirectly from Contractor's failure to properly manage procurement of equipment and materials.

**8.3.8 Performance.** The Contractor shall perform the Work in accordance with the most recent Project Schedule and Schedule of Submittals approved by the County. The Contractor shall monitor the progress of the Work for conformance with the requirements of the Project Schedule and shall promptly advise the County of any delays or potential delays.

## **8.4 Delays and Extensions of Time**

**8.4.1 Non-Compensable Force Majeure Events.**

**8.4.1.1 Definition.** "Force Majeure" shall mean any of the following events, which materially and adversely affect Contractor's obligations hereunder and which event could not have been avoided or prevented by due diligence and use of reasonable efforts by Contractor: earthquake, fire, flood, epidemic, blockade, rebellion, war, terrorism, riot, act of sabotage, or civil commotion; discovery of any archaeological, paleontological or cultural resources; spill of hazardous substances by a third party at or near the Site which is required to be reported to the Federal or California Environmental Protection Agency, Toxic Substances Control; or discovery at, near, or on the Site of any species listed as "threatened" or "endangered" under the Federal or California Endangered Species Act.

**8.4.1.2 Remedies.** If the critical path of the Work is delayed by Force Majeure events, provided that the aforesaid causes were not foreseeable and did not result from the acts of the Contractor, and provided further that the Contractor has taken reasonable precautions to prevent further delays owing to such causes, then the Contractor may pursue remedies for adjustment of the Contract Time in accordance with Paragraph 4.3 above. Unless the Force Majeure event damages the Work at the Project Site, Contractor will not be entitled to an adjustment in the Contract Sum.

**8.4.1.3 Rain Days/Inclement Weather.** For purposes of granting time extensions pursuant to this subparagraph and in accordance with the Claims procedures set forth in Paragraph 4.3 herein, resulting from unworkable days due to rain/inclement weather which were not reasonably foreseeable, the Contractor and County agree that the impact of rainfall/inclement weather for which the Contractor is not entitled to a time extension is a total of ten (10) Work Days per year ("Rain Days"). The Contractor shall account for the above number of Work Days for which the effects of rainfall/inclement weather are expected to prevent Work in the Project Schedule as set forth in Subparagraph 8.3 herein and shall obtain County's approval of Contractor's use of each Rain Day before requesting extension of the Contract Time.

**8.4.2 Compensable County-Caused Delays.** If the date for Final Completion of the Work is delayed as a result of the wrongful acts or negligence of the County or anyone for whom County is legally liable and the delays are unforeseeable and are unreasonable under the circumstances involved, the Contractor shall be entitled to an equitable adjustment of the Contract Time and/or compensation for reasonable additional costs directly resulting from such delays, but not for any additional home office overhead, profit or fee, subject to the requirements of Article 8 herein, and further provided Contractor complies with the notice and procedural requirements of Articles 4 and 7 herein.

**8.4.3 Concurrent Delays.** To the extent the Contractor is entitled to an extension of Contract Time due to an excusable delay, but the performance of the critical path of the Work would have been otherwise suspended, delayed, or interrupted by the fault or neglect of the Contractor or by an inexcusable delay, the Contractor shall not be entitled to any additional cost during the period of such concurrent delay.

**8.4.4 Float.** Critical Work activities are defined as Work activities which, if delayed or extended, will delay the scheduled completion of the milestones and/or time of completion. All other Work activities are defined as non-critical Work activities and are considered to have float. Float is defined as the time that a non-critical Work activity can be delayed or extended without delaying the scheduled completion of the milestones and/or time of completion. Float is considered a Project resource available to either party or both parties as needed. Once identified, Contractor shall monitor, account for, and maintain float in accordance with Critical Path Methodology.

Delays of any non-critical Work shall not be the basis for an extension of Contract Time until the delays consume all float associated with that non-critical Work activity and cause the Work activity to become critical.

It is acknowledged that County-caused time savings (i.e., critical path submittal reviews returned in less time than allowed by the Contract Documents, approval of substitution requests which result in a savings of time for Contractor, etc.) create shared float. Accordingly, County-caused delays may be offset by County-caused time savings.

**8.4.5 Shortage of Material.** An extension of time will not be granted by the County for a delay caused by a shortage of materials, except County-furnished materials, unless the Contractor furnishes to the County documented proof that the Contractor has made every effort to obtain such materials from every known source within reasonable reach of the Work. The Contractor shall also submit proof, in the form of network analysis data that the inability to obtain such materials when originally planned did, in fact, cause a delay in Final Completion of the Work which could not be compensated for by revising the sequence of operations. County will consider only the physical shortage of material as a cause for extension of time. The County will not consider any claim that material could not be obtained at a reasonable, practical, or economical cost, unless it is shown to the satisfaction of the County that such material could have been obtained only at exorbitant prices, entirely inconsistent with current rates taking into account the quantities involved and the usual practices in obtaining such quantities and that such fact could not have been known or anticipated at the time the Contract was entered into.

**8.4.6 Utility and Agency Delays.** Contractor is aware that governmental agencies, gas companies, electrical utility companies, water districts, and other utilities and agencies may be required to approve a proposed installation. Contractor has endeavored and will continue to use its best efforts to include the cost of such anticipated delays and related costs which may be caused by such utilities and agencies in the Contract Sum. Thus, Contractor is not entitled to make claim upon the County for damages or delays arising from the delays caused by such utilities and agencies. Furthermore, the Contractor has included time periods for such governmental approval in the Project Schedule and is not entitled to an extension of time for delays caused by governmental agencies from which Contractor must obtain approvals.

**8.4.7 Contractor Fault.** No extension of time will be granted under this Article 8 for any delay to the extent: (i) that performance was so delayed by any Contractor induced causes, including but not limited to the fault or negligence of the Contractor or its



Subcontractors; or (ii) for which any remedies are provided for or excluded by any other provision of the Contract.

**8.4.8 Contract Modification.** A Change Order, Construction Change Directive, or Written Amendment to Contract will be issued by the County to the Contractor within a reasonable period of time after approval of a request for extension of time, specifying the number of days allowed, if any, and the new date or number of Working Days after the date of commencement for completion of the Work or specified portions of the Work.

**8.4.9 No Release of Surety.** An extension of time granted shall not release the Contractor's surety from its obligations. Work shall continue and be carried on in accordance with all the provisions of the Contract and said Contract shall be and shall remain in full force and effect during the continuance and until the completion and Final Acceptance of the Work covered by the Contract unless formally suspended or annulled in accordance with the terms of the Contract.

**8.4.10 No Waiver.** Neither the grant of an extension of time beyond the date fixed for Final Completion of the Work, nor the performance and acceptance of any part of the Work or materials specified by the Contract after the time specified for Final Completion of the Work, shall be deemed to be a grant of any future extensions, a waiver by the County of the County's right to abrogate this Contract for abandonment or failure to complete within the time specified, or to impose and deduct damages as may be provided in the Contract Documents.

## **8.5 Liquidated Damages**

**8.5.1** County and Contractor recognize that time is of the essence in this Agreement and that the County may suffer financial loss in the form of lost grant funds, additional contract administration expenses, and loss of public use if the Work is not completed within the Contract Time, including any extensions thereof allowed in accordance with the Contract Documents.

**8.5.2** Contractor and County agree to liquidate damages with respect to Contractor's failure to achieve Final Completion of the Work within the Contract Time. Contractor and County also agree to liquidated damages with respect to Contractor's failure to achieve completion of each of the Project Milestones within the specified Working Days from the Notice To Proceed. The Parties intend for the liquidated damages set forth herein to apply to this Contract as set forth in Government Code Section 53069.85. Contractor acknowledges and agrees that the liquidated damages are intended to compensate County solely for Contractor's failure to meet the deadline for Final Completion and shall not excuse Contractor from liability from any other breach, including any failure of the Work to conform to the requirements of the Contract Documents.

**8.5.3** In the event that Contractor fails to achieve Final Completion of the Work within the Contract Time, Contractor agrees to pay County the amount per day designated in the Contract and/or Special Conditions for liquidated damages for each Working Day that Final Completion is delayed. In addition, in the event the Contractor fails to achieve



completion of the Project Milestones within the specified Working Days from the Notice To Proceed for each Project Milestone, the Contractor agrees to pay the County the amount designated in the Contract for liquidated damages for each Working Day that each Project Milestone is delayed.

**8.5.4** Contractor acknowledges and agrees that the foregoing liquidated damages have been set based on an evaluation by County of damages that it will incur in the event of the late completion of the Work. Contractor and County agree that because of the nature of the Project it would be impractical or extremely difficult to fix the amount of actual damages incurred by the County due to a delay in completion of the Work. Accordingly, the County and Contractor have agreed to such liquidated damages to fix Contractor's costs and to avoid later disputes. It is understood and agreed by Contractor that any liquidated damages payable pursuant to this Agreement are not a penalty and that such amounts are not manifestly unreasonable under the circumstances existing as of the effective date of this Agreement.

**8.5.5** It is further mutually agreed that County shall have the right to deduct liquidated damages against progress payments or retainage and that the County will issue a unilateral Construction Change Directive and reduce the Contract Sum accordingly. In the event the remaining unpaid Contract Sum is insufficient to cover the full amount of liquidated damages, Contractor shall pay the difference to County.

## **9 PAYMENTS AND COMPLETION**

### **9.1 Contract Sum**

The Contract Sum, including authorized adjustments, is the total maximum amount payable by the County to the Contractor for performance of the Work under the Contract Documents.

### **9.2 Schedule of Values**

Within fourteen (14) calendar days after the Date of Commencement, Contractor shall submit to the County a Schedule of Values allocated to various portions of the Work. The Schedule of Values shall be approved by the County in writing. The Schedule of Values shall be prepared in such a manner that each major item of Work assigned to Contractor and to each separate Subcontractor is shown as a single line item on AIA Document G703 (or other form as required by County) and supported by such data to substantiate its accuracy as the County may require. The approved Schedule of Values shall be used as a basis for reviewing the Contractor's Applications for Payment.

### **9.3 Applications for Payment**

**9.3.1 Applications for Payment.** The Contractor shall submit to the County an itemized Application for Payment, utilizing a form approved in writing by the County, for operations completed in accordance with the Schedule of Values and the payment provisions of the Agreement. Such Application shall be notarized, if required by County, and supported by such data substantiating the Contractor's right to payment as the County may require, including copies of requisitions from Subcontractors and Suppliers.

**9.3.1.1** Payment will be made on valuation of Work done as of the twenty-fifth of each month, and such application shall be submitted approximately five (5) days before the end of the month.

**9.3.1.2** No payments made to the Contractor, nor partial or entire use or occupancy of the Work by the County, shall be acceptance of any Work or materials not in accordance with the Contract Documents.

**9.3.2** Based on California Public Contract Code Section 20104.50 and the Contract Documents, each Application for Payment shall be reviewed by the County as soon as practicable after receipt for the purpose of determining that the payment request is proper. Any Application for Payment determined not to be suitable for payment shall be returned to Contractor not later than seven (7) calendar days after receipt. Any returned Application for Payment shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper. The County shall make any progress payment within 30 days after receipt of an undisputed and properly submitted Application for Payment from the Contractor.

**9.3.2.1** Such Applications for Payment shall not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor or material supplier because of a dispute or other reason, or as to which an appropriate conditional or unconditional waiver and release of rights upon payment has not been provided.

**9.3.3** Documentation. As a condition precedent to County's monthly progress payment to Contractor, Contractor shall submit with each Application for Payment the following documentation:

- (1) Updated Schedules of Values, invoices and requisitions from all Subcontractors, Sub-subcontractors and suppliers performing Work covered by the Application for Payment;
- (2) Completed and executed form of conditional waiver and release of rights upon progress payment in accordance with California Civil Code Section 8132, from Contractor and its Subcontractors covering the amount of the current Application for Payment;
- (3) Completed and executed forms of unconditional waiver and release of rights upon progress payment in accordance with California Civil Code Section 8134, from Contractor and its Subcontractors covering the amount of the previous Application for Payment (but no later than two months prior to the current Application for Payment);
- (4) Reserved.
- (5) At its sole discretion, the County reserves the right to request (i) an executed subcontract including bonds, insurance, certificates, and endorsements and all other exhibits and attachments for each item of

material, labor and service for which a disbursement has been requested and (ii) certifications from each Subcontractor and Sub-subcontractor of any tier, that each is current in the payment of any supplemental fringe benefits required pursuant to any collective bargaining agreement to which any such Subcontractor or Sub-subcontractor is a Party or is otherwise bound; and

- (6)** Such other documentation as the County may reasonably request.

Any Payment made by County to Contractor in the absence of any of the preceding documents in no way relieves the Contractor from providing all these documents for the current and/or any future payment.

**9.3.3.1** As a further condition precedent to County's obligation to make monthly progress payment to Contractor, Contractor must be current in its submittal of documentation required by the Contract Documents including, but not limited to the following:

- (1)** A Subcontractor Procurement Log listing executed subcontracts including bonds, insurance, certificates, and endorsements and all other exhibits and attachments for each item of material, labor and service for which a disbursement has been requested;
- (2)** Log of all licenses, leases, permits, approvals and agreements relating to the construction of the Project;
- (3)** Contractor's daily logs;
- (4)** Record Documents and As-Built Drawings and Specifications updated with current Project information as described in Subparagraph 3.10.1 above;
- (5)** Updated Project Schedule;
- (6)** RFI Log;
- (7)** Change Order Request Log and Change Order Log, including a list of any Change Orders and Construction Change Directives, contemplated or under negotiation at the date of such payment request, the status, and a rough order of magnitude cost for each such change.
- (8)** Certified Payrolls for the time period covered in the Application for Payment.

Any payment made by County to Contractor in the absence of any of the preceding documents in no way relieves the Contractor from providing all these documents for the current and/or any future payment.

**9.3.4 Initial Payment Application.** Contractor shall ensure that all administrative actions, submittals, payment procedures and requirements set forth in the Contract Documents for the first Application for Payment must precede or coincide with the initial Application for Payment, including:

- (1) A description of the types of Work and the amounts thereof to be provided by the Contractor (as opposed to the Subcontractors);
- (2) A list of Subcontractors, principal suppliers and fabricators;
- (3) A Submittal Schedule;
- (4) Copies of all necessary permits;
- (5) All insurance certificates and endorsements for Contractor and all Subcontractors are in place;
- (6) Payment and Performance Bonds for Contractor and Subcontractors, as applicable, are in place; and
- (7) Job signs have been installed.

**9.3.5 Payment to Subcontractors.** Within seven (7) calendar days of Contractor's receipt of payment from County for Work performed by a Subcontractor, the Contractor shall pay all Subcontractors for and on account of Work on the Contract performed by each. The Contractor shall by appropriate agreement with each Subcontractor and Supplier, require each Subcontractor to make payments to Sub-subcontractor in a similar manner. The County will, on request, furnish to a Subcontractor, Sub-subcontractor, or supplier, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the County on account of portions of the Work done by each.

**9.3.6 Substantial Completion Payment Application.** Following the determination of Substantial Completion by the County's Project Manager and approval thereof by County, the Contractor shall submit an Application for Payment at Substantial Completion. In addition to submittals required for all applications for progress payments, the Contractor shall complete the following administrative actions and submittals, all of which shall precede or coincide with this application:

- (1) List all incomplete items of Work and the value of each item of incomplete Work;
- (2) Obtain and submit all documentation necessary to enable the County's full and unrestricted use of the Work or portions thereof, and access to services and utilities, and to supply any change-over information necessary to the County's occupancy, use, operation, and maintenance;

- (3) Discontinue and remove temporary facilities and services from the Site, along with construction tools and facilities, forms, and similar items except for Contractor's field office;
- (4) Obtain all temporary occupancy permits and similar approvals for the use of the facilities;
- (5) Inspect, test, and adjust performance of every system of facility of the Work to ensure that overall performance is in compliance with terms of the Contract Documents;
- (6) Submit a report of such test results to the County;
- (7) Provide instruction for the County's operating personnel on systems and equipment operational requirements;
- (8) Report performance of completed installations after adjustment that appear unable to comply with the requirements of the Contract Documents; and
- (9) Submit the operating manual(s) for operating and maintaining the building.

**9.3.7 Warranty of Title.** The Contractor warrants that title to all Work covered by an Application for Payment will pass to the County no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Applications for Payment have been previously issued and payments received from the County shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, stop notices, claims, security interests, or encumbrances in favor of the Contractor, Subcontractors, Sub-subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and/or equipment relating to the Work. This provision shall not relieve the Contractor from the responsibility for materials and Work upon which payments have been made, the restoration of damaged Work, or waive the right of the County to require the fulfillment of the terms of the Contract.

**9.3.8 Cash Allowance.** Whenever the Specifications provide a lump sum amount for specified Work, the Contractor shall include that amount in his bid for the designated Work, and the stated amount shall be deemed to include the full allowance. Any difference in cost to the Contractor from the supplier shall be added to or deducted from the Contract Sum.

**9.3.9 Equipment or Materials.** If, during the progress of the Work, the Contractor, with the written approval of the County, purchases and stores in an approved manner on the Site any equipment or materials required to complete the Work prior to the normal need of such equipment or materials, Contractor will be paid on the same basis as provided in Paragraph 9.3, except that the value of such materials or equipment shall be claimed as a separate item and so reported until it shall have been incorporated in the Work.



County will not pay for the materials or equipment at the time they are ordered and will not pay for materials or equipment until they are delivered to the Site.

**9.3.9.1** If required by the County, such payments shall be conditional upon submission by the Contractor of bills of sale, or such procedure as will establish the County Title to such equipment or materials, or otherwise adequately protect the County's interests.

**9.3.9.2** Any equipment or materials stored and paid for by the County prior to being incorporated in the Work shall not be used for any other purpose and shall not be removed from the Site.

#### **9.4 Decisions to Withhold Payment**

**9.4.1 Basis for Decision to Withhold.** The County's Project Manager may withhold payment in whole or in part, to the extent reasonably necessary to protect the County. If the County's Project Manager is unable to approve payment in the amount of the Contractor's Application for Payment, the County's Project Manager will notify the Contractor of the reasons for failing to approve the payment. If the Contractor and County's Project Manager cannot agree on a revised amount, the County's Project Manager will promptly issue payment for the amount for which the County's Project Manager is able to make such representations to the County. The County's Project Manager may refuse to make payment or, because of subsequently discovered evidence, the County's Project Manager or the County may nullify the whole or a part of a payment previously issued, to such extent as may be necessary in the County's Project Manager's opinion to protect the County from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Subparagraph 3.3.2 and 3.18 or because of:

- (1) Defective work not remedied;
- (2) Third party claims filed or reasonable evidence indicating probable filing of such claims, including stop notices, unless security acceptable to the County is provided by the Contractor;
- (3) Failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials, services or equipment;
- (4) Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- (5) Damage to the County or another contractor;
- (6) Reasonable evidence that the Work will not be completed within the Contract Time;
- (7) Persistent failure to carry out the Work in accordance with the Contract Documents;



- (8) Liquidated damages, if any, which accrued as of the date of the Application for Payment;
- (9) Such other sum as the County is entitled to recover from the Contractor; and
- (10) Contractor's failure to timely submit:
  - (a) Daily logs;
  - (b) Certification from County and Contractor that Record Documents and As-Built Drawings and Specifications have been updated with current Project information as described in Paragraph 3.10 above;
  - (c) Updated Construction Schedule;
  - (d) RFI logs;
  - (e) Change Order Log; and
  - (f) Certifications from each Subcontractor and Sub-subcontractor of any tier that each is current in the payment of any supplemental fringe benefits required pursuant to any collective bargaining agreement to which any such Subcontractor is a Party or is otherwise bound.

**9.4.2 Withhold for Disputes.** In the event of a dispute between County and Contractor, the County may withhold from payments an amount not to exceed one hundred fifty percent (150%) of the disputed amount. When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

**9.4.3 Withhold for Stop Notice Claims.**

**9.4.3.1** If at any time there shall be evidence of the existence, whether or not same has been asserted, of any stop notice, or claim arising out of or in connection with the performance or default in performance of this Contract or any subcontract or supply contract entered into by Contractor to perform this Contract, and if the County might become liable for the discharge of or satisfaction of such stop notice or claim, then the County shall have the right to retain out of any payment then due or thereafter to become due, in addition to the amounts set forth above, an amount sufficient to discharge such stop notice or satisfy such claim and to reimburse the County and the Project Manager(s) of the County for all costs and expenses in connection therewith, including attorneys' fees. Further, the County, in its sole discretion, shall have the right to discharge or satisfy such stop notice or claim and pay all costs and expenses in connection therewith if the Contractor does not have such stop notice or claim discharged or satisfied within ten (10) calendar days after receiving notice to remove the stop notice or claim from County or unless some other procedure for discharge or satisfaction of such claim is agreed between

County and Contractor. If the amounts retained are insufficient for the aforesaid purposes, or if such stop notice or claim remains undischarged or unsatisfied after all payments have been made to the Contractor, then the Contractor shall refund to the County all monies that may have been paid, or need to be paid, to discharge such stop notice or satisfy such claims, including the costs, expenses, and attorney's fees in connection therewith.

**9.4.3.2** The County may release any payments withheld due to a stop notice claim if the Contractor obtains a release bond that is: (i) issued by a surety acceptable to County admitted to issue surety bonds by the California Department of Insurance; (ii) is in form and substance satisfactory to the County; and (iii) is in an amount of not less than 125% of the amount of any stop notice claim.

## **9.5 Progress Payments**

**9.5.1 County Payments to Contractor.** After the County's Project Manager has issued an authorization for payment, the County, subject to its rights under Paragraph 9.5 herein, shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the County's Project Manager.

**9.5.2 Joint Checks or Direct Payments.** Neither the County nor County's Project Manager shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law. County, however, reserves the right, in its sole discretion for reasonable cause, to make payments to Contractor in the form of checks payable jointly to Contractor and to any of Contractor's Subcontractors or suppliers or, upon notice to Contractor with the opportunity to object, payments directly to Subcontractors and suppliers, in satisfaction of County's obligation to make payments to Contractor.

**9.5.3 Payment Not Acceptance of Work.** An authorization for payment, a progress payment, or partial or entire use or occupancy of the Project by the County shall not constitute acceptance of Work not in accordance with the Contract Documents.

**9.5.4 Retention.** From each progress payment, five percent (5%) will be deducted and retained by the County and the remainder, less the amount of all previous payments and less the amounts needed to satisfy outstanding stop notices, will be paid to the Contractor. At no time shall the progress payments be in excess of ninety-five percent (95%) of the percentage of actual work completed plus ninety-five percent (95%) of the value of materials delivered on the ground or stored and under the control of the County.

**9.5.5** The Contractor may, at the Contractor's sole cost and expense, substitute securities equivalent to any monies withheld by the County to insure performance under this Contract. Such security shall be deposited with the County or a state or federally chartered bank as escrow agent, who shall pay such monies to the Contractor upon satisfactory completion of the Contract. The Contractor shall be the beneficiary of any security substituted for monies withheld and shall receive any accrued interest thereon. Securities eligible for investment shall include those listed in Government Code Section

16430 or bank or savings and loan certificates of deposit. No such substitution shall be accepted until the Escrow Agreement, Forms of Security and any other document related to said substitution is reviewed and found acceptable by the County, nor unless the Contractor shall have notified the County of its intention to substitute securities for retainage within ten (10) days of the signing of the Agreement.

**9.5.6 Payment by Electronic Fund Transfer.** Contractor shall accept all payments from County via electronic funds transfer (EFT) directly deposited into the Contractor's designated checking or other bank account. Contractor shall promptly comply with directions and accurately complete forms provided by County required to process EFT payments.

## **9.6 Substantial Completion**

**9.6.1 Contractor Request for Inspection and Punch List.** When the Contractor considers that the Work is substantially complete, the Contractor shall prepare and submit to the County's Project Manager and County a request for such inspection and a comprehensive Punch List of items to be completed or corrected prior to Final Payment. Failure to include an item on such Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**9.6.2 County Inspection.** Upon receipt of the Contractor's Punch List, the County's Project Manager will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the inspection discloses any item, whether or not included on the Contractor's Punch List, which is not sufficiently complete in accordance with the Contract Documents so that the County can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before the determination by County of Substantial Completion, complete or correct such item upon notification by County. In such case, the Contractor shall then submit a request for another inspection by County to determine Substantial Completion.

**9.6.3 Determination of Substantial Completion.** When the Work or designated portion thereof is substantially complete, the County's Project Manager will make a determination of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the County and Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall finish all items on the Punch List and as required in the Contract Documents.

**9.6.4 County's Acceptance.** The determination of Substantial Completion prepared by County's Project Manager shall be submitted to the Contractor. Upon such acceptance and consent of surety, provided the requirements for Substantial Completion Payment set forth in the Agreement are met, the County shall make payment to the Contractor for the cost of undisputed Work in place. The County's payment shall not exceed 95% of the Contract Sum until Final Completion and acceptance by County of the Work. County, however, shall be entitled to withhold retainage equaling 150% of the estimated cost of the following items until Final Completion:

- (1) Punch list items;
- (2) All items necessary to obtain the Final Certificate of Occupancy identified in the Contract Documents as the Work of Contractor;
- (3) As-Built and Record Documents;
- (4) Potential stop notice claims of individuals or entities who have not provided Conditional Waivers and Releases Upon Final Payment; and
- (5) Any Claims the County may have against the Contractor.

If the Contractor has not completed all items enumerated above within thirty (30) calendar days after the determination of Substantial Completion, the County shall have the right to demand completion or correction of the items within a 48-hour period. If the Contractor does not commence the requested Work within the 48-hour period or provide County with written notice of a legitimate reason why Contractor is not able to commence the Work within the 48-hour period, the County shall have the unilateral right to complete the Work and deduct the cost of completion of the Work from any money held pending Final Completion.

## **9.7 Partial Occupancy or Use**

**9.7.1 County's Rights and Allocation of Responsibility.** The County may occupy or use any completed or partially completed portion of the Work at any stage provided such occupancy or use is consented to by the insurer providing builder's risk property insurance to the Project and is not prohibited by the applicable legal requirements. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the County and Contractor have agreed in writing as to the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work, and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to County and County's Project Manager as provided under Subparagraph 9.7.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the County and Contractor.

**9.7.2 Joint Inspection.** Immediately prior to such partial occupancy or use, the County, Contractor and County's Project Manager shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**9.7.3 No Acceptance.** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

**9.7.4 Conditions.** The Contractor agrees to County's use and partial occupancy of a portion or unit of the Project before formal acceptance by the County under the following conditions:

- (1) Occupancy by the County shall not be construed by the Contractor as being an acceptance by County of that part of the Project to be occupied;
- (2) Contractor shall not be held responsible for any damage to the occupied part of the Project resulting solely from the County's occupancy;
- (3) Occupancy by the County shall not be deemed to constitute a waiver of existing claims on behalf of the County or Contractor against each other;
- (4) If the Project consists of more than one building, and one of the buildings is to be occupied, the County, prior to occupancy of the building, shall secure permanent property insurance on the building to be occupied and any necessary partial occupancy permits from the governmental agencies in jurisdiction. Final approval and occupancy permits from agencies in jurisdiction are still the responsibility of the Contractor, which may be required for use and occupancy;
- (5) Contractor shall make available in the areas occupied, on a 24-hour day and seven-day week basis if required, any utility services, heating, and cooling as are in condition to be put in operation at the time of early occupancy. All responsibility for the operation and maintenance of said equipment shall remain with the Contractor while it is so operated. However, an itemized list of each piece of equipment so operated, with the date operation commences, shall be made and certified by the County's Project Manager. This list shall be the basis for the commencement of guarantee periods on the equipment being operated for the benefit of the County's early occupancy. The County shall pay for all utility costs and operational expenses which arise out of the occupancy by the County during construction;
- (6) County's use and partial occupancy prior to Project acceptance does not relieve the Contractor of his responsibility to maintain all insurance and bonds required of the Contractor under the Contract until the Project is complete and the Notice of Completion is recorded by the County; and
- (7) If time and/or costs are impacted by County's partial occupancy or use, Contractor may submit a Claim for such financial and/or Schedule impact in accordance with Article 4.

## **9.8 Final Completion and Final Payment**

**9.8.1 Inspection.** Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a Final Application for Payment, the



County's Project Manager will promptly make such inspection and, when the County finds the Work acceptable under the Contract Documents and the Contract fully performed, the County's Project Manager will promptly issue a final authorization for payment stating that to the best of the County's Project Manager's knowledge, information and belief, and on the basis of the County's Project Manager's on-site visits and inspections, the Work has been fully and satisfactorily completed in strict compliance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final authorization for payment is due and payable. The County's Project Manager's final authorization for payment will constitute a further representation that conditions listed in Subparagraph 9.8.2 as precedent to the Contractor's being entitled to Final Payment have been fulfilled. Warranties required by the Contract Documents shall commence on the date of Final Completion of all Work.

**9.8.2 Documentation.** In addition to the requirements for Final Payment set forth in the other Contract Documents, the Final Payment shall not become due until (i) Contractor has fully performed the Contract, including all Punch List work; (ii) a Final Certificate of Occupancy (or equivalent inspection sign-off) has been issued (unless failure to issue is due to circumstances beyond the control of Contractor); (iii) sixty (60) calendar days have elapsed since County's recordation of a Notice of Completion; and (iii) Contractor has submitted to the County:

- (1) A full, complete and proper Final Application for Payment;
- (2) A current Sworn Statement from the Contractor setting forth all Subcontractors and material suppliers with whom Contractor has subcontracted; the amount of each subcontract; the amount requested for each Subcontractor and supplier in the payment application; the balance remaining on the subcontract; and that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the County or the County's property might be responsible or encumbered (less amounts withheld by County) have been paid or otherwise satisfied;
- (3) A current Sworn Statement from each Subcontractor setting forth all Sub-subcontractors and material suppliers with whom Subcontractor has subcontracted; the amount of each sub-subcontract; the amount requested for each Sub-subcontractor and supplier in the payment application; the balance remaining on the subcontract; and that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the County or the County's property might be responsible or encumbered (less amounts withheld by County) have been paid or otherwise satisfied;
- (4) Completed and executed forms of conditional waiver and release of rights upon final payment in accordance with California Civil Code Section 8136 from Contractor and all persons eligible to record mechanics' liens and file stop notices in connection with the Work, covering the final payment period;



- (5)** Completed and executed forms of unconditional waiver and release of rights upon progress payment in accordance with California Civil Code Section 8134 from Contractor and all persons eligible to record mechanics' liens and file stop notices in connection with the Work, covering the previous payment period;
- (6)** Completed and executed affidavits from Contractor and Subcontractors, attaching certificates and endorsements evidencing that insurance required by the Contract Documents to remain in force after Final Payment, if any, is currently in effect and will not be canceled or allowed to expire until at least 30 days prior written notice has been given to the County;
- (7)** A written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents;
- (8)** Consent of surety(ies) to Final Payment;
- (9)** Contractor's written assurance that identified corrective work not complete and accepted will be completed by a stated date agreeable to County;
- (10)** The required Record Documents and As-Built Construction Documents including, but not limited to, shop drawings and other submittals;
- (11)** Reasonable proof that taxes, fees and similar obligations of Contractor have been paid;
- (12)** A certificate in form and substance acceptable to County and signed by the County's Project Manager certifying that, to the best of its knowledge, the Work has been completed in accordance with the Contract Documents, all Applicable Laws and restrictions; that the Work, as completed, complies in all material respects with all applicable zoning, environmental, building, and land use laws which apply to the Project; that to the knowledge of the County's Project Manager, no governmental entity has issued any notice of violation or nonconformity in connection with the improvements; that direct connection has been made to all abutting gas, sewer, telephone, and electrical facilities necessary for occupancy and use of the Project; and that the Project is ready for occupancy/use;
- (13)** Reserved;
- (14)** All warranties from vendors and Subcontractors, maintenance manuals, instructions and related agreements, equipment certifications and similar documents, and maintenance and operating instructions, which shall include:
- (a)** Schematic piping and wiring diagrams;

- (b) Valve charts and schedules;
  - (c) Electrical panel schedules complete and posted in panels;
  - (d) Lubrication charts and schedules;
  - (e) Guides for troubleshooting;
  - (f) Pertinent diagrams of equipment with main parts designated for identification;
  - (g) Manufacturer's data and capacity data on all equipment;
  - (h) Operating and maintenance instructions for all items of equipment and all control systems;
  - (i) Manufacturer's parts list; and
  - (j) Testing procedures for operating tests;
- (15) Tools, spare parts and required extra materials (i.e., attic stock), and similar items;
  - (16) Keys and proof of the final change-over of locks. In addition, Contractor must advise the County's personnel of the change-over in security provisions;
  - (17) Written start-up testing performance reports of all systems after completion of start-up testing, and complete instruction of the County's operating and maintenance personnel;
  - (18) Proof of adherence to final cleaning requirements of the Contract Documents; and
  - (19) Proof of touch up and other repairs and restoration of all marred and exposed finishes.

**9.8.3 Release of Stop Notices.** If a Subcontractor or supplier refuses to furnish a release or waiver required by County or files a stop notice, the Contractor shall furnish a bond satisfactory to the County to release the stop notice and indemnify the County against such stop notice and County shall enforce its right under Subparagraph 9.4.3 herein.

**9.8.4 Delay Not Caused by Contractor.** If, after Substantial Completion of the Work, Final Completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting Final Completion, the County shall, upon application by the Contractor and certification by the County, and without terminating the Contract, make payment of the balance due for that portion of the Work fully

completed and accepted provided, however, that the retainage amount held following such payment shall be equal to 150% of the estimated cost of completing the Work as determined by the County. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the County prior to certification of such payment. Such payment shall be made under terms and conditions governing Final Payment.

**9.8.5 Contractor's Acceptance of Final Payment.** Acceptance of Final Payment by the Contractor, a Subcontractor, or material supplier shall constitute a waiver of any and all Claims by that payee, of whatsoever nature, character or kind, except those previously made in writing and identified by that payee as unsettled at the time of Final Application for Payment.

**9.8.6 County's Final Payment.** The making of Final Payment shall not constitute a waiver of Claims by the County arising from:

- (1) Unsettled stop notices;
- (2) Faulty or defective work appearing after Substantial Completion of the Work;
- (3) Failure of the Work to comply with the requirements of the Contract Documents;
- (4) Terms of any special warranties required by the Contract Documents; or
- (5) Any other Claim unless specifically waived by the County in writing.

## **10 PROTECTION OF PERSONS AND PROPERTY**

### **10.1 Safety Precautions and Programs**

The Contractor is responsible for establishing, maintaining, and supervising the necessary safety precautions needed to permit the performance of the Work without endangering public safety and property. A Site Specific Safety Program and the Contractor's Safety Policy must be prepared and submitted for the County's review and comments. Contractor shall comply with the review comments of County. The Site Specific Safety Program shall include the following:

- (1) The identity of outside safety consultant or Contractor's safety officer and on-site safety officer;
- (2) The schedule for the Contractor's safety inspections;

- (3) The type and frequency of training conducted for Contractor's personnel including tailgate meeting, lifting training, emergency procedure, etc.;
- (4) Information on the types of heavy equipment to be used and the necessary precaution to be taken if there is an accident;
- (5) A copy of the Contractor's Hazardous Communications Program;
- (6) A list of any possible fire hazards and the firefighting equipment for the particular Site;
- (7) A detailed description of hazardous or unusual procedures necessary for the particular Site;
- (8) Information on any material impact of the construction on the surrounding area including traffic flow, parking, street closure, utility shutoffs, and pedestrian crossing;
- (9) Placement, quantity and type of safety warning lights, signs or other devices during construction;
- (10) Written procedures in the event of an injury, fire, hazardous material experience, or other emergency during construction; and
- (11) Description of the location and enclosure of the approved staging area.

Contractor shall also comply with any safety requirements required by insurers providing coverage for the Project. Notwithstanding the foregoing, Contractor specifically assumes all risk of damages or injury to any persons or property, wherever located, resulting from any action or operation of the Contractor or Contractor's Subcontractors or Sub-subcontractors under the Contract Documents or in connection with the Work.

## **10.2 Safety of Persons and Property**

**10.2.1 Contractor's Responsibility for Damage or Loss.** Except as otherwise provided in the Contract Documents and except as to the cost of repair or restoration of damage to the Work caused by Force Majeure events, the Contractor shall bear all losses resulting to him/her on account of the amount or character of the Work, or from any unforeseen obstructions or difficulties which may be encountered, or from any encumbrances on the line of the Work, or because the nature of the ground in or on which the Work is done is different from what is assumed. The Contractor shall bear the risk for any County equipment, material, or supplies with which Contractor has been entrusted and shall bear responsibility for all bodily injuries to persons, including accidental death, which may be caused by Contractor's performance of the Work.

**10.2.2 Contractor's Remedy for Damage or Loss.** The Contractor shall promptly remedy all damage or loss to any property referred to in this Article arising, in whole or in part, from the Work performed by the Contractor or by any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and for which the Contractor is responsible, except damage or loss attributable to the acts or omission of the County, or anyone directly or indirectly employed by the County, or by anyone for who the County may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's indemnification obligations under Paragraph 3.18 herein.

**10.2.3 Precautions and Protection.** The Contractor shall take necessary precautions for the safety of, and shall provide necessary protection to prevent damage, injury or loss to:

- (1) Employees on the Site and other persons who may be affected thereby;
- (2) The Work and materials and equipment to be incorporated therein, whether in storage on or off the Site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- (3) Other property at the Site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

**10.2.4 Notice and Compliance with Applicable Law.** The Contractor shall give notices and comply with Applicable Laws bearing on safety of persons or property or their protection from damage, injury or loss. Contractor shall comply with all laws and regulations, including the California Labor Code and with all California Occupational Safety and Health Act ("OSHA"), Environmental Protection Agency, and South Coast Air Quality Management District and Mojave Desert Air Quality Management District regulations, concerning safety requirements and protection of workers including, but not limited to, those regulations concerning scaffolding, bracing, shoring, trench excavating and removal, and handling and disposal of hazardous waste. Contractor shall fully defend, indemnify, and hold harmless the County, its members, officers, volunteers, employees, and agents, including, but not limited to, the County's Project Manager, from any and all citations and/or memoranda assessed against the County due to regulatory violations of the Contractor, Contractor's Subcontractors, or Sub-subcontractors.

**10.2.5 Safeguards.** The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgate safety regulations, and notify County and users of adjacent Sites and utilities. The Contractor shall also be responsible for all measures necessary to protect any property adjacent to the Project and improvements thereon. Any damage to

adjacent property or improvements shall be promptly repaired or replaced by Contractor at its sole cost and expense within the Contract Sum.

**10.2.6 Excavation.** As required by Section 6705 of the California Labor Code and in addition thereto, whenever Work under the Contract involves the excavation of any trench or trenches five feet or more in depth, the Contractor shall submit for acceptance by the County or by a registered civil or structural engineer employed by the County, to whom authority to accept has been delegated, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards established by the construction safety orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer employed by the Contractor and all costs therefore shall be included in the price named in the Contract for completion of the Work as set forth in the Contract Documents. Nothing in this section shall be construed to impose tort liability on the County or any of its officers, agents, officials, volunteers, the Project Managers or employees.

**10.2.7 Notice of Hazards.** When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care, carry on such activities under supervision of properly qualified personnel, and shall provide County and County's Project Manager with reasonable advance notice of such activity.

**10.2.8 Loading.** The Contractor shall not load or permit any part of the construction or Site to be loaded so as to endanger its safety. The Contractor shall be responsible for the protection of all existing structures and improvements, both above and underground, including both the exterior and interior finishes within the adjoining working areas, and shall provide adequate temporary removal as necessary. Any existing structures or improvements damaged during construction shall be repaired or replaced with materials, workmanship, fixtures, or equipment of the same kind, quality and size as the original, prior to damage. Any materials or equipment temporarily removed and damaged shall be re-erected or installed in a manner approved by the County.

**10.2.8.1** The Contractor shall review the structural capability of the construction and Site prior to allowing installation of temporary lifting devices or staging equipment or the temporary off-loading of materials. Contractor shall not exceed design loads without making modifications to the construction or Site to support such loads.

**10.2.8.2** All modifications to the construction or Site to support temporary lifting devices, staging equipment, or loading shall be submitted to County for review and acceptance.

**10.2.9 Accident Prevention.** The Contractor shall designate a responsible member of the Contractor's organization at the Site whose duty shall be the prevention of



accidents. This person shall be the Contractor's Superintendent unless otherwise designated by the Contractor in writing to the County.

**10.2.10** Accident Reporting. The Contractor shall immediately report all accidents and injuries to County, and shall submit on a form approved by County within 24 hours of such accident or injury setting forth essential information for investigation of the accident or injury including, but not limited to, name, address, and phone number of all injured workers and witnesses, location on the jobsite, nature of injury, medical treatment, identity of ambulance company, and hospital.

**10.2.11** Adjoining Property. Contractor shall employ all necessary measures to protect adjoining adjacent property and shall provide barricades, temporary fences, and covered walkways required to protect the safety of passersby, as required by prudent construction practices, local building codes, ordinances, or other laws and the Contract Documents.

**10.2.12** Response. Contractor shall immediately respond to notice from the County of unsafe conditions.

**10.2.13** Documents Available. Contractor shall have available at the Project Site, copies or suitable extracts of "Construction Safety Orders" and "General Industrial Safety Orders" issued by the State Division of Industrial Safety.

### **10.3 Hazardous Materials**

**10.3.1** Notice to County. The Contractor agrees that it is solely responsible for investigation and performing remedial actions on all hazardous materials and other related environmental requirements located on the Project Site. Any hazardous materials that are encountered beyond those described in the Contract Documents may properly be the subject to a Change Order. The County agrees that the Contractor cannot be considered a hazardous materials generator of any such materials in existence on the Site at the time it is given possession of the Site. In the event the Contractor encounters on the Site materials which it reasonably believes to be "hazardous materials" as that term is defined by federal and state law, which have not been rendered harmless, the Contractor shall immediately stop work in the area affected and report the condition to the County in writing. The work in the affected area shall not thereafter be resumed until a suitable testing agency certifies the material as nonhazardous or the material is removed or rendered harmless as certified by a suitable testing agency.

#### **10.3.2** Material Safety Data Sheets and Compliance with Proposition 65.

**10.3.2.1** Contractor is required to ensure that material safety data sheets are available in a readily accessible place at the Work Site, for any material requiring a material safety data sheet per the federal "hazard communication" standard, or employees' right-to-know law. The Contractor is also required to insure proper labeling on any substance brought into the Project Site, and that any person working

with the material, or within the general area of the material, is informed of the hazards of the substance and follows proper handling and protection procedures.

**10.3.2.2** Contractor is required to comply with the provisions of California Health and Safety Code Sections 25249.5 et seq., which requires the posting and giving of notice to persons who may be exposed to any chemical known to the State of California to cause cancer. The Contractor agrees to familiarize itself with the provisions of this section, and to comply fully with its requirements.

#### **10.4 Contractor Materials**

The County shall not be responsible for materials and substances brought to the Site by the Contractor unless such materials or substances were required by the Contract Documents.

#### **10.5 Emergencies**

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Paragraph 4.3 and Article 7.

#### **10.6 Protection of the Work**

**10.6.1** Contractor shall protect all materials, equipment, supplies and Work from injury or damage due to heat, storms, rain or wind. If unusually severe weather makes it impossible to continue operations safely in spite of necessary weather precautions, Contractor shall cease Work and notify County of such cessation in accordance with the requirements of Article 4.

**10.6.2** Contractor shall not permit open fires on the Project.

**10.6.3** Contractor shall take necessary precautions to guard against and eliminate possible fire hazards and to prevent damage to construction Work, building materials, equipment, temporary field offices, storage shed, and public and private property.

**10.6.4** If Contractor fails to adequately protect the Work, Contractor is responsible for all damage incurred by County. Contractor is responsible for payment of the deductible on the Builder's Risk Policy, however, County, at its sole discretion, can decide to pay the deductible and deduct such payment from payments then or thereafter due Contractor. If payments then or thereafter due the Contractor are not sufficient to cover such deductible amounts, the Contractor will then pay the different to the County.

#### **10.7 Protection of Existing Property**

The Contractor shall be responsible for all measures necessary to protect existing property to remain. This shall include, but is not limited to, padding and draping elevators used in construction, draping of openings and other measures to isolate areas remaining in use, relocation of furniture, fixtures, and equipment, protective covering/draping of furniture,

fixtures, and equipment, and protection of landscape materials, planting, and interior and exterior finishes at and adjacent to the Work. Property damaged by the Contractor shall be repaired or replaced by the Contractor to the satisfaction of the County without increase to the Contract Sum. Such measures shall be taken at a frequency required to provide such protection and to keep the areas operational as indicated elsewhere in the Agreement.

## **11 INSURANCE AND BONDS**

### **11.1 Performance Bond and Payment Bond**

#### **11.1.1 Bond Requirements.**

**11.1.1.1** Contractor shall furnish a Labor and Material Payment Bond and a Performance Bond on the forms provided by the County or on any other form approved by County. Contractor shall deliver to County no later than ten (10) calendar days after award of the Contract, evidence satisfactory to County that Contractor has obtained the required bonds. The Performance Bond shall be furnished as a guarantee of the faithful performance of the requirements of the Contract Documents in an amount equal to one hundred percent (100%) of the Contract Sum. The Payment Bond shall secure payment of all claims, demands, stop notices, mechanics liens, or charges of material suppliers, mechanics, or laborers employed by the Contractor or by any Subcontractor or any person, firm, or entity eligible to file a stop notice with respect to the Work in an amount equal to one hundred percent (100%) of the Contract Sum. Bonds may be obtained through Contractor's usual source, provided the bonds meet all County requirements, and the cost thereof shall be included in the Contract Sum. In the event of changes in the Work, that increase the Contract Sum, the amount of each bond shall increase and at all times remain equal to the Contract Sum.

**11.1.1.2** The bonds shall be executed by a California admitted surety with an A.M. Best's Company rating satisfactory to the County. If an A.M. Best's rating is not available, the proposed surety must meet comparable standards of another rating service satisfactory to County. Bonds issued by a California admitted surety listed in the latest versions of the U.S. Department of Treasury Circular 570 shall be deemed to be accepted unless specifically rejected by County. Bonds from a California admitted surety not listed in Treasury Circular 570 must be accompanied by all of the documents enumerated in California Code of Civil Procedure Section 995.660(a). All bonds must comply with the Bond and Undertaking Law (Code of Civil Procedure Section 995.010 et. seq.).

**11.1.1.3** All such bonds shall be accompanied by a power of attorney from the surety company authorizing the person executing the bond to sign on behalf of the company. If the bonds are executed outside the State of California, all copies of the bonds must be countersigned by a California representative of the surety. The signature of the person executing the bond shall be acknowledged by a Notary Public as the signature of the person designated in the power of attorney.

**11.1.1.4** If, during the continuance of the Contract, any of the sureties, in the opinion of the County, are or become non-responsible or otherwise unacceptable to County, County may require other new or additional sureties, which the Contractor shall furnish to the satisfaction of County within ten (10) days after notice, and in default thereof the Contract may be suspended and the materials may be purchased or the work completed as provided in Articles 2 and 13 herein.

**11.1.2** Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

**11.1.3** The Performance Bond shall name the County as the beneficiary under the bond.

**11.1.4** In the event of increases in the Contract Sum by Change Orders, or otherwise, the Contractor shall submit to the County evidence of additional bond coverage (both Labor and Material Payment Bond and Performance Bond) for such increases in the Contract Sum. Contractor shall be compensated for such additional bond coverage.

**11.1.5** Changes in the Work or extensions of time, made pursuant to the Contract, shall in no way release the Contractor or Surety from their obligations; and the bonds shall remain in full force and effect until one year following the filing of Notice of Completion of the Project by the County. Notice of such changes or extensions shall be waived by the surety.

## **11.2 Insurance**

**11.2.1** Contractor shall not commence work under this Contract until all insurance has been obtained that is required under this section and such insurance has been verified by the County, nor shall Contractor allow any Subcontractor to commence work on its Contract until all similar insurance required of the Subcontractor has been so obtained and approved.

The Contractor agrees to provide insurance set forth in accordance with the requirements herein. If the Contractor uses existing coverage to comply with these requirements and that coverage does not meet the specified requirements, the Contractor agrees to amend, supplement or endorse the existing coverage to do so.

Without in anyway affecting the indemnity herein provided and in addition thereto, the Contractor shall secure and maintain throughout the contract term the following types of insurance with limits as shown:

### **11.2.1.1 Workers' Compensation/Employers Liability**

A program of Workers' Compensation insurance or a state-approved, self-insurance program in an amount and form to meet all applicable requirements of the Labor Code of the State of California, including Employer's Liability with \$250,000 limits

covering all persons including volunteers providing services on behalf of the Contractor and all risks to such persons under this Contract.

If Contractor has no employees, it may certify or warrant to the County that it does not currently have any employees or individuals who are defined as "employees" under the Labor Code and the requirement for Workers' Compensation coverage will be waived by the County's Director of Risk Management.

With respect to Contractors that are non-profit corporations organized under California or Federal law, volunteers for such entities are required to be covered by Workers' Compensation insurance.

#### **11.2.1.2 Commercial/General Liability Insurance**

The Contractor shall carry General Liability Insurance covering all operations performed by or on behalf of the Contractor providing coverage for bodily injury and property damage with a combined single limit of not less than one million dollars (\$1,000,000), per occurrence. The policy coverage shall include:

- (a) Premises operations and mobile equipment.
- (b) Products and completed operations.
- (c) Broad form property damage (including completed operations).
- (d) Explosion, collapse and underground hazards.
- (e) Personal injury
- (f) Contractual liability.
- (g) \$2,000,000 general aggregate limit.

#### **11.2.1.3 Automobile Liability Insurance**

Primary insurance coverage shall be written on ISO Business Auto coverage form for all owned, hired and non-owned automobiles or symbol 1 (any auto). The policy shall have a combined single limit of not less than one million dollars (\$1,000,000) for bodily injury and property damage, per occurrence.

If the Contractor is transporting one or more non-employee passengers in performance of contract services, the automobile liability policy shall have a combined single limit of two million dollars (\$2,000,000) for bodily injury and property damage per occurrence.

If the Contractor owns no autos, a non-owned auto endorsement to the General Liability policy described above is acceptable.

#### **11.2.1.4 Increased General Liability and Automobile Liability Insurance Limits for Larger Construction Projects**

Construction contracts for projects of one million (\$1,000,000) or over and less than three million (\$3,000,000) require limits of not less than three million (\$3,000,000) in General Liability and Auto Liability coverage.



Construction contracts for projects of three million (\$3,000,000) or over and less than five million (\$5,000,000) require limits of not less than five million (\$5,000,000) in General Liability and Auto Liability coverage.

Construction contracts for projects of five million (\$5,000,000) and less than ten million (\$10,000,000) require limits of not less than ten million (\$10,000,000) in General Liability and Auto Liability.

Construction contracts for projects over ten million (\$10,000,000) require limits of no less than two times the total estimated cost of the project in General Liability and Auto Liability.

#### **11.2.1.5 Course of Construction/Installation (Builder's Risk) Property Insurance**

Course of Construction/Installation (Builder's Risk) Property Insurance providing all risk, including theft coverage for all property and materials to be used on the project. The insurance policy shall not have any coinsurance penalty.

#### **11.2.1.6 Umbrella Liability Insurance**

An umbrella (over primary) or excess policy may be used to comply with limits or other primary coverage requirements. When used, the umbrella policy shall apply to bodily injury/property damage, personal injury/advertising injury and shall include a "dropdown" provision providing primary coverage for any liability not covered by the primary policy. The coverage shall also apply to automobile liability.

#### **11.2.1.7 Continuing Products/Completed Operations Liability Insurance**

Contractor shall provide Continuing Products/Completed Operations Liability Insurance with a limit of not less than five million (\$5,000,000) for each occurrence for at least three years following substantial completion of the work on projects over one million (\$1,000,000).

#### **11.2.1.8 Contractor's Pollution Liability Insurance**

Contractor's Pollution Liability Insurance with a combined single limit of not less than ten million (\$10,000,000) per claim or occurrence and a separate aggregate for the contract project. The required additional insured endorsement shall protect the County without any restrictions.

If insurance coverage is provided on a "claims made" policy, the "retroactive date" shall be shown and must be before the date of the start of the contract work. The claims made insurance shall be maintained or "tail" coverage provided to the County for a minimum of five (5) years after contract completion.



### **11.2.2 Subcontractor Insurance Requirements.**

The Contractor agrees to require all parties or subcontractors, including architects, engineers, or others it hires or contracts with related to the performance of this Contract to provide insurance covering the contracted operations with the basic requirements identified in Paragraphs 11.2.3 through 11.2.11 and 3.18 (indemnification), and the insurance specifications identified under Paragraph 11.2, (including waiver of subrogation rights) and naming the County as an additional insured. The Contractor agrees to monitor and review all such coverage and assumes all responsibility ensuring that such coverage is provided as required here. Subcontractors shall meet the following minimum General Liability and Auto Liability coverage:

- i. Subcontractor contracts under one million (\$1,000,000) require limits of not less than one million (\$1,000,000) in General Liability and Auto Liability coverage.
- ii. Subcontractor contracts over one million (\$1,000,000) and less than three million (\$3,000,000) require limits of not less than three million (\$3,000,000) in General Liability and Auto Liability coverage.
- iii. Subcontractor contracts over three million (\$3,000,000) and less than five million (\$5,000,000) require limits of not less than five million (\$5,000,000) in General Liability and Auto Liability coverage.
- iv. Subcontractor contracts over five million (\$5,000,000) require limits of not less than ten million (\$10,000,000) in General Liability and Auto Liability coverage.

### **11.2.3 Additional Insured**

All policies, except for the Workers' Compensation, Errors and Omissions and Professional Liability policies, shall contain endorsements naming the County and its officers, employees, agents and volunteers as additional insureds with respect to liabilities arising out of the performance of services hereunder. The additional insured endorsements shall not limit the scope of coverage for the County to vicarious liability but shall allow coverage for the County to the full extent provided by the policy. Such additional insured coverage shall be at least as broad as Additional Insured (Form B) endorsement form ISO, CG 2010.11 85.

### **11.2.4 Waiver of Subrogation Rights**

The Contractor shall require the carriers of required coverages to waive all rights of subrogation against the County, its officers, employees, agents, volunteers, contractors and subcontractors. All general or auto liability insurance coverage provided shall not prohibit the Contractor and Contractor's employees or agents from waiving the right of subrogation prior to a loss or claim. The Contractor hereby waives all rights of subrogation against the County.

### **11.2.5 Policies Primary and Non-Contributory**

All policies required herein are to be primary and non-contributory with any insurance or self-insurance programs carried or administered by the County.

#### **11.2.6 Severability of Interests**

The Contractor agrees to ensure that coverage provided to meet these requirements is applicable separately to each insured and there will be no cross liability exclusions that preclude coverage for suits between the Contractor and the County or between the County and any other insured or additional insured under the policy.

#### **11.2.7 Proof of Coverage**

The Contractor shall furnish Certificates of Insurance to the County Department administering the contract evidencing the insurance coverage at the time the contract is executed, additional endorsements, as required shall be provided prior to the commencement of performance of services hereunder, which certificates shall provide that such insurance shall not be terminated or expire without thirty (30) days written notice to the Department, and Contractor shall maintain such insurance from the time Contractor commences performance of services hereunder until the completion of such services. Within fifteen (15) days of the commencement of this Contract, the Contractor shall furnish a copy of the Declaration page for all applicable policies and will provide complete certified copies of the policies and endorsements immediately upon request.

#### **11.2.8 Acceptability of Insurance Carrier**

Unless otherwise approved by Risk Management, insurance shall be written by insurers authorized to do business in the State of California and with a minimum "Best" Insurance Guide rating of "A- VII".

#### **11.2.9 Deductibles and Self-Insured Retention**

Any and all deductibles or self-insured retentions in excess of \$10,000 shall be declared to and approved by Risk Management.

#### **11.2.10 Failure to Procure Coverage**

In the event that any policy of insurance required under this contract does not comply with the requirements, is not procured, or is canceled and not replaced, the County has the right but not the obligation or duty to cancel the contract or obtain insurance if it deems necessary and any premiums paid by the County will be promptly reimbursed by the Contractor or County payments to the Contractor will be reduced to pay for County purchased insurance.

#### **11.2.11 Insurance Review**

Insurance requirements are subject to periodic review by the County. The Director of Risk Management or designee is authorized, but not required, to reduce, waive or suspend any insurance requirements whenever Risk Management determines that any

of the required insurance is not available, is unreasonably priced, or is not needed to protect the interests of the County. In addition, if the Department of Risk Management determines that heretofore unreasonably priced or unavailable types of insurance coverage or coverage limits become reasonably priced or available, the Director of Risk Management or designee is authorized, but not required, to change the above insurance requirements to require additional types of insurance coverage or higher coverage limits, provided that any such change is reasonable in light of past claims against the County, inflation, or any other item reasonably related to the County's risk.

Any change requiring additional types of insurance coverage or higher coverage limits must be made by amendment to this contract. Contractor agrees to execute any such amendment within thirty (30) days of receipt.

Any failure, actual or alleged, on the part of the County to monitor or enforce compliance with any of the insurance and indemnification requirements will not be deemed as a waiver of any rights on the part of the County.

## **12 UNCOVERING AND CORRECTION OF WORK**

### **12.1 Uncovering of Work**

**12.1.1 Specific Request.** If a portion of the Work is covered contrary to the County's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the County, be uncovered for the County examination and be replaced at the Contractor's expense within the Contract Sum and without change in the Contract Time.

**12.1.2 No Specific Request.** If a portion of the Work has been covered, which the County has not specifically requested to examine prior to its being covered, the County may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the County's expense. If such Work is not in accordance with the Contract Documents, correction shall be at the Contractor's expense within the Contract Sum unless the condition was caused by the County or a Separate Contractor in which event the County shall be responsible for payment of such costs.

### **12.2 Correction of Work**

**12.2.1 Before or After Final Completion.** The Contractor shall promptly correct Work rejected by the County as failing to conform to the requirements of the Contract Documents, whether discovered before or after Final Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing, inspections, and compensation for the County's services and expenses made necessary thereby, shall be at the Contractor's expense within the Contract Sum.

**12.2.1.1** If Contractor fails to promptly correct Work rejected by the County, as failing to conform to the requirements of the Contract Documents, or fails to perform the Work in accordance with the Contract Documents, the County may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated by Contractor, or until the County chooses to complete the Work. Contractor shall not be entitled to any adjustment of Contract Time or Contract Sum as a result of any such order. The County and County's Project Manager shall have no duty or responsibility to Contractor or any other party to exercise the right to stop the Work.

**12.2.2** After Final Completion.

**12.2.2.1** In addition to the Contractor's warranty obligations under Paragraph 3.5, if, within one year after the date of Final Completion of the Work or after the date for commencement of warranties established under Subparagraph 3.5.2, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the County to do so, unless the County has previously given the Contractor a written acceptance of such condition. Such corrective work shall be performed without charge or cost to County after Final Completion of the Work. The County shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time after receipt of notice from the County, the County may correct the nonconforming work in accordance with Paragraph 2.5.

**12.2.3** Removal. The Contractor shall remove from the Site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the County.

**12.2.4** Destruction or Damage. The Contractor shall bear the cost within the Contract Sum of correcting destroyed or damaged construction, whether completed or partially completed, of the County or Separate Contractor caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

**12.2.5** No Limitation. Nothing contained in this Paragraph 12.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the one-year period for correction of Work as described in Subparagraph 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

### **12.3 Acceptance of Nonconforming Work**

If the County prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the County may do so instead of requiring its removal and correction. Such option shall be exercised solely by notice to Contractor and shall not be implied from any act or omission by the County. In such case, the Contract Sum will be reduced by an amount equal to the cost of replacing the Work to make it as originally specified or intended. Such adjustment shall be effected whether or not Final Payment has been made.

## **13 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **13.1 Termination by the Contractor**

**13.1.1 Work Stoppage Not Caused by County.** If the Work is stopped for a period of ninety (90) consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons: issuance of an order of a court or other public authority having jurisdiction which requires all Work to be stopped; an act of government, such as a declaration of national emergency which requires all Work to be stopped; and Contractor has given County written notice within ten (10) days of the occurrence of such ground for termination, then the Contractor may, upon thirty (30) additional calendar days written notice to County and, unless the reason has theretofore been cured, terminate its performance and recover from the County payment for Work executed to date and reasonable demobilization costs.

**13.1.2 Work Stoppage Caused by County.** If the Work is stopped for a period of 120 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the County has persistently failed to fulfill the County's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may give County ten (10) calendar days written notice to cure. If the County fails to cure, the Contractor may, upon ten (10) additional calendar days' written notice to the County, terminate the Contract and recover from the County as provided in Subparagraph 13.1.1 above.

### **13.2 Termination by the County for Cause**

**13.2.1 Grounds.** The County may terminate the Contractor's performance of the Contract for cause if:

- (1)** Contractor fails promptly to begin the Work under the Contract Documents; or
- (2)** Contractor refuses or fails to supply enough properly skilled workers or proper materials; or



(3) Contractor fails to perform the Work in accordance with the Contract Documents, including conforming to applicable standards set forth therein in constructing the Project, or refuses to remove and replace rejected materials or unacceptable Work; or

(4) Contractor discontinues the prosecution of the Work (exclusive of work stoppage: (i) due to termination by County; or (ii) due to and during the continuance of a Force Majeure event or suspension by County); or

(5) Contractor fails to resume performance of Work which has been suspended or stopped, within a reasonable time after receipt of notice from County to do so or (if applicable) after cessation of the event preventing performance; or

(6) Any representation or warranty made by Contractor in the Contract Documents or any certificate, schedule, instrument, or other document delivered by Contractor pursuant to the Contract Documents shall have been false or materially misleading when made; or

(7) Contractor fails to make payment to Subcontractors for materials or labor in accordance with the respective Contract Documents and Applicable Law; or

(8) Contractor disregards laws, ordinances, or rules, regulations, or orders of a public authority having jurisdiction; or

(9) Contractor otherwise is guilty of breach of a provision of the Contract Documents; or

(10) Contractor becomes insolvent, is adjudicated bankrupt, or makes a general assignment for the benefit of creditors and fails to provide County with adequate assurances of Contractor's ability to satisfy its contractual obligations.

A receiver, trustee, or other judicial officer shall not have any right, title, or interest in or to the Contract. Upon that person's appointment, County has, at its option and sole discretion, the right to immediately cancel the Contract and declare it null and void.

**13.2.2 County's Rights.** When any of the reasons specified in Subparagraph 13.2.1 exist, the County may, in addition to and without prejudice to any other rights or remedies of the County, and after giving the Contractor five (5) calendar days written notice, terminate employment of the Contractor and may:

(1) Take possession of the Site and of all materials, equipment, tools and construction equipment, and machinery thereon owned by the Contractor;



- (2) Suspend any further payments to Contractor;
- (3) Accept assignment of subcontracts pursuant to Paragraph 5.3; and
- (4) Finish the Work by whatever reasonable method the County may deem expedient. Upon request of the Contractor, the County shall furnish to the Contractor a detailed accounting of the costs incurred by the County in finishing the Work.

**13.2.3 Costs.** If County's costs to complete and damages incurred due to Contractor's default exceed the unpaid Contract balance, the Contractor and Contractor's Sureties shall pay the difference to the County.

**13.2.4 Erroneous Termination.** If it has been adjudicated or otherwise determined that County has erroneously or negligently terminated the Contractor for cause, then said termination shall automatically convert to a termination by the County for convenience as set forth in Paragraph 13.4.

### **13.3 Suspension by the County**

#### **13.3.1 Suspension For Convenience.**

**13.3.1.1** The County may, without cause, order the Contractor in writing to suspend, delay, or interrupt the Work in whole or in part for such period of time as the County may determine.

**13.3.1.2** Contractor shall promptly recommence the Work upon written notice from County directing Contractor to resume the Work. The Contract Sum and Contract Time shall be adjusted for any increases in the cost and time caused by suspension, delay, or interruption provided Contractor complies with the Change Order and Claims proceedings set forth the Articles 4 and 7 of these General Conditions. No adjustment shall be made to the extent:

- (1) That performance is, was, or would have been so suspended, delayed, or interrupted by another cause for which the Contractor is responsible; or
- (2) That an equitable adjustment is made or denied under another provision of the Contract.

**13.3.2 Suspensions For Cause.** County has the authority by written order to suspend the Work without liability to County wholly or in part for Contractor's failure to:

- (1) Correct conditions unsafe for the Project personnel or general public; or
- (2) Carry out the Contract; or

- (3) Carry out orders of County.

**13.3.3 Responsibilities of Contractor During Suspension Periods.** During periods that Work is suspended, Contractor shall continue to be responsible for the Work and shall prevent damage or injury to the Project, provide for drainage, and shall erect necessary temporary structures, signs or other facilities required to maintain the Project and continue to perform according the Article 10 of these General Conditions.

#### **13.4 Termination by the County for Convenience**

**13.4.1 Grounds.** Without limiting any rights which County may have by reason of any default by Contractor hereunder, County may terminate Contractor's performance of the Contract in whole or in part, at any time, for convenience or any other reason upon written notice to Contractor. Such termination shall be effective as of the date stated in the written notice, which shall be no less than ten (10) calendar days from the date of the notice.

**13.4.2 Contractor Actions.** Immediately upon receipt of such notice, Contractor shall: (i) cease performance of the Work of this Agreement to the extent specified in the notice; (ii) take actions necessary or that the County may direct, for the protection and preservation of the Work; (iii) settle outstanding liabilities, as directed by County; (iv) transfer title and deliver to County Work in progress, specialized equipment necessary to perform the Work, and Record Documents; and, (v) except for Work directed by County to be performed, incur no further costs or expenses. At the option of the County, all or any of the subcontracts entered into by Contractor prior to the date of termination shall be terminated or shall be assigned to County.

**13.4.3 Compensation.** If the Parties are unable to agree on the amount of a termination settlement, the County shall pay the Contractor the following amounts:

- (1) For Work performed before the effective date of termination, the total (without duplication of any items) of:
  - (a) The Cost of the Work; and
  - (b) A sum, as profit on (1)(a), above, determined by the County to be fair and reasonable;
- (2) The reasonable costs of settlement of the Work terminated, including:
  - (a) Accounting, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data; and
  - (b) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

In no event shall Contractor be entitled to recover overhead or profit on Work not performed.

### **13.5 Authority of County**

In determination of the question of whether there has been such noncompliance with the Contract as to warrant the suspension or termination of the Contract, the decision of the County will be binding on all parties.

### **13.6 Termination by Acts of God**

In the event the Project is damaged by an "Act of God" as defined in Public Contract Code section 7105, the County may elect to terminate the Contract. If the County terminates the Contract pursuant to this paragraph, compensation to the Contractor shall be solely for any Work completed, any materials purchased, any bonds and insurance paid and for any equipment used prior to the occurrence of the "Act of God".

## **14 EMPLOYMENT OF LABOR/WAGE RATES**

### **14.1 Determination of Prevailing Rates**

Pursuant to California Labor Code, Part VII, Chapter 1, Article 2, Sections 1770, et seq., the County has obtained from the Director of the Department of Industrial Relations (DIR) pursuant to the California Labor Code, the general prevailing rates of per diem wages and the prevailing rates for holiday and overtime work in the locality in which the Work is to be performed. Copies of said rates are on file with the Department, San Bernardino County, will be made available for inspection during regular business hours, are included elsewhere in the specifications for the Work in the Project, and are also available online at [www.dir.ca.gov/dlsr/DPreWageDetermination.htm](http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm). The wage rate for any classification not listed, but which may be required to execute the Work, shall be commensurate and in accord with specified rates for similar or comparable classifications for those performing similar or comparable duties. In accordance with Section 1773.2 of the California Labor Code, the Contractor shall post, at appropriate and conspicuous locations on the jobsite, a schedule showing all applicable prevailing wage rates and shall comply with the requirements of Labor Code Sections 1773, et seq.

#### **14.1.1 Federal Funding Requirements.**

**14.1.1.1** If federal funding is involved with the Project the Federal Davis-Bacon Act (40 U.S.C. 3141 et seq.), as supplemented by Department of Labor regulations (29 C.F.R. Part 5), will apply to the Project and those requirements shall be complied with by Contractor. The Contractor and all Subcontractors and Sub-subcontractors are required to pay their employees and workers a wage not less than the minimum wage for the work classification as specified in both the Federal and California wage decisions. The higher of the two applicable wage classifications, either California prevailing wage or Davis-Bacon Federal prevailing wage, will be enforced for all Work under this Contract. If applicable, the Contractor is responsible for ensuring Subcontractor compliance with Davis-Bacon and related federal law requirements.

**14.1.1.2** Contractor must comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 C.F.R. Part 3).

**14.1.1.3** Contractor must comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 et seq.) as supplemented by Department of Labor regulations (29 C.F.R. Part 5).

## **14.2 Subcontractors**

**14.2.1 Ineligible Subcontractors.** Pursuant to the provisions of Section 1777.1 of the California Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a contractor or subcontractor on a public works project. This list of debarred contractors is available from the DIR website at [http://www.dir.ca.gov/dir/Labor\\_law/DSLE/Debar.html](http://www.dir.ca.gov/dir/Labor_law/DSLE/Debar.html). Any contract entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract, and any public money that may have been paid to a debarred subcontractor by a contractor on the project shall be returned to the County. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

**14.2.1.1 System for Award Management (SAM).** Neither contractor, nor its principals, employees or subcontractors shall be debarred, suspended, proposed for debarment, or declared ineligible from award of contracts by any federal agency. Please see the SAM which can be accessed at <http://www.sam.gov/>. This information may include names, addresses, DUNS numbers, Social Security Numbers, Employer Identification Numbers or other Taxpayer Identification Numbers, if available and deemed appropriate and permissible to publicize by the agency taking action.

**14.2.1.2 Certification.** Contractor certifies that neither it nor its principals or Subcontractors are presently disbarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency as required by Executive Order 12549.

**14.2.2 Employment of Apprentices.** The Contractor and all Subcontractors performing Work for the Project shall comply with all requirements pertaining to the employment of apprentices pursuant to the provisions of the California Labor Code including, but not limited to, California Labor Code Section 1777.5.

## **14.3 Payment of Prevailing Rates**

There shall be paid each worker of the Contractor, or any Subcontractor, of any tier, engaged in the Work, not less than the general prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor, of any tier, and such worker.

#### **14.4 Prevailing Rate Penalty**

The Contractor shall, as a penalty, forfeit two hundred dollars (\$200.00) to the County for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of the Department of Industrial Relations for such work or craft in which such worker is employed by the Contractor or by any Subcontractor in connection with the Work. Pursuant to California Labor Code Section 1775, the difference between such prevailing wage rates and the amount paid to each worker for each calendar day, or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.

#### **14.5 Payroll Records**

**14.5.1** Pursuant to California Labor Code Section 1776, the Contractor and each Subcontractor, of any tier, shall keep accurate certified payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by them in connection with the Work. The payroll records enumerated herein shall be verified by a written declaration made under penalty of perjury that the information contained in the payroll record is true and correct and that the Contractor or Subcontractor has complied with the requirements of the California Labor Code Sections 1771, 1811, and 1815 for any Work performed by his or her employees on the Project. The payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

- (1) a certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his/her authorized representative on request;
- (2) a certified copy of all payroll records shall be made available for inspection or furnished upon request to the County, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations;
- (3) a certified copy of payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the County, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been previously provided to the County, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, the requesting party shall, prior to being provided the records, reimburse the cost of preparation by the Contractor, Subcontractor and the entity through which the request was made; the public shall not be given access to such records at the principal office of the Contractor;



(4) the Contractor shall file a certified copy of the payroll records with the entity that requested such records within ten (10) days after receipt of a written request; and

(5) copies provided to the public, by the County, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor or any Subcontractor of any tier, performing a part of the Work shall not be marked or obliterated. The Contractor shall inform the County of the location of payroll records, including the street address, city and county and shall, within five (5) working days, provide a notice of a change of location and address.

**14.5.2** In the event the Contractor does not comply with the requirements of this subsection, the Contractor shall have ten (10) days in which to comply, subsequent to a receipt of written notice specifying in what respects the Contractor must comply herewith. Should non-compliance still be evident after a ten (10) day period, the Contractor shall, as a penalty to the County, forfeit one-hundred dollars (\$100.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalty shall be withheld from any portion of the Contract Sum then due or to become due to the Contractor.

#### **14.6 Limits on Hours of Work**

Pursuant to California Labor Code Section 1810, eight (8) hours of labor shall constitute a legal day's work. Pursuant to California Labor Code Section 1811, the time of service of any worker employed at any time by the Contractor or by a Subcontractor, or any tier, upon the Work or upon any part of the Work, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereafter provided. Notwithstanding the foregoing provisions, Work performed by employees of Contractor or any Subcontractor, of any tier, in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1½) times the basic rate of pay.

#### **14.7 Penalty for Excess Hours**

The Contractor shall pay to the County a penalty of twenty-five dollars (\$25.00) for each worker employed on the Work by the Contractor or any Subcontractor, of any tier, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one calendar week, in violation of the provisions of the California Labor Code, unless compensation to the worker so employed by the Contractor is not less than one and one-half (1½) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.



## **14.8 Contractor Responsibility**

Any work performed by workers necessary to be performed after regular work hours or on Sundays or other holidays shall be performed without adjustment of the Contract Sum and/or without additional expense to the County.

## **14.9 Employment of Apprentices**

Any apprentices employed to perform any of the Work shall be paid the standard wage to apprentices under the regulations of the craft or trade for which such apprentice is employed, and such individual shall be employed only for the Work of the craft or trade to which such individual is registered. Only apprentices, as defined in California Labor Code Section 3077, who are in training under apprenticeship standards and written apprenticeship agreements under California Labor Code Sections 3070 et seq. are eligible to be employed for the Work. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which such apprentice is training.

## **14.10 Apprenticeship Certificate**

When the Contractor or any Subcontractor, of any tier, in performing any of the Work employs workers in any Apprenticeable Craft or Trade, as hereinafter defined, the Contractor and such Subcontractor shall apply to the Joint Apprenticeship Committee administering the apprenticeship standards of the craft or trade in the area of the site of the Work for a certificate approving the Contractor or such Subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected, provided, however, that the approval as established by the Joint Apprenticeship Committee or Committees, subsequent to approving the Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or such Subcontractor in order to comply with California Labor Code Section 1777.5. The Contractor and Subcontractor shall submit contract award information to the applicable Joint Apprenticeship Committee, which shall include an estimate of journeyman hours to be performed under the Contract, the number of apprentices to be employed, and the approximate dates the apprentices will be employed. There shall be an affirmative duty upon the Joint Apprenticeship Committee or Committees, administering the apprenticeship standards of the crafts or trades in the area of the site of the Work, to ensure equal employment and affirmative action and apprenticeship for women and minorities. Contractors or Subcontractors shall not be required to submit individual applications for approval to local Joint Apprenticeship Committees provided they are already covered by the local apprenticeship standards.

## **14.11 Ratio of Apprentices to Journeymen**

The ratio of Work performed by the apprentices to journeymen, who shall be employed in the Work, may be the ratio stipulated in the apprenticeship standards under which the Joint Apprenticeship Committee operates, but in no case shall the ratio be less than one hour of apprentice work for each five hours of labor performed by a journey, except as otherwise provided in California Labor Code Section 1777.5. The minimum ratio of the land surveyor

classification shall not be less than one apprentice for each five journeymen. Any ratio shall apply during any day or portion of a day when any journeyman, or the higher standard stipulated by the Joint Apprenticeship Committee, is employed at the site of the Work and shall be computed on the basis of the hours worked during the day by journeymen so employed, except for the land surveyor classification. The Contractor shall employ apprentices for the number of hours computed as above before the completion of the Work. The Contractor shall, however, endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the site of the Work. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of a Joint Apprenticeship Committee, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification. The Contractor or any Subcontractor covered by this Article and California Labor Code Section 1777.5, upon the issuance of the approval certificate, or if it has been previously approved in such craft, or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the apprenticeship standards. Upon proper showing by the Contractor that it employs apprentices in such craft or trade in the State of California on all of its contracts on an annual average of not less than one apprentice to each five journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the Contractor from the 1-to-5 ratio as set forth in this Article and California Labor Code Section 1777.5. This Article shall not apply to contracts of general contractors, or to contracts of specialty contractors not bidding for work through a general or prime contractor, involving less than Thirty Thousand Dollars (\$30,000.00) or twenty (20) working days. The term "Apprenticeable Craft or Trade" as used herein shall mean a craft or trade determined as an Apprenticeable occupation in accordance with rules and regulations prescribed by the Apprenticeship Council.

#### **14.12 Exemption from Ratios**

The Joint Apprenticeship Committee shall have the discretion to grant a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the Contractor from the 1-to-5 ratio set forth in this Article when it finds that any one of the following conditions are met:

- (1) unemployment for the previous three-month period in such area exceeds an average of fifteen percent (15%); or
- (2) the number of apprentices in training in such area exceeds a ratio of 1-to-5 in relation to journeymen; or
- (3) the Apprenticeable Craft or Trade is replacing at least one-thirtieth (1/30) of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis; or
- (4) if assignment of an apprentice to any work performed under the Contract Documents would create a condition which would jeopardize such apprentice's life or the life, safety or property of fellow employees or the public at large, or if the specific task to which the apprentice is to be

assigned is of such a nature that training cannot be provided by a journeyman.

When such exemptions from the 1-to-5 ratio between apprentices and journeymen are granted to an organization which represents contractors in a specific trade on a local or statewide basis, the member contractors will not be required to submit individual applications for approval to local Joint Apprenticeship Committees, provided they are already covered by the local apprenticeship standards.

#### **14.13 Contributions to Trust Funds**

The Contractor or any Subcontractor, of any tier, who, performs any of the Work by employment of journeymen or apprentices in any Apprenticeable Craft or Trade and who is not contributing to a fund or funds to administer and conduct the apprenticeship program in any such craft or trade in the area of the site of the Work, to which fund or funds other contractors in the area of the site of the Work are contributing, shall contribute to the fund or funds in each craft or trade in which it employs journeymen or apprentices in the same amount or upon the same basis and in the same manner as the other contractors do, but where the trust fund administrators are unable to accept such funds, contractors not signatory to the trust agreement shall pay a like amount to the California Apprenticeship Council. The Division of Labor Standards Enforcement is authorized to enforce the payment of such contributions of such fund(s) as set forth in California Labor Code Section 227. Such contributions shall not result in an increase in the Contract Sum.

#### **14.14 Contractor's Compliance**

The responsibility of compliance with this Article for all Apprenticeable Trades or Crafts is solely and exclusively that of the Contractor. All decisions of the Joint Apprenticeship Committee(s) under this Article are subject to the provisions of California Labor Code Section 3081. In the event the Contractor willfully fails to comply with the provisions of this Article and California Labor Code Section 1777.5, pursuant to California Labor Code Section 1777.7, the Contractor shall:

- (1) be denied the right to bid on any public works contract for a period of one (1) year from the date the determination of non-compliance is made by the Administrator of Apprenticeship; and
- (2) forfeit, as a civil penalty, the sum of One Hundred Dollars (\$100.00) for each calendar day of noncompliance.

Notwithstanding the provisions of California Labor Code Section 1727, upon receipt of such determination, the County shall withhold such amount from the Contract Sum then due or to become due. Any such determination shall be issued after a full investigation, a fair and impartial hearing, and reasonable notice thereof in accordance with reasonable rules and procedures prescribed by the California Apprenticeship Council. Any funds withheld by the County pursuant to this Article shall be deposited in the General Fund or other similar fund of the County. The interpretation and enforcement of California Labor Code Sections 1777.5 and

1777.7 shall be in accordance with the rules and procedures of the California Apprenticeship Council.

#### **14.15 Contractor's Compliance with Law**

Contractor, Contractor's agents, and Contractor's employees shall be bound by and comply with all applicable provisions of the Labor Code, and such federal, state and local laws which affect the conduct of the Work. This includes, but is not limited to laws regulating: payment of wages; eight-hour day; overtime, Saturday, Sunday and holiday work; and nondiscrimination.

The Contractor shall forfeit to the County the penalties prescribed in the Labor Code for violations.

**14.15.1** Contractor shall comply with all Executive Orders, statutes or regulations regarding the stabilization of wages and prices in the construction industry.

#### **14.16 Equal Employment Opportunity**

**14.16.1** Contractor agrees to fully comply with the laws and programs (including regulation issued pursuant thereto) which are listed following this paragraph. Such compliance is required to the extent such laws, programs and their regulations are, by their own terms, applicable to this Contract. Contractor warrants that it will make itself thoroughly familiar with the applicable provisions of said laws, programs and regulations prior to commencing performance of the Contract. Copies of said laws, programs and regulations are available upon request from County. To the extent applicable the provisions of said laws, programs and regulations are deemed to be a part of this Contract as if fully set forth herein.

**14.16.1.1** Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended (38 U.S.C. 4212) and the applicable clause is inserted pursuant to 41 C.F.R. Sections 60-250.5(a).

**14.16.1.2** Rehabilitation Act of 1973, as amended (29 U.S.C. 701 et seq.) and the applicable clause is inserted pursuant to 41 C.F.R. Sections 60-741.5(a).

**14.16.1.3** California Fair Employment and Housing Act. (CA Government Code Section 12900 et seq.)

**14.16.1.4** Civil Rights Act of 1964, as amended (42 U.S.C. 2000a et seq.), Executive Order No. 11246, September 24, 1965, as amended, and the applicable clause is inserted pursuant to 41 C.F.R. Section 60-1.4.

**14.16.2** Executive Order 11246.

Contractor certifies that Contractor will fully comply with Executive Order 11246, as amended by Executive Order 11375, and any other executive order amending this order, and the rules and regulations issued thereunder, which are hereby incorporated

by reference as appropriate. The Contractor commits itself to such compliance by submitting a properly signed bid or offer or by signing or otherwise accepting a Contract or subcontract.

#### **14.17 Senate Bill 854 (Chapter 28 Statutes of 2014) and Senate Bill 96 (Chapter 28, Statutes of 2017) Requirements**

**14.17.1** Contractor shall comply with Senate Bill 854 and Senate Bill 96. The requirements include, but are not limited to, the following:

**14.17.1.1** No contractor or subcontractor may be listed on a bid proposal (submitted on or after March 1, 2015) for a public works project 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 as allowed under Labor Code section 1771.1(a).

**14.17.1.2** No contractor or subcontractor may be awarded a contract for public work or perform 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.

**14.17.1.3** This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

**14.17.1.4** As required by the Department of Industrial Relations, Contractor is required to post job site notices, as prescribed by regulation, regarding compliance monitoring and enforcement by the Department of Industrial Relations.

**14.17.1.5** Contractors and all subcontractors must submit certified payroll records online to the Labor Commissioner for all new public works projects issued on or after April 1, 2015, and for all public works projects, new or ongoing, on or after January 1, 2016.

(1) The certified payroll must be submitted at least monthly to the Labor Commissioner.

(2) The County reserves the right to require Contractor and all subcontractors to submit certified payroll records more frequently than monthly to the Labor Commissioner

(3) The certified payroll records must be in a format prescribed by the Labor Commissioner.

**14.17.1.6** Registration with the Department of Industrial Relations and the submission of certified payroll records to the Labor Commissioner are not required if the public works project is \$25,000 or less when the project is for construction, alteration, demolition, installation or repair work, or if the public works project is \$15,000 or less when the project is for maintenance work.



**14.17.2** Labor Code section 1725.5 states the following:

“A contractor shall be registered pursuant to this section to be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any public work contract that is subject to the requirements of this chapter. For the purposes of this section, “contractor” includes a subcontractor as defined by Section 1722.1.

(a) To qualify for registration under this section, a contractor shall do all of the following:

(1) (A) Register with the Department of Industrial Relations in the manner prescribed by the department and pay an initial nonrefundable application fee of four hundred dollars (\$400) to qualify for registration under this section and an annual renewal fee on or before July 1 of each year thereafter. The annual renewal fee shall be in a uniform amount set by the Director of Industrial Relations, and the initial registration and renewal fees may be adjusted no more than annually by the director to support the costs specified in Section 1771.3.

(B) Beginning June 1, 2019, a contractor may register or renew according to this subdivision in annual increments up to three years from the date of registration. Contractors who wish to do so will be required to prepay the applicable nonrefundable application or renewal fees to qualify for the number of years for which they wish to preregister.

(2) Provide evidence, disclosures, or releases as are necessary to establish all of the following:

(A) Workers' compensation coverage that meets the requirements of Division 4 (commencing with Section 3200) and includes sufficient coverage for any worker whom the contractor employs to perform work that is subject to prevailing wage requirements other than a contractor who is separately registered under this section. Coverage may be evidenced by a current and valid certificate of workers' compensation insurance or certification of self-insurance required under Section 7125 of the Business and Professions Code.

(B) If applicable, the contractor is licensed in accordance with Chapter 9 (commencing with Section 7000) of the Business and Professions Code.

(C) The contractor does not have any delinquent liability to an employee or the state for any assessment of back wages or related damages, interest, fines, or penalties pursuant to any final judgment, order, or determination by a court or any federal, state, or local administrative agency, including a confirmed arbitration award. However, for purposes of this paragraph, the contractor shall not be disqualified for any judgment, order, or determination that is under appeal, provided that the contractor has secured the payment of any amount eventually found due through a bond or other appropriate means.

(D) The contractor is not currently debarred under Section 1777.1 or under any other federal or state law providing for the debarment of contractors from public works.

(E) The contractor has not bid on a public works contract, been listed in a bid proposal, or engaged in the performance of a contract for public works without being lawfully registered in accordance with this section, within the preceding 12 months or since the



effective date of the requirements set forth in subdivision (e), whichever is earlier. If a contractor is found to be in violation of the requirements of this paragraph, the period of disqualification shall be waived if both of the following are true:

(i) The contractor has not previously been found to be in violation of the requirements of this paragraph within the preceding 12 months.

(ii) The contractor pays an additional nonrefundable penalty registration fee of two thousand dollars (\$2,000).

(b) Fees received pursuant to this section shall be deposited in the State Public Works Enforcement Fund established by Section 1771.3 and shall be used only for the purposes specified in that section.

(c) A contractor who fails to pay the renewal fee required under paragraph (1) of subdivision (a) on or before the expiration of any prior period of registration shall be prohibited from bidding on or engaging in the performance of any contract for public work until once again registered pursuant to this section. If the failure to pay the renewal fee was inadvertent, the contractor may renew its registration retroactively by paying an additional nonrefundable penalty renewal fee equal to the amount of the renewal fee within 90 days of the due date of the renewal fee.

(d) If, after a body awarding a contract accepts the contractor's bid or awards the contract, the work covered by the bid or contract is determined to be a public work to which Section 1771 applies, either as the result of a determination by the director pursuant to Section 1773.5 or a court decision, the requirements of this section shall not apply, subject to the following requirements:

(1) The body that awarded the contract failed, in the bid specification or in the contract documents, to identify as a public work that portion of the work that the determination or decision subsequently classifies as a public work.

(2) Within 20 days following service of notice on the awarding body of a determination by the Director of Industrial Relations pursuant to Section 1773.5 or a decision by a court that the contract was for public work as defined in this chapter, the contractor and any subcontractors are registered under this section or are replaced by a contractor or subcontractors who are registered under this section.

(3) The requirements of this section shall apply prospectively only to any subsequent bid, bid proposal, contract, or work performed after the awarding body is served with notice of the determination or decision referred to in paragraph (2).

(e) The requirements of this section shall apply to any bid proposal submitted on or after March 1, 2015, to any contract for public work, as defined in this chapter, executed on or after April 1, 2015, and to any work performed under a contract for public work on or after January 1, 2018, regardless of when the contract for public work was executed.

(f) This section does not apply to work performed on a public works project of twenty-five thousand dollars (\$25,000) or less when the project is for construction, alteration, demolition, installation, or repair work or to work performed on a public works project of fifteen thousand dollars (\$15,000) or less when the project is for maintenance work."

**14.17.3** Labor Code section 1771.1 states the following:

“(a) A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

(b) Notice of the requirement described in subdivision (a) shall be included in all bid invitations and public works contracts, and a bid shall not be accepted nor any contract or subcontract entered into without proof of the contractor or subcontractor's current registration to perform public work pursuant to Section 1725.5.

(c) An inadvertent error in listing a subcontractor who is not registered pursuant to Section 1725.5 in a bid proposal shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive, provided that any of the following apply:

(1) The subcontractor is registered prior to the bid opening.

(2) Within 24 hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in subparagraph (E) of paragraph (2) of subdivision (a) of Section 1725.5.

(3) The subcontractor is replaced by another registered subcontractor pursuant to Section 4107 of the Public Contract Code.

(d) Failure by a subcontractor to be registered to perform public work as required by subdivision (a) shall be grounds under Section 4107 of the Public Contract Code for the contractor, with the consent of the awarding authority, to substitute a subcontractor who is registered to perform public work pursuant to Section 1725.5 in place of the unregistered subcontractor.

(e) The department shall maintain on its Internet Web site a list of contractors who are currently registered to perform public work pursuant to Section 1725.5.

(f) A contract entered into with any contractor or subcontractor in violation of subdivision (a) shall be subject to cancellation, provided that a contract for public work shall not be unlawful, void, or voidable solely due to the failure of the awarding body, contractor, or any subcontractor to comply with the requirements of Section 1725.5 or this section.

(g) If the Labor Commissioner or his or her designee determines that a contractor or subcontractor engaged in the performance of any public work contract without having been registered in accordance with this section, the contractor or subcontractor shall forfeit, as a civil penalty to the state, one hundred dollars (\$100) for each day of work performed in violation of the registration requirement, not to exceed an aggregate penalty of eight thousand dollars (\$8,000) in addition to any penalty registration fee assessed pursuant to clause (ii) of subparagraph (E) of paragraph (2) of subdivision (a) of Section 1725.5.

(h)(1) In addition to, or in lieu of, any other penalty or sanction authorized pursuant to this chapter, a higher tiered public works contractor or subcontractor who is found to have entered into a subcontract with an unregistered lower tier subcontractor to perform any public work in violation of the requirements of Section 1725.5 or this section shall be subject to forfeiture, as a civil penalty to the state, of one hundred dollars (\$100) for

each day the unregistered lower tier subcontractor performs work in violation of the registration requirement, not to exceed an aggregate penalty of ten thousand dollars (\$10,000).

(2) The Labor Commissioner shall use the same standards specified in subparagraph (A) of paragraph (2) of subdivision (a) of Section 1775 when determining the severity of the violation and what penalty to assess, and may waive the penalty for a first time violation that was unintentional and did not hinder the Labor Commissioner's ability to monitor and enforce compliance with the requirements of this chapter.

(3) A higher tiered public works contractor or subcontractor shall not be liability for penalties assessed pursuant to paragraph (1) if the lower tier subcontractor's performance is in violation of the requirements of Section 1725.5 due to the revocation of a previously approved registration.

(4) A subcontractor shall not be liable for any penalties assessed against a higher tiered public works contractor or subcontractor pursuant to paragraph (1). A higher tiered public works contractor or subcontractor may not require a lower tiered subcontractor to indemnify or otherwise be liable for any penalties pursuant to paragraph (1).

(i) The Labor Commissioner or his or her designee shall issue a civil wage and penalty assessment, in accordance with the provisions of Section 1741, upon determination of penalties pursuant to subdivision (g) and subparagraph (B) of paragraph (1) of subdivision (h). Review of a civil wage and penalty assessment issued under this subdivision may be requested in accordance with the provisions of Section 1742. The regulations of the Director of Industrial Relations, which govern proceedings for review of civil wage and penalty assessments and the withholding of contract payments under Article 1 (commencing with Section 1720) and Article 2 (commencing with Section 1770), shall apply.

(j)(1) Where a contractor or subcontractor engages in the performance of any public work contract without having been registered in violation of the requirements of Section 1725.5 or this section, the Labor Commissioner shall issue and serve a stop order prohibiting the use of the unregistered contractor or the unregistered subcontractor on all public works until the unregistered contractor or unregistered subcontractor is registered. The stop order shall not apply to work by registered contractors or subcontractors on the public work.

(2) A stop order may be personally served upon the contractor or subcontractor by either of the following methods:

(A) Manual delivery of the order to the contractor or subcontractor personally.

(B) Leaving signed copies of the order with the person who is apparently in charge at the site of the public work and by thereafter mailing copies of the order by first class mail, postage prepaid to the contractor or subcontractor at the address on file with either of the following:

(i) The Contractors' State License Board.

(ii) The Secretary of State.

(3) The stop order shall be effective immediately upon service and shall be subject to appeal by the party contracting with the unregistered contractor or subcontractor, by the unregistered contractor or subcontractor, or both. The appeal, hearing, and any further review of the hearing decision shall be governed by the procedures, time limits, and other requirements specified in subdivision (a) of Section 238.1.

(k) Failure of a contractor or subcontractor, owner, director, officer, or managing agent of the contractor or subcontractor to observe a stop order issued and served upon him or her pursuant to subdivision (j) is guilty of a misdemeanor punishable by imprisonment in county jail not exceeding 60 days or by a fine not exceeding ten thousand dollars (\$10,000), or both.

(l) This section shall apply to any bid proposal submitted on or after March 1, 2015, and any contract for public work entered into on or after April 1, 2015. This section shall also apply to the performance of any public work, as defined in this chapter, on or after January 1, 2018, regardless of when the contract for public work was entered.

(m) Penalties received pursuant to this section shall be deposited in the State Public Works Enforcement Fund established by Section 1771.3 and shall be used only for the purposes specified in that section.

(n) This section shall not apply to work performed on a public works project of twenty-five thousand dollars (\$25,000) or less when the project is for construction, alteration, demolition, installation, or repair work or to work performed on a public works project of fifteen thousand dollars (\$15,000) or less when the project is for maintenance work.”

**14.17.4** Labor Code section 1771.4 states the following:

“a) All of the following are applicable to all public works projects that are otherwise subject to the requirements of this chapter:

(1) The call for bids and contract documents shall specify that the project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

(2) The awarding body shall post or require the prime contractor to post job site notices, as prescribed by regulation.

(3) Each contractor and subcontractor shall furnish the records specified in Section 1776 directly to the Labor Commissioner, in the following manner:

(A) At least monthly or more frequently if specified in the contract with the awarding body.

(B) In a format prescribed by the Labor Commissioner.

(4) If the contractor or subcontractor is not registered pursuant to Section 1725.5 and is performing work on a project for which registration is not required because of subdivision (f) of Section 1725.5, the unregistered contractor or subcontractor is not required to furnish the records specified in Section 1776 directly to the Labor Commissioner but shall retain the records specified in Section 1776 for at least three years after completion of the work.

(5) The department shall undertake those activities it deems necessary to monitor and enforce compliance with prevailing wage requirements.

(b) The Labor Commissioner may exempt a public works project from compliance with all or part of the requirements of subdivision (a) if either of the following occurs:

(1) The awarding body has enforced an approved labor compliance program, as defined in Section 1771.5, on all public works projects under its authority, except those deemed exempt pursuant to subdivision (a) of Section 1771.5, continuously since December 31, 2011.



(2) The awarding body has entered into a collective bargaining agreement that binds all contractors performing work on the project and that includes a mechanism for resolving disputes about the payment of wages.

(c) The requirements of paragraph (1) of subdivision (a) shall only apply to contracts for public works projects awarded on or after January 1, 2015.

(d) The requirements of paragraph (3) of subdivision (a) shall apply to all contracts for public work, whether new or ongoing, on or after January 1, 2016.”

## **15 MISCELLANEOUS PROVISIONS**

### **15.1 Governing Law**

The Contract shall be governed by the laws of the State of California without regard to choice of law principles thereof. The exclusive venue of any legal action brought by the County, the Contractor, or any Consultant or Subcontractor, with regard to this Agreement or Project, shall be in the Superior Court of California, San Bernardino County, San Bernardino District. Contractor agrees to incorporate this provision into all Subcontractor agreements.

### **15.2 Successors and Assigns**

The County and Contractor respectively bind themselves, their partners, successors, assigns, and legal Project Managers to the other Party hereto and to partners, successors, assigns, and legal Project Managers of such other Party in respect to covenants, agreements, and obligations contained in the Contract Documents. The Contractor shall not sublet or assign the Work of this Contract or any portion thereof or any monies due thereunder, without the express prior written consent and approval of County. County may freely assign its rights hereunder, without limitation, to a separate entity and Contractor agrees, upon such entity's request, to continue and complete performance of the Work upon payment of any undisputed outstanding amounts due Contractor for services performed up to and including the effective date of the assignment, provided adequate proof of funding to completion is offered by assignee. Any entity which shall succeed to the rights of County shall be entitled to enforce the rights of County hereunder. If requested by such entity, Contractor will execute a separate letter or other agreement with such entity further evidencing Contractor's commitment to continue performance of the Contract.

### **15.3 Written Notice**

Written notice shall be deemed to have been duly served if delivered in person, or by US Mail, courier service, or package delivery service (such as UPS and FedEx) to the individuals identified for receipt of notice in the Agreement.

### **15.4 Rights and Remedies**

**15.4.1 Cumulative Rights.** Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

**15.4.2 No Waiver.** No action or failure to act by the County shall constitute a waiver of any right or duty afforded the County under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically provided in the Contract Documents or as may be otherwise agreed in writing.

## **15.5 Tests and Inspections**

**15.5.1 Required Tests, Inspections, and Costs.** If the Contract Documents, County instructions, laws, ordinances, or any public authority require any Work to be specially tested or approved, Contractor shall give notice, in accordance with such authority, of its readiness for observation or inspection, at least two (2) working days prior to being tested or covered up. Whenever the Contractor desires to carry on the Work of this Contract at night or on a Saturday, Sunday, or holiday, Contractor shall request authorization in writing from the County for such work at least two (2) working days in advance so that inspection may be provided if authorization is granted and the Contractor agrees to pay overtime reimbursement of costs for this service. If inspection is by authority other than County, Contractor shall inform County of date fixed for such inspection. All required certificates of inspection shall be secured by Contractor. If any Work required to be tested should be covered up without approval or consent of County, Contractor must, if required by County, uncover the Work for examination and satisfactorily reconstruct at Contractor's expense within the Contract Sum in compliance with Contract. All labor and equipment necessary for exposing and testing shall be furnished by the Contractor at his expense. The Contractor shall replace, at Contractor's expense, any materials or Work damaged by exposure and any faulty materials or workmanship evidenced by such exposure or testing. Where such inspection and testing are to be conducted by an independent laboratory or agency, such materials or samples of materials to be tested shall be selected by such laboratory or agency or County's Project Manager, and not by Contractor. Contractor shall notify County a sufficient time in advance of manufacture of materials to be supplied by it under Contract, which must, by terms of contract, be tested, in order that County may arrange for testing of same at source of supply. Prior to having satisfactorily passed such testing and inspection, or prior to receipt of notice from said Project Manager that such testing and inspection will not be required, the materials shall not be incorporated into the Work without prior approval of County and subsequent testing and inspection. Re-examination of questioned work may be ordered by County and, if so ordered, Work must be uncovered by Contractor. All labor and equipment necessary for exposing and testing shall be furnished by the Contractor at his expense. The Contractor shall replace, at Contractor's expense, any materials or Work damaged by exposure and any faulty materials or workmanship evidenced by such exposure or testing.

**15.5.2 Additional Tests and Inspections.** If the County or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or



approval not included under Subparagraph 15.5.1, the County will instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the County, and the Contractor shall give timely notice to the County of when and where tests and inspections are to be made so that the County may be present for such procedures. Such costs shall be at the County's expense, if applicable. If such procedures for testing, inspection, or approval under Subparagraphs 15.5.1 and 15.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for County's testing and inspection services and expenses, shall be at the Contractor's expense, within the Contract Sum. Cost of retesting, reinspection, and reapprovals as described herein, including compensation for the County's testing and inspection services and expenses, shall be paid for by the County and deducted from the Contract Sum by a Change Order or Construction Change Directive.

**15.5.3 Documentation.** Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the County. Delivery of such documentation is a condition precedent to County's obligation to make payment to Contractor.

**15.5.4 Observation of Tests.** If the County is to observe tests, inspections, or approvals required by the Contract Documents, County will do so promptly and, where practicable, at the normal place of testing.

**15.5.5 Time.** Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

**15.5.6 Responsibility.** Any inspection or approval by any representative or agent of the County will not relieve the Contractor of the responsibility of incorporating in the Work only those materials which conform to the Specifications, and any nonconforming materials shall be removed from the Site whenever identified. Further, inspection or approval by the County does not relieve the Contractor of its obligation to provide Work which conforms in all aspects with the Contract Documents.

## **15.6 Record Retention and Audits**

**15.6.1** The County and any entities and/or agencies designated by the County, shall have access to, and the right to audit, and the right to copy at the County's cost, all of Contractor's books, records, Contracts, correspondence, instructions, Drawings, receipts, vouchers, purchase orders, and memoranda relating to the Work, changes in the Work, any Change Orders or Construction Change Directives or written amendments to the Contract, and any claims.

**15.6.2** Contractor agrees that the County and its designated representative shall have the right to review, to audit, and to copy any records and supporting documentation pertaining to the performance of this Agreement. Contractor agrees to allow interviews of any employees who might reasonably have information related to such records.

Further, Contractor agrees to include a similar right of the County to audit records and interview staff in any subcontract related to performance of this Agreement.

**15.6.3** The Contractor shall establish an official file for the Project (the "Official Project File"). The Official Project File shall contain adequate documentation of all actions that have been taken with respect to the Project, in accordance with generally accepted government accounting principles and the requirements for record retention for capital projects constructed with the proceeds of tax exempt bonds. The Contractor will provide a copy of such file to the County at its request or upon termination of this Agreement. The documents to be retained shall include, but are not limited to, Contractor's books, records, Contracts, correspondence, instructions, Drawings, receipts, vouchers, purchase orders, and memoranda relating to the Work, changes in the Work, any Change Orders or Construction Change Directives or Contract Amendments, and any claims.

**15.6.4** Contractor agrees to protect records adequately from fire or other damage. When records are stored away from Contractor's principal office, a written index of the location of records stored must be on hand and ready access must be assured. All the Contractor records contained in the Official Project File must be preserved a minimum of five (5) years (the "Record Maintenance Period"). These records shall be subject at all reasonable times to inspection, examination, monitoring, copying, excerpting, transcribing, and audit by the County or designees, by state government auditors or designees, or by federal government auditors or designees. If any litigation, claim, negotiation, audit, or other action involving the records has been started before the expiration of the Record Maintenance Period, the related records must be retained until the completion of the action and resolution of all issues which arise from it if such date is later than the end of the Record Maintenance Period.

**15.6.5** All books, account, reports, files, correspondence, data, and other records relating to this Contract shall be maintained by the Contractor and shall be subject at all reasonable times to review, inspection, and audit by the County or its designated Project Managers for a period of five (5) years after Final Completion of the Work. County shall be entitled, upon forty-eight (48) hours written notice, to inspect all books, records, accounts, and the Official Project File kept by Contractor relating to the Work contemplated by the Agreement. Such records shall be produced by the Contractor at a place designated by the County, upon written notice to the Contractor.

**15.6.6** Contractor agrees to maintain adequate fiscal and Project books, records, documents, and other evidence pertinent to the Contractor's Work on the Project in accordance with generally accepted accounting principles. Adequate supporting documentation shall be maintained in such detail so as to permit tracing transactions from the invoices, to the financial statement, to the accounting records, and to the supporting documentation. These records shall be maintained for the Record Maintenance Period, and shall be subject to examination and/or audit by County or designees, and state government auditors or designees.

**15.6.7** Contractor agrees to make the Official Project File, books, records, supporting documentations and other evidence available to the County, or its designated representatives, during the course of the Project and for the Record Maintenance Period. Contractor agrees to provide suitable facilities for access, monitoring, inspection and copying of said records.

**15.6.8** Contractor shall maintain books, records, documents, and other evidence sufficient to reflect properly the amount, receipt, and disposition of all Project funds. The maintenance requirements extend to books of original entry, source documents supporting accounting transactions, the general ledger, subsidiary ledgers, personnel and payroll records, canceled checks, and related documents and records. Source documents include copies of all awards, applications, and required financial and narrative reports. Personnel and payroll records shall include the time and attendance reports for all individuals reimbursed under the award, whether they are employed full-time or part-time. Time and effort reports are also required for consultants and subcontractors. Generally accepted government accounting principles and adequate supporting documentation shall be maintained in such detail so as to provide an audit trail which will permit tracing transactions from the invoices to the financial statement, to the accounting records, and to the supporting documentation for the purpose of determining compliance with Public Contract Code Section 10115 et seq., Government Code Section 8546.7 and 2 CCR Section 1896.60 et seq. (as applicable).

## **15.7 Independent Contractor**

Contractor is employed hereunder to render a service within the scope of its training and experience, and Contractor shall be an independent Contractor and not an employee of the County. As such, County shall not be called upon to assume any liability for the direct payment of any salary to any employee or Subcontractor of Contractor, nor to pay any benefit to any employee or Subcontractor or vendor under the Workers' Compensation laws. None of Contractor's officers, agents, employees, and Subcontractors, nor any of their agents, officers, and employees, shall be deemed officers, agents, employees, and Subcontractors of the County, and the County shall not be liable or responsible to them for anything whatsoever other than liability to Contractor set forth in this Contract.

## **15.8 Keys and Access**

If the County furnishes keys and/or access cards to the Contractor to provide access to County's property, the Contractor shall assure that such access instruments are not duplicated and shall return all such instruments in good condition upon request of the County or prior to receipt of final payment, whichever is earlier. If the Contractor fails to return all access instruments furnished to it, the Contractor shall be responsible, within the Contract Sum, for all Work, materials, and costs associated with reestablishing secured access.

## **15.9 Survival of Terms**

The provisions of the Contract which by their nature survive termination of the Contract or Final Completion, including all warranties, indemnities, payment obligations, and the County's right

to audit Contractor's books and records, shall remain in full force and effect after Final Completion or termination of the Contract and shall be binding upon Contractor until any action thereunder is barred according to terms in the Contract Documents or by the applicable statute of limitations or statute of repose.

## **15.10 Cooperation With Labor**

**15.10.1**     General. The Parties agree and declare that Contractor and County are separate and independent entities and that Contractor has full responsibility for performance of the Work and direction of the work force, subject to and under the duty of Contractor to cooperate with County and its Separate Contractors. Contractor recognizes that in the performance of its Work it may be required to work with and near Separate Contractors and Project Managers of County on the jobsite. The Contractor shall only employ or use labor in connection with the Work capable of working harmoniously with all trades, crafts, and any other individuals associated with the Project. The Contractor shall also use best efforts to minimize the likelihood of any strike, work stoppage, slowdowns, disputes, or other labor disturbance. If the Work is to be performed by trade unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage, or cost to the County and without recourse to the County, any conflict between the Contract Documents and any agreements or regulations of any kind at any time in force among members or councils that regulate or distinguish the activities that shall not be included in the Work of any particular trade. Except as specifically provided in Paragraph 8.4 herein, Contractor shall be liable to County for all damages suffered by County, and no extensions of Contract Time shall be given to Contractor, as a result of work stoppage, slowdowns, or strikes related to labor disputes.

### **15.10.2**     Picketing.

**15.10.2.1** Contractor agrees that should there be picketing or a threat of picketing by any labor organization at or near the Site, Contractor, in cooperation with County, shall establish a reserve gate system and require employees of Contractor, Subcontractors, and suppliers to use one or more designated gates. In that event, it shall be the affirmative obligation of Contractor, as a material consideration of this Agreement to ensure that employees of Contractor, Subcontractors, and suppliers use only the gates or other entryways designated by County from time to time on the Project.

**15.10.2.2** Notwithstanding the establishment or non-establishment of a reserve gate, in the event employees of Contractor, Subcontractors or suppliers refuse to work because of any labor disputes or grievances (including any "secondary" or "sympathy" strike or boycott directed against the Project) not caused by County or its Separate Contractors and not the result of an industry-wide strike and that actually prevent performance of the Work, Contractor shall not be relieved of its obligation to supply enough properly skilled workers to perform the Work without interruption or further delay.

**15.10.3 Labor Disputes.** Contractor and County agree to cooperate fully with each other and their Project Managers and attorneys with respect to any labor dispute that should arise on the Site, including, but not limited to the giving of testimony and evidence to the agent or judge of the National Labor Relations Board or testimony in connection with proceedings in state or federal court. Contractor hereby warrants that it is not now nor will Contractor be delinquent in the payment or reporting to any labor management benefit trust.

## **15.11 No Personal Liability**

Notwithstanding any contrary provision in this Agreement or the Contract Documents, no member, principal, officer, employee, agent, Project Manager, or subsidiary of County (each a "direct affiliate of County"), or member, general partner, limited partner, principal, officer, employee, agent, or Project Manager of any direct affiliate of County (together with direct affiliates of County, the "affiliates of County") shall have any personal liability for the performance of any contractual obligations, or in respect of any liability of County under this Agreement and no monetary or other judgment shall be sought or enforced against any such individuals or their assets, all such personal contractual liability being expressly waived by Contractor. Further, the covenants and obligations contained in this Agreement on the part of County shall be covenants and obligations of the County only, and not of any affiliate of County. No affiliate of County shall be individually liable for breach of any covenant or obligation of County, and no recourse shall be had against the assets of any affiliate of County (except to the extent of County's assets but excluding therefrom any negative capital account of any such affiliate of County) for payment of any sums due or enforcement of any other relief, based upon any claim made by Contractor for breach of any of County's covenants or obligations. Notwithstanding the foregoing, Contractor does not waive any rights under Applicable Law in California concerning the commission of fraud or conversion.

## **15.12 Antitrust Claims**

The Contractor by signing this Agreement hereby certifies that if these services or goods are obtained by means of a competitive bid, the Contractor shall comply with the requirements of the Government Code Sections set out below.

**15.12.1** The Government Code Chapter on Antitrust claims contains the following definitions:

- (1)** "Public purchase" means a purchase by means of competitive bids of goods, services, or materials by the State or any of its political subdivisions or public agencies on whose behalf the Attorney General may bring an action pursuant to subdivision (c) of Section 16750 of the Business and Professions Code.
- (2)** "Public purchasing body" means the State or the subdivision or agency making a public purchase. (Government Code Section 4550.)



**15.12.2** In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder. (Government Code Section 4552.)

**15.12.3** If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery. (Government Code Section 4553.)

**15.12.4** Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action. (See Government Code Section 4554.)

### **15.13 Compliance with Restrictions**

Contractor shall comply with all conditions, restrictions and reservations of record, statutes, regulations, and ordinances, including, without limitation, all pollution control, environmental protection, zoning, planning, land use requirements, all restrictions and requirements affecting the Project and adjoining properties, and disabled access imposed by the County and all other governmental entities including, without limitation, the requirements of any general plan and environmental requirements in connection with use, occupancy and building permits, and requirements of public utilities which affect construction of the Work in effect at the time of execution of this Agreement.

### **15.14 Legal Requirements**

Contract shall perform the Work in accordance with the requirements of all Applicable Laws, codes, ordinances, and regulations even though such requirements are not specifically mentioned in the Specifications or shown on the Drawings. When the Work required by the Contract Documents is in conflict with any such legal provision, the Contractor shall notify the County in writing and shall not proceed with the Work until the County has so ordered.

### **15.15 Third Party**



No provision contained in the contract Documents shall create or give to third parties any claim or right of action against the County.

**END OF GENERAL CONDITIONS**

**NOT FOR BID**

**TECHNICAL SPECIFICATIONS  
FOR THE  
PHASE 1B LINER CONSTRUCTION PROJECT  
AT THE  
BARSTOW SANITARY LANDFILL**

**AUGUST 2021**

**TECHNICAL SPECIFICATIONS FOR THE  
BARSTOW SANITARY LANDFILL  
PHASE 1B LINER CONSTRUCTION PROJECT**

**TABLE OF CONTENTS**

**SECTION 1 GENERAL TERMS AND CONDITIONS**

**SECTION 2 SPECIAL CONDITIONS**

Section 2A	Mobilization .....	2A-1
Section 2B	Construction Support Tasks .....	2B-1
Section 2C	Earthwork .....	2C-1
Section 2D	LCRS, LFG Collection Systems .....	2D-1
Section 2E	Geomembrane .....	2E-1
Section 2F	Geosynthetic Clay Liner.....	2F-1
Section 2G	Geotextile and HDPE Geotextile Protective Liner Cover.....	2G-1
Section 2H	Protective Soil Cover.....	2H-1
Section 2I	Miscellaneous Civil and Drainage Improvements .....	2I-1
Section 2J	Geomembrane Leak Location Survey.....	2J-1
Section 2K	Erosion Control Improvements.....	2K-1

**APPENDICES**

Appendix A – Construction Quality Assurance Plan

Appendix B – Health and Safety Plan Requirements

Appendix C – Industrial Activity Storm Water Pollution Prevention Plan (SWPPP);

Appendix D - Project Addenda

Appendix E - NPDES Requirements.

**BARSTOW SANITARY LANDFILL  
PHASE 1B LINER CONSTRUCTION PROJECT  
SECTION 1  
GENERAL TERMS AND CONDITIONS**

**1.1 INTRODUCTION**

The project is located at the Barstow Sanitary Landfill. The Contractor shall become thoroughly familiar with the reference Technical Specifications and permit requirements listed under Section 1.4, as well as the Health and Safety Provisions in Appendix B of these Technical Specifications for precautionary measures to be followed during construction.

**Definition of Terms**

Division:	The Solid Waste Management Division of the Public Works Department, San Bernardino County ("SWMD or County")
Contract Operator:	SWMD Operations Contractor
Engineer:	All references to Engineer shall mean SWMD acting either directly or through properly authorized representatives acting within the scope of the particular duties delegated to them.
Designer:	SWT Engineering, Inc., 860-C South Rochester Avenue, Ontario, CA 91761, telephone (909) 390-1328.
Contractor:	The individual, partnership, corporation, joint venture, or other legal entity entering into a contract with the County to perform the work.
Construction Manager (CM):	All references to CM shall mean SWMD acting directly or through properly authorized representatives contracted to perform CM duties for the project.
Construction Quality Assurance (CQA) Firm:	The firm under contract to perform Construction Quality Assurance monitoring and reporting for the project. For this project, CQA support will be performed by Geo-Logic Associates, 2777 E Guasti Rd #1, Ontario, CA 91761.

These Technical Specifications include the General Terms and Conditions, and the Special Conditions for the Phase 1B Liner Construction Project at the Barstow Sanitary Landfill.

**1.2 DESCRIPTION OF WORK**

The work to be done by the Contractor shall include furnishing all labor, materials, tools, equipment, power, and water for the construction of the Phase 1B Liner Improvements and all associated work represented on the Contract Drawings, and included in these Technical Specifications.

In general, the major features of the work to be performed shall include but not be limited to:

- Clearing, Grubbing, and Demolition.
- Potholing to determine limits of waste - excavate, transport, and reconsolidate refuse.

- Miscellaneous grading, unclassified excavation, and unclassified fill (Excavate, fill, transport, and stockpile soil).
- Screening of 1-inch minus material for liner subgrade and Protective Soil Cover (PSC).
- Preparation of subgrade surface to receive Composite Liner System- Base Liner, Slope Liner, and Access Road/Bench Liner.
- Installation of Composite Liner System geosynthetics on Base, Slope and Access Road/Bench.
- Construct miscellaneous civil and drainage improvements.
- Install chain link fence and gates.
- Construction erosion control improvements.

### **1.3 CONTRACT DOCUMENTS**

The contract documents consist of the Advertisement for Bids, Bidder's Proposal, Bid Documents, Technical Specifications and Plans or Drawings as defined below.

#### **A. ADVERTISEMENT FOR BIDS**

The Advertisement for Bids first publication date is \_\_\_\_\_ 2021.

#### **B. BIDDER'S PROPOSAL**

Sealed bids will be received for "Phase 1B Liner Construction Project at the Barstow Sanitary Landfill" no later than 10:00 a.m. on Thursday January 7, 2022, at the address below, at which time the bids will be publicly opened. Bids received after this time will not be considered.

San Bernardino County, Department of Public Works  
Solid Waste Management Division  
222 W. Hospitality Lane, 2nd Floor  
San Bernardino, California 92415-0017

#### **C. BID DOCUMENTS**

Bid Documents entitled "Bid Documents for the Phase 1B Liner Construction Project at the Barstow Sanitary Landfill"

#### **D. TECHNICAL SPECIFICATIONS**

Technical Specifications shall include the General Terms and Conditions, Special Conditions, and Referenced Technical Specifications as listed in Section 1.4.

#### **E. PLANS OR DRAWINGS**

The Plans for this project are the Phase 1B Groundwater Protection System - Composite Liner Construction Plans specifically prepared for this project and the Referenced Standard Plans.

## **1.4 REFERENCE TECHNICAL SPECIFICATIONS**

### **A. STANDARD TECHNICAL SPECIFICATIONS**

The standard Technical Specifications shall be considered as the “Standard Technical Specifications for Public Works Construction” (SSPWC) of the American Public Works Association, 2006 Edition, and all subsequent amendments, supplements and additions.

### **B. ASTM STANDARDS**

The ASTM standards shall be considered as the latest revised standards or tentative standards of American Society of Testing Materials as specified in either the Technical Specifications, General Provisions or Standard Technical Specifications.

### **C. STANDARD DRAWINGS**

Unless otherwise noted on the project plans, the Standard Drawings shall be the most recent standard drawings referenced.

### **D. PERMIT REQUIREMENTS**

The permit requirements that govern this site and this closure construction project include, but are not limited to:

- All applicable federal and state laws (including CFR 40 and CCR Title 27);
- Waste Discharge Requirements (WDR'S) for the site;
- Solid Waste Facility Permit (SWFP) for the site;
- Air Quality Management District (AQMD) requirements and Refuse Excavation Permit; and
- National Pollution Discharge Elimination System (NPDES) general requirements.

## **1.5 PRECEDENCE OF CONTRACT DOCUMENTS**

In case of conflict between the contract documents as listed in Section 1.3 of these Technical Specifications and the Reference Technical Specifications as listed in Section 1.4 of these Technical Specifications, the following order of governing documents shall be followed:

- A. Permits
- B. Technical Specifications
- C. Plans
- D. Reference Technical Specifications as listed in Section 1.4 of these Technical Specifications



## **1.6. JOB PROGRESS SCHEDULE**

Within 7 days of the approval of the Project Authorization by SWMD, the Contractor shall submit a proposed Schedule of Operations to SWMD. The schedule shall indicate criticality of operations and milestones established by SWMD. The schedule shall also reflect anticipated submittal dates for shop drawings, and procurement, fabrication, and delivery schedules of major materials required for the project. The Schedule shall be in Microsoft Project 2000 format, or as approved by the CM, and shall be submitted on a CD-ROM (or USB Drive), as well as six hard copies.

If the Contractor elects to submit an early completion schedule for the project, it does so at its risk and such a submission does not change the Contract completion date reflected in the Notice to Proceed. SWMD will not accept any responsibility for, nor be held liable for, any damages allegedly caused by the Contractor's failure to complete the Project within its proposed early completion schedule.

No changes shall be made to the critical path logic of the schedule unless such changes have been approved, in writing, by the CM. The Project Schedule shall be updated monthly. The updated schedules shall indicate any deviations from the original schedule and provide a narrative description of problem areas, current and anticipated delaying factors and their impact, and an explanation of corrective actions taken or proposed.

In addition to the Schedule of Operations, the Contractor shall submit a three-week "look-ahead" schedule at the first weekly progress meeting. The "look-ahead schedule" shall be updated continuously and resubmitted at every weekly progress meeting. The "look ahead" schedule will include only those activities that will be in progress, started, or completed during the next three week period.

In conjunction with the schedule submittal, the contractor shall also provide a map showing the proposed phasing of construction activities. This map shall delineate the phasing of construction, haul routes, water supply/storage, and erosion control features to be implemented for the protection of the site.

## **1.7. SHOP DRAWINGS AND SUBMITTALS**

During the pre-construction meeting, the Contractor shall provide to SWMD for the Engineer's review a complete listing of all anticipated Contractor submittals and the proposed submittal dates for each. SWMD will submit said listing to the Engineer for review and comment. The Contractor shall indicate items as shop drawings, compliance certificates, material samples, or guarantees.

All Contractor submittals shall be accompanied by a transmittal letter that shall clearly indicate the item being submitted for review. The transmittal letter shall include a blank white space 3 inches by 4 inches for review notations. Each transmittal shall have identified the following information as applicable:

- Project title and location
- San Bernardino County Solid Waste Management Division Contract Number
- Contractor/Subcontractor name
- Supplier name
- Manufacturer name
- Specification Section Number

If additional data for the submitted item is anticipated to be provided at a later date, the Contractor shall so state on the transmittal.

Submittals shall be numbered consecutively and only one item shall be included per submittal. Subsequent submittals for the same item shall reference the original number and include an extension of that number, i.e., 2.0 becomes 2.1 or 2-A, etc. Six copies of each submittal required by the Technical Specifications shall be furnished at least 15 working days prior to the intended use, unless otherwise indicated.

Engineering data shall include drawings and descriptive information in sufficient detail to show the kind, size, arrangement, and operation of component materials and devices; the external connection, anchorages and supports required; performance characteristics; dimensions needed for installation and correlations with other materials and equipment; and all additional information as required in these Technical Specifications.

Submittal data shall be sufficient to verify compliance with all requirements of these Technical Specifications and references.

Certified test results (test certificates) required for demonstrating proof of compliance of materials with specification requirements will be signed by an official authorized to certify on behalf of the Contractor and will contain the name and address of the Contractor, the project name and location, the quantity, and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates will be signed by a laboratory official authorized to certify on behalf of the laboratory and will contain the name and address of the testing laboratory, the material tested, the testing standards followed, and the testing results. Certification will not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on samples, the material is found not to meet the specific requirements.

Any changes proposed by the Contractor shall be stated in a cover letter address to the Division and essential details of such changes shall be clearly shown in the data submitted.

Calculations to support the adequacy of the design in meeting specified performance ratings or requirements shall be submitted when required by the Technical Specifications.

Data sheets, catalog cuts or drawings showing more than the particular item under consideration shall be marked to cross off all but the applicable information.

The Engineer's review of drawings and data submitted by the Contractor will cover only general conformity to the Drawings and Technical Specifications. After the Engineer has completed the review, the submittal will be returned to the Division with one or more of the following notations:

- No Exception Taken
- Make Corrections Noted
- Rejected
- Revise and Resubmit
- Submit Specified Item

A "No Exception Taken" response to a submittal does not constitute a blanket approval of dimensions, quantities, and details of the material, equipment, device, or items shown, and does not relieve the Contractor from responsibility for errors or deviation from the Contract

requirements. A "Make Corrections Noted" response does not relieve the Contractor from the responsibility of providing all information required by the Contract.

The Contractor is advised that material will not be approved for use in the work until the appropriate submittals have been provided and are approved by the Engineer.

Review of partial or incomplete submittals will be at the discretion of the Engineer and the Construction Manager (CM).

The Engineer will advise the CM, who will advise the Contractor, of any anticipated additional costs related to review of partial or incomplete submittals, or expedited review when due to late submission by the Contractor. Upon Contractor's request and agreement with the Engineer, the additional or expedited review will proceed.

### **1.8 WORKING DAYS**

The Contractor may perform work between the hours of 7:00 a.m. and 7:30 p.m., Monday through Friday. No operations will be conducted beyond those periods unless otherwise approved in writing by the Engineer. Working Days will be tracked by Caltrans Form Exhibit 16-A

### **1.9 TIME OF COMPLETION/LIQUIDATED DAMAGES; EXTENSION OF TIME**

The Contractor agrees to complete all work within 160 working days, commencing upon issuance of a NOTICE TO PROCEED by the County.

In accordance with Government Code Section 53069.85, Contractor agrees to forfeit and pay to County the sum of **Three Thousand Dollars, (\$3,000) per day** for each calendar day that completion of the project is delayed beyond the specified 160 working days.

Contractor shall be deemed to have taken into account normal inclement weather in the Contractor's construction schedule. If Contractor believes that the progress of the work has been adversely affected by abnormal inclement weather, Contractor shall submit a written request for extension of time to the Construction Manager.

It is understood that requests for time extensions related to delays for inclement weather days will only be considered when the days in question impact a critical path element of the project. Further, a time extension will only be granted when the Contractor is prevented from working on a critical path item during the first 5 hours of the day with at least 60 percent of the normal work force for that item.

Additionally, Contractor agrees to forfeit and pay to the County any penalties and/or fines assessed by the various regulatory agencies having jurisdiction over the landfill for violations associated with a failure to complete the project within the specified 160 working days.

Such sum shall be deducted from any payments due to or to become due to Contractor. If delays are caused by unforeseen events beyond the control of both Contractor and County, or by delays within the control of County, such delays will entitle Contractor to an extension of time, but Contractor shall not be entitled to damages or additional payment due to such delays.

### **1.10 RESPONSIBLE REPRESENTATIVE**

The Contractor shall furnish to SWMD, in writing, the name of the representative who shall have complete authority to act for this project, including, but not limited to, implementation and enforcement of the site safety plan, the maintenance of barricades, signs, lights, fencing, erosion

and dust control. The Contractor shall also furnish to SWMD, a telephone number where the Contractor or his representative may be contacted 24 hours a day. The representative shall be present at the job site during all working hours.

**1.11 CONTROL OF WORK**

SWMD will establish bench marks and primary control points outside the work limits. All other construction layout and staking shall be the responsibility of the Contractor.

**END OF SECTION 1**

**NOT FOR BID**

**SECTION 2  
SPECIAL CONDITIONS  
FOR THE  
BARSTOW SANITARY LANDFILL  
PHASE 1B LINER CONSTRUCTION PROJECT**

**NOT FOR BID**

## **SECTION 2A**

### **MOBILIZATION**

#### **1.0 GENERAL**

The work covered by this section consists of furnishing all labor, equipment and supervision, and performing all operations necessary for mobilization. This section also outlines provisions of the Time and Material Allocation Bid Item.

##### **1.1 Mobilization**

Mobilization shall consist of expenditures for all preparatory work and operations, including but not limited to, insurance costs; those costs deemed necessary for the movement of personnel, equipment, supplies, and incidentals to the project sites; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site as well as the related demobilization costs anticipated at the completion of the project.

#### **2.0 PRODUCTS (Not Used)**

#### **3.0 EXECUTION (Not Used)**

#### **4.0 MEASUREMENT AND PAYMENT**

##### **4.1 Mobilization – Item No. 1**

Payment for Mobilization will be made at a percentage of the bid price according to the following schedule.

<u>Percent of Contract Work Completed (Excluding Mobilization)</u>	<u>Amount of Mobilization Considered Complete</u>
5-percent	50-percent
10-percent	75-percent
20-percent	95-percent

At 100-percent, the remaining 5-percent will be paid on Demobilization and Clean-Up. The 5-percent retention will be paid 45 days after filing the project Notice of Completion.

Payment of the lump sum price for mobilization shall constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to completion of this item of work. The deletion of work or the addition of extra work as provided for herein shall not affect the price for mobilization.

**END OF SECTION 2A**



## **SECTION 2B**

### **CONSTRUCTION SUPPORT TASKS**

#### **1.0 GENERAL**

##### **1.1 Facilities for Division**

The Contractor shall provide field offices (with indoor restroom facilities) for the Division, and for the CM/CQA firm. Each office shall have a minimum floor space of 200 square feet, at least 2 doors, and window area of not less than 44 square feet. All doors and windows shall be provided with locks and screens. Equipment and furniture for each office shall be provided as follows:

- Contractor is advised that there is no electrical power available on-site. Contractor shall furnish and fuel an appropriately sized power generator to provide power to the site trailers specified for this project.
- Copier capable of producing 8.5-inch x 11-inch and 11-inch x 17-inch color copies.
- 1 Drafting/plan table (or equivalent).
- 1 standard 5-foot double-pedestal desk with a drawer suitable for holding files.
- 8 (non-folding type) chairs.
- 1 drafting stool.
- 1 plan rack.
- 1 conference table (non-folding type) with seating for a minimum of eight people.

Electric power shall be provided via portable generator, to include a minimum of four 120V duplex convenience outlets. The office shall be illuminated at the tables and desk. An outdoor lighting fixture with a 300-watt bulb shall be installed.

Heating and air conditioning of sufficient capacity shall be provided at no expense to Division. The Contractor shall provide bottled drinking water with hot and cold dispenser within the office.

There is no telephone service to the site.

The field offices shall be placed at a location approved by the Division. An indoor restroom facility shall be provided and maintained for the sole use of the Division's and Engineer's staff.

##### **1.2 Temporary Facilities for Own Use**

- Sanitary facilities for own use shall be furnished by the Contractor.
- Furnish utilities as required for own use. Coordinate with landfill operator and servicing utility agencies for use of existing facilities on site.
- Pay for utility service.
- Remove the above on completion of the work.

### **1.3 Dust Control**

Dust control operations shall be performed by the Contractor at the time, location and in the amount required, and as often as necessary to prevent his excavation or fill work, demolition operation, or other activities from producing dust in amounts harmful to person or causing a nuisance to persons living nearby or occupying buildings in the vicinity of the work. The Contractor is responsible for compliance with Fugitive Dust Regulations issued by the Air Quality Management District (AQMD).

Control of dust shall be by sprinkling of water, use of approved dust preventatives, modifications of operations or any other means acceptable to the Engineer, the Regional Water Quality Control Board (RWQCB), the AQMD, and any Health or Environmental Control Agency having jurisdiction over the facility. The Engineer shall have the authority to suspend all construction operations if, in his opinion, the Contractor fails to adequately provide for dust control.

### **1.4 Protection of Existing Utilities**

The Contractor shall be responsible for protection of any buried or surface utilities and drainage structures within the limits of work existing at the site. Certain items are indicated on the Plans. These may include, but are not limited to: water lines, sewer lines, ground water monitoring and extraction wells, gas monitoring probes, gas extraction wells, power poles, survey monuments.

Attention is directed to the possible existence of underground utilities not indicated on the Plans and to the possibility that underground utilities may be at a location different from that which is indicated on the Plans or in these Technical Specifications. The Contractor shall be responsible for verifying the location of underground utilities, including contacting Underground Service Alert (USA) at 1-800-642-2444, 48 hours prior to beginning work.

Contractor shall be responsible for protection of these utilities and shall take all necessary precautions by constructing barriers, bridges, and crossings for construction equipment and vehicles to prevent damage to the utilities or as required by the Engineer. Any damage or loss caused by the Contractor's operations shall be promptly repaired at the Contractor's expense and to the satisfaction of the Engineer.

### **1.5 Storm Water Pollution Control Compliance - Construction SWPPP**

The Contractor is advised that work under this contract shall be subject to the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Industrial Construction Activities Order No. 97-03-DWQ, NPDES No. CAS000001 (hereinafter referred to as the "IAO") and No 2009-009-DWG NPDES No CAS0000002. Pursuant to the General Terms and Conditions and this Section, the Contractor is also required to prepare and submit for review a Construction SWPPP to demonstrate compliance with NPDES. The contractor is required to obtain a Construction General Storm Water Permit for this project, Order No. 2009-0009-DWQ, NPDES No. CAS000002, (Construction General Permit) as modified January 8, 2009 (hereinafter referred to as the "Order").

## **1.6 Nuisance Water**

It is anticipated that nuisance water, such as rainfall or surface runoff, may be encountered within the construction site during the period of construction under this contract. The Contractor, by submitting his bid, will be held to have investigated the risks arising from such waters and to have made his bid in accordance therewith.

The Contractor shall at all times protect the work from damage by such waters and shall take all due measures to prevent delays in progress of the work caused by such waters. The cost for any repairs due to such damage shall be the responsibility of the Contractor. The Contractor shall manage nuisance water, including all precipitation collected within the Project tributary drainage area, using the landfill's existing storm water control system at his own expense and without adverse effects upon the work site or any other property, including the active operations area, for the duration of the Project (until Notice of Completion is granted by SWMD).

## **1.7 Drainage Precaution**

At the completion of each workday, the Contractor shall take all necessary preventive measures to avoid or minimize damage resulting in erosion or impounding caused by storm water runoff within the construction area. Erosion control measures shall consist of constructing sandbag berms, desilting basins, drains, temporary storm water pumping facilities, and other such measures required to provide for the prevention, control and abatement of storm water discharges and damage resulting there from. The cost for any repairs due to such damage shall be the sole responsibility of the Contractor.

## **1.8 Construction Water**

The Contractor shall make all arrangements for developing water sources at the project and supply of all labor and equipment to collect, load, transport, apply, and dispose of water as necessary for compaction of materials, testing, dust control and all other construction use.

The Contractor may develop sources of water supply or obtain water from private sources. Payment for all cost connected with developing a water source or obtaining water shall be made by the Contractor. Water shall be clean and free from objectionable amounts of acids, alkalis, salts or organic materials. The Contractor may be required to furnish the Engineer with a water analysis performed by a laboratory acceptable to the Engineer. The Contractor shall pay all costs of sampling, testing and reporting the test results.

## **1.9 Site Safety Plan**

The Contractor shall provide a Site-Specific Health and Safety Plan with the signed contract documents that meet the minimum of all the requirements of federal and state regulations through the construction activities. The Contractor shall be solely responsible for adherence to the Site-Specific Health and Safety Plan at all times.

The Contractor shall determine for himself the extent to which these requirements are applicable to his work and subcontractors work for this project. It is the responsibility of the Contractor to ensure compliance with all relevant health and safety regulations.

The Contractor shall be responsible for providing all items necessary for health and safety, including dust control, and personnel protective equipment, in accordance with applicable Federal and State requirements.

The Contractor shall include the elements of the Health and Safety Provisions described in Appendix B of these specifications.

### **1.9.1 Safety Record**

The Contractor shall provide a Safety Record with the signed Contract documents. The Safety Record shall be the OSHA 200 Log for the past three calendar years (2017, 2018, and 2019) and for any incidents in 2020.

### **1.10 Survey**

The Engineer will establish benchmarks and primary control points outside the Work limits. The Contractor shall employ a licensed Land Surveyor or a qualified Registered Civil Engineer licensed in the State of California to provide all lines and grades necessary to perform the Work, and all survey required for quantity verification and data for Record Drawings as indicated in these Contract Documents.

#### **1.10.1 Survey Data Submittal**

All Contractor survey information shall be submitted to the Engineer no later than five (5) working days from the date the survey was conducted. The data shall be provided on a Compact Disc or USB storage device with hard copy printout in accordance with Section 1.10.7.

##### **A. Pre-Construction Survey**

Prior to initiation of site work, the Contractor shall perform a survey to confirm that site conditions are representative of the information contained in blue line Construction Plans. The Contractor shall submit a written report of any/all discrepancies to the Engineer at least one week in advance of work commencement. The report shall include a topographic map which clearly indicates the discrepancies. Contract work paid to the contractor on a volume basis shall require the Contractor's surveyor to perform an independent topographic survey of the work area for comparison with the contract documents. All discrepancies between the Contractor's topographical and contract plans shall be reported to the Engineer prior to initiation of work.

The Contractor shall generate an electronic pre-construction survey surface. The surface shall be generated using approved pre-construction aerial or ground survey data. All electronic surfaces shall be generated using raw survey data (i.e., mass points and break lines) and shall not rely on contours or digitization methods to generate surfaces except with the consent of the Engineer. Surfaces shall be comprised of a Triangulated Irregular Network (TIN), also being the basis for a Digital Terrain Model (DTM). All such surfaces shall be created commensurate with National Mapping Accuracy Standards equal to that matching the scale and contour interval of the contract plans.

##### **B. Survey Control Plan**

The Contractor shall submit a survey control plan indicating proposed control points provided in the construction plans. The plan shall be submitted to the Engineer at least ten (10) days in advance of beginning any construction and the Engineer shall respond with comments or approval within five (5) days of receipt. Primary control shall be based on and tied to at least three surveyor control stations provided by the Engineer. The establishment of all future primary control points will be tied to the same control stations or to the previously established primary control stations.

No work shall commence until any/all discrepancies between the survey information contained in the construction documents and the field conditions at the start of work are resolved. Any changes to the survey control plan during the project shall be submitted to the Engineer for approval prior to implementation.

### **1.10.2 Survey Notification**

The Contractor shall notify the Engineer in writing (fax or e-mail is acceptable) at least two days prior to performance of any QC survey work. Upon completion of the QC survey work for each construction element, or daily at a minimum, the results shall be forwarded to the Engineer. A QA check survey may immediately follow the QC surveys. The Engineer will then compare the data and advise the Contractor whether work can continue. Regardless, the Contractor is ultimately responsible for assuring the work is completed to the lines and grades per Plans and Specifications.

### **1.10.3 Primary and Secondary Survey Control**

A system of primary survey control (basis for setting out) has been established in the construction documents by the Engineer for use by the Contractor. The Contractor shall verify the accuracy of the primary control provided and establish a survey control plan for secondary control points necessary for construction work layout. All secondary survey control shall be established proximate to the work site and used for developing subsequent control and/or laying out the work. Layout lines for use in constructing the work shall be taken directly from the secondary control. Secondary control shall be established by the Contractor's surveyor with due diligence in accordance with local survey industry standards to enable the third party CQA surveyor to retrace the steps of the Contractor's surveyor for the QA check survey.

### **1.10.4 Survey of Buried or Concealed Work**

The Contractor's measurements of lines, grades, and distances are subject to check surveys by the Engineer/CQA surveyor. All underground and other subgrade work shall not be buried until the following are satisfied:

- Contractor has informed the Engineer in writing that the work is complete and ready for inspection and check survey.
- Contractor has provided Engineer with the survey data prepared by Contractor's surveyor for review.
- Engineer has performed any necessary check surveys.
- Contractor has received a written notice from the Engineer to proceed.

### **1.10.5 Protection of Monuments, Stakes and Marks**

The Contractor shall preserve and protect all survey monuments and related marks at the site and shall maintain the primary control points per the Survey Control Plan (Section 1.10.1 B)

Any removal, disturbance or destruction of monuments shall be conducted in accordance with the Contract Documents and Survey Control Plan.

All stakes or otherwise deleterious material originating for construction activities shall be collected and disposed of properly, in particular for earthwork scheduled to receive liner components or be placed/compacted on top of or come in contact with geomembrane materials.

### 1.10.6 Survey Timing/Frequency/Record Drawing Progress Submittals

The Contractor's surveyor shall complete the survey of each constructed element in a timely manner so as not to delay any of the work. For grade sensitive elements (e.g., LCRS trenches, thickness verification of layers, ditch or road subgrade) verification by survey, the QC survey must be presented to and accepted by the Engineer prior to proceeding with the next work element (e.g., paving or covering of geomembrane with geocomposite or geotextile).

For long linear elements such as roads and drainage ditches, the QC survey shall be completed in segments as the work progresses (i.e., not when the entire length has been graded) to prevent grade errors from compounding and causing major rework. The survey shall be performed immediately after completing each 200-foot long segment or as determined practical by the Engineer prior to recording said data.

Contractor shall schedule survey of liner elements, drawing preparation, and submittal for review and acceptance by Engineer, so as to allow 36 hours from time of receipt of liner element incremental drawings for review, including the subgrade survey prior to placement of 1-inch minus material soil over the prepared subgrade, the placement and thickness verification of the 1-inch minus material, installation of GCL at locations specified per plan, installation of geomembrane, cushion geotextile over geomembrane, LCRS rock over geotextile, geotextile over LCRS rock and PSC over geotextile. The Engineer shall review the data and notify the Contractor immediately of any discrepancies noted. Progress payments requests for work elements requiring record drawing preparation and submittal will not be processed for payment unless the record drawing information and required Survey Verification Drawings are up-to-date consistent with the progress on any payment item requested.

In all cases, the Engineer shall be afforded the opportunity to conduct a QA check survey of all aforementioned contractor QC survey segments prior to the Contractor proceeding with construction in these areas.

### 1.10.7 Survey Deliverables

#### A. Survey Recordkeeping

Survey records consisting of copies of original field notebooks, field/office calculations, survey notes, sketches, field drawings, CAD drawings, surveyor's red line as-built drawings and data from electronic data collectors, Contractor's drawings for incremental liner elements based on surveyed information shall be stored digitally on USB Drive, hard copy in a survey field notebook/binder or plan rack as appropriate. Any Contractor's or surveyor's red line "mark-up" drawings, digital files and plots, and survey field notebook(s) will become the property of the Engineer upon project completion.

#### B. As-Built Survey Data

The Contractor's survey data shall be collected throughout the project to show as-built conditions. This includes all underground, as well as surface elements. In addition to a hard copy printout, this data shall be provided in an ASCII format and shall include: point number, northing and easting, elevations, and descriptions of point.

The ASCII format shall be as follows:

PPPP,NNNNNN.NNN,EEEEEEE.EEE,ELEV,Description



Where P is the point number, N is the Northing, E is the Easting, Elev is the elevation and Description is the description or type of point.

The Contractor shall, upon 24-hour advance notice, provide access to any equipment, files and personnel used for logging and processing survey data (including earthwork volume computations) to Engineer for verification purposes.

The Contractor's surveyor shall merge design drawings and as-built data into original survey as-built drawings. Data shall include:

- O Coordinates and elevations of all constructed area finish subgrade, top of 1-inch minus soil layer placement, (prior to placement of liner system geosynthetics) and completed final liner surfaces to enable surveyor to verify soil component layer thicknesses and to develop final cover certification drawings.
- O Coordinates and elevations for flow line and top of LCRS swales (three points per 25-foot interval), interceptor drains, drainage ditches, at a center to center spacing not to exceed 25 feet or otherwise approved in writing by the Engineer. Survey on prepared sub-grade and top of 1-inch minus material swales for thickness verification,
- O All newly installed, exposed or modified existing above or below ground utilities (drainage systems (channels, ditches or pipes), Landfill Gas headers or laterals, electrical lines, leachate lines, etc. shall be located in plan by elevation and coordinates at 25-foot spacing, prior to covering with soil as applicable.
- O Coordinates and elevations of all LFG System Components, LFG Wells, or other LFG facilities to properly locate the as-built position on record drawings.
- O Curve data including center line stationing, elevation offsets to edge, cross slope (percent) as well as longitudinal slope (percent) for all drainage structures, roadways (paved and temporary).
- O Elevations and coordinates at the beginning, end, and changes in alignment and grade breaks should be located during original survey work.
- O Coordinates and elevation of all limits of Geosynthetic Clay Liner (GCL) to properly locate the as-built position on record drawings.
- O Coordinates and elevation of all limits of HDPE Geomembrane to properly locate the as-built position on record drawings.
- O Coordinates and elevation of all corners for drainage facilities to properly locate the as-built position on record drawings.
- O Coordinates and elevations for flow line of drainage ditches, at a center to center spacing not to exceed 25 feet or otherwise approved by Engineer. The edge of the channel where it adjoins any other structure (e.g., perimeter access road) shall be surveyed at the same spacing.
- O All newly installed, exposed or modified existing below ground utilities shall be located in plan by elevation and coordinates prior to covering.

- Pot-hole information at existing limits of refuse.
- Survey of each liner layer thickness.
- Post-construction survey data.

#### C. SURVEY DRAWING DELIVERABLES

Upon completion of work, one complete set of as-built survey record drawings, and survey verification drawings with stamped and signed Surveyor's Certification Statement shall be delivered to the Engineer within 15 working days of project completion as a condition of final acceptance of the work.

The Contractor's surveyor shall merge design drawings, Contractor's red line drawings of construction modifications, and as-built data into original survey as-built drawings. Data shall include:

##### 1. Verification Survey

The County, at its option, may conduct verification surveys of any element of the Work. County survey work shall not relieve the Contractor of any responsibility for completion of all survey requirements identified in the Specifications.

##### Record Drawings

The Contractor shall maintain a set of full-size Contract Plans in his/her site office and shall mark, on these Plans, all changes made during construction. The Plans shall be corrected daily and reviewed with the Engineer on a bi-weekly basis. At a minimum, the Plans shall include the as-constructed horizontal location and elevation of all buried (concealed) work completed as part of this project including excavation and subgrade limits, anchor trenches, 1-inch minus soil layer limits, GCL and Liner seams, HDPE piping (ends and fittings), gravel layer limits, all surface improvements, drainage improvements, and final contours.

##### 2. Record Drawings

The Contractor shall maintain a hard copy set of full-size Contract Drawings in his/her site office and shall mark, on these Drawings, all changes made during construction. The Drawings shall be corrected daily and reviewed with the Engineer on a bi-weekly basis. At a minimum, the Drawings shall include the as-constructed horizontal location and elevation of all buried (concealed) work completed as part of this project including excavation and subgrade limits, anchor trenches (liner limits), GCL and Liner seams, HDPE piping (ends and fittings); LFG Improvements, and all surface improvements, drainage improvements, and final contours.

Based on the hard copy set of full-size Contract Drawings, the Contractor shall update the AutoCAD drawings with revision clouds and revision numbers to reflect the as-constructed conditions. All corrections and as-constructed information transferred to the AutoCAD drawings shall be done in color and shall be done in a professional, draftsman-like manner. The AutoCAD drawings shall be submitted to the Owner/Owner's Engineer at the completion of the Project. A reproducible mylar "hard copy" of the drawings shall also be provided by the contractor to SWMD.

##### 3. Survey Verification Drawings

Additionally, separate "Survey Verification Drawings" showing the information contained in the

following paragraphs, including a table with, or point numbers in plan view, with elevations and differential thicknesses of material from one surface to the next (for ease of review and verification), prepared, stamped and signed by a land surveyor licensed in the State of California or Licensed Civil Engineer registered in the State of California that may (pursuant to the State of California Professional Engineer's Act) practice Land Surveying. A Surveyor Certification Statement with the following statement shall be included on each Survey Verification Drawing:

"The Undersigned California Licensed Professional Engineer/Land Surveyor responsible for surveying for this project hereby certifies that the thicknesses of the soil layers, and alignment of features shown on these drawings represent the as-constructed condition of the Groundwater Protection System – Composite Liner Plans, and that the minimum thicknesses as required by the Groundwater Protection System– Composite Liner Details have been constructed."

Only a California Registered Professional Engineer with licensure allowing the practice of Land Surveying may sign in lieu of a California Licensed Land Surveyor.

The Licensed Professional Engineer/Land Surveyor shall also provide his/her signature over professional stamp on each drawing at the end of the Surveyor Certification Statement for each of the following drawings prepared and submitted on Mylar with accompanying compact disk containing the AutoCAD Drawing Files:

- Prepared Subgrade Drawing - Drawing shall show the top of Prepared Subgrade finished surface elevations. Contractor shall utilize a pre-established 50-foot grid to survey the existing subgrade finished surface. The same pre-established survey grid shall be utilized for every subsequent material layer survey verification (i.e., point over point for thickness verification). Point over point survey data is required at each point for all base and bench areas, including top and toe of slopes, angle points, bends, and grade breaks. LCRS subgrade swale shall be surveyed on a pre-established point-over-point location for all top, toes, and top of subgrade swale at 25-foot on center and at all grade breaks, angle points, etc. Slope area sub-grade 50-foot grid survey shall also be provided for the one-inch minus material and PSC thickness verification.
- One-inch Minus Material and LCRS Swale Location Drawing – Drawing shall show the thickness of top of 1-inch minus material layer from finished subgrade to top of 1-inch minus material on the same pre-established survey grid (i.e., point over point for thickness verification), and to include point over point survey within the LCRS swale for all top, toe, and top of subgrade/trenches at 25-foot on center, and all grade breaks and angle points.
- LCRS pipe location Drawing - Drawing shall show the top of pipe locations and elevations at 25-feet on center, including all grade breaks and angle points.
- LCRS Gravel Layer Thickness Drawing - Drawing shall show the thickness from top of one-inch minus material to top of LCRS gravel. Contractor shall utilize the same 50-foot grid as used for the 1-inch minus layer thickness verification for all landfill base (pre-established grid).
- Protective Soil Cover Layer Drawing - Drawing shall show the thickness from top of LCRS gravel to top of Protective Soil Cover layer. Contractor shall utilize the same 50-foot grid as used for the PSC layer thickness verification for all landfill base (pre-established grid) areas (point over point survey data is required at each point for all base and bench areas, including top and toe of slopes, angle points, bends, and grade breaks). The thickness of PSC

placement on slope areas shall be verified from subgrade to top of PSC.

4. GCL and Geomembrane Panel Layout Drawings

The Contractor shall provide record drawings of each GCL and each geomembrane panel layout drawings with locations of all destructive seam test locations. Panels and destruct tests shall be numbered consistent with the requirements of other Sections of these specifications.

5. Geomembrane Panel Layout Drawings

The Contractor shall provide record drawings of the geomembrane panel layout drawings with locations of all destructive seam test locations. Panels and destruct tests shall be numbered consistent with the requirements of other Sections of these Specifications.

6. Scanned PDF File of All Record drawings

The Contractor shall also scan all final signed record drawings to create a reproducible set of all Record Drawings in PDF file format and submit this information on a compact disk for County's use. The following is a list of Record drawings that at a minimum shall be included in this submittal:

- Contractor's Red-line Plan Set; Updated AutoCAD Drawings
- Survey Verification Drawings as described above
- Each GCL, and each Geomembrane Panel Layout Drawings.
- Surface Improvements, Drainage Improvements, Roadways and Final Contour Drawings

Progress payments for those work elements that require survey and record drawing preparation will require progress on record drawings commensurate with the portion of work completed for which progress payment is being requested.

The Project will not be considered to be substantially complete unless all survey verification, record, and as-built drawings (stamped and signed with certifications required by these Specifications) have been received, reviewed, and accepted as complete by the Engineer.

Final payment to the Contractor will not be made until the Record Drawings have been reviewed and approved by the Engineer.

All costs associated with development of data to be included on the Record Drawings, scanning in PDF format, transferring to USB Drive or DVD and the maintenance and production of the Drawings shall be considered as included in the various items of Work.

Upon completion of work, one complete set of Record Drawings shall be delivered to the Engineer within 15 working days of project completion as a condition of final acceptance of the work.

### **1.10.8 Earthwork Quantities**

A. As-Built Data

For purposes of payment on earthwork quantities, the Contractor shall conduct a comprehensive as-built survey which complies with all aforementioned requirements. The Contractor may determine as-built topography using aerial photogrammetric methods, ground survey methods, or

a combination thereof. The method used shall be submitted in writing to and pre-approved by the Engineer.

The National Map Accuracy Standards shall be adhered to at a minimum. Scale and contour intervals shall be at least equal to that of the design plans. At a minimum the following intervals shall apply: For earthwork areas less than 10 acres, the maximum contour mapping interval will be one foot; otherwise, larger areas shall use two-foot contour interval mapping.

The Contractor shall produce a complete electronic as-built surface in conformance with the requirements set forth in Section 1.10.1 of these specifications. The generated electronic surface file shall be provided to the Engineer for verification.

The Contractor shall produce an electronic boundary file which accurately conforms to the project site boundary depicted on the plans or as modified during construction by approved change order. The electronic boundary file shall be provided to the Engineer for verification prior to use in any earthwork computations or map generation.

#### **B. Earthwork Volume Computations**

The Contractor shall prepare a comprehensive procedures plan for conducting all earthwork volume calculations. The plan shall be submitted for Engineer approval at least ten (10) days prior to performance by the Contractor of any as-built earthwork volume computations. At a minimum, this plan will include a description of all computer hardware proposed for use, the specific software package and version to be used, and a complete step-by-step procedure for conducting the volume computations. Earthwork volumes shall be computed by comparing the approved pre-construction and as-built surfaces described above using “composite” or “grid (5-foot grid spacing)” methods or other method upon Engineer approval. All earthwork quantities shall be independently verified by the Engineer prior to approval. The independent verification by the Engineer shall utilize the same basic procedures as those used by the Contractor.

Any interim or soon to be buried (or otherwise obstructed) earthwork shall be surveyed and quantified as the project progresses to enable timely verification by the Engineer.

#### **1.11 Preliminary Submittals List**

The following is a preliminary list of submittals to be reviewed, updated and completed by the Contractor and submitted during the pre-construction meeting, the Contractor shall provide to SWMD for the Engineer's review a complete listing of all anticipated Contractor submittals and the proposed submittal dates for each, including but not limited to the following:

##### **General Submittals:**

- Injury & Illness Prevention Program
- Preconstruction Survey
- Record Drawings
- As-Built Surface
- Health and Safety Program
- Earthwork Volumes Calculations
- Code of Safe Practices
- Progress Schedule
- Preliminary Const. Schedule

- Water Pollution Control Program – Storm Water Management Plan
- 1-Inch Minus Screening Plant Location

**Subdrain / LCRS Submittals:**

- LCRS Gravel Samples
- LCRS Certificate of Compliance
- LCRS Gravel Certified Test Results Sieve Analysis, Permeability, Aggregate Carbonate Content and Durability
- Subdrain Gravel Samples
- Subdrain Gravel Certificate of Compliance
- Subdrain Gravel Certified Test Results Sieve Analysis, Permeability, Aggregate Carbonate Content and Durability
- Gravel Placement Plan
- LCRS HDPE Pipe and Fittings
- Subdrain Pipe

**Earthwork Submittals:**

- Project Sequencing (Earthwork Operations) Plan
- Haul Road Plan
- Demonstration Fill Plan
- Post Construction Survey

**Geomembrane Submittals:**

- Product Data – Geomembrane - Textured
- Product Data - Geomembrane - Textured (Single Sided)
- Geomembrane Certification (Double Sided)
- Geomembrane Certification (Single Sided)
- Manufacturer's Quality Control Testing
- Geomembrane Samples - Single Sided
- Geomembrane Samples - Double Sided
- Geomembrane Interface Shear Testing (Single Sided)
- Geomembrane Interface Shear Testing (Double Sided)
- Seam Samples - HD Extrusion Weld
- Seam Samples - HD Fusion Weld
- Manufacturer's 5 Year Warranty Sample
- Manufacturer's 5 Year Warranty
- Manufacturer's Certification Attachment E-1
- Independent Testing Laboratory GAI Certification
- Manufacturer's Certification of Extrudate Rod or Bead
- Geomembrane Delivery Notification
- Subgrade Certification
- HDPE Proposed Panel Layout
- Contractor's Geomembrane Installation Procedures
- Contractor's Installer Resume
- Quality Control Technician Resume



- Manufacturing Conformance Testing Single Sided Smooth
- Manufacturing Conformance Testing Double Sided Textured
- Record Drawings (As-built)
- Geomembrane Installer's Daily Documentation
- Subgrade Maintenance Plan
- Manufacturer's Quality Assurance Plan
- Manufacturer's Installation Quality Assurance Plan
- As built panel layout
- Contractor Final Quality Control Records
- Contractor's Installation Quality Control Plan

**GCL Submittals:**

- Manufacturer's Product Data
- Bentonite Supplier Certifications
- GCL Manufacturer's Bentonite Certification
- Geotextile Manufacturer's Quality Control Certificates
- GCL Manufacturer's Quality Control Certificates
- Manufacturer's Quality Control Plan
- Manufacturer's Metal Detection Program
- GCL Identification List
- GCL Samples
- Manufacturer's Handling, Storage, Installation, Testing, Repair Plan
- Manufacturer's MQC Testing Results
- Conformance Testing Results
- Manufacturer's Warranty Sample
- Manufacturer's Warranty
- Independent Testing Laboratory GAI Certification
- Contractor Installation Quality Control Plan
- Contractor's Quality Control Technician Resume
- Installer's Subgrade Certification
- Proposed Panel Layout
- As built panel layout

**Geotextile/HDPE Liner Cover Submittals:**

- Manufacturer's Product Data
- Manufacturer's Production List
- Manufacturer's Certified Test Data
- Independent Testing Laboratory GAI Certification
- Shipping, Handling, & Storage Procedures
- Seam Samples
- Installation Procedures, Including Seam and Repairs
- Contractor's Installation Quality Control Procedures
- Installation Drawings (As-built)
- Manufacturer's Quality Control Plan

- Manufacturer's 5 Year Warranty Sample
- Manufacturer's 5 Year Warranty
- Installer's Subgrade Certification Geotextile Conformance Testing
- Product Samples
- Geotextile / Eng. Fill/ Subdrain Only
- Proposed Panel Layout
- Manufacturer's Product Data
- HDPE Geotextile Manufacturer's Production List
- HDPE Geotextile Manufacturer's Certified Test Data
- HDPE Geotextile Shipping, Handling, & Storage Procedures
- HDPE Geotextile Seam Samples
- HDPE Geotextile Installation Procedures, Including Seam and Repairs
- HDPE Geotextile Contractor's Installation Quality Control Procedures
- Manufacturer's 15 Year Warranty

#### **Protective Soil Cover Submittals:**

- Protective Soil Cover Placement Plan

#### **Miscellaneous Civil Submittals:**

- Portland Cement Concrete (PCC) mix designs.
- Corrugated HDPE Pipe Certificates of Compliance.
- Certificates of Compliance for reinforcing steel.
- Certificates of Compliance for welded wire mesh.
- Certificates of Compliance for curing compound.
- Certificates of Compliance for rip-rap stone.
- Certificates of Compliance for geotextile.
- Asphalt Concrete (AC) mix designs.
- Gradation, Certificate of Compliance for crushed miscellaneous base material.

## **2.0 PRODUCTS (Not Used)**

## **3.0 EXECUTION (Not Used)**

## **4.0 MEASUREMENT AND PAYMENT**

### **4.1 Construction Support Tasks – Contractor Facilities, Submittals, and Stormwater Compliance (SWPPP) - Item No. 2**

Construction Support Tasks - Contractor Facilities, Submittals, and Stormwater Compliance (SWPPP) (Item 2) as described above shall be considered as included in the contract lump sum price paid for Construction Support Tasks.

To facilitate progress payments the Contractor shall submit for the approval of the Engineer, a "Schedule of Values" for costs associated with the applicable items reflected in Part 2, Construction Support Tasks. Final acceptance and approval of the cost allocation presented in the "Schedule of Values" will be at the sole discretion of the County. As an alternative, measurement for progress payments may be determined based on the percentage completion of

the overall contract work.

Payment of the lump sum price for Construction Support Tasks shall constitute full compensation for all labor, material, equipment and all other items and arrangement necessary and incidental to comply with the requirements of this section and no additional payment shall be allowed.

#### **4.2 Project Survey - Item No. 3**

Full compensation for all labor, material, and equipment required for project survey as outlined above shall be included in the Contractor's lump sum price for Survey.

To facilitate progress payments, the Contractor may submit, for the review of the Engineer, a Schedule of Values, outlining those items included under the survey item. Approval of the Schedule of Values will be at the sole discretion of the Engineer. Alternately, the lump sum bid price will be paid uniformly, on a monthly basis during the projected life of the Contract

#### **4.3 Record Drawings - Item No. 4**

Full compensation for all labor, material, and equipment required for preparation of Record Drawings as outlined above shall be included in the Contractor's lump sum price for Record Drawings.

To facilitate progress payments, the Contractor shall submit, for the review of the Engineer, progress prints of record drawings as outlined for record drawing deliverables identified under the survey item. The lump sum bid price will be paid on a percent complete basis as identified by the Construction Manager.

**END OF SECTION 2B**

## **SECTION 2C**

### **EARTHWORK**

#### **1.0 GENERAL**

This section sets forth the requirements for unclassified excavation, unclassified fill, screening, processing and placement of 1-inch minus subgrade material, and subgrade preparation for the composite liner system.

A Construction Quality Assurance (CQA) Plan (Appendix A) has been developed in conjunction with this Project and is included with these Technical Specifications for the Contractor's reference. The Contractor shall assure that the Engineer shall, at all times, have safe access to the work for the purpose of monitoring, observation, and QA Plan implementation.

#### **1.1 Work Included**

Clearing, grubbing, and removal of existing surface improvements within the limits of construction.

Unclassified excavation and/or unclassified fill, required to bring the proposed composite liner subgrade to the line and grades indicated on the Plans.

Moisture conditioning, compaction, and grading of the subgrade within the cell area in preparation for placement of unclassified fill.

Screen, process, load, transport, place, compact, finish grade, and maintain 1-inch minus material in accordance with the Plans and Technical Specifications to achieve an approved subsurface for the installation of the geomembrane and overlying geosynthetic liner components.

Transport, placement, and compaction of engineered fill for the termination berms.

Transport balance of unclassified excavation first to South Stockpile and then to the North Stockpile. Contractor shall place orange plastic construction fence material over the existing refuse fill interim cover (i.e. within limits of refuse) prior to placing stockpile soil over the slope and bench surfaces of the existing landfill.

Compliance with erosion control methods outlined in the Contractor submitted SWPPP and as required in the General Conditions.

#### **1.2 Project Sequencing Plan and Earthwork Operations Plan**

The Contractor's activities shall not interfere with the operation of the landfill or waste placement operations. The Contractor shall sequence construction so that landfill traffic will at all times have uninterrupted access to the waste placement area. The Contractor shall submit for the approval of the Engineer, a sequencing plan that reflects the proposed sequencing of construction on the access road, including traffic control measures to be used and maintained during construction.

The Contractor shall include an Earthwork Operations Plan within the Project Sequencing Plan, that describes the entire grading operation, and relationship to other Specification Section Requirements:

- Excavation, hauling and stockpiling; haul roads, dust control (include placement of Orange Plastic Construction Material over existing landfill prior to placing North Stockpile material); Supplying the Contract Operator with a daily cover soil stockpile during the North Stockpile Haul (it is estimated that daily cover soil use is 800 CY/day).
- Subgrade preparation/finish (Base liner), LCRS Subgrade Swales, and preparation for 1-Inch Minus soil layer placement; Record Survey;
- Subgrade preparation/finish (Slope liner) and preparation for geosynthetics placement; Record Survey;
- Screening plant location, operating permit, and oversize material stockpile location;
- 1-Inch Minus placement plan; LCRS Subgrade Swales; Record Survey for thickness verification and LCRS swale excavation and thickness;
- Brief description of Geosynthetics Placement and Leak Location Testing Elements necessary for leak location testing of completed Geosynthetics;
- LCRS Gravel Placement Plan; Record Survey for thickness verification; Leak Location Testing;
- Protective Soil Cover Placement Plan; Record Survey for thickness verification; Leak Location Testing;
- Anchor Trench backfill; protective plastic cover and tied gravel bag ballast system and anchoring; PSC Berm cover over anchor trench (West Perimeter Road Anchor Trench).

### **1.3 Waste Limit Verification**

The Contractor shall perform exploratory excavations along the estimated limit of waste indicated on the Plans. Sufficient excavations shall be made to establish and verify the limits of waste throughout the entire area. The location of the actual limit of waste shall be verified by Contractor survey.

The Contractor shall also perform exploratory excavations along the As-Built Liner limit indicated on the Plans. Sufficient excavations shall be made to establish and verify the limits of liner at the join location. The location of the actual limit of liner shall be verified by Contractor survey.

Following completion of the exploratory excavations, the Contractor shall allow a minimum of seven (7) working days for the Engineer to review and, if necessary, revise the grading plan to reflect the actual refuse and liner limits and adjust the liner configuration accordingly. All costs associated with the exploratory excavations and survey shall be deemed to be included in the various items of work.

### **1.4 Submittals Required**

The Contractor shall thoroughly review the Technical Specifications and identify all required Project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.

- Project Sequencing Plan
- Subgrade Maintenance Plan
- Screening Operation Plan, including Statewide Permit
- Subgrade, and 1-inch minus material As-Built Survey Data
- Geomembrane Installer's Written Subgrade Approval Certification
- Leak Location Testing Protocol for each test;
- Leak Location Testing Results

## **2.0 MATERIALS**

### **2.1 Engineered Fill Material**

Native material from unclassified excavation and the borrow area indicated on the Plans shall be used in the construction of unclassified fills.

Rocks or rock fragments greater than 3 inches in any dimension shall be removed from the unclassified fill within liner areas and disposed of as directed by the Engineer. Rocks or rock fragments less than 3 inches shall be distributed evenly throughout the unclassified fill. "Nesting" of rock or rock fragments will not be permitted.

These provisions, allowing incorporation of rock or rock fragments within the fill shall not relieve the Contractor of the responsibility to prepare the final subgrade surface for geosynthetic material installation in accordance with other provisions of these Specifications.

### **2.2 Subdrain Gravel**

Subdrain gravel shall consist of a clean, hard, durable, uniform product, free of limestone, organic, and other deleterious material.

#### **2.2.1 Sieve Analysis**

Subdrain gravel shall conform to the following gradation as determined by Sieve Analysis (ASTM D 422) and Visual-Manual Soil Classification (ASTM D 2488):

#### **SUBDRAIN GRAVEL**

<b>U.S. STANDARD SIEVE</b>	<b>PERCENT PASSING BY WEIGHT</b>
1 Inch	100
3/4 Inch	80
1/2 inch	60
3/8 inch	15
No. 4	0-8
No. 8	0-4
No. 200	0-2



The Contractor shall submit to the Engineer for approval certified results of a sieve analysis on the proposed material, signed by a State of California registered Civil Engineer or Geotechnical Engineer.

### **2.2.2 Permeability**

Gravel shall have a minimum permeability of 1 cm/sec. The Contractor shall submit to the Engineer for approval certified results of a permeability test (ASTM D-2434) on the proposed material (one test per 5000 cubic yards), signed by a State of California registered Civil Engineer or Geotechnical Engineer.

### **2.2.3 Aggregate Carbonate Content and Durability Testing**

Gravel shall conform to the following Aggregate Carbonate Content and durability requirements:

TEST	REQUIREMENT
Aggregate Carbonate Content (ASTM Standard D3024)	Less than 5 percent Carbonate Content by Weight @ pH = 4.0
Los Angeles Abrasion (ASTM C-131)	Percent shall be no greater than 50 after 500 Revolutions

The Contractor shall submit to the Engineer for approval, certified laboratory test results of the Aggregate Carbonate Content and durability, signed by a State of California registered Civil Engineer or Geotechnical Engineer.

### **2.2.4 Gravel Source Certification**

The Contractor shall identify the potential source and provide Certificates of Compliance at least 15 working days prior to intended use. The Contractor shall bear the responsibility for the cost of tests specified in 2.2.1, 2.2.2, and 2.2.3 of this Section. Should the Engineer determine that confirmation testing is warranted, the Engineer will bear the responsibility of costs for such additional testing. The Contractor shall reimburse the Engineer for the confirmation tests if such tests indicate that the proposed material does not conform to the Technical Specifications.

## **2.3 Screened 1-inch Minus Subgrade Material**

Material to be used for the screened 1-inch minus material shall be obtained from the unclassified excavation or the borrow area indicated on the Plans.

Rock and rock fragments greater than one inch in the greatest dimension shall be removed from the material during the screening/processing operation. The material shall be processed in accordance with the provisions of Subsection 3.5.

Sections 300-4.3, "Other Fill Material", and Paragraphs 3 and 4 of Section 300-4.5 of the SSPWC "Placing Materials for Fills" are hereby deleted.

## **3.0 CONSTRUCTION METHODS**

### **3.1 Clearing, Grubbing, and Demolition**

Clearing and grubbing shall be performed in accordance with Section 300-1 of the SSPWC. Vegetative material within the limits of work shall be stripped to a sufficient depth to remove all vegetation including roots.

Material generated from clearing and grubbing operations shall be transported directly to, and disposed of in, the active landfill area as directed by the Engineer. Material indicated on the plans to be removed and salvaged, shall be transported to the County's material storage area located adjacent to the operations office, or to other locations, on the site, as directed by the Engineer.

Material indicated on the plans to be demolished, and/or other improvements (including existing fencing) within the limits of the work, not designated to be protected, and that interfere with excavation or fill activities shall be removed and transported to active waste fill area for disposal.

No "tipping" fees or charges will be assessed to the Contractor for disposal of material generated from work associated with this project.

### **3.2 Waste Removal**

The Contractor may encounter refuse during the exploratory excavation operations (Section 1.3, above), or during excavation for the liner anchor trench. Waste excavation operations shall be conducted in accordance with the Contractor's Health and Safety Plan and the requirements of the AQMD Permit. All refuse within the limits of proposed work shall be excavated and transported to the active waste fill area or as directed by the Engineer. At the conclusion of each day's operation, all exposed waste material shall be covered with a minimum of 6-inches of soil, or other material (tarps) as approved by the Engineer. At the conclusion of the waste removal operations, all waste removal areas shall be covered with a minimum of 6-inches of soil.

The Contractor is advised that the quantity of waste material may vary from that indicated in the Bid Schedule. Section 3-2.1 of the SSPWC referencing increases/decreases of more the 25-percent are not applicable for this item. The Contractor shall be compensated at the Unit Price, regardless of any increase or decrease in the volume of waste removed. The Contractor shall have no claim for compensation, or loss of profit, as a result of the deletion or reduction in quantities.

The Contractor shall be responsible for obtaining a permit from and all implementation and monitoring requirements of the AQMD.

### **3.3 General**

All earthwork shall conform to the following requirements, where applicable, unless otherwise noted in these Technical Specifications:

- A. The Contractor shall be solely responsible for the satisfactory completion of all earthwork in accordance with the Plans and Technical Specifications.
- B. Equipment used in the excavation, transport, stockpiling, processing, placement and compaction of all materials used in earthwork construction of the composite liner system will be standard-of-practice grading machinery of known specifications suitable for performing the required work in a timely and efficient manner.
- C. All material considered by the Engineer to be unsuitable for use in the construction of the composite liner system components shall be removed. All materials incorporated as part of compacted fill must be inspected and placement must be observed by the Engineer.

- D. All clearing, grubbing, stripping, and site preparation for the Project shall be accomplished to the satisfaction of the Engineer prior to placement of fill material.
- E. The ground surface prepared to receive fill shall be moisture conditioned and graded until it is uniform and free from uneven features which may prevent uniform compaction. The ground surface to receive fill shall be brought to at least one percent above optimum moisture content, mixed as required, and compacted to a minimum of 90 percent of the maximum dry density as determined by ASTM D 1557. The compacted 1-inch minus material shall be at least 2 percent above optimum moisture content and compacted to 95 percent of the maximum dry density as determined by ASTM D 1557. The prepared surface shall be firm and unyielding. Prior to fill placement, the ground surface to receive fill shall be inspected by the Engineer.
- F. Fill material shall be placed in thin, horizontal (parallel to the bottom floor of the landfill) lifts with a maximum uncompacted thickness not to exceed 8 inches. Each layer shall be spread evenly and thoroughly mixed to obtain a near uniform condition in each layer. In areas of excess lift thickness, regrading of the surface to the maximum lift thickness will be completed prior to proceeding with compaction in that area.
- G. The minimum in-place compaction for all fill materials with the exception of the 1-inch minus material Layer and the Protective Cover Soil Layer shall be 90 percent of the maximum dry density as determined by ASTM D 1557. The moisture content of compacted unclassified fill shall be at  $\pm 2$  percent of optimum moisture content for the specified material.
- H. Protective Soil Cover material shall be compacted to a minimum of 85-percent of the maximum dry density as determined by ASTM D 1557.
- I. Where tests by the Engineer indicate that the moisture content or density of any layer of fill, or portion thereof, is below the Project requirements, the particular layer or portion thereof will be reworked until the required moisture/density has been attained. The moisture/density of the reworked fill will be verified by re-testing by the Engineer. No additional fill shall be placed over an area until the prior fill has been tested horizontally and vertically and meets the requirements of these Technical Specifications to the satisfaction of the Engineer.
- J. Where work is interrupted by heavy rains, fill operations shall not be resumed until observations and field tests by the Engineer indicate the moisture content and density of the in-place fills and/or materials intended for placement are within the limits previously specified. This requirement does not preclude the Contractor from disking or aerating excessively wet areas to enhance drying.
- K. As determined by the Engineer, fill over cut slopes shall be properly keyed through top soils, colluvium, or creep material into firm material. All transitions shall be stripped of all loose soils prior to placing fill.
- L. Throughout construction, all excavation and/or fill areas shall be graded to provide positive drainage to appropriate collection/transport structures and to prevent ponding of

water. Surface water shall be controlled to avoid damage to adjoining properties or to finished work on the site.

- M. The Contractor shall assume all responsibility for damage to the installed containment system components arising from sequencing and location of haul routes.

### **3.4 Excavation**

The Contractor shall complete all excavations as indicated on the Plans, as directed by the Engineer, and as specified herein in order to achieve an adequate foundation for installation of the composite liner system. Unauthorized excavation below the design subgrade will not be permitted.

Excavated material shall be transported to the designated fill areas (stockpile areas) indicated on the Plans. All material transported to the designated fill or stockpile area(s) shall be compacted to 90-percent of the maximum dry density as determined by ASTM D 1557.

### **3.5 Engineered Fill**

Material generated from the excavation shall be incorporated into engineered fills, in accordance with the requirements of Subsection 2.0, Materials and Section 3.3, above. The Contractor is advised that screening of native materials may be required to meet the maximum particle size requirements.

### **3.6 Unclassified Excavation/Engineered Fill Tolerances**

#### **3.6.1 Slopes**

Slopes shall be excavated/filled to the gradient indicated on the plans. Slope areas shall be finished to a uniform plane in conformance with the lines and grades indicated on the Plans. Variances from a uniform plane shall not exceed  $\pm 0.20$  feet vertical, measured in any direction for a horizontal distance of 20 feet.

#### **3.6.2 Floor Area**

The Contractor shall excavate/fill to the line and grade required for the construction of the 1-inch minus material subgrade layer. The Contractor shall scarify the subgrade surface and remove any oversized material as defined in Section 2.0 prior to constructing the 1-inch minus material layer.

The 1-inch minus material layer shall be moisture conditioned to a minimum of 2 percent over optimum moisture content and compacted to 95 percent of maximum dry density as determined by ASTM D 1557.

The proposed subgrade for the 1-inch minus material layer shall be finished to a tolerance of plus 0.00 feet to minus 0.20 feet from the grades indicated on the Plans.

The 1-inch minus material layer shall be final graded to a tolerance of plus 0.20 foot to minus 0.00 foot of the specified thickness.

### **3.7 Subgrade Preparation for Geosynthetic Materials**

#### **3.7.1 Preparation of Subgrade**

Prior to placement of the geosynthetic materials, the Contractor shall prepare the 1-inch minus material subgrade to provide a uniform surface, free of defects, or imperfections that may result in damage to the liner.

#### **3.7.2 Slopes**

For final preparation, the Contractor will be required to work the slope with a smooth drum roller which may be mounted by a winch at the top of the slope. The smooth drum roller will be run over all slope surfaces prior to lining with geosynthetics. In the event the prepared subgrade surface is damaged after smooth drum rolling and prior to geosynthetic material deployment, the contractor will be required to repair the damaged subgrade and smooth drum roll the repaired subgrade prior to geosynthetic material deployment.

#### **3.7.3 Finished Surface**

The finished surface shall be free from abrupt breaks, sharp objects, or other foreign material that may inhibit placement of the geosynthetic materials. All construction stakes, hubs, or other items used for grade control shall be removed and the void filled with processed material. The subgrade shall be unyielding, smooth, and uniform. The surface shall not be pebbly, or tracked and rutted by equipment. Pockets, holes, or discontinuities shall be repaired. No loose, coarse-grained material shall remain on the surface of the subgrade.

#### **3.7.4 Proof Rolling**

Immediately prior to geomembrane placement, the Contractor shall proof roll all surfaces, with a steel drum roller weighing not less than 200-pounds per linear inch of drum width. All noted deficiencies shall be repaired at the Contractor's expense.

#### **3.7.5 Maintenance**

The Contractor shall maintain the surface suitability and integrity of the 1-inch minus material layer as indicated in Section 3.3 and shall adhere to the submitted subgrade maintenance plan as submitted by the Contractor.

The Contractor shall minimize the time between completion of the 1-inch minus material layer and placement of the geomembrane in order to minimize adverse affects of prolonged exposure (desiccation) and potential mechanical degradation. Should the Contractor choose to place visqueen to prevent desiccation of the 1-inch minus material liner, the visqueen, and any other materials not shown on the Plans, must be removed prior to geomembrane installation per regulatory requirements. Should desiccation cracking occur or mechanical degradation in the surface of the 1-inch minus material layer, the Contractor shall repair the cracks as outlined below:

1. Excavate the desiccated or mechanical degradation 1-inch minus material to a depth of 6 inches, or 3 inches below the bottom of visually identifiable desiccation cracks, whichever is greater, using methods approved by the Engineer.
2. Scarify and moisture condition the exposed surface.

3. The Engineer shall inspect and approve the surface prior to 1-inch minus material placement.
4. Place and compact 1-inch minus material in accordance with the requirements of these specifications (paragraph 3.3-E).

### **3.8 Subgrade Approval**

Placement of the geomembrane shall not proceed until the surface has been approved by the Engineer. In addition, the Liner Contractor shall certify in writing prior to proceeding with placement that the subgrade is acceptable for geomembrane installation.

### **3.9 Anchor Trench Excavation, Backfill and Compaction**

Anchor trench excavation including top of slope anchor/liner slot excavation, backfill, and compaction shall be completed to the line and grades shown on the Plans and as noted below. The Contractor shall limit the excavation of anchor trenches to the length required for the installation of GCL and geomembrane in a single day unless otherwise authorized by the Engineer.

- A. Excavation Anchor trenches shall be prepared with slightly rounded corners where the geomembrane adjoins the trench so as to avoid sharp bends in the geomembrane material.
- B. Placement of Fill Material - The material shall be placed in maximum 4-inch loose lifts if compacted with hand-operated compaction equipment, or maximum 8-inch loose lifts if compacted with a self-propelled compactor. The backfill shall be placed at a moisture content of 2- to 4-percent above optimum moisture content.
- C. Compaction - The backfill shall be compacted to a minimum of 90-percent of the maximum dry density as determined by ASTM D1557.
- D. Equipment - Compaction equipment shall be adequate to achieve the required compaction. Damage to any structures and or improvements resulting from placement or compaction shall be repaired or replaced by the Contractor at no additional cost to the Owner.

### **3.10 Alluvial/Colluvial/Unsuitable Material/Undocumented Fill Removal and Backfill per Geotechnical Engineer**

The Contractor shall remove any alluvial/colluvial unsuitable material, undocumented fill, and oversized material as identified by the Geotechnical Engineer to expose competent native material prior to placing backfill in the excavated area in the Phase 1B Liner work area. Should the Geotechnical Engineer determine that a subdrain is necessary in the excavated area, the Contractor shall furnish and install said subdrain consistent with Paragraph 2.2 above, and 4.5 below. Once competent subgrade material has been exposed, the surface shall be scarified to a depth of six inches, moisture conditioned to +/- 2-percent of optimum moisture, backfilled with competent soil, and compacted to a minimum relative density of 90-percent in accordance with ASTM D 1557. Alluvial material or other material unsuitable for use as unclassified fill shall be transported to the working face for use by Operations for daily cover soil.



## **4.0 MEASUREMENT AND PAYMENT**

### **4.1 Clearing, Grubbing, and Demolition - Item No. 5**

The contract lump sum price paid for clearing, grubbing, and demolition shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all work involved in clearing, grubbing, and demolition, including all saw cutting and removal of AC pavement; removal or demolition of existing surface and sub-surface drainage improvements, piping, concrete improvements, chain link and litter fencing, and/or other operations incidental and required to complete clearing, grubbing, removal, and or demolition as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The final pay quantities will be determined field verification that the work has been completed in accordance with the Plans and these Technical Specifications. Interim progress payments will be based on the Engineers evaluation of the estimated percentage of work completed during the subject period.

### **4.2 Waste Removal - Item No. 39**

The contract unit price for waste removal shall include full compensation for furnishing all labor, tools, equipment, and incidentals required to excavate and transport waste material to the active area of the landfill, place daily cover material or tarps, and place and compact fill material in the resultant void, if necessary.

Final pay quantities will be determined by comparing the volumetric difference between the pre-construction topographic survey and the post removal survey performed by the Contractor, or by field measurements approved by the Engineer. Side slope excavation for waste removal areas shall be limited to 2:1 (H:V). Excavation beyond the limits indicated will not be compensated unless previously approved by the Engineer.

The Contractor is advised that the quantity of waste material may vary from that indicated in the Bid Schedule. Section 3-2.1 of the SSPWC referencing increases/decreases of more the 25-percent are not applicable for this item. The Contractor shall be compensated at the Unit Price, regardless of any increase or decrease in the volume of waste removed. The Contractor shall have no claim for compensation, or loss of profit, as a result of the deletion or reduction in quantities.

### **4.3 Unclassified Excavation/Transport to South Stockpile - Item No. 6A**

The contract unit price paid per cubic yard for Unclassified Excavation/Transport to South Stockpile shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all work involved in excavation complete, including excavation for liner construction, excavation for perimeter channel, transport, placement, and compaction of the material (including top deck berm swale at stockpile, rock erosion protection, and rock erosion protection down drain subgrade and swale excavation), as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities will be determined by comparing the volumetric difference between the pre-construction and post construction topographic surveys for total excavated volume. It is assumed

that the South Stockpile (Item 6A) is based on the plan volume of 160,000 cubic yards. Payment for Item 6B will be total excavation volume (before and after survey) minus 160,000 CY (unless updated per drawing change). Unclassified Excavation/Transport to Stockpile completed beyond the tolerances indicated in the Technical Specifications, or limits indicated on the Plans will not be compensated unless previously approved by the Engineer.

**Unclassified Excavation/Transport to North Stockpile/Daily Cover Soil Stockpile for Contract Operator - Item No. 6B**

The contract unit price paid per cubic yard for Unclassified Excavation/Transport to North Stockpile/Daily Cover Soil Stockpile for Contract Operator, shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all work involved in excavation complete, including excavation for liner construction, excavation for perimeter channel, transport, placement, and compaction of the material (including top deck berm swale at stockpile, flume inlet/down drain subgrade excavation), as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities will be determined by comparing the volumetric difference between the pre-construction and post construction topographic surveys for total excavated volume. It is assumed that the South Stockpile (Item 6A) is based on the plan volume of 160,000 cubic yards (unless updated per drawing change). Payment for Item 6B will be total excavation volume (before and after survey) minus 160,000 CY. Unit price includes placing Orange Plastic Construction Fence material on refuse benches and slopes prior to placing stockpile soil. Unclassified Excavation/Transport to North Stockpile/Daily Cover Soil Stockpile for Contract Operator completed beyond the tolerances indicated in the Technical Specifications, or limits indicated on the Plans will not be compensated unless previously approved by the Engineer.

**4.4 Unclassified Excavation to Engineered Fill - Item No. 7**

The contract unit price paid per cubic yard for Unclassified Excavation to Engineered Fill shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all work involved in excavation complete in place, including excavation, transport, placement, and compaction of the material (including earth perimeter channel berm, north and south berms), as Engineered Fill as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities will be determined from the neat volume of Unclassified Excavation to Engineered Fill pursuant to the Construction Drawings. Unclassified Excavation to fill completed beyond the tolerances indicated in the Technical Specifications, or limits indicated on the Plans will not be compensated unless previously approved by the Engineer.

**4.5 Alluvial/Colluvial/Unsuitable Material and/or Undocumented Fill Removal and Backfill/Subdrain and Outlet per Geotechnical Engineer – Item Nos. 40A, 40B and 40C**

**Item 40A** - The contract unit price paid per cubic yard for Alluvium/Colluvial/Unsuitable Material or Undocumented Fill Removal and Backfill per Geotechnical Engineer shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all work involved in excavation, transport, placement, and compaction of the material (if suitable for

Unclassified Fill), scarification moisture conditioning and backfill and compaction of the excavated material (Backfill level not to exceed liner subgrade excavation elevation) as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities will be determined by comparing the volumetric difference between the pre-construction and post construction topographic surveys of the removal areas (i.e. removals and backfill. Alluvium/Colluvial/Unsuitable Material or Undocumented Fill Removal and Backfill per Geotechnical Engineer completed beyond the tolerances indicated in the Technical Specifications, or limits indicated on the Plans will not be compensated unless previously approved by the Engineer.

**Item 40B** - Subdrain (if required) shall be paid by the linear foot installed and shall consist of a 1-foot wide by 2-foot-deep trench, with 4-Inch SDR 9 perforated HDPE Pipe and 2 cubic foot per linear foot of subdrain gravel wrapped in 12-ounce per square yard geotextile. **(Deletable Item).**

**Item 40C** - Outlet for subdrain shall be paid by the linear foot installed and shall be 4-inch solid SDR 9 HDPE Pipe discharging to the nearest perimeter drainage channel. **(Deletable Item).**

#### **4.6 Subgrade Surface Preparation – Floor - Item No. 41**

The contract unit price for Subgrade Surface Preparation – Floor shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all the work involved in Subgrade Surface Preparation – Floor, complete in place, including transport, placement, and compaction of material, finish grading, and proof rolling, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities will be determined by the actual square footage of Subgrade Surface Preparation – Floor completed. Subgrade Surface Preparation completed outside of the tolerances indicated in the Technical Specifications, or limits indicated on the Plans will not be compensated unless previously approved by the Engineer.

#### **4.7 Subgrade Surface Preparation – Slope, Roadway/Benches - Item No. 42**

The contract unit price for Subgrade Surface Preparation – Slope, Roadway/Benches shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all the work involved in Subgrade Surface Preparation – Slope, Roadway/Benches complete in place, including transport, placement, and compaction of material, finish grading, and proof rolling, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities will be determined by the actual square footage of Subgrade Surface Preparation – Slope, Roadway/Benches completed. Subgrade Surface Preparation completed outside of the tolerances indicated in the Technical Specifications, or limits indicated on the Plans will not be compensated unless previously approved by the Engineer.

#### **4.8     Screened 1-inch Minus Floor Layer – Item No. 8**

The contract unit price paid per square foot of screened 1-inch minus floor layer shall include full compensation for all labor, material, and equipment required to screen, process, moisture condition, load, transport place, compact, and finish the 1-inch minus material, including subgrade preparation and maintenance, as represented by the Contract Documents.

Final pay quantities shall be determined by computing the actual surface area of Screened 1-inch minus material placed to the limits indicated on the plans. Material placed beyond those limits will not be compensated unless previously authorized by the Engineer.

**END OF SECTION 2C**

**NOT FOR BID**

**SECTION 2D**  
**LEACHATE COLLECTION AND RECOVERY SYSTEM; LFG**  
**COLLECTION SYSTEM**

**1.0 GENERAL**

This section sets forth the requirements for the construction of the Lysimeter System, the lined cell Leachate Collection and Recovery System (LCRS), and the LFG Evacuation Systems.

**1.1 Work Included**

In general, construction of the various collection systems shall include installation of 4- and 6-inch diameter HDPE piping (slotted and solid), installation of 8-ounce and 12-ounce non-woven geotextile fabric, placement of LCRS or collector gravel, placement of LFG Evacuation System piping and other incidentals and appurtenances as required to complete the work in accordance with the Plans, these Technical Specifications, and material manufacturer's recommendations.

**1.2 Submittals**

The Contractor shall thoroughly review the Specifications and identify all required project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.

- o Gravel Samples
- o Certificates of Compliance
  - Sieve Analysis
  - Permeability
  - Soundness and Durability
- o Gravel Placement Plan
- o HDPE Pipe and Fittings
- o Manufacturer's catalog cuts and literature for LFG piping components.
- o Geotextile
- o Record Drawings

**2.0 MATERIALS**

**2.1 Gravel**

Gravel shall consist of a clean, hard, durable, uniform product, free of limestone, organic, and other deleterious material.

### 2.1.1 Sieve Analysis

LCRS gravel shall conform to the following gradation as determined by Sieve Analysis (ASTM D 422) and Visual-Manual Soil Classification (ASTM D 2488):

#### LCRS GRAVEL

U.S. STANDARD SIEVE	PERCENT PASSING BY WEIGHT
1/2 inch	100
3/8 inch	85-100
No. 4	0-30
No. 8	0-10
No. 200	0-2

The Contractor shall submit to the Engineer for approval certified results of a sieve analysis on the proposed material, signed by a State of California registered Civil Engineer or Geotechnical Engineer.

### 2.1.2 Permeability

Gravel shall have a minimum permeability of 1.0 cm/sec. The Contractor shall submit to the Engineer for approval certified results of a permeability test (ASTM D-2434) on the proposed material (one test per 5000 cubic yards), signed by a State of California registered Civil Engineer or Geotechnical Engineer.

### 2.1.3 Aggregate Carbonate Content and Durability Testing

Gravel shall conform to the following Aggregate Carbonate Content and durability requirements:

TEST	REQUIREMENT
Aggregate Carbonate Content (ASTM Standard D 3042)	Less than 5 percent Carbonate Content by Weight @ pH = 4.0
Los Angeles Abrasion (ASTM C-131)	Percent shall be no greater than 50 after 500 Revolutions

The Contractor shall submit to the Engineer for approval, certified laboratory test results of the Aggregate Carbonate Content and durability, signed by a State of California registered Civil Engineer or Geotechnical Engineer.

### 2.1.4 Gravel Source Certification

The Contractor shall identify the potential source and provide Certificates of Compliance at least 15 working days prior to intended use. Should the Engineer determine that confirmation testing is warranted, the Engineer will bear the responsibility of costs for such additional testing. The Contractor shall reimburse the Engineer for the confirmation tests, if such tests indicate that the proposed material does not conform to the Technical Specifications. The Contractor shall bear the responsibility for the cost of tests specified in 2.1.1, 2.1.2, and 2.1.3 of this Section.

## 2.2 Pipe and Fittings

LCRS piping and fittings shall consist of high-density polyethylene (HDPE), smooth walled (non-corrugated), solid and slotted pipe conforming to requirements of Section 207-19 of the SSPWC, except that all 4 and 6-inch diameter pipe and fittings shall be SDR 7. Slotted pipe shall be



factory-fabricated as shown on the Plans. Slots shall be free of any burrs or debris, inside or outside of the pipe.

### 2.2.1 Physical Properties

HDPE pipe shall meet the following minimum specifications:

TEST	TEST METHOD	UNIT	REQUIREMENTS
Density*	ASTM D-1505	g/cc	0.955
Melt Flow Index (1)	ASTM D-1238 Condition E	g/10 min	13
Tensile Properties	ASTM D-638	psi psi %	3,300 @ yield 4,500 @ break ≥800 elongation @ break
Flexural Modulus (2)	ASTM D-790	psi	120,000
Environmental Stress Crack Resistance	ASTM D 1693	hrs	≥10,000 (3) ≥5,000 (4)
(1) 190°C/21600g (2) 2% Secant-Method 1 (3) Condition B, 10% (4) Condition C			

The Contractor shall submit two samples of each type of piping proposed for use. The submittal shall also include manufacturer's catalog cut sheets, manufacturer's quality control test results, recommended methods of jointing, and a Certificate of Compliance for each class of pipe. The submittal shall be provided to the Engineer at least 15 working days prior to intended use.

Pipe supports for the LCRS and LFG risers shall be constructed of materials as identified on the Plans.

### 2.3 Geotextile

Non-woven geotextile shall conform to the minimum requirements of Section 2G of these Technical Specifications.

## 3.0 CONSTRUCTION METHODS

### 3.1 Collection System Piping

Installation of the various collection systems shall conform to the lines, grades, details, and notes shown on the Plans and as referenced in these Technical Specifications.

Install LFG components pursuant to 3/D3, 7/D4 & 8/D4, of the Construction Plans.

HDPE pipe and fittings shall be joined by the butt fusion method unless otherwise specified on the Plans. Butt fusion and saddle fusion of HDPE pipe shall be performed by qualified personnel. All personnel used by the Contractor for pipe installation shall have a current HDPE welding certificate for the type of welding in which they are engaged. The Contractor shall submit copies

of these certificates for verification by the Engineer. No pipe shall be installed prior to submittal of this verification.

HDPE to PVC transitions for small diameter piping shall be performed with a HDPE to PVC transition fittings, or with HDPE to Stainless Steel transition fittings. A threaded PVC union shall be utilized when transitioning from the transition fitting to the non-HDPE pipe.

### **3.1.1 Excavation**

Excavation for, and installation of the LCRS System subgrade swales and LCRS Riser Pipe shall precede construction of the liner section. Prior to placement of any fill above the collectors, the Contractor shall survey the installed piping, as required for preparation of the Record Drawings.

Placement of the screened one-inch minimum material, and/or unclassified fill material will not be allowed until the Record Drawing survey information for base liner subgrade and LCRS Subgrade system have been submitted to the Engineer and approved.

### **3.1.2 Pipe Installation**

LCRS/LFG Collection piping shall be placed on a 2-inch thick bedding layer composed of approved LCRS or subgrade LFG collector gravel with the slots (or perforations) positioned as indicated on the Plans.

All pipes shall be installed in a manner so as to provide for expansion and contraction as recommended by the manufacturer. The pipe shall lay free on the base with no induced strain. Where there is evidence of induced pipe strain, the Contractor shall be required to eliminate the strain. The Contractor shall also remove and replace any fitting which induces a torque or strain to the pipe.

Pipe shall be cut, over a tarp to collect all cuttings for disposal in the active landfill working face on a daily basis, in a manner so as to ensure square ends. Burrs at cut ends shall be removed prior to installation (and collected within the tarp area for disposal) so that a smooth unobstructed flow will be obtained.

Installation of HDPE fittings and joints shall conform to manufacturer's recommendations.

Slotted HDPE pipe may be joined with compatible couplings secured with round head self-tapping screws, flexible band seal couplings, or butt-fusion welded. No glues or adhesives shall be used for any piping. Joints for solid HDPE riser pipe and LFG collection pipes shall be butt-fusion welded as recommended by the manufacturer. All HDPE caps shall be welded unless otherwise indicated on the Plans.

The Contractor shall run a (dry) mandrel or brush through all LCRS and LFG collection pipes to remove burrs and cuttings produced during the slotting or cutting process prior to pipe assembly.

**All cuttings from pipes shall be captured (cut on tarp and gathered and cuttings disposed of at the active working refuse face) at the time of cutting. Cuttings shall be removed from work area and disposed of on at least a daily basis, more during windy days at the discretion of the Construction Manager/Engineer.**

The pipe shall not be concealed until a final record survey has been completed and the Engineer has approved the pipe installation.

Pipe and fittings shall be held firmly in position and protected from damage while drainage gravel or backfill is being placed. All pipe and fittings shall be cleaned upon installation and kept so during the progress of the work.

Any pipe that becomes either partially or fully clogged and/or damaged before final acceptance shall be cleaned/repared to the satisfaction of the Engineer and/or replaced at the Contractor's expense.

### **3.1.3 LCRS Riser Pipe**

Contractor shall weld pipe pursuant to manufacturer's recommendations. All pipe shall be free of cuttings, burrs, shavings, etc., that could potentially clog the LCRS pump works (located in Phase 1A Liner). Contractor shall take precautionary measures to prevent cuttings, burrs, and shavings from entering the LCRS riser and LCRS system.

### **3.2 Geotextile**

Gravel for LCRS piping shall be placed to the dimensions and/or quantity indicated on the Plans. Care shall be exercised so as not to contaminate the gravel during the placement operations.

Geotextile shall be installed as detailed on the Plans. Prior to installation, the receiving surface shall be cleaned of loose material and any sharp objects or protrusions that may damage the geotextile.

Geotextile shall be sewn, welded or lapped in accordance with Section G of these Technical Specifications and as detailed on the Plans.

Contractor shall take precautions to protect the geotextile during placement of the gravel and/or PSC. Any portion of the geotextile damaged during the project will be repaired or replaced at Contractor's expense.

### **3.3 Gravel Placement**

Gravel shall not be placed on the geotextile/geomembrane until the installation and testing of the appropriate sections of the composite liner are complete and accepted by the Engineer.

The Contractor shall submit to the Engineer a plan which indicates the proposed sequence of work and the type of equipment to be utilized in the gravel placement operation. Equipment used to transport or place the LCRS gravel, traveling on less than the full 24 inches of Protective Soil Cover (PSC) shall be identified as Low Ground Pressure (LGP) equipment and shall not exceed 5.3 psi maximum ground pressure.

If any additional equipment other than LGP equipment (i.e., trucks, loaders, etc.) is to be used to feed gravel to the LGP equipment for spreading of the LCRS gravel, then a minimum of three feet of material (either gravel or a combination of gravel and protective cover soil) is to be maintained between the geomembrane/cushion geotextile and non-LGP equipment tracks or tires.

The gravel shall be placed in a manner and with appropriate equipment such that damage does not occur to the underlying geotextile/geomembrane. The Contractor shall sequence the gravel

placement so that spreading equipment does not operate on less than 12 inches of gravel overlying the geotextile/geomembrane. The method of placement shall be such that it will not cause segregation of particle sizes. The Contractor shall place the gravel parallel to or perpendicular to the direction of any geotextile lapped seams to avoid trapping gravel between the geotextile and geomembrane.

When placing soil or gravel over the geomembrane/geotextile, temperature changes or creep may cause wrinkles to develop in the geomembrane. The Contractor shall sequence gravel placement operations to minimize the development of wrinkles. Any wrinkles which could potentially fold over shall be repaired either by cutting out excess material or, if possible, allowing the geomembrane to contract due to temperature reduction. In no case shall material be placed over the geomembrane/geotextile which could result in the geomembrane folding. All folded geomembrane shall be removed at no additional expense to SWMD. No material shall be placed in areas where the underlying geomembrane or GCL is not in contact with the supporting subgrade.

Gravel shall not be placed closer than 6 feet from the edge of geomembrane sheets where seaming of additional geomembrane to the edge must be performed pursuant to the Plans. Temporary access across such edges shall be subject to approval of the Engineer.

Any damage to the geomembrane/geotextile caused, in the opinion of the Engineer, during placement of the gravel, shall be repaired at the Contractor's expense before proceeding with further placement. The Contractor shall maintain the integrity of the gravel layer until it has been covered by overlying layers of the composite liner system and has been accepted by the Engineer.

Any material displaced by any action of the Contractor shall be replaced at the Contractor's expense to the lines and grades shown on the Plans.

The gravel shall be placed to a tolerance of minus 0.00 feet to plus 0.10 feet.

#### **4.0 MEASUREMENT AND PAYMENT**

##### **4.1 LCRS Gravel – Item No. 12**

The contract unit price for LCRS gravel shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all the work involved in LCRS gravel, complete in place, including furnishing and placing the gravel in accordance with the Plans and Technical Specifications.

Final pay quantities shall be determined by computing the square footage of placement from survey data generated by the Contractor and by field verification of the material depth. LCRS gravel placed beyond those limits will not be compensated unless previously authorized by the Engineer.

##### **4.2 LCRS Header (Detail 1/D1 and 1/D2) – Item No. 29**

The contract unit price for LCRS Header shall include full compensation for all labor, material, and equipment required to construct the LCRS Header in accordance with the Contract Documents and manufacturer's recommendations.

All grading, subgrade swale excavation, pipes, fittings, caps, supporting gravel bed and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual lineal footage installed to the limits indicated on the Plans. LCRS Header installed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.3 LCRS Lateral (Detail 2/D2) – Item No. 30**

The contract unit price for LCRS Lateral shall include full compensation for all labor, material, and equipment required to construct the LCRS Lateral in accordance with the Contract Documents and manufacturer's recommendations.

All subgrade swale excavation, pipes, fittings, caps, supporting gravel bed and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual lineal footage installed to the limits indicated on the Plans. LCRS Lateral installed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.4 6-inch Solid HDPE LCRS Riser Pipe (Detail 3/D3) – Item No. 31**

The contract unit for LCRS riser pipe shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals required to construct the LCRS Riser Pipe in accordance with the Contract Documents and manufacturer's recommendations.

All excavation, pipe, fittings, caps/clean-outs, posts, clamps, supports, geotextile straps, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual linear footage installed. LCRS riser pipe installed beyond the limits indicated on the Plans will not be compensated unless previously authorized by the engineer.

#### **4.5 LCRS Access Road/Bench Collector (Detail 7/D1) – Item No. 32**

The contract unit price for LCRS Access Road/Bench Collector shall include full compensation for all labor, material, and equipment required to construct the LCRS Access Road/Bench Collector in accordance with the Contract Documents and manufacturer's recommendations.

All pipes, fittings, caps, supporting gravel bed and other appurtenances as shown on the Plans, as specified in the Standard Specifications, and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual linear footage installed to the limits indicated on the Plans. LCRS Access Road/Bench Collector installed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.6 LFG Pipe Road Crossing (Detail 2/D3) – Item No. 33A**

The contract unit price per linear foot for LFG Pipe Road Crossing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals required to construct the 4-inch Solid Pipe Road Crossing in accordance with the Contract Documents and manufacturer's recommendations.

All subgrade excavation, pipe, fittings, caps/clean-outs, posts, clamps, supports, geotextile straps, backfill and compaction, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual linear footage installed. LFG Pipe Road Crossing installed beyond the limits indicated on the Plans will not be compensated unless previously authorized by the engineer.

#### **4.7 LFG Riser Access Road Crossing (Detail 6/D3) – Item No. 33B**

The contract unit price per linear foot for LFG Riser Access Road Crossing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals required to construct the LFG Riser Access Road Crossing in accordance with the Contract Documents and manufacturer's recommendations.

All subgrade excavation, pipe, fittings, caps/clean-outs, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual linear footage installed. LFG Riser Access Road Crossing installed beyond the limits indicated on the Plans will not be compensated unless previously authorized by the engineer.

#### **4.8 LCRS Riser Access Road Crossing (Detail 6/D3) – Item No. 33C**

The contract unit price per linear foot for LCRS Riser Access Road Crossing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals required to construct the LCRS Riser Access Road Crossing in accordance with the Contract Documents and manufacturer's recommendations.

All subgrade excavation, pipe, fittings, caps/clean-outs, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual linear footage installed. LCRS Riser Access Road Crossing installed beyond the limits indicated on the Plans will not be compensated unless previously authorized by the engineer.

#### **4.9 LCRS Pipe Junction (Detail 6/D3) – Item No. 34**

The contract unit price paid for each LCRS Junction shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in LCRS Junction including all excavation, pipe, fittings, and other appurtenances as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual number of LCRS junctions installed. LCRS junctions installed beyond the limits indicated on the Plans will not be compensated unless previously authorized by the Engineer.

#### **4.10 LFG/Test Port/LCRS Riser Pipe Termination Support (Detail 1/D4) – Item No. 35**

The contract unit price paid per each LFG/Test Port/LCRS riser pipe termination support shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in LFG/Test Port/LCRS riser pipe termination support including all excavation, fittings, caps/clean-outs, posts, clamps, supports, geotextile straps, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual number of supports installed. LFG/Test Port/LCRS riser pipe termination supports installed beyond the number indicated on the Plans will not be compensated unless previously authorized by the engineer.

#### **4.11 4-inch Solid LFG Collection Pipe (Detail 1/D3) – Item No. 36**

The contract unit price per linear foot for 4-inch Solid LFG Collection Pipe shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals required to construct the 4-inch Solid LFG Collection Pipe in accordance with the Contract Documents and manufacturer's recommendations.

All pipe, fittings, caps/clean-outs, posts, clamps, supports, geotextile straps, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.



Final pay quantities shall be determined from the approved Record Drawings indicating the actual linear footage installed. 4-inch Solid LFG Collection Pipe installed beyond the limits indicated on the Plans will not be compensated unless previously authorized by the engineer.

#### **4.12 4-inch Slotted LFG Evacuation Pipe (Detail 8/D4) – Item No. 37A**

The contract unit price for 4-inch slotted LFG evacuation pipe shall include full compensation for all labor, material, and equipment required to construct the 4-inch slotted LFG evacuation pipe in accordance with the Contract Documents and manufacturer's recommendations.

All pipes, fittings, caps, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual linear footage installed to the limits indicated on the Plans. 4-inch slotted LFG evacuation pipe installed beyond the plan limits will not be compensated unless previously authorized by the Engineer.

#### **4.13 4-inch Slotted LFG Migration Collection Pipe (Detail 1/D3) – Item No. 37B**

The contract unit price for 4-inch slotted LFG migration collection pipe shall include full compensation for all labor, material, and equipment required to construct the 4-inch slotted LFG migration collection pipe in accordance with the Contract Documents and manufacturer's recommendations.

All excavation, 12 oz./sy. geotextile, LFG Migration Collection Gravel, 4-inch slotted LFG pipe, fittings, caps, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual linear footage installed to the limits indicated on the Plans. 4-inch slotted LFG migration collection pipe installed beyond the plan limits will not be compensated unless previously authorized by the Engineer.

#### **4.14 Pipe Caps (Fusion Welded – 4-Inch and 6-Inch Diameter HDPE)**

Measurement for payment for all fusion welded pipe caps (4-Inch and 6-Inch) are paid per unit price under Items 29, 30, 31, 32, 33, 35, 36, 37A, and 37B. No separate payment for pipe caps shall be made.

#### **4.15 Wrapped Gravel (Detail 3/D2) – Item No. 38**

The contract unit price for Wrapped Gravel shall include full compensation for all labor, material, and equipment required to construct the Wrapped Gravel in accordance with the Contract Documents.

All 12-ounce geotextile, 80-mil run-off barrier, LCRS gravel, labor equipment and other appurtenances as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications shall be considered as incidental to completing the Work and shall be included in the Contractor's unit price.

Final pay quantities shall be determined from the approved Record Drawings indicating the actual lineal footage installed to the limits indicated on the Plans. Wrapped Gravel installed beyond those limits will not be compensated unless previously authorized by the Engineer.

**END OF SECTION 2D**

## **SECTION 2E**

### **GEOMEMBRANE**

#### **1.0 GENERAL**

This section sets forth the requirements for installation of the high-density polyethylene (HDPE) geomembrane liner components of the containment system.

A Geosynthetic Quality Assurance (QA) Plan (Appendix C) has been developed in conjunction with this Project and is included with these Specifications for the Contractor's reference. The Contractor shall assure that the Engineer, or the Engineer's designated representative, shall at all times have safe access to the work for the purpose of monitoring, observation, and QA Plan implementation.

An independent engineering firm, under contract to the County, will conduct Quality Assurance (QA) monitoring, observation, and documentation. The Contractor shall coordinate and cooperate with the Engineer during all sampling, testing, and certification required by these Specifications.

#### **1.1 Work Included**

The specified geomembrane shall be furnished and installed as shown on the Plans and as required herein for proper installation and functioning of the composite liner system for solid waste and leachate containment. The specified geomembrane consists of a 60-mil thick, high-density polyethylene (HDPE) geomembrane. The geomembrane placed on the floor areas (gradient less than 5:1; horizontal: vertical) shall be double-sided textured, and the geomembrane placed on the slope areas (gradients steeper than 5:1; horizontal: vertical) shall be single-sided textured with the textured side placed down.

**In accordance with RWQCB requirements, geomembrane placed over underlying GCL's shall be white, or shall be a black geomembrane immediately covered with a white geotextile. The Contractor shall have the option of providing either the white geomembrane, or the white geotextile if black geomembrane is used. It will be assumed that the Contractor has included all costs associated with compliance with the RWQCB requirement in the unit prices for the various components of the liner system, and no additional compensation will be authorized, nor is warranted.**

The Contractor is advised that acceptance and approval of the geomembrane is a phased process that includes manufacturer's certifications, manufacturer's quality control testing, conformance testing, and destructive seam testing. It is a requirement of these Specifications that the manufacturer's certification(s), and quality control test results for the geomembrane, raw resin, and extrudate rod or bead shall be received (by official submittal), reviewed, and approved by the Engineer prior to shipment of these materials to the site. It is the Contractor's responsibility to provide the Engineer with all the required documentation and test results specified herein.

#### **1.2 Quality Control (QC) Testing**

Quality Control (QC) testing is the responsibility of the Contractor and shall consist of manufacturer's certification testing, conformance testing (including direct shear testing for interface strength), and destructive seam testing. All QC testing and certification shall be performed in accordance with these Technical Specifications and all costs associated with QC

testing shall be borne by the Contractor.

### **1.3 Submittals Required**

The Contractor shall thoroughly review the Technical Specifications and identify all required project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.

- Manufacturer's product certification and certified quality control test results as specified herein.
- Manufacturer's and Contractor's quality control program including shipping, handling, storage, and installation.
- Installation drawings/panel layout.
- Schedule for Completion the Work
- Samples of geomembrane material including welded seam samples.
- Identification of independent testing laboratory accredited by the Geosynthetic Accreditation Institute (GAI).
- Certified conformance and destructive seam test results.
- Warranties as specified herein.
- Geomembrane installers subgrade certification.
- Contractor's daily documentation.
- Quality Control (QC) and Installer's Qualification/Resumes.
- Subgrade Maintenance Plan.
- Quality Control (QC) cost breakdown.
- Record Drawings.

## **2.0 MATERIALS**

### **2.1 Geomembrane Resin**

#### **2.1.1 General**

Resin for the geomembrane shall be virgin, first quality high density polyethylene (HDPE) resin produced in North America and compounded and manufactured specifically for the purpose of producing HDPE geomembranes for landfill liners. There shall be no intermixing with other resin types. Reclaimed polymer shall not be added to the geomembrane resin. The manufacturer may recycle edge trim from the roll being produced. Edge trim shall be returned immediately to the process but shall not exceed 2 percent of the total resin required. Edge trim which has been stored and edge trim from other manufacturing lines shall not be recycled.

#### **2.1.2 Physical Properties**

HDPE resin shall meet the following minimum specifications:

TEST	TEST METHOD	UNIT	REQUIREMENTS
Density*	ASTM D-1505	g/cc	0.932 to 0.945
Resin Properties	ASTM D1248	% virgin polymers	97
Melt Flow Index	ASTM D-1238 Condition E	g/10 min	<1.0
ASTM - American Society for Testing and Material			
* Base resin density without carbon black added.			

### **2.1.3 Resin Manufacturer Certification and Testing**

One set of tests shall be performed per batch of resin. At a minimum, the geomembrane manufacturer shall sample and test each compartment of each rail car or truck to ensure that product purity was maintained during shipment. Certified test results shall be submitted to and approved by the Engineer at least 15 working days prior to shipping geomembrane to the site.

## **2.2 Geomembrane Rolls**

### **2.2.1 General**

Geomembrane rolls shall be new, first quality seamless high-density polyethylene (HDPE) manufactured in North America specifically for the purpose of this project. The geomembrane rolls shall have no holes, pinholes, bubbles, blisters, gels, nicks, cuts on liner edges, or contamination by foreign matter. Geomembrane shall be supplied in rolls; folding shall not be permitted. All additives shall be thoroughly dispersed throughout the geomembrane.

### **2.2.2 Textured Geomembrane (Double-Sided)**

Textured geomembrane shall have physical properties that equal or exceed the minimum average roll values specified in Table 2.2.2, or the most recent GRI GM 13 values, except Asperity height (use Table 2.2.2 value). The texturing shall be produced by the blown-film method, or approved equivalent, with the texturing uniformly distributed on the surface of the sheet.

Textured geomembrane, if produced by coextrusion secondary attachment, shall consist of textured material attached to a base sheet. The base sheet shall have physical properties that meet or exceed those specified in Table 2.2.2. The coextruded secondary attachment sheet shall remain intact and shall be resistant to separation from the base sheet as a result of abrasion and contact with chemicals encountered in solid waste landfill applications. All work associated with secondary attachment shall be performed by the manufacturer of the base sheet.

The upper layer of geomembrane for all lined surfaces shall be white in color (white side up).

**TABLE 2.2.2**

Physical Property	Test Method	Unit	60-mil Requirement	Test Frequency (minimum)
Thickness mils (min. avg.) Lowest individual (8 of 10 values) Lowest individual (any of 10 values)	ASTM D5994	mils	57 54 51	Per Roll
Asperity Height mils (min. avg.)	ASTM D7466	mils	22 <sup>1</sup>	Every 2 <sup>nd</sup> Roll
Formulated Density (min. avg.)	ASTM D792 Method A or ASTM D1505	g/cc	0.94	200,000 lbs
Tensile Strength at Yield (min. avg.) <sup>(2)</sup>	ASTM D6693 Type IV	lb/in	126	20,000 lbs
Tensile Strength at Break (min. avg.) <sup>(2)</sup>	ASTM D6693 Type IV	lb/in	90	20,000 lbs
Elongation at Yield (min. avg.) <sup>(2)</sup>	ASTM D6693 Type IV	% Change	12	20,000 lbs
Elongation at Break (min. avg.) <sup>(2)</sup>	ASTM D6693 Type IV	%	100	20,000 lbs
Tear Resistance (min. avg.)	ASTM D1004 Die C	lb	42	45,000 lbs
Puncture Resistance (min. avg.)	ASTM D4833	lb	90	45,000 lbs
Stress Crack Resistance <sup>(3)</sup>	ASTM D5397	hrs	500	Per GRI-GM 10
Carbon black content (range)	ASTM D4218 <sup>(4)</sup>	%	2 to 3	20,000 lbs
Carbon black dispersion <sup>(5)</sup>	ASTM D5596	N/A	Note (5)	45,000 lbs
Oxidative Induction Time (OIT) (min. avg.) <sup>(6)</sup> (a) Standard OIT ----or----- (b) High Pressure OIT	ASTM D3895  ASTM D5885	min.  min	100  400	200,000 lbs
Oven Aging at 85°C <sup>(6,7)</sup> (a) Standard OIT (min. avg.) % retained after 90 days ----or----- (b) High Pressure OIT (min. avg.) % retained after 90 days	ASTM D5721 ASTM D3895  ASTM D5885	%  %	55  80	Per each formulation
UV Resistance <sup>(8)</sup> a) Standard OIT (min. avg.) ----or----- (b) High Pressure OIT (min. avg.) - % retained after 1600 hrs <sup>(10)</sup>	GRI GM11 ASTM D3895  ASTM D5885	   %	Note (9)   50	Per each formulation

- (1) Alternate the measurement side for double-sided textured sheet
- (2) Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction.  
Yield elongation is calculated using a gage length of 1.3 inches  
Break elongation is calculated using a gage length of 2.0 inches
- (3) SP-NCTL per ASTM D5397 Appendix is not appropriate for testing geomembranes with textured or irregular rough surfaces. Test should be conducted on smooth edges of textured rolls or on smooth sheets made from the same formulation as being used for the textured sheet materials.  
The yield stress used to calculate the applied load for the SP-NCTL test should be the manufacturer's mean value via MQC testing.
- (4) Other methods such as D1603 (tube furnace) or D6370 (TGA) are acceptable if an appropriate correlation to D4218 (muffle furnace) can be established.
- (5) Carbon black dispersion (only near spherical agglomerates) for 10 different views:  
9 in Categories 1 or 2 and 1 in Category 3
- (6) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
- (7) It is also recommended to evaluate samples at 30 and 60 days to compare with the 90-day response.
- (8) The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
- (9) Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples.
- (10) UV resistance is based on percent retained value regardless of the original HP-OIT value.

### **2.2.3 Quality Control – Minimum Lot/Batch**

Geomembrane shall be monitored throughout the manufacturing process for product integrity and consistency. The manufacturer shall sample rolls for the following physical properties and at the minimum frequency, or per batch of resin, in accordance with GRI –GM 13, whichever results in the greatest number of tests:

- o Geomembrane Density
- o Geomembrane Thickness
- o Carbon Black Content
- o Carbon Black Dispersion
- o Tensile characteristics (yield strength, elongation at yield, break strength, elongation at break)
- o Environmental Stress Cracking
- o Puncture resistance
- o Tear Resistance
- o Asperity Height

In order to minimize the number of conformance samples and tests, the minimum batch or lot size allowed for geomembrane rolls furnished on this project will be 75,000 square feet.

Certified test results shall be submitted to and approved by the Engineer at least fifteen (15) working days prior to geomembrane delivery to site. The Contractor shall submit a list which indicates date of production, plant location, resin batch number, manufacturing line number and identification number and square footage of each geomembrane roll. Rolls shall be listed in the order of production with the status of the roll (rejected or approved for shipment). All rolls shall be included in the list whether or not approved for shipment to the project. This information will be used by the Engineer to affix rolls to a specific 100,000 square foot, or smaller, lot for conformance testing per applicable portions of this Section.

### **2.2.4 Roll Identification**

Each roll shall be labeled or tagged with the roll identification number, product identification number, name of manufacturer, date and location of production, product type and grade, lot number, and physical dimensions. The label or tag information shall be affixed or attached to the roll at all times during deployment of the roll.

### **2.2.5 Geomembrane Samples**

The Contractor shall submit for approval by the Engineer samples of geomembrane material(s) and field seams prior to the start of construction. The Contractor shall submit six 8-inch x 10-inch samples of geomembrane material(s) and six samples of field seams which have been made in conformance with these Technical Specifications. The field seam samples shall be fabricated by the Contractor using the same materials, equipment, and procedures proposed for the geomembrane installation. Samples shall be 12-inches wide, plus the seam width, and 19-inches long. The samples shall be numbered and dated.



### **2.2.6 Warranty**

The geomembrane manufacturer shall furnish a written liner warranty on a prorata basis for a period of five years. The warranty shall be against manufacturing defects or workmanship and against deterioration due to ozone, ultraviolet light rays, and/or other normal weather aging.

The warranty shall be limited to replacement of material only and shall not cover installation of said material. It shall not cover damage due to vandalism, acts of animals, earthquakes, and other unusual acts of God.

### **2.2.7 Manufacturer's Certification**

The Contractor shall submit, to the Engineer for approval, written Manufacturer's Certification (Attachment E-1) that the geomembrane:

1. Conforms to the material requirements of these Technical Specifications;
2. Is similar to and of the same formulation as that for which certification is submitted;
3. Has been demonstrated by actual usage to be satisfactory for the intended application.

Manufacturer's certification shall include the minimum average roll values for material to be furnished on this project. The Contractor shall obtain Engineer's approval of the geomembrane prior to shipment to the site. The Contractor will not be allowed to unload or store on site any geomembrane that is delivered prior to obtaining such approval.

### **2.2.8 Interface Shear Testing**

The Contractor shall provide for direct shear testing for interface shear strength by a third-party interface testing laboratory in accordance with ASTM Standard D5321-17 "Standard Test Method for Determining the Shear Strength of Soil-Geosynthetic and Geosynthetic-Geosynthetic Interfaces by Direct Shear" and, in the case of geosynthetic clay liner (GCL), conduct interface direct shear testing in accordance with ASTM D6243-16 "Standard Test Method for Determining the Internal and Interface Shear Strength of Geosynthetic Clay Liner by the Direct Shear Method." Issues and procedures related to soil preparation shall be governed by ASTM D3080-11 "Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions." All interface testing shall be performed by the methods and procedures specified herein unless alternative methods and/or procedures are approved by the Engineer.

1. Upon award of the contract, the manufacturer and/or Contractor shall provide to the third-party interface shear testing laboratory a minimum 3-foot by the roll width sample of the geomembrane and other geosynthetics components of the composite liner system. These samples are required for shear testing of composite liner interfaces (interface testing).
2. Interface shear testing for each specified interface will be conducted at a rate of one per material interface, one per 200,000 square feet of composite base liner area, and one per 200,000 square feet of composite slope liner area, whichever results in the greatest number of tests. All costs associated with direct shear interface testing shall be borne by the Contractor\manufacturer.
3. Since GCL's typically have burnished and non-burnished sides, and texturing may vary from one side of an HDPE geomembrane to the other, all material interfaces should be tested with opposing materials in contact as they will be installed, i.e. the top of the

underlying geomembrane against the bottom of the GCL; the top of the GCL against the bottom of the overlying geomembrane, etc.

4. Except as indicated below, the interface testing shall be component-based. Representative samples of the slope and base composite liner systems shall be tested as follows:

**Test Series No. 1 (bottom to top):**

- 60-mil thick HDPE geomembrane, textured both sides
- 12 oz. non-woven Geotextile

**Test Series No. 2 (bottom to top):**

- 60-mil thick HDPE geomembrane, textured both sides
- 16 oz. non-woven Geotextile

**Test Series No. 3\*\* (bottom to top):**

- 60-mil thick HDPE geomembrane, textured both sides, *bottom side down*
- Geosynthetic Clay Liner (at-placement/“moist”), *top side up*
- 60-mil thick HDPE geomembrane, textured both sides, *top side up*

**Test Series No. 4\*\* (bottom to top):**

- 60-mil thick HDPE geomembrane, textured both sides, *bottom side down*
- Geosynthetic Clay Liner (hydrated), *top side up*
- 60-mil thick HDPE geomembrane, textured both sides, *top side up*

\*\* In lieu of composite Test Series Nos. 3 and 4, which encapsulate the GCL between two HDPE geomembranes, component Test Series Nos. 5, 6, 7, and 8 below, which do not encapsulate the GCL, may be performed instead at no additional cost to the Owner.

**Test Series No. 5 (bottom to top):**

- Geosynthetic Clay Liner (at-placement/“moist”) , *bottom side down*
- 60-mil thick HDPE geomembrane, textured both sides, *top side up*

**Test Series No. 6 (bottom to top):**

- Geosynthetic Clay Liner (at-placement/“moist”) , *top side down*
- 60-mil thick HDPE geomembrane, textured both sides, *bottom side up*

**Test Series No. 7 (bottom to top):**

- Geosynthetic Clay Liner (hydrated), *bottom side down*
- 60-mil thick HDPE geomembrane, textured both sides, *top side up*

**Test Series No. 8 (bottom to top):**

- Geosynthetic Clay Liner (hydrated), *top side down*
- 60-mil thick HDPE geomembrane, textured both sides, *bottom side up*

Prior to the interface testing, the third-party laboratory shall sample and test textured geomembrane for asperity height, carbon content, and GCL peel strength. This information should be reported along with the geomembrane description and interface testing results. The testing should be in accordance with a testing schedule prepared by the third-party interface shear testing laboratory and approved by the Engineer. This testing schedule should refer to the appropriate standards (ASTM D5321 and D6243) and should include additional relevant details such as a requirement for staged hydration of GCL, if necessary, rate of shearing of “moist” and “hydrated” GCL, and GCL consolidation time. Series samples for all geomembrane/GCL interfaces shall be conducted to model the actual field installation conditions with respect to the orientation of the GCL.

The interface shear testing program specified herein may be accomplished by stacking individual components in the same orientation and order as specified for installation (i.e. as a “sandwich” test) only if it is performed at SGI Testing Services, LLC in Norcross, Georgia, or at any other accredited geosynthetic testing laboratory, subject to the approval of the engineer.

5. The interface testing of the composite liner system shall be performed by the third-party interface testing laboratory. The testing should be performed using properly calibrated testing equipment.
  - A. Final approval of interface shear strength of composite liner system shall be made by the Engineer based on interpretation of the component interface testing results and Table 2.4.5 below. Where component testing involves GCL, tests should include “moist” GCL (i.e., at-placement moisture content; not more than 30% by weight) and “hydrated” GCL (hydration and consolidation conditions and rate of shearing to be per this specification). For this project, tests should be conducted under normal stress of 2,500; 5,000; 10,000; and 20,000 psf, commensurate with the proposed future waste fill height. For interfaces against GCL, shear strength should be evaluated as the average of the “moist” and “hydrated” test results. The evaluated shear strength envelope should meet and/or exceed values specified in Table 2.2.8 below.

**TABLE 2.2.8**

<b>Liner Type</b>	<b>Load Increment</b>	<b>- 1 - 2,500 psf</b>	<b>- 2 - 5,000 psf</b>	<b>- 3 - 10,000 psf</b>	<b>- 4 - 15,000 psf</b>
	<b>Test Series No. <sup>(2)</sup></b>	<b>Minimum Shear Strength Envelope (psf) <sup>(1)</sup></b>			
Base	1	960 (Peak)	1,920 (Peak)	3,840 (Peak)	5,760 (Peak)
Slope	2	900 (LD)	1,340 (LD)	2,220 (LD)	3,100 (LD)
Base (Peak) Slope (LD)	Average <sup>(3)</sup> of 3 and 4	960 (Peak) 900 (LD)	1,920 (Peak) 1,340 (LD)	3,840 (Peak) 2,220 (LD)	5,760 (Peak) 3,100 (LD)

Notes:

- (1) Required Minimum Shear Strength Envelope shall be Peak and/or Large Displacement (LD); LD = 3 inches, as indicated.
  - (2) Test Series are as follows (bottom to top; refer to Section 2.2.8.4 above for more information).
    1. 60-mil HDPE double-sided textured/12 oz. Geotextile.
    2. 60-mil HDPE double-sided textured/16 oz. Geotextile.
    3. 60-mil HDPE double-sided textured /GCL (moist)/60-mil HDPE double-sided textured.
    4. 60-mil HDPE double-sided textured/GCL (hydrated)/60-mil HDPE double-sided, textured.
  - (2) The peak and LD shear strength results from each normal load in Test Series No. 3 and No. 4 shall be averaged when comparing to the indicated minimum peak and LD shear strength envelopes above.
- B. GCL specimens should be hydrated for 48 hours and consolidated for a minimum of 48 hours prior to shearing.
- C. Testing at each of the normal stresses shall be undertaken on individual samples, i.e., multi-stage testing of the sample will not be allowed.
- D. Flooding shall be performed immediately after the placement of the initial consolidation load and shall be maintained throughout the specimen consolidation and testing period.
- E. Interface shear strength testing should be executed at a maximum strain rate of 0.04 inches per minute.
- F. The shear load and the shear displacement shall be logged continuously throughout the duration of the test.
- G. The test shall be terminated after 3 inches of displacement. The third-party laboratory shall note if the test was terminated for any cause prior to reaching the 3-inch requirement.
- H. At the completion of the test, the third-party laboratory shall photograph or otherwise record the location where shearing occurred, and the general conditions of the samples. The third-party laboratory shall also sample and measure the final moisture content of the soil and GCL.

- I. The results of the test shall be reported in graphical and tabular forms including:
  1. Shear stress versus shear displacement curves for all design normal loads;
  2. Peak and large displacement (i.e., at 3 inches shear displacement) shear strengths should be reported in tabulated form (in psf) and as a Mohr-Coulomb chart (in psf);
  3. Best-fit straight lines to the shear versus normal stress curves;
  4. Actual values of normal stresses along with peak and post-peak shear strengths for each normal load;
  5. Friction angle and adhesion determined from the best fits to peak and post-peak shear strengths versus normal stress curves;
  6. Friction angles determined as the secant to the specified normal stress point on the actual peak and the post-peak shear strength versus normal stress curves; and
  7. Results of peel test (GCL) and asperity height (Geomembrane). If these test results are not provided prior to interface testing, the third-party laboratory should anticipate that this information will be filled-in by the Engineer.

### **2.2.9 Quality Control (QC) Program**

The geomembrane manufacturer and the Contractor, each, shall submit a complete description of their quality control program, as applicable, for manufacturing, handling, installing, testing, repairing, and providing a completed lining in accordance with requirements of these Technical Specifications. The description shall include, but not be limited to:

- Polymer resin supplier.
- Product identification.
- Acceptance testing.
- Fabrication and production testing.
- Installation testing.
- Documentation of changes.
- Alterations and repairs.
- Retests and acceptance.

### **2.2.10 Plant Inspection**

A representative of the County or Engineer may visit the manufacturing plant at any time during the project to observe and inspect the manufacturing process and quality control monitoring, sampling and testing. The Contractor shall notify the Engineer at least five working days prior to the start of manufacturing. The Engineer will notify the Contractor at least 48 hours in advance of all visits. The Contractor shall be responsible for making all necessary arrangements for the visits with the manufacturer. All costs of travel, lodging and meals incurred by the County or

Engineer will be borne by the respective party. The purpose of the manufacturing plant inspection will be to observe the manufacturing process and the quality control procedures instituted at the manufacturing plant and not for monitoring or observing conformance sampling.

It is also a requirement of these Technical Specifications that conformance sampling will be performed at the manufacturing plant. Costs associated with conformance sampling at the manufacturing plant shall include travel and per diem expenses incurred by the Engineer in the performance of such testing and all costs for transporting the samples to the independent testing laboratory.

In lieu of the Engineer witnessing all conformance sampling, the Contractor may utilize the services of an independent laboratory accredited by the Geosynthetic Accreditation Institute (GAI) to perform conformance sampling and inspections at the manufacturing plant.

## **2.3 Extrudate Rod or Bead**

### **2.3.1 General**

The extrudate rod or bead shall be high-density polyethylene (HDPE) and shall be of the same formulation and same supplier as the resin used to produce the geomembrane. All additives shall be thoroughly dispersed throughout the extrudate rod or bead. There shall be no contamination by foreign matter in the extrudate rod or bead.

### **2.3.2 Physical Properties**

The extrudate rod or bead shall meet the following specifications:

TEST	TEST METHOD	UNITS	REQUIREMENT
Density	ASTM D-1505	g/cc	0.94 (minimum)
Carbon Black Content	ASTM D-4218 Procedure B	%	2 to 3
Melt Flow Index	ASTM D-1238, Condition E	g/10 min	0.1 - 0.3
ASTM - American Society for Testing and Materials			

### **2.3.3 Manufacturer Certification and Testing**

One set of tests shall be performed per batch of extrudate rod or bead. Certified test results shall be submitted to and approved by the Engineer at least fifteen (15) working days prior to shipping the extrudate rod or bead to the site.

## **3.0 CONSTRUCTION METHODS**

### **3.1 Shipping, Handling and Storage**

#### **3.1.1 General**

Geomembrane shall be shipped, stored, and handled in accordance with the manufacturer's recommendations and as specified herein. The Contractor shall be completely responsible for shipping, handling, and storage of all geomembrane. The geomembrane rolls shall be delivered to the site only after the Engineer receives and approves, in writing, the submittal information required in these Technical Specifications.

#### **3.1.2 Shipping**

The Contractor shall notify the Engineer at least twenty-four (24) hours prior to scheduled delivery of materials on site. All deliveries shall be made during normal working hours, Monday through Friday, unless specifically authorized by the Engineer. No materials shall be unloaded except in the presence of the Engineer or the Engineer's representative. Geomembrane delivered to the site shall be inspected for damage and unloaded and stored with minimal handling.

Subsequent to delivery, the Contractor, Geomembrane Installer, and the Engineer shall complete a surface observation of all rolls for defects or damage. Damaged rolls shall be separated from undamaged rolls until proper disposition of material is determined by the Engineer. The Engineer will be the final authority on the determination of damage.

### **3.1.3 Handling**

No hooks, tongs, or other sharp tools or instruments shall be used for handling geomembrane. Contractor shall use cloth chokers and spreader bars for loading and unloading and spreader bars and roll bars for deployment. Geomembrane shall not be folded or dragged along the ground.

### **3.1.4 Storage**

Geomembrane shall be protected from soil, mud, dirt, debris, puncture, cutting, or other damaging or deleterious conditions. Geomembrane rolls shall not be stored on wooden pallets. Geomembrane shall not be stacked more than three (3) rolls high. Storage shall be in accordance with the manufacturer's recommendations.

## **3.2 Supporting Surface**

### **3.2.1 Acceptance of Soil Subgrade**

No geomembrane shall be installed until the supporting surface has been inspected and approved for geomembrane installation by the Engineer. The Contractor shall correct all deficiencies found in the subgrade prior to deployment of the geomembrane at no additional cost to the County. In addition, the geomembrane installer shall inspect the subgrade and shall certify, in writing, that the subgrade is acceptable for geomembrane installation. Survey drawing of the low permeable layer thickness (point over point) shall be submitted and reviewed by the engineer prior to release for geosynthetic material installation. The Contractor shall maintain responsibility for subgrade maintenance in accordance with the Specification requirements until completion of the liner installation.

### **3.2.2 Maintenance**

The Contractor shall maintain the surface suitability and integrity of the low permeability soil subgrade until installation of the geomembrane is completed and accepted by the Engineer. The subgrade shall be maintained in a condition that minimizes desiccation and provides for a firm and unyielding condition. Water conditioning or placement of visqueen shall be employed to prevent drying of the subgrade and/or saturation due to precipitation. Maintenance of the subgrade shall include non-work hours and weekends as required by weather conditions.

The Contractor is hereby advised that low permeability liner soils are highly susceptible to desiccation when exposed for only a short period of time. As a result, it is incumbent on the Contractor to protect and properly maintain the low permeability layer sub grade from desiccation. Once finished grade of the low permeability layer is obtained, the finished section is required to be covered with geomembrane within 36 hours.



### **3.3 Geomembrane Installation**

#### **3.3.1 Installation Submittals**

The Contractor shall submit the following:

- Installation drawings.
- Description of installation procedures including subgrade maintenance.
- Schedule for performing/completing the work.

Installation drawings shall show a field panel lining sheet layout with proposed size, number, position, and placement sequence of all sheets and indicating the location of all field seams and anchors. Installation drawings shall also show complete details and/or methods for anchoring the liner at its perimeter, making field seams and making anchors/seals to pipes and structures penetrating the liner.

A field panel (sheet) is an area of geomembrane which is to be seamed in the field (i.e., a field panel is a roll or a portion of roll cut in the field). The geomembrane installer shall assign each panel over 25 square feet an identification code which shall be agreed to and used by the Engineer and the Contractor. The Contractor shall locate the code with roll number near the middle of the panels less than 50 feet in length and at both ends of panels over 50 feet in length.

#### **3.3.2 Material Inspection**

Prior to installation, the Contractor shall visually inspect all geomembrane for imperfections, faulty or suspect areas and possible damage. All such defective geomembrane shall be marked, repaired, and/or tested. Geomembrane that cannot be repaired shall be removed from the work area and replaced at no additional cost to the County. Contractor shall inspect and replace faulty material that requires more than one patch per 2,000 square feet of geomembrane deployed at no additional cost to the County. Patches required for destructive testing will not be included in this tabulation.

#### **3.3.3 General**

The Contractor shall thoroughly review the manufacturer's recommendations for proper installation procedures of the specified material. The Contractor shall consult with the manufacturer's representatives regarding site specific and environmental impacts which may affect the installation. Such items as adequate or allowable slack, timing of anchor completion to minimize creep, and temperature considerations shall be reviewed, and appropriate action shall be taken by the Contractor to assure intimate contact between subgrade and geomembrane upon placement of overlying material.

The number of panels deployed on one day shall be limited to the number of panels which can be seamed or tack welded on the same day.

Contractor shall use equipment which does not damage geomembrane or the supporting subgrade surface.

All personnel working on geomembrane shall wear shoes that do not damage the geomembrane. No personnel shall be allowed to engage in activities that could damage the geomembrane.

Clamps and other metal tools used in the work area shall have rounded edges with no sharp corners. Clamps and other metal tools shall not be tossed or thrown.

Panels shall be unrolled using a method that protects geomembrane from scratches and crimps and protects the low permeability soil subgrade from damage.

Contractor shall minimize wrinkles, especially differential wrinkles between panels.

Contractor shall place adequate temporary hold-downs to prevent uplift by wind. Hold-downs shall not damage geomembrane and shall be continuous along edges to minimize risk of wind flow under panels.

Contractor shall protect geomembrane in heavy traffic areas using geotextile, extra geomembrane (sacrificial), or other suitable materials. Material used for protection shall be temporary and shall not be used as any part of the permanent installation.

Contractor shall not allow vehicle traffic on geomembrane surface.

### **3.3.4 Weather Conditions**

#### **3.3.4.1 Temperature**

Ambient temperature, measured six inches above geomembrane surface, shall be logged every two hours. Geomembrane shall be deployed between ambient temperatures of 40 degrees F to 105 degrees F and when the relative humidity is less than 80 percent. Deployment of geomembrane below 40 degrees F shall only be allowed after it has been verified that the material can be seamed according to these Technical Specifications, and is approved by the Engineer. When the temperature is below 50 degrees F, preheating by hot air device one inch in front of the extruder shall be provided. Special test welds may be required to verify that weather conditions are not adversely impacting seam quality.

#### **3.3.4.2 Precipitation / Moisture**

The geomembrane shall not be deployed during precipitation, in the presence of excessive moisture, or in areas of ponded water. Exceptions to these restrictions may be granted with approval of the Engineer and on condition that adequate steps (such as shelters) are taken by the Contractor to produce high quality seams meeting the requirements of this Section.

#### **3.3.4.3 Wind Protection**

The geomembrane shall not be deployed in the presence of excessive winds. The Contractor shall protect the geomembrane against adverse effects of high winds (such as uplift). Sandbags may be used for this purpose. Sandbags shall be sufficiently close knit to preclude fines from working free of the bottom, sides, or seams. Paper bags, whether or not lined with plastic, shall not be permitted. Burlap bags, if used, shall be lined with plastic. Sandbags shall contain not less than 40, nor more than 60, pounds of sand having 100 percent passing a #8 screen. Sandbags shall be tied closed after filling, using only plastic ties. Metal or wire ties shall not be allowed. Sandbags that are split, torn, or otherwise losing their contents shall be immediately removed from the work area and replaced and any spills immediately cleaned up.

### **3.3.5 Miscellaneous Liner Details**

Installation of the composite liner system includes the construction of various terminations, anchors, berms, interceptor trenches, tie-downs, and other appurtenances as indicated on the Plans. All work associated with, and required for, the completion of these items is to be considered as included in the Contractor's unit prices.

### 3.4 Seams

#### 3.4.1 General

Seams shall be oriented vertically up and down the slopes; not horizontally across the slopes. Each seam shall be numbered and seam numbering system compatible with the panel numbering system shall be used.

The number of field seams in corners, off-shaped geometric locations, and outside corners shall be minimized; all seams of this type shall be hot wedge welded. In no instance shall seams deviate from the vertical position by more than 22.5 degrees without written authorization from the Engineer.

Panels shall be overlapped as recommended by the manufacturer. Only procedures that do not damage the geomembrane and that are not detrimental to seam weld material shall be used to temporarily bond adjacent panels together.

All edges, laps, junctions, and all tie-ins to existing liner systems shall be welded, whether or not a specific note or detail on the Plans indicates a weld.

#### 3.4.2 Physical Properties

Geomembrane seams shall be tested in accordance with ASTM D-6392 and shall meet or exceed the following minimum requirements:

TEST	TEST METHOD	REQUIREMENTS
Hot Wedge Seams	ASTM D-6392	
Shear Strength (ppi)		120
Shear Elongation (%)		50
Peel strength (ppi)		91
Peel Separation (%)		25
Extrusion Fillet Seams	ASTM D-6392	
Shear Strength (lb/in)		120
Shear Elongation (%)		50
Peel strength (lb/in)		78
Peel Separation (%)		25

#### 3.4.3 Seam Preparation

The following steps shall be followed in preparing seams:

- Clean surface of grease, moisture, dust, dirt, debris or other foreign material.
- Clean surface of oxidation by disc grinder or equivalent not more than 1 hour before seaming (not required for wedge welding).
- Use No. 80 grit sandpaper for disc grinder.
- All areas where grinding is evident shall be repaired with a method approved by the Engineer.
- Cover with single extrudate any bead grooves.

- Use soft bristle brush after grinding, if brushing required.
- Do not use wire brush after grinding.
- Cut wrinkles and "fishmouths" along ridge.
- Overlap and seam wrinkles and fishmouths.
- Patch wrinkles and fishmouths where overlap is less than three (3) inches.
- Use firm, dry substrate (piece of geomembrane or other material) directly under seam overlap where subgrade is soft.
- Use plywood or other firm material under seam overlap when welding over anchor trench.

#### **3.4.4 Extrusion Welding**

As necessary, welding apparatus shall be purged of heat-degraded extrudate before welding if extruder is stopped for longer than three minutes. All purged extrudate shall be disposed of off the geomembrane. Extrudate rod shall be removed from welder when welder is idle for over two hours.

Each extruder shoe shall be inspected daily for wear to ensure that its offset is the same as the liner thickness. Worn shoes, damaged or misaligned armature brushes, nozzle contamination, or other worn or damaged parts shall be repaired or replaced prior to further usage.

Stop-start welding shall be avoided. Existing welds or welds more than five minutes old shall be ground two inches back from point of stoppage or two inches on each side of identified leaks before welding. Weld shall be restarted two inches on each side of identified leaks or two inches back from point of stoppage.

No equipment will be allowed to commence welding on liner until the trial weld, made by that equipment, has been approved by the Engineer.

Components shall be mounted on a mobile unit for interface extrudate welding. The following accessories shall be included as a minimum:

- Variable speed control.
- Wheels with non-skid surface on HDPE.
- Directional control.
- Automatic hot air system for preheating welding surfaces.
- Extruder system with appropriate die.
- Four adjustable contact pressure rollers.

The "hot air system" shall be tested and set up using scrap material each day prior to commencing seaming. Hot air velocity shall be adjusted to account for wind effects. Contact pressure rollers shall be adjusted to prevent surface ripples in sheet.

#### **3.4.5 Hot Wedge Welding**

Welding apparatus shall be automated vehicular mounted device equipped with gauges giving applicable temperatures. The welding apparatus shall be equipped with a temperature gauge.

A smooth insulating plate or fabric shall be placed beneath to hold welding apparatus after usage. Protective fabric or piece of geomembrane shall be placed beneath hot welding apparatus when resting on geomembrane.

Moisture build up between sheets shall be prevented.

No equipment will be allowed to commence welding on liner until the trial seam, made by that equipment, has been approved by the Engineer. All welding conducted at the Contractor's discretion, prior to trial seam results, shall be at the Contractor's risk. Trial seam failures shall be tracked as outlined under "Trial Seams".

A minimum of one spare operable welding apparatus shall be maintained for each three seaming teams.

An electric generator shall be provided that is capable of providing a constant voltage for the anticipated combined line load. The electric generator shall generally be located outside the liner limit. Protective lining and splash pads large enough to catch spilled fuel shall be placed under electric generator when located on the liner.

### **3.4.6 Trial Seams**

Trial seams shall be demonstrated on pieces of geomembrane liner to verify adequate seaming conditions. Trial seams shall be conducted on each piece of equipment in service, at the following frequency:

- At beginning of each seaming shift (5 hours maximum start of day and mid-day).
- Any time a piece of equipment is shut down for more than thirty minutes.
- At least one per shift for each welding technician performing seaming.
- As weather conditions dictate, and at Engineer's request.

Welding technicians shall not change parameters (temperature, speed, wheel adjustment) without successfully performing another trial weld.

Trial weld shall be constructed adjacent to the area to be seamed. Trial welds shall be in contact with subgrade or geotextile (same condition as the liner to be seamed).

The trial weld sample shall be at least 3-feet long and 12-inches wide with the seam centered lengthwise. Two 1-inch wide specimens shall be cut by the Contractor in the presence of the Engineer and the specimens obtained near each opposite end of trial weld seam. Specimens shall be quantitatively tested first, for peel adhesion, and then for bonded seam strength (shear).

Seam breaks will be analyzed for shear and peel strength in accordance with the requirements of GI Test Method GM19 Table 1(a) and the requirements of Section 3.4.2 of these Technical Specifications. A trial weld passes when both test specimens pass peel and shear tests.

Testing shall be repeated in its entirety if one or more of the specimens fails the peel or shear tests. If trial weld testing fails, the seaming apparatus and operator shall not be used for welding until deficiencies or conditions are corrected and two consecutive successful field test seams are achieved (two specimens in peel and two specimens in shear). All weld seams made by seaming

apparatus prior to failure of trial weld shall be checked. Starting back from last seam made, check seams at minimum 10-foot intervals until two consecutive seam tests pass. Seam shall be reconstructed to the satisfaction of the Engineer.

### **3.4.7 Repairs**

Holes smaller than 1/4-inch shall be repaired by extrusion welding. The surface of the geomembrane shall be ground to a minimum one inch around hole immediately before welding. Seams shall be vacuum tested after each welding. Result of test, date of test, and name of quality control technician shall be marked on the geomembrane adjacent to the seam.

Holes larger than 1/4-inch, tears, blisters, undispersed raw material, and contamination by foreign matter shall be patched. Patches shall be round or oval in shape and made of the same material as the geomembrane. Patches shall extend a minimum of six inches beyond the edge of defect and shall be a minimum of 12 inches in diameter. Edge of the patch shall be beveled. Patch shall not be cut with repair sheet in contact with geomembrane. Patch shall be welded to the geomembrane with an approved method and vacuum tested. Result of test, date of test, and name of quality control technician shall be marked on the patch.

Contractor's daily documentation of non-destructive and destructive testing shall be provided to the Engineer's on-site representative. The documentation shall identify seams which were repaired and retested successfully.

## **3.5 Construction Quality Control (QC)**

### **3.5.1 General**

The Contractor shall designate a full-time Quality Control (QC) Technician to be responsible for supervising and/or conducting the construction QC program. The QC Technician shall have quality control experience on five million square feet of HDPE geomembrane. The resume for the QC Technician shall be included in the qualifications package submitted for the Engineer's review. The QC Technician shall not be replaced without written authorization by the Engineer. All field QC testing shall be performed in the presence of the Engineer.

### **3.5.2 Visual Inspection**

All seams shall be visually evaluated by the Contractor as the installation progresses and again at completion of the installation. Defective and questionable sections shall be clearly marked and repaired as necessary.

### **3.5.3 Vacuum Box Testing**

The continuity of extruded field seams, beads, and patches shall be tested over their entire length using vacuum box test units. The vacuum test shall be performed concurrently with seaming work, not at completion of seaming.

The vacuum box shall be an American Vacuum Seam Tester, Series A100 as manufactured by American Parts and Service Company, Alhambra, California, or an approved equal. The vacuum box assembly shall consist of the following:

- Rigid housing.
- Transparent viewing window.
- Soft rubber gasket attached to bottom of housing.

- Porthole or valve assembly.
- Vacuum gage.

A vacuum pump and tank equipped with pressure controller and pipe connections, rubber pressure/vacuum hose with fittings and connections, clean, dry, soft rags, plastic bucket and applicator, water, and detergent to produce soapy solution shall also be provided.

The vacuum testing procedure shall be as follows:

- Clean window, gasket surfaces, and check for leaks.
- Energize vacuum pump and reduce tank pressure to approximately five (5) psi.
- Wet a strip of geomembrane weld approximately 12-inches by 30-inches (length of box) with soapy solution.
- Place box over wetted area and compress.
- Close bleed valve and open vacuum valve.
- Ensure that a leak-tight seal is created.
- For a period of not less than fifteen seconds, examine length of weld through viewing window for presence of soap bubbles.
- If no bubbles appear after fifteen seconds, close vacuum valve and open bleed valve, move box over next adjoining area with minimum 3-inch overlap of previous test section and repeat process.
- Areas where soap bubbles appear shall be marked, repaired, and retested.

The following procedures shall be used at locations where seams cannot be vacuum tested:

- Where possible and/or required, cap-strip seams with same geomembrane.
- If seam is accessible to testing equipment prior to final installation, vacuum test seam prior to final installation.
- Seaming and cap-stripping operations shall be observed by the Engineer for uniformity and completeness.

### **3.5.4 Air Pressure Testing**

The Contractor shall test all dual-hot wedge seams in the HDPE lining by using the air pressure test which consists of inserting a needle with gauge in the air space between welds. Air shall be pumped to 35 psi within the weld void and held for at least five minutes. If the pressure loss exceeds 2 psi within the weld void during air pressure testing, the outside weld edge (not free edge) shall be sprayed with a soap solution and visually examined for bubbles. If no bubbles appear, the problem is with the inside weld and the seam is acceptable. If any bubbles appear, the defect shall be repaired by extrusion welding and tested by vacuum box and/or spark detector.

If pressure loss is not more than 2 psi, the opposite end of the seam will be punctured to release the air. If a blockage is present, it will be located and tests on both sides of the blockage will be completed. All penetration holes created during testing shall be sealed by patching and extrusion welding.



Equipment shall be as follows:

- Air pumps equipped with pressure gauge capable of generating and sustaining a pressure at 35 psi and mounted on cushion to protect geomembrane.
- Rubber hose with fittings and connections.
- Sharp hollow needle or other pressure feed device approved by the Engineer.

The air pressure testing shall be as follows:

- Seal both ends of the seam to be tested.
- Insert a needle or other approved pressure feed device into tunnel created by double hot wedge seaming and insert a protective cushion beneath air pump above geomembrane.
- Pressurize air chamber to 35 psi, and sustain pressure for a minimum of five minutes.
- Demonstrate air test seam continuity by puncturing end opposite pressure-feed device.
- If loss of pressure exceeds 2 psi or does not stabilize, locate faulty area and repair as appropriate.
- Retest failed areas as appropriate.
- Remove approved pressure feed device and patch.

### **3.5.5 Spark Testing**

If a fillet weld is used to weld seams, the Contractor may, in lieu of vacuum box testing, test seams and repairs in the geomembrane by using a high voltage spark detector, similar to Tinker and Rasor Holiday Detector (Model AP-W). The setting of the detector shall be 20,000 volts. All seams to be tested shall be provided with 24 to 30-gauge copper wires properly embedded in the seams and grounded. All spark testing shall be done in the presence of the Engineer. All defective areas shall be marked for repair.

### **3.5.6 Final Seam Inspection**

For final seaming inspection, seams and surface of geomembrane shall be checked for defects, holes, blisters, undispersed raw materials and signs of contamination by foreign matter. The geomembrane surface shall be brushed, blown, and/or washed if dirt inhibits inspection. The Engineer shall decide if cleaning of geomembrane surface and welds is needed to facilitate inspection. The Contractor shall distinctively mark, preferably with paint, repair areas and indicate required type of repair.

### **3.6 Construction Quality Control/Conformance Testing**

Conformance and destructive seam testing will be conducted by an independent testing laboratory certified by the Geosynthetic Accreditation Institute (GAI), selected by the Contractor and approved by the Engineer. Test results of the independent testing laboratory will be considered final. All costs associated with conformance and destructive seam testing sampling, shipping, and testing by the independent testing laboratory will be borne by the Contractor.

### 3.6.1 Conformance Sampling, Testing and Reporting

The Contractor shall obtain all conformance samples directly from the manufacturing plant, under the observation of the Engineer, or as approved by the Engineer, pursuant to Section 2.2.10. Conformance samples shall be taken and tested at a rate of one per lot, or one per 100,000 square feet, whichever results in the greater number of tests. Interface shear strength testing shall be conducted at a rate of one per 200,000 square feet or one per material interface, whichever results in the greatest number of tests.

Samples shall be taken across the entire width of the roll and shall not include the first three (3) feet. Unless otherwise specified, samples shall be three (3) feet long by the roll width. The Engineer shall mark the machine direction on the samples with an arrow, and the geomembrane manufacturer's roll identification number.

At a minimum, conformance tests will include determination of the following characteristics for the HDPE:

- o Thickness (ASTM D5994)
- o Tensile characteristics (yield strength, elongation at yield, break strength, elongation at break) (ASTM D6693)
- o Puncture resistance (ASTM D4833).
- o Tear Resistance (ASTM D1004 Die C)
- o Density (ASTM D1505A)
- o Carbon black content (ASTM D4218)
- o Carbon Black Dispersion (ASTM D5596)
- o Asperity (7466)
- o Interface shear (ASTM D 5321 or D 6243)

Where optional procedures are noted in the test method, the requirements of the Project Specifications shall prevail.

A conformance sample that yields any tested property less than the specified average minimum roll property will be recorded as a failure. The portion of the manufactured lot represented by the failing conformance sample/test will be considered non-conformant with the Project Specifications and the material rejected for use on the project.

The minimum number of specimens tested will be determined in accordance with ASTM Standards. Certified test results of the independent laboratory shall be submitted for approval by the Engineer following the requirements set forth in these Specifications. Final approval of the geomembrane shall be contingent upon certification of test results which meet or exceed the requirements of these Technical Specifications.

### 3.6.2 Destructive Seam Testing

The Contractor shall visually inspect, mark and repair suspicious-looking welds before release of a section to the Engineer for destructive seam testing. The Contractor shall provide the Engineer with a minimum of one destructive sample per 500 linear feet of seam length for destructive seam testing. Destructive seam testing will be performed by the GAI certified, independent testing laboratory, and all testing costs will be paid by the Contractor. The section shall be

selected by the Engineer and the Contractor shall not be informed in advance of the sample location. Samples shall be cut as seaming and non-destructive testing progresses, and prior to completion of liner installation. Samples shall be marked with consecutive number and location seam number. Contractor shall record, in written form, the date, time, location, seam number corresponding roll number, welding apparatus identification number, and ambient temperatures at time seam was welded. This information shall be delivered to the Engineer with the destructive samples. The Engineer shall observe acquisition of all destructive samples. The Contractor shall immediately repair holes in geomembrane resulting from obtaining destructive samples and vacuum test patches.

The size of destructive samples shall be as follows:

- Two 1-inch wide by 12-inch long (plus seam width) for field testing
- One 12-inch wide by 36-inch long for laboratory testing

The sample shall be cut into three equal parts and distributed as follows:

- Independent Lab
- Contractor
- Engineer (Archive)

The destructive seam testing will be as follows. The two 1-inch wide samples shall be tested in the field for peel adhesion and bonded seam strength (shear) by the Contractor and shall pass the strength requirements established in Section 3.4.2. If one or both of the samples fails in either peel or shear, the Contractor can, at his/her discretion, either: (1) reconstruct or cap strip the seam between passed test locations or, (2) take another test sample 10 feet from the point of the failed test and repeat this procedure.

If the second test passes, the Contractor shall reconstruct or cap strip the seam between the two passed test locations.

If subsequent tests fail, the procedure is repeated until the length of the poor quality seam is established. Repeated failures indicate that either the seaming equipment and/or operator is not performing properly, and appropriate action shall be taken.

Once the field tests have passed, the lab sample shall be recovered from between passing field sample locations for testing by the independent testing laboratory.

All specimens of a field weld sample tested by the independent testing laboratory shall pass. If any specimen fails, the entire sample shall be considered as a failure and the field weld shall be rejected. In this event, the field seam(s) shall be rejected as being nonconformant with the Technical Specifications and corrective measures shall be implemented.

For destructive samples which have failed, corrective measures shall include a rerun of the weld test using the same sample. If the second test passes, the Engineer may assume an error was made in the first test and the field seam may be accepted. If the second test fails, the Contractor shall reconstruct or cap strip the field seam between any two previous passed seam locations which include the failed seam or shall go on both sides of the failed seam location (10-feet minimum), take another sample each side and test both in the independent laboratory.

If both samples pass, the Contractor shall reconstruct or cap strip the field seam between the two passing locations. If either fails, the Contractor shall repeat the process of taking samples for

testing by the independent testing laboratory. In all cases, acceptable field seams must be bounded by two passed test locations. In cases involving more than 50 feet of reconstructed or cap stripped seam, the reconstructed or cap stripped seam shall also be tested. The results of the independent testing laboratory governs seam acceptance. In no case shall field testing of installed seams be used for final acceptance.

Testing shall include peel and shear strength (ASTM D6392). At least five specimens each shall be tested for peel and shear. Minimum test values are presented in Section 3.4.2 of these Technical Specifications.

The Contractor's laboratory test results shall be presented to the Engineer for comments.

### **3.7 Record Drawing**

In addition to providing survey data from which final pay quantities shall be determined, the Contractor shall submit information required in the preparation of the record drawings for the containment system. This data shall include LCRS and collection system components location and elevations, subgrade elevations, geosynthetic material limits and surface areas, anchor trenches, termination locations, destructive seam test locations, cap strips, etc., protective cover layer limits, and other such information to accurately document the as-constructed condition of all elevations and locations of the composite liner installation. **The survey and record drawing requirement for this project may necessitate that the Contractor be prepared to perform survey work on a daily basis during the liner installation phase of the work, to accurately document the as-built condition of the various components of the system. (See Section 2B-Construction Support Tasks, Paragraph 1.9.6 Survey – Timing/Frequency and 1.9.7 Survey Deliverables)**

## **4.0 MEASUREMENT AND PAYMENT**

### **4.1 Floor Area Encapsulation Geomembrane - (Item 10A)**

The contract unit price paid per square foot for Floor Area Encapsulation Geomembrane shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Floor Area Encapsulation Geomembrane as shown on the plans and as specified in the Standard Specifications, these Special Provisions, manufacturer's recommendations, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual surface area of Floor Area Encapsulation Geomembrane placed to the limits indicated on the Plans (Overlap at seams and material in anchor trenches will not be measured separately for payment). Floor Area Encapsulation Geomembrane placed beyond those limits will not be compensated unless previously authorized by the Engineer.

### **4.2 Floor Area Geomembrane - (Item 10B)**

The contract unit price paid per square foot for Floor Area Geomembrane shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Floor Area Geomembrane as shown on the plans and as specified in the Standard Specifications, these Special Provisions, manufacturer's recommendations, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual surface area of Floor Area Geomembrane placed to the limits indicated on the Plans (Overlap at seams and material in

anchor trenches will not be measured separately for payment). Floor Area Geomembrane placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.3 Slope Areas and Roadway/Benches Encapsulation Geomembrane - (Item 15A)**

The contract unit price paid per square foot for Slope Area and Roadway/Benches Encapsulation Geomembrane shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Slope Area and Roadway/Benches Encapsulation Geomembrane including all geosynthetic material overlap, welding, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual area of Slope Area and Roadway/Benches Encapsulation Geomembrane placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Slope Area and Roadway/Benches Encapsulation Geomembrane placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.4 Geomembrane - Slope Areas and Roadway/Benches (Item 15B)**

The contract unit price paid per square foot for Geomembrane Slope Area and Roadway/Benches shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Geomembrane Slope Area and Roadway/Benches as shown on the plans and as specified in the Standard Specifications, these Special Provisions, manufacturer's recommendations, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual surface area of Geomembrane placed to the limits indicated on the Plans (Overlap at seams and material in anchor trenches will not be measured separately for payment). Geomembrane placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.5 Horizontal Anchor at Existing Refuse Limit Per Detail 7/D2 (Item 21)**

The contract Lump Sum price paid for Horizontal Anchor at Existing Refuse Limit shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Horizontal Anchor at Existing Refuse Limit including and all excavation, grading, geosynthetic materials, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Lump Sum Payment shall be based on verification that Horizontal Anchor at Existing Refuse Limit was constructed.

#### **4.6 Slope Liner Join Per Detail 9/D1 (Item 22)**

The contract unit price paid per lineal foot for Slope Liner Join shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Slope Liner Join including and all excavation, geosynthetic materials, backfill and compaction, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual lineal foot of Slope Liner Join placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Slope Liner Join placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.7 Anchor Trench at Berm Per Detail 12/D1 (Item 23)**

The contract unit price paid per lineal foot for Anchor Trench at Berm shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Anchor Trench at Berm including and all excavation, grading, geosynthetic materials, backfill, compaction, PSC Backfill and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual lineal footage of Anchor Trench at Berm placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Anchor Trench at Berm placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.8 Anchor Trench at South Roadway Per Detail 11/D1 (Item 24)**

The contract unit price paid per lineal foot for Anchor Trench at South Roadway shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Anchor Trench at South Roadway including and all excavation, grading, geosynthetic materials, backfill, compaction, PSC Backfill and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual lineal footage of Anchor Trench at South Roadway placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Anchor Trench at South Roadway placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.9 Anchor Trench at West Perimeter Road Per Detail 3/D4 (Item 25)**

The contract unit price paid per lineal foot for Anchor Trench at West Perimeter Road shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Anchor Trench at West Perimeter Road including and all excavation, grading, geosynthetic materials, backfill, compaction, PSC Backfill and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual lineal footage of Anchor Trench at West Perimeter Road placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Anchor Trench at West Perimeter Road placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.10 Slope Liner Termination Per Detail 10/D1 (Item 26)**

The contract unit price paid per lineal foot for Slope Liner Termination shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Slope Liner Termination including and all excavation, grading, geosynthetic

materials, concrete backfill, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual lineal footage of Slope Liner Termination placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Slope Liner Termination placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.11 Slope to Base Liner Transition Per Detail 6/D1 (Item 27)**

The contract unit price paid per lineal foot for Slope to Base Liner Transition shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Slope to Base Liner Transition including welding of all geosynthetic materials, overlap, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual lineal foot of Slope to Base Liner Transition placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Slope to Base Liner Transition placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.12 Construct Liner Join at Phase 1A South Bench Per Detail 6/D2 (Item 28A)**

The contract unit price paid per lineal foot for Liner Join at Phase 1A South Bench shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Liner Join at Phase 1A South Bench including all excavation, welding of all geosynthetic materials, overlap, backfill and compaction, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual lineal foot of Liner Join at Phase 1A South Bench placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Liner Join at Phase 1A South Bench placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.13 Construct Liner Join at LCRS Bench Crossing Per Detail 5/D2 (Item 28B)**

The contract unit price paid per each Liner Join at LCRS Bench Crossing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Liner Join at LCRS Bench Crossing including all excavation (Bench Crossing Subgrade Swale), geosynthetic materials, welding, backfill and compaction, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the engineer.

Final pay quantities shall be determined from field verification of the actual number of Liner Joins at LCRS Bench Crossings installed in accordance with the locations indicated on the Construction Plans.

### **END OF SECTION 2E**



**NOT FOR BID**

# Geomembrane Manufacturer Certification

## Attachment E-1

Physical Property	Test Method	Unit	60-mil Requirement	Test Frequency (minimum)
Thickness mils (min. avg.) Lowest individual (8 of 10 values) Lowest individual (any of 10 values)	ASTM D5994	mils	57 54 51	Per Roll
Asperity Height mils (min. avg.)	ASTM D7466	mils	22 <sup>1</sup>	Every 2 <sup>nd</sup> Roll
Formulated Density (min. avg.)	ASTM D792 Method A or ASTM D1505	g/cc	0.94	200,000 lbs
Tensile Strength at Yield (min. avg.) <sup>(2)</sup>	ASTM D6693 Type IV	lb/in	126	20,000 lbs
Tensile Strength at Break (min. avg.) <sup>(2)</sup>	ASTM D6693 Type IV	lb/in	90	20,000 lbs
Elongation at Yield (min. avg.) <sup>(2)</sup>	ASTM D6693 Type IV	% Change	12	20,000 lbs
Elongation at Break (min. avg.) <sup>(2)</sup>	ASTM D6693 Type IV	%	100	20,000 lbs
Tear Resistance (min. avg.)	ASTM D1004 Die C	lb	42	45,000 lbs
Puncture Resistance (min. avg.)	ASTM D4833	lb	90	45,000 lbs
Stress Crack Resistance <sup>(3)</sup>	ASTM D5397	hrs	500	Per GRI-GM 10
Carbon black content (range)	ASTM D4218 <sup>(4)</sup>	%	2 to 3	20,000 lbs
Carbon black dispersion <sup>(5)</sup>	ASTM D5596	N/A	Note (5)	45,000 lbs
Oxidative Induction Time (OIT) (min. avg.) <sup>(6)</sup> (a) Standard OIT ----or----- (b) High Pressure OIT	ASTM D3895 ASTM D5885	min. min	100 400	200,000 lbs
Oven Aging at 85°C <sup>(6,7)</sup> (a) Standard OIT (min. avg.) % retained after 90 days ----or----- (b) High Pressure OIT (min. avg.) % retained after 90 days	ASTM D5721 ASTM D3895 ASTM D5885	% %	55 80	Per each formulation
UV Resistance <sup>(8)</sup> a) Standard OIT (min. avg.) ----or----- (b) High Pressure OIT (min. avg.) - % retained after 1600 hrs <sup>(10)</sup>	GRI-GM11 ASTM D3895 ASTM D5885	  %	Note (9) 50	Per each formulation

- (1) Alternate the measurement side for double-sided textured sheet
- (2) Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction.  
Yield elongation is calculated using a gage length of 1.3 inches  
Break elongation is calculated using a gage length of 2.0 inches
- (3) SP-NCTL per ASTM D5397 Appendix is not appropriate for testing geomembranes with textured or irregular rough surfaces. Test should be conducted on smooth edges of textured rolls or on smooth sheets made from the same formulation as being used for the textured sheet materials.  
The yield stress used to calculate the applied load for the SP-NCTL test should be the manufacturer's mean value via MQC testing.
- (4) Other methods such as D1603 (tube furnace) or D6370 (TGA) are acceptable if an appropriate correlation to D4218 (muffle furnace) can be established.
- (5) Carbon black dispersion (only near spherical agglomerates) for 10 different views:  
9 in Categories 1 or 2 and 1 in Category 3
- (6) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
- (7) It is also recommended to evaluate samples at 30 and 60 days to compare with the 90-day response.
- (8) The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
- (9) Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples.
- (10) UV resistance is based on percent retained value regardless of the original HP-OIT value.

I, the undersigned, duly authorized representative of the manufacturer, hereby certify that the 60-mil HDPE geomembrane supplied for this project will meet or exceed material requirements of the Special Provisions and minimum average roll values listed hereon; is similar to and of the same formulation as that for which certification is submitted; and has been demonstrated by actual usage to be satisfactory for the intended application.

---

Manufacturer

---

Signature

---

Print Name

---

Date

---

Title

NOT FOR BID

## **SECTION 2F**

### **GEOSYNTHETIC CLAY LINER**

#### **1.0 GENERAL**

This section sets forth the requirements for the non-woven geotextile supported reinforced (needle-punched or other equivalent method) geosynthetic clay liner (GCL) component for the composite liner system.

A Construction Quality Assurance (CQA) Plan (Appendix C) has been developed in conjunction with this Project and is included with these Technical Specifications for the Contractor's reference. The Contractor shall assure that the Engineer, or the Engineer's designated representative, shall at all times have safe access to the work for the purpose of monitoring, observation, and CQA Plan implementation.

An independent engineering firm, under contract to the Owner, will conduct Construction Quality Assurance (CQA) monitoring, observation, and documentation. The Contractor shall coordinate and cooperate with the Engineer during all sampling, testing, and certification required by these Technical Specifications.

#### **1.1 Work Included**

Furnish and install a non-woven geotextile supported reinforced GCL as indicated on the Plans and as referenced in these Technical Specifications. The specified GCL shall consist of bentonite clay, encapsulated between two layers of non-woven geotextile, stitch bonded or needle punched, to form a low-permeability hydraulic barrier.

#### **1.2 Quality Control (QC) Testing**

Quality Control (QC) testing is the responsibility of the Contractor and shall consist of manufacturer's certification and quality control testing at the manufacturing plant, direct shear testing for interface strength, and conformance testing. All QC testing and certification shall be performed in accordance with these Technical Specifications and all costs associated with QC testing shall be borne by the Contractor. The Contractor shall submit, in conjunction with the Job Progress Schedule and the Schedule of Values, for approval by the Engineer, a breakdown of costs for QC testing.

#### **1.3 Submittals Required**

The Contractor shall thoroughly review the Technical Specifications and identify all required project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.

- o Raw Bentonite Certificates of Compliance.
- o Carrier Geotextile Certificates of Compliance.
- o Manufacturer's product certification and Quality Control test results as specified herein.
- o Manufacturer's\Installer's quality control program including shipping, handling, storage, and installation.
- o Conformance Sample Test results.

- o Identification of the Contractor's GAI Certified Independent Testing Laboratory.
- o Documentation indicating date of production, plant location, lot number, manufacturing line number and identification number and square footage of each GCL roll
- o Installation Plans\Panel Layout.
- o Samples of GCL materials.
- o Warranties as specified herein.
- o Installer's subgrade certification.
- o Quality Control (QC) and Installer's Qualification\Resumes.
- o Record Plans.

## **2.0 MATERIALS**

### **2.1 General**

The Specified geotextile supported GCL consists of a sodium bentonite clay, encapsulated between two layers of non-woven geotextile stitch bonded or needle punched together to form a low-permeability hydraulic barrier, conforming to the requirements listed below.

#### **2.1.2 Bentonite**

Raw bentonite shall be a virgin, first quality product mined and processed specifically for the purpose of manufacturing a GCL. The bentonite used for the seams shall be granular bentonite of the same quality used in the manufacture of the GCL.

##### **2.1.2.2 Certification and Testing**

The raw bentonite supplier shall sample and test raw bentonite as specified in ASTM D5889 during processing to ensure product quality. The GCL manufacturer shall sample and test raw bentonite to demonstrate that the material meets or exceeds the values specified for the properties cited above. Prior to shipment of GCL to the site, the Contractor shall submit, for the approval of the Engineer, Certificates of Compliance from the bentonite supplier and GCL manufacturer. Raw bentonite used for the GCL shall meet or exceed the properties listed in Table 2.1.4.1.

#### **2.1.3 Carrier Geotextile**

Carrier geotextile shall consist of non-woven, needle-punched polypropylene geotextile on both sides of the GCL. The bentonite shall be attached to the carrier geotextiles in a manner which prevents separation during transport, handling and installation and which is not detrimental to the other components of the composite liner system. The bentonite clay layer shall be incorporated between the two layers of carrier geotextiles and interlocked by needle punching or stitching. Edge seams shall be sewn or stitched during manufacture. The non-woven carrier geotextile shall meet or exceed the minimum average roll values for the physical properties reflected in Table 2.1.4.1.

##### **2.1.3.2 Certification and Testing**

The GCL manufacturer shall sample and test geotextile(s) as specified in ASTM D 5889 to demonstrate that the material meets or exceeds the values specified for the physical properties listed above. Quality control certificates from the geotextile manufacturer and GCL manufacturer shall be submitted to and approved by the Engineer prior to shipment of the GCL to the site. Geotextiles used for the GCL shall meet or exceed the properties listed in Table 2.1.4.1.

### 2.1.4 Geosynthetic Clay Liner

The Contractor shall supply reinforced (needle-punched or stitch-bonded) geosynthetic clay liner (GCL) which shall be manufactured of new, first quality material, specifically for the purpose of providing a hydraulic barrier for the project. The GCL shall have no holes, gels, nicks, tears, cuts on edges, or contamination by foreign matter, and shall be "needle-free". GCL shall be supplied in rolls and folding shall not be permitted.

#### 2.1.4.1 Physical Properties

The GCL components and composite shall meet or exceed the minimum average roll values for the following physical and hydraulic properties, or as specified by the most recent GRI-GCL3 values:

**Table 2.1.4.1**

Property	Test Method	Units	Value	Frequency
<u>Bentonite:</u>				
Swell Index	ASTM D5890	ml/2 grams	24	One per truck or railcar, but min. every 50 tonnes
Fluid Loss <sup>(1)</sup>	ASTM D5891	ml	18	One per truck or railcar, but min. every 50 tonnes
<u>Geotextile:</u>				
Mass per Unit Area	ASTM D5261	oz/sy	5.9	200,000 ft <sup>2</sup>
<u>Composite:</u>				
Mass of GCL <sup>(6)</sup>	ASTM D5993	lbs/ft <sup>2</sup>	0.84	40,000 ft <sup>2</sup>
Mass of Bentonite <sup>(6)</sup>	ASTM D5993	lb/ft <sup>2</sup>	0.75	40,000 ft <sup>2</sup>
Moisture Content <sup>(1)</sup>	ASTM D5993	%	35	40,000 ft <sup>2</sup>
Tensile Str., MD	ASTM D6768	lbs/in.	23	200,000 ft <sup>2</sup>
Peel strength	ASTM D6496	lbs/in	12	40,000 ft <sup>2</sup>
Internal Shear Strength, (peak), saturated	ASTM D6243	Degrees Cohesion	5.7° 100 psf	see Section 2E
Permeability <sup>(1)</sup> (cm/sec) "or" Flux <sup>(4)</sup> (cm <sup>3</sup> /sec-cm <sup>2</sup> )	ASTM D 5887 ASTM D5887	(cm/sec) (cm <sup>3</sup> /sec-cm <sup>2</sup> )	<5 x 10 <sup>-9</sup> <1.0 x 10 <sup>-6</sup>	200,000 ft <sup>2</sup> 200,000 ft <sup>2</sup>
Permeability <sup>(1)(7)</sup> (cm/sec)(max @5 lbs/in <sup>-2</sup> )	ASTM D6766	(cm/sec)	<1 x 10 <sup>-6</sup>	Annually
Permeability <sup>(1)(7)</sup> (cm/sec)(max @70 lbs/in <sup>-2</sup> )	ASTM D6766 mod	(cm/sec)	<5 x 10 <sup>-8</sup>	Annually

(1) These values are maximum (all others are minimum)

(4) Value is both site-specific and product-specific and is currently being evaluated

(6) Mass of the GCL and bentonite is measured after oven drying per the stated test method

(7) Value represents GCL permeability after permeation with a 0.1 M calcium chloride solution (11.1 g CaCl<sub>2</sub> in 1-liter water)

### 2.1.5 Manufacturer's Quality Control

GCL shall be monitored throughout the manufacturing process for product integrity and consistency. Manufacturer shall conduct quality control testing using the test methods and frequencies set forth in ASTM D 5889. The Contractor shall submit, for the approval of the Engineer, the manufacturer's QC plan.

### **2.1.6 Identification**

The Contractor shall submit a list which indicates date of production, plant location, lot number, manufacturing line number and identification number and square footage of each GCL roll. Rolls shall be listed in the order of production with the status of the roll (approved or rejected for shipment). All rolls shall be included in the list whether or not approved for shipment to the Project. This information will be used by the Engineer to affix rolls to a specific sampling lot for conformance testing per Section 3.9.

Each roll shall be labeled or tagged with roll identification number, name of manufacturer, date of production, product type and grade, lot number, physical dimension, and roll weight. The label or tag information shall be affixed or attached to the roll at all times during deployment of the roll. The product identification number, manufacturer name and lot number shall also be stenciled onto the start of each roll so that a positive verification can be made with label or tag information.

### **2.1.7 GCL Samples and Manufacturer's Data**

The Contractor shall submit for approval of the Engineer, 6 samples of GCL material(s) which have been manufactured in accordance with these Technical Specifications. Samples shall be submitted with literature detailing Manufacturer's QC Program and recommended procedures for handling, storage, installation, testing, repairing, or other information that will promote proper use of the proposed lining material.

### **2.1.8 Certification and Testing**

The Contractor shall submit written manufacturer certification, (Attachment F-1), for the approval of the Engineer, that the GCL conforms to the material requirements of these Technical Specifications; is similar to and of the same formulation as that for which certification is submitted; and has been demonstrated by actual usage to be satisfactory for the intended application. Manufacturer certification testing and frequency shall be as specified in ASTM D 5889, or at a frequency of every 100,000 square feet when not specified by ASTM D 5889, and shall demonstrate that the minimum average roll values for material to be furnished on this project are in accordance with the Technical Specifications. The Contractor shall obtain Engineer's approval of the GCL prior to shipment to the site. The Contractor will not be allowed to unload or store on site any material that is delivered prior to obtaining such approval.

### **2.1.9 Warranty**

The GCL manufacturer shall furnish a written liner warranty on a pro-rata basis for a period of 5 years. The warranty shall be against manufacturing defects of workmanship and against deterioration due to ozone, ultraviolet and/or other normal weather aging.

The warranty shall be limited to replacement of material only and shall not cover installation of said material. It shall not cover damage due to vandalism, acts of animals, of earthquakes, and other acts of God.

## **2.3 Plant Inspection**

A representative of the Owner or Engineer may visit the manufacturing plant at any time during the project to observe and inspect the manufacturing process and quality control monitoring, sampling and testing. The Contractor shall notify the Engineer at least five working days prior to the start of manufacturing. The Engineer will notify the Contractor at least 48 hours in advance of all visits. The Contractor shall be responsible for making all necessary arrangements for the



visits with the manufacturer. All costs of travel, lodging and meals incurred by the Owner or Engineer will be borne by the respective party. The purpose of the manufacturing plant inspection will be to observe the manufacturing process and the quality control procedures instituted at the manufacturing plant and not for monitoring or observing conformance sampling.

It is also a requirement of these Technical Specifications that conformance sampling will be performed at the manufacturing plant. Costs associated with conformance sampling at the manufacturing plant shall include travel and per diem expenses incurred by the Engineer in the performance of such testing and all costs for transporting the samples to the independent testing laboratory.

In lieu of the Engineer witnessing all conformance sampling, the Contractor may utilize the services of an independent laboratory accredited by the Geosynthetic Accreditation Institute (GAI) to perform conformance sampling and inspections at the manufacturing plant.

### **3.0 CONSTRUCTION METHODS**

#### **3.1 Contractor QC Program**

The Contractor shall submit for the approval of the Engineer, at least 15 days prior to scheduled delivery of the geosynthetics, a complete description of their quality control program, as applicable, for handling, installing, testing, repairing and providing a completed lining in accordance with the requirements of these Technical Specifications. Additionally, the Contractor shall designate a full-time QC Technician to be responsible for supervising and/or conducting the construction QC program. The QC Technician shall have quality control experience on at least five million square feet of GCL. The proposed QC Technician's resume shall be submitted with the Contractor's QC program. The QC Technician shall not be replaced without written authorization by the Engineer. All field QC testing shall be performed in the presence of the Engineer.

#### **3.2 Shipping, Storage and Handling**

##### **3.2.1 General**

GCL shall be shipped, stored and handled in accordance with ASTM D 5888 and the approved Manufacturer's recommendations. The Contractor shall be completely responsible for shipping, storage, and handling of all GCL. The GCL rolls shall be delivered to the site only after the Engineer receives and approves the required submittals.

##### **3.2.2 Shipping**

The Contractor shall notify the Engineer at least 24 hours prior to scheduled delivery. No material shall be unloaded except in the presence of the Engineer or the Engineer's representative. GCL delivered to the site will be inspected for damage during unloading, by the Engineer, and then unloaded and stored with minimal handling.

Damaged rolls shall be marked as 'damaged' and separated from the undamaged rolls until proper disposition of material is determined by the Engineer. The Engineer will be the final authority on the determination of damage.

##### **3.2.3 Handling**

No hooks, tongs or other sharp tools or instruments shall be used for handling GCL. The Contractor shall use manufacturer's approved methods and equipment for loading and unloading,

and for deployment. GCL shall not be folded or dragged along the ground.

### **3.2.4 Storage**

GCL shall be protected from precipitation, soil, mud, dirt, debris, puncture, cutting or other damaging or deleterious conditions. Rolls of GCL shall be shipped in plastic wrapping, and the wrapping shall remain intact until the rolls are installed.

### **3.3 Supporting Surface Preparation**

Prior to installation of GCL, the supporting surface shall be cleared of any obstructions, or foreign objects that may damage or impair the installation of the GCL. Surfaces supporting the GCL shall be smooth and free of all rocks, sharp stones, sticks, roots, sharp objects, or debris of any kind. The Surface shall provide a firm unyielding foundation for GCL with no sudden, sharp, or abrupt changes or breaks in grade. The Contractor shall be responsible for maintenance of the subgrade and shall repair, re-roll and finish all surfaces that have been disturbed or damaged, to a condition suitable for deployment of GCL materials.

#### **3.3.1 Acceptance of Underlying Surface**

No GCL shall be installed until the supporting surface has been inspected and approved for GCL installation by the Engineer. The Contractor shall correct all deficiencies found in the supporting surface prior to deployment of the GCL at no additional cost to the County. In addition, the GCL installer shall inspect the subgrade, and shall certify, in writing, that the supporting surface is acceptable for GCL installation.

#### **3.3.2 Maintenance**

The Contractor shall maintain the surface suitability and integrity of the underlying supporting surface until the Project is completed and accepted. The Contractor shall correct, at no additional cost to the County, all deficiencies in the supporting surface that have appeared since the acceptance of soil subgrade.

### **3.4 GCL Installation**

#### **3.4.1 Installation Plan**

The Contractor shall submit for the approval of the Engineer, an installation plan for the GCL. The installation plan shall show a field panel layout with the proposed placement, sequencing, schedule, and panel identification of the GCL sections. The panel layout plan will also show a typical seam section and shall include details of any 3-and 4-way seam intersections. Horizontal seams on slope areas will not be allowed.

Each panel shall be marked with an "identification code" (numeric or alphanumeric) consistent with the layout plan. The identification code shall be simple and logical and approved for use by the Engineer.

For the purpose of these Technical Specifications, benches with anchor trenches shall be considered as part of the slope section, and seams will not be allowed unless the Contractor elects to place an anchor trench at no additional cost to the County.

### **3.4.2 Material Inspection and Installation**

#### **3.4.2.1 General Installation**

The Contractor shall visually inspect all GCL for imperfections, faulty or suspect areas and possible damage prior to installation. All such defective GCL shall be marked, repaired, and/or tested. GCL that cannot be repaired shall be removed from the work area and replaced at no additional cost to the Owner. The Contractor shall replace faulty material that requires more than one patch per 5,000 square feet of GCL at no additional cost to the Owner.

The Contractor shall use installation procedures which does not damage the underlying supporting subgrade surface.

All personnel working on GCL shall wear shoes that do not damage the GCL. No personnel shall be allowed to engage in activities that could damage the GCL.

Clamps and other metal tools used in the work area shall have rounded edges (no sharp) corners.

Clamps and other metal tools shall not be tossed or thrown.

Panels shall be unrolled with a method that protects the GCL from scratches and crimps and protects the soil subgrade from damage.

The Contractor shall exercise extreme care during GCL installation to prevent damage to the prepared supporting subgrade surface. The Contractor shall exercise care to prevent the entrapment of rocks, clods of earth or other matter which could damage the GCL. Clean up operations within the work area shall be the on-going responsibility of the Contractor. Any GCL surface showing damage due to penetration by foreign objects or distress shall be replaced or repaired.

The Contractor shall place adequate temporary hold-downs to prevent uplift by wind. Hold-downs shall not damage the GCL and shall be continuous along edges to minimize risk of wind flow under panels.

The Contractor shall protect the GCL in heavy traffic areas by overlaying geotextile, extra geomembrane, or other suitable materials. Materials used for protection shall be temporary and shall not be used as any part of the permanent installation. The Contractor shall not allow vehicle traffic on the GCL surface.

#### **3.4.2.3 GCL Installation Sequencing**

The number of panels deployed in one day shall be limited to the number of panels that can be installed, anchored, covered and sealed with geomembrane, and protected from moisture on the same day. In no case shall the GCL be exposed to the elements at the end of the day. Any materials that become hydrated prior to project completion shall be removed and replaced by the Contractor at no expense to the Owner.

### **3.4.3 Weather Conditions**

The GCL shall not be deployed during precipitation, in the presence of excessive moisture, in areas of ponded water, or in the presence of excessive winds. All deployed GCL material shall be covered as soon as possible with geomembrane and before the end of each working day.

### **3.4.4 Wind Protection**

The Contractor shall protect the GCL against adverse effects of high wind such as uplift. Tires

(with no exposed metal) or sandbags may be used for this purpose. Sandbags shall be sufficiently close-knit to preclude fines from working through the bottom, sides, or seams. Paper bags, whether or not lined with plastic, shall not be permitted. Burlap bags, if used, shall be lined with plastic. Metal or wire ties shall not be allowed, use only plastic ties. Sandbags that are split, torn or otherwise losing their contents shall be immediately removed from the work area and any spills immediately cleaned up.

### **3.5 Seams**

Seams shall be detailed to have the same minimum hydraulic conductivity as required through the body of the GCL. The Contractor shall overlap all seams by a minimum of 12 inches. The Contractor shall mark rolls with a continuous line along the edge of the roll at a distance of 12 inches for the purpose of verifying the minimum overlap. The Contractor shall apply granular bentonite (of the same quality used in the manufacturer of the GCL) between overlapped GCL Panels at the rate of 1/4 pound per linear foot of seam. Placement of granular Bentonite shall be done in such a manner so as not to interfere with the heat-leistering for GCL Seams. All seams shall be heat-leistered; Nails and staples will not be allowed. The Contractor shall follow additional recommendations by the Manufacturer regarding overlap and seaming. For final seaming inspection, seams and the surface of the GCL shall be checked for defects, holes, blisters, undispersed raw materials, or signs of contamination by foreign matter. The Contractor shall distinctively mark, preferably with paint, repair areas, and indicate required type of repair.

### **3.6 Repairs**

The Contractor shall repair damaged GCL with patches of the same product. Patches shall overlap the edge of a hole or tear a minimum of 12 inches in all directions. Nails and staples will not be allowed.

### **3.7 Anchor Trench Excavation, Backfill and Compaction / Miscellaneous Liner Terminations, Transitions, and Tie-in Details**

Installation of the composite liner system includes the construction of various terminations, anchors, berms, interceptor trenches, tie-downs, and other appurtenances as indicated on the Plans. All work associated with, and required for, the completion of these items is to be considered as included in the Contractor's unit prices.

### **3.8 GCL - Placement of Overlying Materials**

During placement of overlying geomembrane material, precautions shall be taken to prevent damage to the GCL by restricting heavy equipment traffic. As approved by the GCL Manufacturer and installation subcontractor, unrolling the geomembrane can be accomplished by using light weight, rubber-tired equipment such as a 4-wheel all-terrain vehicle (ATV). This vehicle can be driven directly on the GCL, provided the ATV makes no sudden stops, starts, or turns.

When placing textured geomembrane over the GCL, a temporary slip sheet (such as 20 mil smooth HDPE) may be required over the GCL in order to allow the geomembrane to slide into its proper position.

Any leading edge of panels left uncovered shall be protected at the end of the working day with a waterproof sheet which is adequately secured with sandbags or other ballast.

Any aggregate drainage material or soil cover shall be placed with low-ground pressure

equipment (5.0 psi maximum ground pressure). A minimum thickness of 12 inches of cover shall be kept between equipment and the GCL/Geomembrane at all times. No vehicles shall be driven directly over the GCL until the proper thickness of cover has been placed. Care should be taken to avoid damaging the GCL by making sharp turns or pivots with equipment.

When covering the GCL/Geomembrane installed on slope areas, the cover should be pushed up slope to minimize tension on the GCL.

### **3.9 Construction Quality Control\Conformance Testing**

Conformance testing will be conducted by an independent test laboratory certified by the Geosynthetic Accreditation Institute (GAI) in the specific tests to be performed. The independent laboratory will be selected by the Contractor and approved by the Engineer. Test results of the independent testing laboratory will be considered final. All costs associated with conformance sampling and testing by the independent testing laboratory will be borne by the Contractor.

#### **3.9.1 GCL Conformance Sampling, Testing, and Reporting**

The Contractor shall obtain all conformance samples directly from the manufacturing plant, under the observation of the Engineer, or as approved by the Engineer, pursuant to Section 2.3. Samples shall be taken across the entire width of the roll and shall not include the first three feet. Unless otherwise specified, samples shall be 3 feet long by the roll width. The Engineer shall mark the machine direction on the samples with an arrow, and the Liner Manufacturer's roll identification number.

At a minimum, conformance tests will include determination of the following characteristics for the GCL:

Property	Test Method	Frequency
Mass per Unit Area	ASTM D 5993	Every 40,000 square feet
Grab Strength	ASTM D 4632	Every 40,000 square feet
Hydraulic Conductivity*	ASTM D 5887	Every 100,000 square feet
Index Flux*	ASTM D 5887	Every 100,000 square feet
Peel Strength	ASTM D 6496	Every 40,000 square feet
Interface Shear	ASTM D 5321 or 6243	See Section 2E

\* At 10 psi effective confining stress.

#### **3.9.2 Interpretation of Conformance Test Results**

A conformance sample that yields any tested property less than the specified average minimum roll property will be recorded as a failure and GCL rolls in the lot represented by that conformance sample will be rejected for use on the project. At the Contractor's option, additional conformance samples representing that lot may be tested to evaluate the physical properties of other rolls within the lot and to isolate the non-conformant materials. If only one conformance test fails, the roll that yielded the failure will be rejected and subsequent conformance samples from the same 40,000 or 100,000 square feet or lot will be obtained. If subsequent conformance samples fail the entire lot or 100,000 square feet represented by the test will be rejected for use on the project. If subsequent conformance tests pass, only the rolls which yielded a failure will be rejected for use on the project.

The minimum number of specimens tested will be determined in accordance with ASTM Standards. Certified test results of the independent laboratory shall be submitted for approval by the Engineer following the requirements set forth in these Technical Specifications. Final approval of the GCL shall be contingent upon certification of test results which meet or exceed the requirements of these Technical Specifications.

### **3.10 Record Drawing**

Refer to Section 2E Geomembrane Section 3.7 for Record Drawing requirements.

## **4.0 MEASUREMENT AND PAYMENT**

### **4.1 GCL – Floor (Item No. 9)**

The contract unit price paid per square foot for GCL - Floor shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all the work involved in GCL installation, complete in place, including all heat-leistered seams, terminations, anchors, tie-downs, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual surface area of GCL placed to the limits indicated on the Plans (Overlap at seams and material in anchor trenches will not be measured separately for payment). GCL placed beyond those limits will not be compensated unless previously authorized by the Engineer.

### **4.2 GCL – Slopes and Roadway/Benches (Item No. 14)**

The contract unit price paid per square foot for GCL – Slopes and Roadway/Benches shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all the work involved in GCL installation, complete in place, including all heat-leistered seams, all terminations, anchors, tie-downs, and other appurtenances as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the engineer.

Final pay quantities shall be determined by computing the actual surface area of GCL placed to the limits indicated on the Plans (Overlap at seams and material in anchor trenches will not be measured separately for payment). GCL placed beyond those limits will not be compensated unless previously authorized by the Engineer.

### **4.3 Miscellaneous Anchor Details, Terminations, and Joins**

Compensation for Miscellaneous Anchor Details, Terminations and Joins are defined in Section 2E – Geomembrane.

**END OF SECTION 2F**

**ATTACHMENT F-1**  
**MANUFACTURER'S CERTIFICATION FOR GEOSYNTHETIC CLAY LINER**

Property	Test Method	Units	Value	Frequency
<u>Bentonite:</u> Swell Index	ASTM D5890	ml/2 grams	24	One per truck or railcar, but min. every 50 tonnes
Fluid Loss <sup>(1)</sup>	ASTM D5891	ml	18	One per truck or railcar, but min. every 50 tonnes
<u>Geotextile:</u> Mass per Unit Area	ASTM D5261	oz/sy	5.9	200,000 ft <sup>2</sup>
<u>Composite:</u> Mass of GCL <sup>(6)</sup>	ASTM D5993	lbs/ft <sup>2</sup>	0.84	40,000 ft <sup>2</sup>
Mass of Bentonite <sup>(6)</sup>	ASTM D5993	lb/ft <sup>2</sup>	0.75	40,000 ft <sup>2</sup>
Moisture Content <sup>(1)</sup>	ASTM D5993	%	25	40,000 ft <sup>2</sup>
Tensile Str., MD	ASTM D6768	lbs/in.	23	200,000 ft <sup>2</sup>
Peel strength	ASTM D6496	lbs/in	12	40,000 ft <sup>2</sup>
Internal Shear Strength, (peak), saturated	ASTM D6243	Degrees Cohesion	5.7° 100 psf	See Section 2E
Permeability <sup>(1)</sup> (cm/sec) "or" Flux <sup>(1)</sup> (cm <sup>3</sup> /sec-cm <sup>2</sup> )	ASTM D 5887 ASTM D5887	(cm/sec) (cm <sup>3</sup> /sec-cm <sup>2</sup> )	<5 x 10 <sup>-9</sup> <1.0 x 10 <sup>-6</sup>	200,000 ft <sup>2</sup> 200,000 ft <sup>2</sup>
Permeability <sup>(1) (7)</sup> (cm/sec)(max @5 lbs/in <sup>-2</sup> )	ASTM D6766	(cm/sec)	<1 x 10 <sup>-6</sup>	Annually
Permeability <sup>(1) (7)</sup> (cm/sec)(max @70 lbs/in <sup>-2</sup> )	ASTM D6766 mod	(cm/sec)	<5 x 10 <sup>-8</sup>	Annually

(1) These values are maximum (all others are minimum)

(4) Value is both site-specific and product-specific and is currently being evaluated

(6) Mass of the GCL and bentonite is measured after oven drying per the stated test method

(7) Value represents GCL permeability after permeation with a 0.1 M calcium chloride solution (11.1 g CaCl<sub>2</sub> in 1-liter water)

I, the undersigned, duly authorized representative of the manufacturer, hereby certify that the GCL supplied for this Project will meet or exceed material requirements of the Technical Specifications and minimum average roll values listed herein (test methods are in accordance with these Technical Specifications); is similar to and of the same formulation as that for which certification is submitted; and has been demonstrated by actual usage to be satisfactory for the intended application.

Manufacturer \_\_\_\_\_

Signature \_\_\_\_\_

Name (Print) \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_



## **SECTION 2G**

### **GEOTEXTILE, SCRIM AND HDPE GEOTEXTILE PROTECTIVE LINER COVER**

#### **1.0 GENERAL**

This section sets forth the requirements for the non-woven geotextile, and the HDPE geotextile protective liner cover to be installed over exposed geotextile on the slopes, benches, and access roads.

A Construction Quality Assurance (QA) Plan (Appendix A) has been developed in conjunction with this Project and is included with these Technical Specifications for the Contractor's reference. The Contractor shall assure that the Engineer has, at all times, safe access to the work for the purpose of monitoring, observation, and QA Plan implementation.

An independent engineering firm, under Contract to the County, will conduct Quality Assurance (QA) monitoring, observation, and documentation. The Contractor shall coordinate and cooperate with the Engineer during all manufacturer's quality control sampling, testing, and certification required by these Technical Specifications.

#### **1.1 Work Included**

The specified geotextiles shall be furnished and installed as shown on the Plans and as required herein to protect the geomembrane and to separate the LCRS gravel layer from the overlying protective cover soil layer. The specified geotextiles consist of 12-ounce non-woven material overlying the geomembrane on the floor, 16-ounce non-woven material overlying the geomembrane on slope areas, and 8-ounce non-woven material placed between the LCRS gravel and the protective cover soil on the floor.

Scrim and HDPE Protective Liner Cover consists of Scrim UV Protective Plastic, with ballast system consisting of a reversible reinforced geotextile windscreen consisting of a knitted geotextile windscreen manufactured from both tan and green UV (ultraviolet) stabilized HDPE (high density polyethylene) filaments. The netting is designed as a multi-purpose ballast system functioning as a wind barrier layer and surface protection cover. Scrim UV Protective Plastic and HDPE reversible reinforced geotextile windscreen ballast system shall be placed over exposed geotextile as indicated on the Construction Drawings.

#### **1.2 Manufacturer Certification and Quality Control (QC)**

Quality Control (QC) is the responsibility of the Contractor and shall consist of manufacturer's certification, manufacturer's quality control testing, installation quality control, conformance testing, including direct shear testing for interface shear strength, and destructive seam testing. All QC sampling and testing shall be performed in accordance with these Technical Specifications and all costs associated with quality control, conformance, and destructive seam testing shall be borne by the Contractor. The Contractor shall submit, for approval by the Engineer, a breakdown of costs for the specified testing.

### 1.3 Submittals Required

The Contractor shall thoroughly review the Technical Specifications and identify all required project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.

#### Geotextile, Scrim and HDPE Geotextile Protective Liner Cover Submittals:

- O Manufacturer's Product Data
- O Manufacturer's Production List
- O Manufacturer's Certified Test Data
- O Independent Testing Laboratory GAI Certification
- O Shipping, Handling, & Storage Procedures
- O Seam Samples
- O Installation Procedures, Including Seam and Repairs
- O Contractor's Installation Quality Control Procedures
- O Installation Drawings (As-built)
- O Manufacturer's Quality Control Plan
- O Manufacturer's 5 Year Warranty Sample (15 year for HDPE Geotextile)
- O Manufacturer's 5 Year Warranty (15 year for HDPE Geotextile) Installer's Subgrade Certification, Geotextile Conformance Testing
- O Product Samples
- O Proposed Panel Layout

## 2.0 MATERIALS

### 2.1 Non-Woven Geotextile

#### 2.1.1 General

Non-woven geotextile materials shall be new, first quality products designed and manufactured in North America specifically for this project. Non-woven geotextile shall be mildew, insect and rodent resistant, and needle free. Geotextile shall be suitable and durable for the intended application as satisfactorily demonstrated by similar and prior applications. Geotextile shall be 100-percent polyester or polypropylene (with the exception of inhibitors and/or carbon black added for UV resistance), non-woven and needle-punched materials. Polypropylene materials shall be UV stabilized.

**2.1.2 Physical Properties:** Geotextile shall meet or exceed the following minimum average roll values (weakest principle direction):

GEOTEXTILE MANUFACTURING QUALITY ASSURANCE (MQA)						
PHYSICAL PROPERTY	TEST METHOD	FREQUENCY	UNITS	REQUIREMENT		
				8 oz Filter	12 oz. Cushion	16 oz. Cushion
Weight (mass/unit area)	ASTM D-5261	100,000 ft <sup>2</sup> or 1 per lot	oz/yd <sup>2</sup>	8*	12*	16
Trapezoidal Tear	ASTM D-4533	100,000 ft <sup>2</sup> or 1 per lot	lbs	85	115	150

CBR Puncture Resistance	ASTM D-6241	100,000 ft <sup>2</sup> or 1 per lot	lbs	535	800	1080
Permittivity	ASTM D-4491	100,000 ft <sup>2</sup> or 1 per lot	sec <sup>-1</sup>	1.2	N/A	N/A
Grab Tensile	ASTM D-4632	100,000 ft <sup>2</sup> or 1 per lot	lbs	205	300	390
Grab Elongation	ASTM D-4632	100,000 ft <sup>2</sup> or 1 per lot	%	50	50	50
AOS	ASTM D-4751	100,000 ft <sup>2</sup> or 1 per lot	U.S. Standard Sieve	70	N/A	N/A
UV Resistance	ASTM D-7238	See Note (2)	% strength retained	N/A	N/A	70
<b>Notes:</b> 1. * - Minimum values. 2. Evaluation to be on 2.0-inch strip tensile specimens after 500 hours exposure.						

## 2.2 Welding Equipment/Thread

Welding equipment shall be commercial grade quality manufactured for the specific purpose of seaming adjacent geotextile panels, and adhering geotextile straps to underlying geotextile, respectively.

Thread used to sew panels of geotextile together shall be polymeric thread with physical and chemical-resistance properties that equal or exceed those of the geotextile. The thread color shall contrast with the geotextile color and shall be approved for use by the geotextile manufacturer.

## 2.3 Manufacturing Quality Control

### 2.3.1 Roll Identification

Each roll shall be labeled or tagged with roll identification number, lot, name of manufacturer, date and location of production, product type and grade, and physical dimensions. The label or tag information shall be affixed or attached to the roll at all times during deployment of the roll. The roll identification number and manufacturer name shall also be marked on the protective covering.

### 2.3.2 Quality Control

The manufacturer shall follow a quality control program during all phases of the manufacturing process. Geotextile shall be monitored throughout the manufacturing process for product integrity and consistency. Manufacturer shall sample rolls in accordance with ASTM D-4354 and test for the physical properties reflected in Table under Section 2.2.1 at the indicated minimum frequencies, or per lot, whichever results in the greatest number of tests:

The minimum frequency includes the square footage of all manufactured rolls on the production line whether or not the roll is designated for shipment to the Project. The minimum lot size allowed for geotextile furnished on this Project will be 75,000 square feet.

Certified test data (actual quality control reports) shall be submitted to, and approved by, the Engineer prior to installation of geotextile. The Contractor shall submit a list which indicates date of production, date of testing, plant location, manufacturing line number, roll identification number, lot number, test results, and square footage of each geotextile roll. Rolls shall be listed in the order of production with the status of the roll (designated for shipment to project or not designated for shipment to project). All rolls shall be included in the list whether or not

designated for shipment to the Project. This information will be used by the Engineer to affix rolls to a specific 100,000 square foot or smaller lot for conformance testing per Section 3.5.1.

### **2.3.3 Plant Inspection**

A representative of the County or Engineer may visit the manufacturing plant at any time during the project to observe and inspect the manufacturing process and quality control monitoring, sampling and testing. The Contractor shall notify the Engineer at least five working days prior to the start of manufacturing. The Engineer will notify the Contractor at least 48 hours in advance of all visits. The Contractor shall be responsible for making all necessary arrangements for the visits with the manufacturer. All costs of travel, lodging and meals incurred by the County or Engineer will be borne by the respective party. The purpose of the manufacturing plant inspection will be to observe the manufacturing process and the quality control procedures instituted at the manufacturing plant and not for monitoring or observing conformance sampling.

It is also a requirement of these Technical Specifications that conformance sampling will be performed at the manufacturing plant. Costs associated with conformance sampling at the manufacturing plant shall include travel and per diem expenses incurred by the Engineer in the performance of such testing and all costs for transporting the samples to the independent testing laboratory.

In lieu of the Engineer witnessing all conformance sampling, the Contractor may utilize the services of an independent laboratory accredited by the Geosynthetic Accreditation Institute (GAI) to perform conformance sampling and inspections at the manufacturing plant.

### **2.4 Plans and Data**

Complete specifications, data, and detailed Plans covering the material furnished under this Section shall be submitted for approval in accordance with the procedures set forth in the General Conditions. Data and specifications shall include, but shall not be limited to, the following:

- Manufacturer's written certification that the geotextile conforms to the material requirements of these Technical Specifications.
- Samples of geotextile.
- Complete description of geotextile shipping, handling and storage procedures to be followed during Project.
- Complete description of installation procedures and procedures for seams and repairs to be followed throughout the duration of the Project.
- Samples of welded and/or sewn seams.
- Complete description of quality control procedures and QC Plan to be followed by the Contractor throughout the duration of the Project.
- Installation drawings which show geotextile panel layout, seaming, and anchor details.
- Complete description of the Manufacturer's quality control program and test data.

Manufacturing quality control test data shall be submitted to, and approved by, the Engineer prior to delivery of geotextiles to the site.

## **2.5     Warranty - Geotextile**

The geotextile manufacturer shall furnish a written warranty on a prorata basis for a period of 5 years. The warranty shall be against manufacturing defects of workmanship and against deterioration due to ozone, ultraviolet and/or other normal weather aging.

The warranty shall be limited to replacement of material only and shall not cover installation of said material. It shall not cover damage due to vandalism, acts of animals, earthquakes, and other unusual acts of God.

## **2.6     Scrim**

Scrim shall be constructed utilizing Dura-Scrim 8WB as manufactured by Raven Industries, or an approved equal. Seams shall be welded per the manufacturer's recommendations. Proposed material shall be submitted for approval by the Engineer prior to installation.

## **2.7     HDPE Geotextile Protective Liner Cover and Thread**

### **2.7.1   General**

HDPE Geotextile Protective Liner Cover shall be constructed utilizing Wind Defender, TG as manufactured by Raven Industries, or an approved equal. HDPE Geotextile material shall be placed above Scrim with the tan sheen side facing up. Seams shall be sewn using a "Prayer Seam" (using 277 Polyethylene Bond UV rated thread with a service life equal to or greater than the parent material), pursuant to the manufacturer's recommendations. Proposed material and thread samples shall be submitted for approval by the Engineer prior to installation.

### **2.7.2   Submittal Requirements**

- A. Submittals must conform to the requirements of Section 2B, Paragraph 1.11 – Submittals.
- B. At least 15 days prior to shipping the material to the job, the supplier shall make a submittal of the material to the site engineer of record for pre-approval of the material. The material shall not be shipped to the jobsite without a written approval by the engineer of record.
- C. The submittal shall include, at a minimum, the following:
  - 1. A 6" x 6" sample of the material along with the standard data sheet and installation guideline for the product.
  - 2. Manufacturer's quality control data (1 test per 540,000 SF) performed by a Geosynthetic Institute accredited geosynthetics testing laboratory. Results must meet or exceed the values listed in Section ABC, Part 1.06 Finished Product, Table 2. Rolls to be shipped to the jobsite must be included in the quality control data.
  - 3. A manufacturer's certificate stating that the material meets or exceeds the requirements of the project as identified in this specification and other relevant sections referenced in this document.
  - 4. Installer shall demonstrate that a seam efficiency of 50% can be achieved prior to starting any seaming operations. Seam strength to be tested via ASTM D4884, Standard Test Method for Strength of Sewn or Bonded Seams of Geotextiles.

5. Installation references providing at least 10 successful projects totaling 10 million (sf) which include the following information: site name/location, application, quantity (sf).
6. Installation contractor shall be certified by the manufacturer and submit certification three weeks prior to installation.
7. An independent test report showing 65 lbs/inch strength retained and 65% elongation retained after 15 months of UV with a 24-hour UV cycle consisting of 20 hours of UV at 50°C followed by 4 hours of condensation at 20°C performed according to ASTM D7238.
8. High Pressure OIT test data by an independent laboratory indicating a minimum of 475 minutes HPOIT retained after 15 months of UV with a 24-hour cycle consisting of 20 hours of UV at 50°C followed by 4 hours of condensation at 20°C performed according to ASTM D7238.
9. An independent report showing a 90-year service life at 50°C under exposed conditions based on testing performed according to ASTM D7238.

**2.7.3 Physical Properties:** HDPE Geotextile Protective Liner Cover shall meet or exceed the following minimum average roll values:

**Table 2.6.2 – Nominal Product Values**

Property	Test Method	English (Typical)	Metric (Typical)	MQC Testing Frequency
Mass per Unit Area	ASTM D 5261	6.50 oz/yd <sup>2</sup>	220.39 g/m <sup>2</sup>	1 per 540,000 sf
Thickness	ASTM D 5199	55 mils	1.40 mm	1 per 540,000 sf
Grab Strength Machine Direction Cross Direction	ASTM D 4632	175.00 lbs 300.00 lbs	778.44 N 1,334.47 N	1 per 540,000 sf
Grab Elongation Machine Direction Cross Direction	ASTM D 4632	75.00% 60.00%	75.00% 60.00%	1 per 540,000 sf
CBR Puncture Strength	ASTM D 6241	700.00 lbs	3,113.76 N	1 per 540,000 sf
UV Resistance at 15 months, 50C°, 20 hour UV, 4 hour condensation	ASTM D 7238	475 min HPOIT 65 lbs/in strength 65% elongation	475 min HPOIT 11. 38 kN/m 65% elongation	1 per product per 5 years
<i>Nominal product values are average values with an acceptable maximum variance of -10%</i>				
Roll Sizes				
Width		19.70 ft	6.00 m	
Length		328.00 ft	100.00 m	

## 2.7 Delivery, Storage and Handling

- A. All rolls must be neatly and cleanly packaged in an opaque protective wrapping that identifies the product. Rolls of material must be delivered with two lifting slings for safe offloading.
- B. The contractor shall designate and prepare, if necessary, a safe location for storing the material prior to installation. Storage area must be dry and rolls must be stored on

dunnage to keep material free of dirt and mud. Store at a designated location with the least possibility for accidental damage.

- C. The contractor is responsible for ensuring that there is no damage to the material between the time the rolls are delivered to the jobsite and time installation takes place.

## **2.8 Manufacturing Quality Control**

- A. Finished rolls shall conform to properties listed in Table 2.6.2 above when tested by an accredited Geosynthetic Institute geosynthetics testing laboratory, according to the test methods listed in Table 2.6.2 above.
- B. The product shall be free of tears, holes, wrinkles, or any other form of damage, when delivered to the jobsite.
- C. All rolls shall be virgin material that has not been installed or used on another site.
- D. All material shall be manufactured utilizing a combination of tan and green filament which conforms to the Nominal Product Values listed in Table 2.6.2.

## **2.9 Warranty – HDPE Geotextile**

HDPE Geotextile manufacturer shall furnish a written warranty on a prorata basis for a period of 15 years. The warranty shall be against manufacturing defects of workmanship and against deterioration due to ozone, ultraviolet and/or other normal weather aging.

The warranty shall be limited to replacement of material only and shall not cover installation of said material. It shall not cover damage due to vandalism, acts of animals, earthquakes, and other unusual acts of God.

## **3.0 CONSTRUCTION METHODS**

### **3.1 Shipping, Handling and Storage**

#### **3.1.1 General**

Geotextile shall be shipped, stored and handled in accordance with ASTM D-4873, the manufacturer's recommendations, and as specified herein. Contractor shall be completely responsible for shipping, storage, and handling of all geotextile.

#### **3.1.2 Shipping**

Geotextile shall be shipped and stored in opaque and water tight protective coverings. Contractor shall notify the Engineer at least 24 hours prior to scheduled delivery of materials onsite. All deliveries shall be made during normal working hours, Monday through Friday, unless specifically authorized by the Engineer. No materials shall be unloaded except in the presence of the Engineer or County representative. Geotextile delivered to the site shall be inspected for damage and unloaded and stored with minimal handling. Upon delivery, Contractor shall assist the Engineer in conducting inventory, handling, and sampling of geotextile at no additional cost to County.

#### **3.1.3 Handling**

No hooks, tongs, or other sharp tools or instruments shall be used for handling geotextile. Contractor shall use manufacturer's approved methods and equipment to unload or handle geotextile. Geotextile shall not be dragged along the ground.

#### **3.1.3 Storage**



Geotextile shall be protected from ultraviolet light exposure, precipitation or other inundation, soil, mud, dirt, debris, puncture, cutting, or other damaging or deleterious conditions. Geotextile shall not be stored directly on the ground, unless approved by the manufacturer.

### **3.2 Supporting Surface Inspection**

#### **3.2.1 Acceptance of Subgrade Surfaces**

The Engineer and Contractor/Installer will conduct a walk through of all areas to receive geotextile, at which time, the Contractor/Installer shall verify in writing that the supporting surface is acceptable for installation of geotextile and that all required installation, testing, thickness verification survey and drawing review, etc, of underlying geosynthetic, or other supporting surface, has been performed. The areas to be covered will be turned over to the Contractor/Installer upon such acceptance. The Contractor shall be responsible for maintenance of these areas in accordance with Specification requirements until completion of the geotextile installation.

#### **3.2.2 Pre-Deployment Inspection**

No geotextile shall be installed until the supporting surface has been inspected and approved for geotextile installation by the Engineer and Contractor. The Contractor shall correct all deficiencies in the supporting surface to the satisfaction of the Engineer at no additional cost to County.

### **3.3 Geotextile Installation**

#### **3.3.1 Material Inspection**

The Contractor shall visually inspect all geotextile for imperfections, faulty areas, and possible damage prior to installation. All such defective geotextile shall be marked and repaired in accordance with approved methods. Geotextile that cannot be repaired shall be removed from the work area and replaced at no additional cost to County.

#### **3.3.2 General**

Geotextile shall be installed as shown on the Plans and approved installation details, and as specified herein, or in accordance with the approved manufacturer's installation procedures. No geotextile roll shall be installed without approval of the Engineer.

Geotextile rolls shall be of such lengths and widths and shall be placed in such a manner as to minimize field sewing and/or welding.

Geotextile shall be cut only with an approved geotextile cutter. Geotextile shall not be torn or ripped.

Geotextile shall be anchored at the top of the slopes and other places as shown on the Plans.

All changes to approved installation Plans and procedures shall be approved by the Engineer prior to implementation.

The Contractor shall exercise extreme care during geotextile installation to prevent damage to the prepared supporting subgrade surface or the installed HPDE geomembrane. The Contractor shall exercise care to prevent entrapment of rocks, clods of earth, or other material which could damage the HDPE geomembrane or geotextile, clog the geotextile, or hamper seaming. Any

geotextile surface showing injury due to penetration by foreign objects or distress shall be replaced or repaired by the Contractor at no additional cost to County. All underlying geosynthetic materials, in damaged areas, shall be inspected and approved by the Engineer prior to repair and/or replacement of overlying materials.

No foot traffic shall be allowed on the geotextile except with approved smooth-sole shoes. No vehicular traffic shall be allowed on the geotextile. The Contractor shall not use the geotextile as a work area or storage area for tools and supplies.

The Engineer shall have the authority to order the immediate stoppage of work as a result of improper installation procedures or for any reason which may result in defective and improper installation.

Clean up within the work area shall be an on-going responsibility of the Contractor. Particular care shall be taken to ensure that no trash, tools, or other objectionable materials are trapped beneath the geotextile.

### **3.3.3 Seams**

All geotextile seams shall be formed by welding, or by mating the edges of the geotextile panels, and sewing together with continuous stitches located a minimum of 3 inches from the mated edges. A 2-thread, double-locked stitch shall be used. Sewing procedures shall conform to the latest procedures recommended by the geotextile manufacturer. Spot sewing shall not be allowed. Seams shall provide seam strength which equals or exceeds 60 percent of required material strength when tested in accordance with ASTM D-4595 (required material strength) and ASTM D-4884 (seam strength).

A minimum of 1 destructive seam strength samples will be obtained for each geotextile material (i.e., 8-ounce, 12-ounce, and 16-ounce). Sample locations will be determined by the Engineer from the installed production seams and tested by the Contractor's independent testing laboratory.

Horizontal seam on slopes shall not be allowed.

Adjacent geotextile panels in pipe trenches shall be overlapped a minimum of 18-inches unless otherwise shown on the Plans.

### **3.3.4 Wind Protection**

The Contractor shall protect the geotextile against adverse effects of high winds such as uplift. Sandbags may be used for this purpose. Sandbags shall be sufficiently close knit to preclude loss of fines from the bottom, sides or seams. Paper bags, whether or not lined with plastic, shall not be permitted. All sandbags used on this Project shall be U.V. protected. Sandbags shall contain not less than 40, nor more than 60 pounds, of clean, uniform sand having 100 percent passing a No. 8 screen, and no more than 5-percent fines, and shall be tied closed after filling using only plastic ties. Metal or wire ties shall not be allowed. Sandbags that are split, torn, or otherwise losing their contents shall be immediately removed from the work area and replaced and any spills immediately cleaned up. Sandbags shall be removed from slope prior to placement of Scrim and HDPE Geotextile Protective Liner Cover.

### **3.3.5 Repairs**

Geotextile repairs shall be made with patches of the same geotextile material using approved sewing methods, equipment, and techniques. The patch size shall be 24-inches larger in all directions than the area to be repaired. All corners shall be rounded. Should any tear exceed 10 percent of the width of the geotextile panel, the Contractor shall remove and replace that panel.

### **3.4 Construction Quality Control**

The Contractor shall institute and follow a quality control plan as recommended by the geotextile manufacturer throughout the duration of the Project to ensure compliance with the Plans and these Technical Specifications.

### **3.5 Construction Quality Control (QC) Conformance Testing**

Conformance and destructive seam samples will be collected by the Contractor under the observation of the Engineer, and tested by an independent testing laboratory selected by the Contractor, and approved by the Engineer. Test results of the independent testing laboratory will be considered final. All costs associated with conformance and destructive seam sampling and testing by the independent testing laboratory will be borne by the Contractor.

#### **3.5.1 Conformance Sampling and Testing**

The Contractor shall obtain all conformance samples directly from the manufacturing plant, under the observation of the Engineer, or as approved by the Engineer, pursuant to Section 2.4.3. The Contractor will obtain one conformance sample of each type of geotextile proposed for use, at a frequency of one per 100,000 square feet or per lot, whichever results in the greater number of samples. Test specimens will be obtained from each conformance sample. The minimum number of specimens tested per conformance sample for each tested geotextile property will be determined in accordance with ASTM D-4759.

The average value will be calculated from the specimen test values of each conformance sample and compared to the minimum average roll value of the tested geotextile property.

At a minimum, conformance tests will include determination of the following characteristics for the geotextile:

#### **For Cushion (12 & 16 ounce) Geotextiles:**

- Mass per Unit Area (ASTM D-5261)
- Grab Tensile Strength (ASTM D-4632)
- Trapezoidal Tear Strength (ASTM D-4533)
- CBR Puncture Strength (ASTM D-6241)

#### **For Filter (8 ounce) Geotextiles:**

- Mass per Unit Area (ASTM D-5261)
- Grab Tensile Strength (ASTM D-4632)
- Trapezoidal Tear Strength (ASTM D-4533)
- CBR Puncture Strength (ASTM D-6241)
- Apparent Opening Size (ASTM D-4751)

o Permittivity (ASTM D-4491)

A conformance sample that yields any tested property less than the specified average minimum roll property will be recorded as a failure and all geotextile rolls in that lot represented by that conformance sample will be rejected for use on the project. At the Contractor's option, additional conformance samples representing that lot may be tested to evaluate the physical properties of other rolls within the lot and to isolate the non-conformant materials. If only one conformance test fails, the roll that yielded the failure will be rejected and subsequent conformance samples from the same 100,000 square feet or lot will be obtained. If subsequent conformance samples fail the entire lot or 100,000 square feet represented by the test will be rejected for use on the project. If subsequent conformance tests pass, only the rolls which yielded a failure will be rejected for use on the project.

The minimum number of specimens tested will be determined in accordance with ASTM standards. Certified test results of the independent laboratory shall be submitted for approval by the Engineer following the requirement set forth in these Technical Specifications. Final approval of the geotextile shall be contingent upon certification of test results which meet or exceed the requirements of these Technical Specifications.

### **3.6 Protective Plastic**

Protective plastic shall be installed white side-up and shall be sewn or welded in accordance with the manufacturer's recommendations and as indicated on the Plans.

### **3.7 HDPE Geotextile Installation and Seaming**

- A. Before installation begins it is important the underlying geomembrane is installed tightly and as close to wrinkle free as possible. Begin ballast system installation by transporting rolls to work area.
- B. Unroll and unfold the Wind Defender. A panel is 328' long by 20' wide. The roll width is 10' and the material is c-folded. The Wind Defender is reversible and incorporates both tan and green filaments to provide a natural appearance. Determine what side will be facing up and ensure all panels are installed with same side/color pattern facing up.
- C. In general, seams shall be oriented parallel to the line of maximum slope. In corners and odd geometric locations, necessary seams shall be minimized.
- D. Overlap panels a minimum of 6" and prayer seam the ballast system. Thread must be UV resistant with a service life equal to the parent materials warranty period (10 years). For applications less than 10 years, an alternative thread may be used but must be UV resistant up to or exceeding the project service life. A proper seam should have 3" of material above the thread line. GeoFix PTFE thread is recommended by Wind Defender LLC for all sew seams.
- E. Fusion welding seams is acceptable in lieu of sewing, if the installer can provide seam strength data and demonstrate acceptable field welding of the material.
- F. After seaming 2 to 3 panels and making sure the first panel is properly secured via perimeter anchor trench, or alternative ballast system, hand tension the windscreen. It is important the material is tight and free of wrinkles or it will not

function correctly. In some cases, the ballast system will have to be tensioned and re-tensioned after the material stretches.

- G. Continue deploying a manageable number of panels and repeat tensioning process. Always be sure that the Wind Defender ballast system extends beyond the edge of the underlying membrane at any and all open edges to reduce risk of blow offs. When finishing work for the day, the leading edge of the material must be temporarily ballasted for protection.
- H. Cut a hole or slit in the material to install around gas wells or other above ground piping. If needed, after installation is complete sew in a patch.
- I. Areas that change in plane like berms and concave geometries like valleys will cause the ballast system to trampoline or invert. Additional surcharges or intermediate anchoring systems will need to be installed in these areas. Additional point ballasts may be required near the crest of the top of slope where grades change from sloped to flat. If needed, place the point ballasts on the flat area approximately 5' from the crest of the slope.
- J. When utilizing perimeter anchor trenches for the material, have anchor trenches backfilled as the installation progresses. Be sure to re-tension the ballast system after backfill is in place if needed. Anchor trenches should be sized appropriately for the length of slope, area of exposure and anticipated wind speeds. Anchor trenches should have a minimum cross section of 2' by 2'.
- K. Ensure anchor trenches are properly backfilled or alternative ballast systems are properly installed and the Wind Defender system is secure.
- L. Post installation inspection and monitoring. Confirm the Wind Defender is in tension and free of bunching and wrinkles. If bunching is found, cut a slit in the material, cut off excess material, re-tension and re-sew.

#### **4.0 MEASUREMENT AND PAYMENT**

##### **4.1 8-Ounce Geotextile – Floor - Item No. 13**

The contract unit price for 8-ounce Geotextile shall include full compensation for all labor, material, and equipment required to furnish and install the Geotextile in accordance with the details and notes shown on the Plans, and as indicated in the Technical Specifications, and manufacturer's recommendations.

Final pay quantities shall be determined by computing the actual surface area of Geotextile placed to the limits indicated on the Plans (Overlap at seams will not be measured for payment). Geotextile placed beyond those limits will not be compensated unless previously authorized by the Engineer.

##### **4.2 12-Ounce Geotextile – Floor - Item No. 11**

The contract unit price for 12-ounce Geotextile shall include full compensation for all labor, material, and equipment required to furnish and install the Geotextile in accordance with the details and notes shown on the Plans, and as indicated in the Technical Specifications, and manufacturer's recommendations.

Final pay quantities shall be determined by computing the actual surface area of Geotextile placed to the limits indicated on the Plans (Overlap at seams will not be measured for payment).

Geotextile placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.3 16-Ounce Geotextile – Slopes and Roadway/Benches- Item No. 16**

The contract unit price for 16-ounce Geotextile – Slopes and Roadway/Benches shall include full compensation for all labor, material, and equipment required to furnish and install the Geotextile in accordance with the details and notes shown on the Plans, and as indicated in the Technical Specifications, and manufacturer's recommendations.

Final pay quantities shall be determined by computing the actual surface area of Geotextile placed to the limits indicated on the Plans (Overlap at seams will not be measured for payment). Geotextile placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.4 Scrim and HDPE Geotextile Liner Cover (Details 3/D4, 4/D4, 5/D4 and 6/D3) - Item No. 17A and 17B**

The contract unit price paid per square foot for Scrim (Item 17A) and HDPE Geotextile Liner Cover (Item 17B) shall include full compensation for furnishing all labor, materials, tools, equipment, sewing and incidentals and for doing all the work involved in Scrim and HDPE Geotextile Liner Cover as shown on the Plans, and as specified in the Standard Specifications, these Special Provisions, manufacturer's recommendations, and as directed by the Engineer.

Final pay quantities shall be determined by computing the actual surface area of Scrim and HDPE Geotextile Liner Cover placed to the limits indicated on the Plans (Overlap at seams will not be measured separately for payment). Scrim and HDPE Geotextile Liner Cover placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **4.5 Miscellaneous Anchor Details, Terminations, and Joins**

Compensation for Miscellaneous Anchor Details, Terminations and Joins are defined in Section 2E – Geomembrane.

**END OF SECTION 2G**

## **SECTION 2H**

### **PROTECTIVE SOIL COVER**

#### **1.0 GENERAL**

This section sets forth the requirements for construction of the Protective Soil Cover (PSC).

##### **1.1 Work Included**

Screen, process, transport, and place protective soil cover material to the line, grade, depth, and limits as shown on the Plans and as referenced in these Technical Specifications.

##### **1.2 Submittals Required**

The Contractor shall thoroughly review the Technical Specifications and identify all required project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.

- Placement Plan
- Screening Plant Location

#### **2.0 MATERIAL**

##### **2.1 Protective Soil Cover Material**

Protective Soil Cover material shall be screened, if necessary, from designated stockpiles as shown on Plans, or as otherwise designated by the Engineer. The Contractor shall coordinate with the CQA monitor, prior to beginning PSC processing, to ensure that the material proposed for use is compatible with the geotextile material being provided for the project. If it is determined that the proposed borrow location selected will not yield an acceptable material, another location will be selected, and tested.

Protective Soil Cover material shall not contain rock particles in excess of one inch in the greatest dimension. PSC material placed by the contractor shall be sufficient to support vehicular traffic for refuse placement (i.e. PSC material shall not be sand).

##### **2.2 Screening of On-Site Material**

Screening of on-site material may be required to comply with the particle size requirements for protective soil cover material if the native material cannot be broken up with conventional earthworks machinery (e.g., dozers with sheepsfoot, compactors, etc). If the Engineer determines that screening is required, the Contractor shall mobilize a screen and/or crushing plant that complies with all applicable AQMD regulations and permit requirements. The Contractor shall be responsible for all permits and/or fees associated with the operation, as required by local, state, or federal agencies.



### **3.0 CONSTRUCTION METHOD**

#### **3.1 General**

The PSC shall be placed to the lines and grades shown on the Plans in accordance with these Specifications and with the applicable requirements of Section 300-4 of the SSPWC.

PSC material shall be placed in a manner, and with appropriate equipment, such that damage does not occur to the underlying surface or materials. The Contractor shall submit to the Engineer a plan which indicates the proposed sequence of work, estimated schedule, and type of equipment to be utilized in the PCS placement operation. Equipment loading shall not exceed that recommended by the liner manufacturer or the LCRS piping manufacturer.

#### **3.2 Slope Area PSC**

Placement of PSC on slope areas shall proceed upward, from the toe of slope, to the top of the PSC limits. Care shall be taken during placement to avoid damaging the underlying composite liner components. Folds present in the geomembrane/geotextile shall be removed and the liner repaired prior to placement of the PSC. Any damage to the GCL, geomembrane, or geotextile shall be repaired by the Contractor at no additional cost to SWMD. The Contractor is responsible for all work associated with placement of the slope area PSC.

#### **3.3 Roadway/Bench Area PSC**

Placement of the PSC on the roadway or benches shall conform to the requirements of 3.1, and 3.5 of this Section. Any damage to the underlying geosynthetic liner system or appurtenances shall be repaired by the Contractor at no additional cost to SWMD.

#### **3.4 Placement**

Protective soil cover material shall be placed in a manner, and with appropriate equipment, such that damage does not occur to the underlying surface or materials. The Contractor shall submit to the Engineer a plan which indicates the proposed sequence of work, estimated schedule, and type of equipment to be utilized in the PSC placement operation. Equipment loading shall not exceed that recommended by the liner manufacturer or the LCRS piping manufacturer.

#### **3.5 Compaction**

The upper 12 inches of the PSC shall be compacted to a minimum 85-percent of the maximum dry density as determined by ASTM D1557 (testing frequency of one test per acre per lift, or one per day, whichever is greater).

#### **4.0 MEASUREMENT AND PAYMENT**

The following Protective Soil Cover Bid Items shall include full compensation to furnish all labor, tools, equipment, and incidentals and for doing all the work involved in screening Protective Soil Cover, including transport of material from material source to the screening location, screening, and transport of oversized material to a stockpile area designated by the Engineer. All costs associated with screening, transport to and from screen location, placement, distribution, grading and compaction of screened Protective Soil Cover material from the screening area shall also be included in the unit price per square foot of Protective Soil Cover in Items 4.1, 4.2 and 4.3 below.

##### **4.1 Protective Soil Cover - Floor - Item No. 18**

The contract unit price paid per square foot for Protective Soil Cover - Floor shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all the work involved in Protective Soil Cover, including screening, transport, placement, distribution, grading, and compacting Protective Soil Cover as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities shall be determined by computing the actual surface area of PSC placed to the limits indicated on the Plans. PSC placed beyond those limits will not be compensated unless previously authorized by the Engineer.

##### **4.2 Protective Soil Cover– Slopes - Item No. 19**

The contract unit price paid per square foot for Protective Soil Cover – Slopes shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all the work involved in Protective Soil Cover, including screening, transport, placement, distribution, grading, and compacting Protective Soil Cover as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities shall be determined by computing the actual surface area of PSC placed to the limits indicated on the Plans. PSC placed beyond those limits will not be compensated unless previously authorized by the Engineer.

##### **4.3 Protective Soil Cover– Roadway/Benches - Item No. 20**

The contract unit price paid per square foot for Protective Soil Cover – Roadway/Benches shall include full compensation for furnishing all labor, tools, equipment, and incidentals and for doing all the work involved in Protective Soil Cover, including screening, transport, placement, distribution, grading, and compacting Protective Soil Cover as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Final pay quantities shall be determined by computing the actual surface area of PSC placed to the limits indicated on the Plans. PSC placed beyond those limits will not be compensated unless previously authorized by the Engineer.

#### **END OF SECTION 2H**

## **SECTION 2J**

### **GEOMEMBRANE LEAK LOCATION SURVEY**

#### **1.0 GENERAL**

This section sets forth the requirements for performance of an HDPE geomembrane leak location survey using electrical methods for post-geomembrane installation performance.

#### **1.1 References**

Testing of the HDPE geomembrane shall be conducted in accordance with ASTM D7007 and ASTM D7002, respectively, and as specified herein. Two surveys will be done, one of the bare primary geomembranes and one with the geotextile, gravel, and protective cover soil layer in place.

#### **1.2 Qualifications**

The Leak location contractor shall have qualifications and experience in conducting the proposed survey method including having tested a minimum of 15,000,000 square feet of geomembrane liner within the previous three years. In addition, the leak location surveys must be supervised by a professional or technician with a minimum of three years and 3,000,000 square feet of liner testing experience using the proposed leak location survey method. The leak location supervisor must be on-site full-time during the performance of the leak location survey.

#### **1.3 Submittals**

The Contractor shall thoroughly review the Specifications and identify all required project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.

1.3.1 Leak location contractor shall submit a Leak Location Survey Work Plan to the Engineer for approval prior to commencement of the leak location survey. The Leak Location Survey Work Plan shall include:

- o Leak Location Work Plan outlining testing procedures and required site preparation.
- o Qualifications of the proposed Leak Location Contractor to include the number of years the Leak Location Contractor has performed the proposed survey method;
- o Resumes of proposed on-site supervisors;
- o Required site preparations;
- o Estimated duration of survey;
- o Quality control and field calibration procedures;
- o A list of projects demonstrating the qualifications and experience where the proposed Leak Location Contractor and leak location supervisor have met the requirements of Subsection 1.2.
- o Sample of a final report (per ASTM D7002 and D7007) provided by the Leak Location Contractor following the completion of the survey.

## **2.0 MATERIAL**

Not Used.

## **3.0 CONSTRUCTION METHODS**

### **3.1 Site Preparation**

The leak location survey Contractor will identify actions required by the Contractor to prepare the site for the leak location survey, including means to make electrical contact with the conductive material under the HDPE geomembrane.

The leak location Contractor shall inspect the site prior to commencing the survey to ensure all site preparations are completed and the site conditions are appropriate for conducting the leak location survey(s). Any discrepancy in the required site preparation described above or in the Leak Location Survey Work Plan shall be reported to the Contractor for corrective or appropriate action.

### **3.2 HDPE Geomembrane Testing.**

After the 12-inch screened 1 inch minus layer, 60 mil HDPE secondary geomembrane, GCL, and primary HDPE geomembrane has been completed, a leak location survey shall be conducted on the primary geomembrane using the procedures described in the latest version of ASTM Standard D7002.

In general, testing will include the following items. However, after reviewing the site, and material conditions, the leak location survey subcontractor shall include in the Leak Location Survey Work Plan, any variances to the listed items that will enhance the testing procedure, while maintaining compliance with the referenced ASTM Standard.

1. Bare copper wires shall be installed under the GCL, between the geomembrane. The bare copper wires shall be 10AWG or heavier. The bare copper wires shall be placed perpendicular or a minimum of 45 degrees to the machine direction of the GCL. Four wires (or as many as determined necessary by the leak location subcontractor) shall be spaced at 1/8, 3/8, 5/8, and 7/8 of the relevant dimension of the cell (+/- 25 feet.) The wires shall exit from between the geomembranes at both edges of the cell, remain exposed until after the leak location survey, not contact earth ground, and remain accessible to the leak location survey Contractor.
2. An artificial leak with a diameter of 0.64 cm (0.25-inch) shall be placed at ground surface and an artificial leak with a diameter of 1.27 cm (0.5-inch) shall be buried at a depth of two-feet below ground surface.
3. A line of data shall be taken and recorded directly over the artificial leak for a distance of at least 20-feet in front and behind the artificial leak with the artificial leak disconnected to measure and quantify the background noise level (BN). The background noise level shall be defined as the difference between the maximum and minimum measured voltage with the artificial leak disconnected.
4. The artificial leak shall be connected and leak location measurements shall be made and recorded along closely-spaced parallel lines in the vicinity of the artificial leak. The lines shall be centered on the artificial leak and extend at least 20 feet in front and behind the artificial leak. This data is the leak signal plus noise signal (S+N).

5. The recorded leak location data shall be examined to determine the peak-to-peak leak signal plus noise signal to background noise ratio  $R=(S+N)/BN$  for each of the recorded data lines. The measured leak signals must have characteristics of a leak. Wild data points that deviate from the theoretical leak signals shall not be used to determine R.
6. The two farthest lateral lines of data with an R value greater than 3.0 shall be noted. The average of the lateral distance from the leak for these two lines is defined to be the leak detection distance for the artificial leak.
7. If unfavorable site conditions prevent obtaining an R ratio of 3.0 from being obtained, the leak location equipment shall be demonstrated to be able to detect an artificial leak from a smaller distance.

### **3.2.1 Geomembrane Testing**

The leak location data shall be taken:

- o With a uniform measurement density of greater than one measurement every 10 square feet; or
- o On survey lines spaced no further apart than twice the leak detection distance determined for the artificial leak as discussed in Part 2 of these specifications. The measurement electrode spacing shall be no less than that used for the performance demonstration. The spacing between measurements shall be no more than that used for the performance demonstration.

The data shall be recorded, plotted, and analyzed for leak signals. The positions of these leak signals shall be located and the leaks excavated. The leaks shall be repaired in accordance with the specified requirements for HDPE geomembrane in Section 2E.

Following the repair, the leak location survey shall be repeated on the two closest survey lines for a distance extending 20 feet before and beyond the leak. If another leak signal is detected, the entire repair and resurvey process shall be repeated until no additional leaks are detected.

### **3.3 Geomembrane Testing After Placement of Protective Cover Soil**

After the geotextile, gravel, and protective cover soils are placed on the geomembrane, a leak location survey on the earth materials shall be conducted using the procedures for surveys with earth materials covering the geomembrane described in the latest version of ASTM Standard D7007.

The Contractor shall ensure that the materials above the geomembrane contain sufficient moisture to conduct a leak location survey. Geotextile placed on the geomembrane must be moist, either from a rainfall, from excess moisture in the gravel, or by wetting the geotextile with the equivalent of 0.1 inch of water (2,700 gallons/acre) immediately prior to installing the materials on the geomembrane.

The Contractor shall consult with the leak location subcontractor to establish the recommended moisture content for the LCRS gravel and protective cover soils required for proper testing.

The leak location survey subcontractor shall inform the Engineer, and mark the locations of all identified or indicated leaks with flags, or written coordinates. In addition, any leaks that are found must be excavated by Contractor and isolated from the materials covering the geomembrane. Then additional leak location measurements shall be made on the two closest

leak location survey lines to determine if additional leaks are in the vicinity. If an additional leak is found, this process shall be repeated. The Contractor shall also repair the punched calibration holes. All repairs must be dug and replaced carefully to not mix operations layer material into the gravel and the geotextile shall be patched per Section 2G.

### **3.4 Reporting**

A report documenting the electrical leak location survey shall be submitted within 7 days of the completion of each leak survey. The report shall document the methodology used, the locations and descriptions of the leaks, and a figure of the liner area showing the approximate leak locations.

## **4.0 MEASUREMENT AND PAYMENT**

### **4.1 Leak Location Testing – Item No. 56**

Payment of the Lump Sum Price for Leak Location Testing shall constitute full compensation for all labor, materials, equipment, re-testing as needed, reporting, and all other items necessary and incidental to the completion of this item of work. Fifty percent of the lump sum cost shall be paid upon receipt of the test report for the bare primary liner, and fifty percent will be paid upon receipt of the test report for the testing after protective cover soil.

**END OF SECTION 2J**

## **SECTION 2K**

### **EROSION CONTROL IMPROVEMENTS**

#### **1.0 GENERAL**

This section sets forth the requirements for interim and final erosion control improvements and hydroseeding at the Barstow Sanitary Landfill.

##### **1.1 Work Included**

Interim and final erosion control work shall include application of a hydroseed mix over the indicated areas, and installation of miscellaneous erosion control improvements.

##### **1.2 Submittals Required**

The Contractor shall thoroughly review the Specifications and identify all required project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.

- Erosion and Storm Water Control Plan
- Manufacturer's literature/catalog cuts for all erosion control materials

#### **2.0 MATERIAL**

##### **2.1 Gravel Bags**

###### **2.1.1 Bag Material**

Bags should be woven polypropylene, polyethylene or polyamide fabric or burlap, minimum unit weight of 4 ounces/yd<sup>2</sup>, Mullen burst strength exceeding 300 lb/in<sup>2</sup> in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355. Bag Size: Each gravel-filled bag should have a length of 18 in., width of 12 in., thickness of 3 in., and mass of approximately 33 lbs. Bag dimensions are nominal and may vary based on locally available materials.

###### **2.1.2 Fill Material**

Fill material should be 0.5 to 1 in. crushed rock, clean and free from clay, organic matter, and other deleterious material, or other suitable open graded, non-cohesive, porous gravel.

##### **2.2 Fiber Rolls**

Fiber rolls, i.e. wattles, shall be 9-inches in diameter, and shall be manufactured from certified 100-percent weed rice straw and wrapped in a tubular plastic netting. Fiber rolls shall be as manufactured by Earth Saver, or an approved equal.

#### **3.0 CONSTRUCTION METHODS**

##### **3.1 Erosion and Storm Water Control**

It is the intent of these specifications that at the conclusion of the contract, the site will be protected with newly installed erosion control improvements. However, interim erosion control features installed during the latter phases of the project maybe considered and compensated as final, at the discretion of the CM, if the components are deemed to be in suitable and undamaged



condition.

### **3.2 Gravel Bags**

Gravel Bags shall be placed to the limits indicated, and in accordance with the details on the drawings.

### **3.3 Preparation of Slope Areas to Receive Fiber Rolls**

All areas designated to receive Fiber Rolls are to be track walked, leaving track divots parallel to the slope.

### **3.4 Fiber Rolls**

Fiber rolls shall be installed in accordance with the manufacturer's recommendations, at the locations indicated on the drawings. Minor adjustments may be made, with the approval of the CM, to accommodate field conditions.

## **4.0 MEASUREMENT AND PAYMENT**

### **4.1 Gravel Bag Chevrons (Per Detail 1/D5) – Item No. 54**

The Contract Unit Price to furnish and install gravel bag chevrons shall include full compensation for all labor, material, and equipment required to complete the installations as indicated on the Drawing and in accordance with these Specifications.

Final pay quantities will be determined by field verification of the actual number of gravel bag chevrons installed in accordance with the drawing. No additional payment will be made for material placed beyond the limits indicated on the Drawings unless authorized by the Engineer.

### **4.2 Fiber Rolls (Per Detail 2/D5, 3/D5) – Item No. 55**

The Contract Unit Price to furnish and install fiber rolls shall include full compensation for all labor, material, and equipment required to complete the installations as indicated on the Drawing and in accordance with these Specifications.

Final pay quantities will be determined by field verification of the actual lineal footage of fiber rolls installed in accordance with the drawing. No additional payment will be made for material placed beyond the limits indicated on the Drawings unless authorized by the Engineer.

**END OF SECTION 2K**

**APPENDIX A**  
**CONSTRUCTION QUALITY ASSURANCE PLAN**  
**(Geo-Logic Associates, Revised 8/14/20)**

**NOT FOR BID**

## 1.0 INTRODUCTION

A Construction Quality Assurance (CQA) program consists of selected testing, inspection and documentation of a final construction product in order to provide the Owner/Agencies an evaluation of whether the end product is of the specified quality of materials and workmanship. Because of possible conflicts of interest, the Contractor should not undertake the CQA function directly. Rather, CQA inspection and testing should be left under the objective authority of a single team of inspection professionals.

A Construction Quality Control (CQC) program consists of selected tests and inspections performed by the Contractor during production which can assist the Contractor in producing the quality product required. While the CQC function is the sole responsibility of the Contractor, the Project Manager may, at his/her discretion, provide information regarding the ongoing CQA monitoring for the Contractor's use in implementing his/her CQC function. Release of the CQA data to the Contractor would be for convenience only and would, in no way, relieve the Contractor from the responsibility to fulfill the project requirements.

The groundwater protection system proposed for the Phase 1B Liner Construction Project at the Barstow Sanitary Landfill consists of individual discrete layers of earth and synthetic materials which will function as a unit to form the containment system for the waste management area. As proposed, the composite liner system will consist of individual discrete members including, from bottom to top: prepared subgrade; a one-foot thick screened (1-inch minus) compacted soil layer (base liner areas only) and a "secondary" HDPE geomembrane placed on select areas of the the base liner as shown on the Construction Drawings; a geosynthetic clay liner (GCL); HDPE geomembrane placed over the GCL (base and slope); a 12-ounce non-woven geotextile on base liner areas and a 16-ounce non-woven geotextile on slopes; a leachate collection and recovery system (base liner areas only); an 8-ounce non-woven geotextile filter fabric placed over the LCRS gravel (base liner area only); and a two-foot thick protective soil cover layer.

Each of these components functions as an integral part of the composite liner system and consequently must become a finished product during the course of construction. As a result, it is important that each layer or component of the composite liner be completed to the design specifications prior to construction of successive or overlying layers. For this reason, it is both inefficient and impractical to withhold CQA testing until completion of the liner and it is necessary to conduct an ongoing CQA program during construction.

This document presents the Construction Quality Assurance (CQA) Plan for installation of the earthwork and geosynthetic components of the composite liner system for the Phase 1B Composite Liner at the Barstow Sanitary Landfill in San Bernardino County, California. This CQA Plan is based on the Construction Drawings and Specifications prepared by SWT Engineering (SWT) dated July 2020 (65% Submittal). This CQA Plan is to be used in conjunction with the Phase 1B Liner Construction Drawings and Specifications prepared for the Barstow Sanitary Landfill.

This plan includes:

- A Quality Assurance Program to be implemented during earthwork and geosynthetic material construction; including field observation, laboratory and field testing, and acceptance criteria for constructed work;
- Recording and documentation procedures to be employed for demonstrating that the constructed earthwork and geosynthetic liner components meet the requirements of the Project Construction Drawings and Specifications;
- Lines of communication, responsibilities and roles of the Construction Quality Assurance team and other related Project Personnel.

## **1.1 PROJECT REQUIREMENTS**

In order to satisfy the requirements established by the governing regulatory agencies, the following composite liner system design has been selected for the Phase 1B Composite Liner.

In base liner areas (gradient less than 5:1 horizontal: vertical) the liner system will be composed of the following elements:

- Subgrade prepared to the requirements of the Project Documents;
- A minimum one (1) foot thick compacted soil layer screened to exclude particles over 1-inch;
- A 60-mil thick double-sided textured HDPE geomembrane ;
- A geotextile-backed geosynthetic clay liner (GCL);
- A 60-mil thick double-sided textured HDPE geomembrane;
- A twelve (12) ounce per square yard non-woven geotextile cushion;
- A 9-inch thick leachate collection layer composed of select drainage gravel materials;
- An eight (8) ounce per square yard non-woven geotextile separator;
- A minimum two (2) foot thick protective cover soil layer (operations layer) composed of select on-site soil materials. Said materials shall be screened to exclude particles in excess of one-inch in maximum dimension.

In slope areas (gradient steeper than 5:1 horizontal: vertical) the liner system will be composed of the following elements:

- Subgrade prepared to the requirements of the Project Documents;
- A geotextile-backed geosynthetic clay liner (GCL) placed on the prepared subgrade;
- A 60-mil thick single-sided textured HDPE geomembrane (textured side placed down);
- A sixteen (16) ounce non-woven geotextile placed immediately on top of the geomembrane;
- A protective plastic scrim cover placed over the geotextile;
- A minimum two (2) foot thick protective soil cover (operations layer) composed of select on-site soil materials. Said materials shall be screened to exclude particles in excess of one-inch in maximum dimension.

All materials used to construct the composite liner system must meet or exceed the criteria established in this CQA document and the Project Plans and Specifications. Any deviation from these criteria must be pre-approved by the Engineer and the Geotechnical CQA Consultant.

## 2.0 RESPONSIBLE PARTIES AND DEFINITIONS

### 2.1 RESPONSIBLE PARTIES

The responsible parties for all Phase 1B liner construction activities at the Barstow Sanitary Landfill, as set forth herein, are as follows:

Owner:

County of San Bernardino Solid Waste Management Division  
222 W. Hospitality Lane, 2<sup>nd</sup> Floor  
San Bernardino, California 92415  
Phone: (909) 386-8735  
Contact:

Landfill Operator:

Athens Services, Inc.  
222 W. Hospitality Lane, 2<sup>nd</sup> Floor  
San Bernardino, California 92415  
Phone:  
Contact:

Landfill Engineer:

SWT Engineering, Inc.  
800-C South Rochester Avenue  
Ontario, California 91761  
Phone: (909) 390-1328  
Contact: Mr. Richard Genzel

Construction Manager:

To Be Determined

CQA Consultant:

GeoLogic Associates  
2777 East Guasti Road  
Ontario, California 91761  
Phone: (909) 626-2282  
Contact: Mr. Gary Lass

### 2.2 DEFINITIONS

"Construction Manager" - Person(s) or firm(s) authorized by the County of San Bernardino Solid Waste Management Division to manage and oversee the administration of the Construction

Contract. The Construction Manager shall be responsible for evaluating lines and grades (survey control) for the individual liner elements as well as verification of payment request, submittal acceptance, and change orders.

"Contractor" - The firm responsible for all elements of construction of the containment system. In this regard, the Contractor's responsibilities include but are not limited to: preparation of subgrade and supporting surfaces (generally soil) for the geosynthetic installation; installation of the geosynthetics; and placing earth and granular materials over the installed geosynthetic systems. The Contractor is further responsible for all activities of Subcontractors including but not limited to the geosynthetics Subcontractor.

"County" – County of San Bernardino, Department of Public Works, Solid Waste Management Division.

"CQA Manager" - The individual or firm serving under the direction of the CQA Consultant and responsible for day to day geotechnical Construction Quality Assurance (CQA).

"CQA Monitors" - The individuals working under the direction of the CQA Manager who are routinely involved in the construction process. Such personnel include "Technicians", "Field Engineers" and "Field Geologists" representing the Geotechnical Consultant. CQA Monitors responsible for the geosynthetics and earthwork, shall be experienced in landfill construction monitoring, geosynthetic material installation, engineered fill construction and testing, and compaction testing during grading operations.

"Geosynthetics" - A generic classification given to synthetic (man-made plastic and fabric) materials used in geotechnical and construction applications. Included are geomembrane or flexible membrane liners (HDPEs), geotextiles, geosynthetic clay liner (GCL), geonets, geogrids, geocomposites and geocells. At the Barstow Sanitary Landfill, the term geosynthetics is used to refer to the HDPE, GCL, and geotextiles.

"Geosynthetic Subcontractor" - The firm responsible for handling, storing, placing, seaming, and other aspects of the installation of the geosynthetics included in the composite liner system.

"Geotechnical Consultant" - Geotechnical firm responsible for the design and specifications for the earthwork and geosynthetic elements of the Project Plans and Specifications. The Geotechnical Consultant or his/her representative is also responsible for observing, testing, and documenting activities related to quality assurance for all geotechnical and geosynthetic aspects of construction except for engineering and survey control. All completed geotechnical work is subject to approval by the Geotechnical Consultant.

"Geotechnical Project Director" - Geological/geotechnical professional registered in the State of California who, under the employ of the Geotechnical Consultant is responsible for earthwork observation, monitoring and testing.

"Geotechnical Construction Quality Assurance for Earthwork" - The protocols to be followed in evaluating the adequacy of the Contractor's work with regard to all elements of earthworks

construction with the exception of line and grade (survey) control. Said work shall include but need not be limited to all CQA activities delineated herein and in the Specifications. Geotechnical CQA is to be provided by a party independent of the Contractor.

"Geotextile" - A permeable synthetic fabric used with soil, rock, sand, gravel or any other similar materials as an integral part of the composite liner system. It can provide protection (cushion) to other systems or serve to separate different materials.

"Independent Testing Laboratory" - The firm responsible for conducting selected tests of materials and/or products used for the project, such as conformance and destructive seam testing. The laboratory shall be independent of the County, Manufacturer, Contractor, Geosynthetics Subcontractor and any party involved with the manufacture and/or installation of any product to be tested.

"Landfill Engineer" - The firm responsible for the design and preparation of the Project Plans and Specifications including the containment system that fulfills the regulatory and operational requirements of the permitting agencies and Owner, respectively. The Landfill Engineer, also known as the Engineer, is also responsible to modify or change the design if unexpected or unanticipated site conditions are encountered during construction.

"Project Documents" - Project Documents include all Construction Drawings, Record Drawings, Construction Specifications, CQA Plans, Health and Safety Plans and Project Schedules and Contractor Submittals.

"Project Manager" - The County's designated representative responsible for the Project.

"Project Drawings and Specifications" - All project related Drawings and Specifications including Design Modifications and Record Drawings.

"Quality Assurance" - Actions taken by the Owner or his representative necessary to evaluate whether the earthen and geosynthetic materials and workmanship meet the requirements of the Project Plans and Specifications.

"Quality Control" - Actions taken by the Contractor, Subcontractors and/or Liner Manufacturer(s) to ensure that the earthen and geosynthetic materials and workmanship meet the requirements of the Project Plans and Specifications.

"Work" - All tools, equipment, supervision, labor, and materials or supplies necessary to complete the project as specified in the Project Specifications and as shown on the Project Drawings.

### **3.0 GEOTECHNICAL CQA ORGANIZATION**

The Geotechnical CQA Team for composite liner system construction will be composed of design and field personnel with specific experience in the inspection and Geotechnical CQA monitoring of earthwork and geosynthetic materials specifically related to landfill liner



construction. The principal categories of personnel assigned to the Geotechnical CQA Team are presented below.

### **3.1 GEOTECHNICAL PROJECT DIRECTOR**

The Geotechnical Project Director shall be a representative of the Geotechnical CQA Consultant and shall have overall responsibility for all geotechnical CQA activities.

The Geotechnical Project Director will be responsible for reviewing all earthwork or geosynthetic issues which may arise during construction. The Geotechnical Project Director's approval will be required for any earth or geosynthetic material modifications or for any design modifications which may impact the performance of the earth or geosynthetic materials.

### **3.2 GEOTECHNICAL CQA MANAGER**

The Geotechnical CQA Manager will serve as the Geotechnical Project Director's on-site representative. All Geotechnical CQA functions will be his/her direct responsibility. All coordination, reporting and issues related to non-compliance will be directed through the Construction Manager. In addition, he/she will participate with the County, Engineer and Geotechnical Project Director in all decisions related to design issues which arise during the course of construction.

The Geotechnical CQA Manager shall be responsible for overall review, observation, sampling, and testing of activities utilized for Construction Quality Assurance (CQA). Specific duties of the CQA Manager include:

- Review of all designs, Project Plans, and Specifications;
- Implementation of the Geotechnical CQA program including: assignment and management of all Geotechnical CQA personnel; review of all field reports; and review of all Geotechnical CQA related issues;
- Review of design changes and coordination of such changes with the Engineer;
- Serving as the on-site representative of the Geotechnical Project Director;
- Familiarization of all Geotechnical CQA Monitors with the site and the Geotechnical CQA requirements of the project;
- Attendance at all Geotechnical CQA related meetings (i.e., preconstruction, progress, and special meetings as required);
- Review of all Liner Manufacturer and Liner Subcontractor certifications and documentation and development of appropriate recommendations;
- Designation of a senior Geotechnical CQA Monitor to act on his/her behalf at the site while he/she is absent and operations are ongoing;
- Notation of any on-site activities that could result in damage to the geosynthetics;
- Review of the Liner Subcontractor's personnel qualifications for conformance with project requirements;
- Selection of locations for destructive test sampling;
- Oversight of the ongoing preparation of "As-Built" Plan(s);
- Review of all Geotechnical CQA Monitors daily reports and logs;

- Reporting to the Construction Manager and logging in his/her daily report any relevant observations reported to him by the Geotechnical CQA Monitors;
- Oversight of the marking, packaging and shipping of all laboratory test samples;
- Review of the results of laboratory testing and presentation of appropriate recommendations;
- Preparation of a monthly summary of Geotechnical CQA activities;
- Reporting of any unresolved deviations from the Geotechnical CQA Plan to the Construction Manager;
- Preparation of the final “As-Built” report for all completed geosynthetic construction activities;

### **3.3 GEOTECHNICAL CQA MONITORS**

#### **3.3.1 FIELD ENGINEER/FIELD GEOLOGIST**

The Field Engineer/Field Geologist will be a representative of the Geotechnical CQA Consultant and will be responsible for evaluating whether earth and/or synthetic materials conform to the requirements of the Project Drawings and Specifications. Duties of the Field Engineer/Field Geologist will include the following:

- Subgrade inspection, review, testing and documentation.
- Review of the adequacy of all clearing, grubbing, stripping and preparation of areas to receive fill.
- Monitoring and evaluation of any soil blending, mixing and processing operations.
- Evaluation of the engineering characteristics of the processed and constructed earth materials.
- Observation and evaluation of all excavations which may be impacted by geologic conditions.

#### **3.3.2 GEOTECHNICAL CQA MONITORS**

Geotechnical CQA Monitors will be representatives of the Geotechnical CQA Consultant and will continuously observe all grading and geosynthetic operations to provide a basis for concluding that construction is carried out in conformance with the Project Drawings and Specifications. The duties of the Geotechnical CQA Monitors include monitoring, observing and testing all earthwork as well as monitoring, logging and documenting all geosynthetic installation operations.

The operations to be monitored observed and/or tested for the earthwork include:

- Observation of subgrade surface preparation.
- Verification that liner soils are derived from appropriate sources.
- Visual evaluation of the soil physical properties for consistency with the Project Drawings and Specifications.
- Evaluation of all moisture conditioning and processing operations to evaluate uniformity of material and moisture content.

- Evaluation of the constructed engineered fill material for conformance with the Project Drawings and Specifications.
- Identification of deleterious materials or other deficiencies in soil characteristics to minimize the possibility that these materials are incorporated into the composite liner system.
- Monitoring of activities for the removal and/or disaggregation of all oversize material.
- Observation of uniformity of coverage of compaction equipment, especially at fill edges, turnaround areas and on slope faces.
- Monitoring of lift thickness.
- Observation of the active fill pad at the beginning of each grading day and establishment of requirements for wetting/drying and/or processing of exposed surfaces prior to placement of additional fill.
- Undertaking field tests including but not limited to field moisture/density testing at the minimum frequencies noted herein or at any time that a deficiency is suspected.
- Recovery of samples for laboratory testing.
- Confirmation that the test results are in accordance with the Project Specifications (including retests of any previously failed areas).

The operations to be observed and monitored for all geosynthetics include:

- Material delivery.
- Unloading and on-site transport and storage.
- Placement/deployment operations.
- Joining and/or seaming operations.
- Repair operations.

Specifically, the seaming operations to be monitored include:

- Trial seams.
- Seam preparation.
- Seaming.
- Nondestructive seam testing.
- Sampling for destructive seam testing.
- Laboratory test sample marking.
- Repair operations.
- Reviewing the final certification of seams.

In addition to these specific duties, the Geotechnical CQA Monitors shall be responsible for:

- Observing the condition of geosynthetic materials as placed.
- Selecting samples for conformance testing by the Independent Testing Laboratory.
- Marking samples for conformance testing.
- Notation of any on-site activities that could result in damage to the geosynthetics.

All observations shall be reported in a timely manner to the Construction Manager.

### **3.4 INDEPENDENT TESTING LABORATORY**

The Independent Testing Laboratory shall be certified by the Geosynthetic Accreditation Institute (GAI) in the specific tests to be performed and will perform all conformance testing of geosynthetics and all destructive laboratory testing of field seams.

#### **4.0 MEETINGS**

In order to facilitate construction of the composite liner system, close coordination between the Construction Manager, Engineer, Geotechnical CQA Consultant, Contractor, Liner Subcontractor and Geotechnical CQA personnel is essential. To this end the following meetings will be scheduled.

##### **4.1 PRE-CONSTRUCTION MEETINGS**

A Pre-construction Meeting will be held at the site. At a minimum, the meeting shall be attended by the County (or designated representative), the Construction Manager, the Landfill Engineer, the Geotechnical Consultant (or designated representative), the Contractor and appropriate Geotechnical CQA staff.

Specific items to be considered at this meeting will include:

- Any appropriate modifications to the Geotechnical CQA requirements.
- Development of a format for site specific documentation.
- Review of the responsibilities of each party.
- Review of the lines of authority and communication.
- Review of work area security and safety protocol.
- Review of the procedures for project documentation and reporting, and distribution of documents and reports.
- Review of procedures for submittals, change orders and extra work efforts.
- Review of the Contractor's proposed methods of construction, (including equipment), with specific emphasis on methods of select grading, soil mixing, stockpiling, processing, moisture conditioning and compaction.
- Review of the procedures for field and laboratory CQA testing.
- Establishment of procedures for correcting and documenting construction deficiencies.
- Conducting an initial site inspection to discuss work areas, stockpile areas, mixing tables, laydown areas, access roads, haul roads, and related items.
- Review of the project schedule.

The meeting shall be documented by the Construction Manager and minutes shall be distributed to all parties.

##### **4.2 WEEKLY PROGRESS MEETINGS**

Progress Meetings shall be held weekly. At a minimum, these meetings shall be attended by the County (or designated representative), the Construction Manager, the Geotechnical CQA Manager and/or the Geotechnical CQA Monitors, and the Contractor. Weekly progress meetings

shall be documented by the Construction Manager or his/her representative and minutes shall be distributed to all parties. The purpose of these meetings is to:

- Discuss any health and safety related issues.
- Review scheduled work activities.
- Discuss project related problems.
- Review laboratory and field test data.
- Discuss the Contractor's personnel and equipment assignments.
- Review the previous week's activities and accomplishments.

#### **4.3 SPECIAL MEETINGS**

Special meetings will be conducted as required to discuss any problems or deficiencies. At a minimum, these meetings will be attended by the County (or designated representative), Construction Manager, appropriate Geotechnical CQA staff and the Contractor. If correction of a problem requires a design modification, the Landfill Engineer and the Geotechnical Project Director will also be present. The purpose of these meetings is to:

- Define and discuss any problems or deficiencies in the Project.
- Review possible corrective actions or solutions.
- Implement an action plan to resolve the problems or deficiencies.

Special meetings shall be documented by the Construction Manager or his/her representative and minutes shall be distributed to all parties.

#### **4.4 GEOSYNTHETIC MATERIAL PRE-INSTALLATION MEETING**

A Geosynthetic Material Pre-installation Meeting may be held at the site before installation of the geosynthetics. At a minimum, the meeting shall be attended by the Construction Manager, the Engineer, the Contractor, the Liner Subcontractor, and Geotechnical CQA staff. The Pre-Installation Meeting will not be conducted until all Manufacturer Certifications required by the Project Specifications and this document are received, reviewed and approved.

Specific items to be addressed at this meeting include:

- Submittal and review of relevant documents.
- Definition of appropriate modifications to the Geosynthetic Geotechnical CQA requirements.
- Development of a format for site specific documentation.
- Definition of the responsibilities of each party.
- Definition of lines of authority and communication.
- Review of work area security and safety protocol.
- Definition of methods for documenting and reporting, including distributions.
- Selection of welding equipment and procedures.
- A field welded seam(s) demonstration.
- Identification of testing equipment and procedures, including peel and shear tests, and procedures for communicating laboratory test results.

- Identification of procedures for correcting and documenting construction deficiencies.
- A site inspection to discuss storage areas, work areas, stockpile areas, laydown areas, access roads, haul roads, and related items.
- Review of the project schedule.

The meeting shall be documented by the Construction Manager and minutes shall be distributed to all parties.

#### **4.5 DAILY PROGRESS MEETINGS (if necessary)**

Daily Progress Meetings may be held in the field before the start of work each day. At a minimum, these meetings shall be attended by the Geotechnical CQA Manager or his/her representative, Geotechnical CQA Monitors, the Contractor and the Liner Subcontractor. The purpose of these meetings is to:

- Review and coordinate scheduled work activities between the Geotechnical CQA monitors and the Liner Subcontractor's crew.
- Discuss any problems.
- Review test data.
- Discuss the Liner Subcontractor's personnel and equipment assignments for the day.
- Review the previous day's activities, accomplishments and/or deficiencies.

#### **4.6 MANUFACTURING PLANT VISIT(S)**

The Liner Subcontractor shall make arrangements with the Liner Manufacturer(s) to allow the Geotechnical CQA Manager or his/her designee to visit the geosynthetics manufacturing plant(s) during manufacture of the liner material for this project and to observe manufacturing methods and quality control of manufactured materials. If appropriate, the Geotechnical CQA Manager or his/her designee shall review the manufacturing process, quality control, laboratory facilities and testing procedures.

During the plant visit, those visiting shall:

- Observe that the geosynthetic properties presented in the Liner Manufacturer's certification documents meet the Project Specifications.
- Verify that the measurements of properties by the Liner Manufacturer are properly documented and test methods used are acceptable.
- Spot inspect some of the geomembrane rolls and verify that they are free of holes, blisters, or any sign of contamination by foreign matter.
- Review packaging and transportation procedures to verify that these procedures are not damaging the geosynthetics.
- Observe that roll packages have a label indicating the name of the Liner Manufacturer, type of geosynthetic, its roll/panel number and other required information.
- Verify that extrusion rods and/or beads are derived from the same base resin type as the geomembrane.

## **5.0 GEOTECHNICAL CQA MONITORING FOR EARTH MATERIALS**

### **5.1 GENERAL**

Construction of the composite liner system shall be performed in accordance with the Project Drawings and Specifications and shall be continuously observed, and routinely sampled and tested by the Geotechnical CQA Monitors for the physical parameters described in this section.

Earth materials for construction of the Phase 1B liner will include, unclassified engineered fill, screened 1-inch minus material placed as engineered fill on the base liner, anchor trench backfill, and protective cover soil. The testing frequency presented herein is a minimum. Additional tests will be conducted by the Geotechnical CQA Monitor for retests and at any time that in the opinion of the Geotechnical CQA Monitor, additional testing is required and/or a deficiency is suspected. Retests of previously failed areas will be performed at the discretion of the Geotechnical CQA Monitor when, in his/her opinion, sufficient reworking of the area has been performed to warrant a retest.

### **5.2 UNCLASSIFIED ENGINEERED FILL**

Unclassified engineered fills will be placed at the locations indicated on the Drawings to bring the composite liner system subgrade to the design line and grade. Unclassified engineered fill will be generated from the Phase 1B excavation, or on-site borrow areas and/or stockpiles as indicated on the Drawings, processed to remove particles in excess of 3-inches, moisture conditioned to  $\pm 2$  percent of optimum moisture content, and compacted in 6-to 8-inch lifts to a minimum of 90 percent density when compared to the maximum dry density (ASTM D-1557). Unclassified engineered fill placed on slope areas shall be properly keyed into the existing subgrade materials to provide an adequate bond between the fill and underlying subgrade materials.

### **5.3 SCREENED 1-INCH MINUS MATERIAL/ANCHOR TRENCH BACKFILL**

Once the final subgrade elevations have been achieved for the base liner area, a one-foot thick section of screened 1-inch minus compacted engineered fill will be placed on the base liner area. The screened 1-inch minus compacted fill layer of the composite liner system will be constructed of on-site soils derived from the source identified on the Project Drawings. Materials from the approved borrow source or stockpile shall be screened to exclude particles larger than 1-inch prior to placement as fill.

Select soils from the approved borrow area shall be screened, dried, and/or moisture conditioned until uniformly blended material characteristics and moisture condition are attained. Field and laboratory testing for moisture content, in-place dry density, and engineering properties during construction of the screened 1-inch minus compacted fill layer of the liner system will be completed according to the following minimum schedule:



### Screened One-Inch Minus Compacted Fill Testing Type and Frequency

Test Description	Test Designation	Minimum Test Frequency
Processed Moisture Content (following moisture conditioning)	ASTM D4643 (microwave) or ASTM D2216 (oven)	Two per construction day
Moisture-Density Relationship	ASTM D1557	One per 5,000 cubic yards or per change in material type
In-Place Moisture-Density (Nuclear and/or Drive Ring)	ASTM D6938; or ASTM D2937	One per 500 cubic yards placed
In-Place Density and Moisture Content (Sand-Cone)	ASTM D1556	One per 5,000 cubic yards placed or 10 percent of nuclear gauge tests
Particle Size Analysis	ASTM D422	One per 2,500 yd <sup>3</sup>
Atterberg Limits	ASTM D4318	One per 2,500 yd <sup>3</sup>
Visual Inspection	ASTM D2488	Daily

Anchor trench backfill shall be composed of the same screened 1-inch minus compacted fill soils with the exception that anchor trench backfill soils will only be evaluated for in-place moisture content and density. No soils other than those obtained from the approved borrow source and/or approved by the Geotechnical Consultant are to be used in liner construction.

#### 5.4 LYSIMETER/LEACHATE COLLECTION AND RECOVERY SYSTEM

Following installation of the geomembrane liner and cushion geotextile, a leachate collection and recovery system (LCRS) will be constructed in the Phase 1B area. The LCRS will consist of 4- and 6-inch diameter HDPE collection pipes (solid and slotted), 24-inch diameter Sump Pump Riser Piping and Pump System, and a one-foot thick layer of LCRS collection gravel. The gravel for the lysimeter and LCRS will consist of clean, hard, durable, uniform product, free of limestone, organic, and other deleterious material. As stated in Section 2D of the Project Specifications, the Contractor shall identify the potential gravel source and provide Certificates of Compliance, signed by a State of California Registered Engineer or Geotechnical Engineer, that the proposed aggregate materials meet the following requirements.

#### LYSIMETER/LCRS GRAVEL

U.S. STANDARD SIEVE (ASTM D2488)	PERCENT PASSING BY WEIGHT
1/2 inch	100
3/8 inch	85-100
No. 4	0-30
No. 8	0-10
No. 200	0-2

#### LYSIMETER/LCRS SUMP GRAVEL

U.S. STANDARD SIEVE (ASTM D2488)	PERCENT PASSING BY WEIGHT
----------------------------------	---------------------------

1-1/2-inch	100
1-inch	0

The lysimeter and LCRS gravel shall have a minimum permeability of 1.0 cm/sec when tested in accordance with ASTM D2434 and the gravel will be tested at a frequency of one test per 5,000 cubic yard.. The lysimeter and LCRS gravel will also be tested for aggregate carbonate content (ASTM D3042) and durability (ASTM C131) at a frequency of one test per 5,000 cubic yards and must meet the following minimum requirements.

TEST	REQUIREMENT
Aggregate Carbonate Content (ASTM D3042)	Less than 5 % Carbonate Content by Weight @ pH $\leq$ 4.0
L.A. Abrasion (ASTM C131)	Less than 50 % loss after 500 revolutions

## 5.5 PROTECTIVE COVER SOIL

Once the geosynthetic material components of the composite liner system are complete and approved by the Engineer, a two-foot thick layer of protective cover soil will be placed over the base liner and twelve vertical feet up on the side-slopes. Protective cover soils shall be generated from on-site excavations, stockpiles, and/or borrow areas, as identified on the Construction Drawings, and screened to exclude particles in excess of 1-inch in the maximum dimension within 12-inches of the underlying geosynthetics.

## 5.6 ACCEPTANCE CRITERIA

### 5.6.1 GENERAL

Where test results indicate that the lift thickness, maximum particle size, homogeneity of material, moisture content, or density, of any portion of the work is below the project requirements, that particular portion shall be retested and/or reworked or replaced until the required condition has been attained and the resulting product meets or exceeds the requirements of the Project Specifications. No additional fill shall be placed over an area until the existing fill has been tested horizontally and vertically and determined by the Geotechnical CQA Monitor to meet the Project Earthwork Specifications. The area to be reworked will be verified by survey if in the opinion of the Geotechnical CQA Monitor conditions warrant.

### 5.6.2 MOISTURE CONTENT AND DENSITY

If in the opinion of the Geotechnical CQA Manager or the Senior Geotechnical CQA Monitor, engineered fill materials including the unclassified fill, anchor trench backfill, or the screened 1-

inch minus compacted fill material, which have been placed and/or are ready to be placed, do not visually have a uniform and homogeneous moisture content throughout the material in question, these materials will be removed, without testing, and will be reprocessed and/or reworked until, in the opinion of the Geotechnical CQA Manager or his/her designated representative, they meet the Project Specifications.

For all fill materials placed, if test results indicate a relative dry density of less than that required, or a moisture content outside the limits specified, then the area will be considered inadequate and will be reworked. Any reworked areas will be retested by the Geotechnical CQA Monitor to verify the reworked area meets the density and moisture content requirements.

The following table lists the minimum moisture/density requirements for engineered fill materials placed. The in-place moisture content and dry density requirements are relative to the maximum dry density and optimum moisture content as determined by ASTM D1557.

Fill Type	Minimum Density (percent)	Moisture Content
Screened 1-inch Minus Material	95	Min. 2% above optimum moisture
Unclassified Fill/Anchor Trench Backfill	90	± 2% of optimum moisture content
Protective Cover Soil	85	± 2% of optimum moisture content

### 5.6.3 LIFT THICKNESS AND PROCESSING

If at any time the CQA Monitor observes an uncompacted lift thickness in excess of eight inches or observes material being placed without meeting the requirements for processing, stockpiling and curing, the Contractor shall immediately discontinue placing additional fills in that area. For an over thick lift, the Contractor shall immediately blade the surface to reduce the lift thickness to the Project Specifications prior to compaction. If inadequately mixed materials are placed, the Contractor shall immediately remove these materials and return them to the stockpile/processing area where they will be reprocessed.

### 5.6.4 GEOMEMBRANE SUBGRADE

The CQA Monitor and the geomembrane installation Contractor will observe and approve the geomembrane subgrade prior to geosynthetic material deployment. The finish surface shall be free of abrupt breaks, sharp objects, or other foreign material which may damage the overlying geomembrane. The subgrade shall be unyielding, smooth and uniform and the surface shall not be pebbly or tracked and rutted by equipment.

Immediately prior to geomembrane deployment, all subgrade surfaces (i.e., base liner and slopes), will be proof-rolled with a steel drum roller weighting not less than 200 pounds per lineal inch of drum width. Geomembrane deployment shall not proceed until the surface has been approved by the CQA Monitor and accepted by the geomembrane installation Contractor.

## 6.0 GEOTECHNICAL CQA MONITORING FOR GEOSYNTHETICS

## **6.1 GEOMEMBRANE (HDPE)**

Delivery of geomembrane to the site will not be allowed until all required documentation and/or certifications are approved by the CM/Geotechnical CQA Team. It is the responsibility of the Contractor/Subcontractor to ensure that all required documentation and/or certifications are approved prior to shipment.

### **6.1.1 HDPE MANUFACTURING**

Prior to the delivery of any geosynthetic material, the Liner Manufacturer shall provide the Construction Manager with the following:

- A properties sheet for the rolls to be delivered including all specified properties measured using test methods indicated in the specifications.
- The sampling procedure and results of testing.
- A certification for each roll stating that property values given in the properties sheet are guaranteed by the Liner Manufacturer.

The Geotechnical CQA Manager shall verify that:

- The property values certified by the Liner Manufacturer meet the project specifications.
- The measurements of properties by the Liner Manufacturer are properly documented and that the test methods used are acceptable.

Prior to shipment, the Liner Manufacturer shall provide the Construction Manager with a quality control certificate for each roll of geomembrane. The quality control certificate(s) shall be signed by a responsible person employed by the Liner Manufacturer and shall include:

- Lot and roll numbers and identification.
- Sampling procedures and results of quality control tests. At a minimum, results shall be given for those properties identified in the Project Specifications.

The Geotechnical CQA Manager shall:

- Verify that the quality control certificates have been provided at the specified frequency for all rolls, and that each certificate identifies the rolls related to it.
- Review the quality control certificates and verify that the certified roll properties meet the specifications.

### **6.1.2 GEOMEMBRANE DELIVERY**

Prior to delivery, all individual roll manufacturer certifications required by this document and/or the Project Specifications must be received and approved by the Construction Manager. Delivery of any unapproved roll will not be allowed and unapproved rolls will be transported off-site at the Contractors expense.

### **6.1.2.1 Transportation and Handling**

All transportation and on-site handling of the geomembrane is the responsibility of the Contractor and Liner Subcontractor.

The Geotechnical CQA Manager shall observe the handling equipment used on the site and provide comment on whether it poses any risk of damage to the geomembrane. The Geotechnical CQA Manager will also observe the Contractor and Liner Subcontractor personnel's handling of the geomembrane and provide comment on whether appropriate care is being taken. Finally, the Geotechnical CQA monitor shall verify that all documentation required upon delivery has been received.

Upon delivery at the site, the Contractor, Liner Subcontractor and the Geotechnical CQA Monitor shall complete a surface observation of all rolls for defects and damage. This inspection shall be conducted without unrolling rolls unless defects or damage are found or suspected. The Geotechnical CQA Manager shall report the following to the Construction Manager:

- Rolls, or portions thereof, which should be rejected and removed from the site because they have severe flaws.
- Rolls which visually include minor repairable flaws.

Any damaged rolls shall be rejected and removed from the site or be stored at a location separate from accepted rolls as designated by the Construction Manager. All rolls which do not have proper Liner Manufacturer's documentation shall be removed from the site at the Contractors expense until all required documentation has been received and approved.

A log of all HDPE received shall be maintained by the Geotechnical CQA Monitor(s).

### **6.1.2.2 Geomembrane Storage**

The Contractor and Liner Subcontractor shall be responsible for storage of the HDPE on-site and shall ensure the storage is consistent with the Manufacturer's recommendations. The Contractor shall coordinate with the County to ensure that storage space is provided in a location (or several locations) such that on-site transportation and handling are minimized. Storage space shall be protected by the Contractor and Liner Subcontractor from theft, vandalism, and damage from actions of man, weather, animals and other sources. The Geotechnical CQA Monitors shall observe that the materials are not stored directly on the ground and storage of the HDPE is completed in a fashion that protects against damage.

## **6.1.3 HDPE CONFORMANCE TESTING**

### **6.1.3.1 Tests**

Upon delivery of the HDPE, the Contractor or Liner Subcontractor shall ensure that conformance samples are obtained and forwarded to the Independent Testing Laboratory at the frequency required for testing to ensure conformance with the Project Specifications. All conformance

samples will be obtained in the presence of the Geotechnical CQA Monitor or his/her designated representative.

At a minimum, conformance tests will include determination of the following characteristics for the HDPE:

- Density (ASTM D1505/D792).
- Thickness (ASTM D5994).
- Tear Resistance (ASTM D1004 Die C).
- Carbon black content (ASTM D4218).
- Carbon Black Dispersion (ASTM D5596).
- Tensile characteristics (yield strength, elongation at yield, break strength, elongation at break) (ASTM D6693).
- Puncture resistance (ASTM D4833).
- Asperity Height (D7466).
- Interface Direct Shear (per Section 2E-2.2.8 of Project Specifications).

Where optional procedures are noted in the test method, the requirements of the Project Specifications shall prevail.

NOT FOR BID

### **6.1.3.2 Sampling and Testing Frequency**

Unless otherwise specified, conformance samples shall be taken and tested at a rate of one per lot or one per 100,000 square feet, whichever results in the greater number of tests.

### **6.1.3.3 Sampling Procedures**

Samples shall be taken across the entire width of the roll and shall not include the first three feet. Unless otherwise specified, samples shall be 3 ft. long by the roll width. The Geotechnical CQA Monitors shall mark the machine direction on the samples with an arrow, and the Liner Manufacturer's roll identification number.

### **6.1.3.4 Test Results**

The results of Conformance Testing shall be submitted to the Geotechnical CQA Manager who shall examine all conformance test results and report any non-conformance to the Construction Manager, the Contractor and the Lining Subcontractor.

The Geotechnical CQA Manager shall examine all results from the laboratory conformance testing. All specimens tested shall pass. If any specimen fails, the entire sample shall be considered as a failure and rejected. In this event, the material represented by the sample shall be considered nonconformant with the Specifications, and corrective measures shall be implemented. Corrective measures shall include a rerun of the conformance testing using a portion of the same sample. If the second test passes, the Geotechnical CQA Manager may assume an error was made in the first test and the HDPE material can be accepted. If the second test fails, the Liner Subcontractor shall remove all material represented by the sample from the work area.

All conformance test results must be approved by the Construction Manager prior to the HDPE represented by the test being approved for deployment/installation. The decision of the Construction Manager shall be final.

## **6.1.4 HDPE INSTALLATION**

### **6.1.4.1 Earthwork**

#### **Surface Preparation**

The Contractor shall be responsible for preparing the supporting soil according to the Project Specifications.

Prior to liner installation, the Contractor and Liner Subcontractor shall verify and the Construction Manager and Geotechnical CQA Monitor shall observe that:

- All lines and grades have been checked by survey and approved by the Construction Manager.



- The subgrade has been prepared in accordance with the Project Specifications.
- The surface has been rolled and compacted to be free of surface irregularities, loose soil, and protrusions.
- The supporting soil surfaces do not contain stones or other sharp protrusions which could damage the HDPE.
- There are no excessively soft areas which could result in HDPE damage.
- All construction stakes, hubs or other items used for grade control and/or verification have been removed.
- The Liner Subcontractor has certified in writing that the surface on which the HDPE will be installed is acceptable.

The certificate of acceptance shall be given by the Liner Subcontractor to the Contractor and the Construction Manager prior to commencement of HDPE installation in the area under consideration. The Geotechnical CQA Monitors shall have a copy of this certificate before installation of HDPE commences in any given area.

After the supporting surface has been accepted by the Contractor and Liner Subcontractor, it shall be the Contractor and Liner Subcontractor's responsibility to indicate to the Construction Manager any change in the supporting soil condition that may require repair work. If the Construction Manager concurs with the Contractor and Liner Subcontractor, then the Construction Manager shall coordinate the repair of the supporting surface. The subject area will also be observed by the Geotechnical CQA Monitors who shall have the authority to reject an area even after it has been accepted by the Contractor and Liner Subcontractor.

#### Anchor Trench

Anchor trenches shall be excavated to the lines and widths shown on the Project Drawings, prior to HDPE placement. The Geotechnical CQA Monitors shall observe that the anchor trenches have been constructed according to the project documents.

Slightly rounded corners shall be provided where the HDPE adjoins the trench so as to avoid sharp bends in the HDPE. No loose soil shall be allowed to underlie the HDPE in the anchor trench.

Anchor trench backfill shall consist of select on-site soils screened to exclude particles in excess of 1-inch and shall be compacted to at least 90 percent relative compaction (ASTM D1557) as outlined in the Specifications.

Care shall be taken when backfilling the trenches to prevent any damage to the geosynthetics. The Geotechnical CQA Monitors shall observe the backfilling operation and advise the Construction Manager of any problems.

#### **6.1.4.2 HDPE Placement**

##### **Field Panel Identification**

A field panel (sheet) is a discrete and integral area of HDPE which is to be seamed in the field along the edges to other field panels (i.e., a field panel is a roll or a single portion of a single roll). The Contractor or Liner Subcontractor shall assign each panel over 25 sq. feet. an identification code which shall be agreed to and used by the Geotechnical CQA Monitors, Construction Manager, Contractor and the Liner Subcontractor. The Contractor or Liner Subcontractor shall locate the code with identifying roll number near the middle of panels less than 50 feet in length and at both ends of any panel over 50 feet in length. The Geotechnical CQA Monitors shall establish a chart showing correspondence between roll numbers, certification reports, and the panel identification code. The field panel identification code shall be used for all Geotechnical CQA records. An HDPE panel placement log will be maintained by the Geotechnical CQA Monitors.

##### **Field Panel Placement**

The Geotechnical CQA Monitors shall record the identification code, location and date of installation of each field panel.

During panel placement, the Geotechnical CQA Monitors shall:

- Verify that field panels are installed in general accordance with the panel layout plan, as approved or modified by the Construction Manager/Engineer.
- Observe the panel surface as it is deployed and record all panel defects and disposition of the defects. All repairs are to be made in accordance with the Specifications.
- Observe that the equipment used does not damage the HDPE by handling, trafficking, leakage of hydrocarbons, or by other means.
- Observe that the surface beneath the HDPE has not deteriorated since previous acceptance.
- Observe that there are no stones, construction debris, or other items beneath the HDPE which could cause damage.
- Observe that the HDPE is not dragged across an unprepared surface. If the HDPE is dragged across an unprepared surface, it shall be inspected for scratches and repaired or rejected, if necessary.
- Observe that the method used to unroll the panels does not cause scratches or crimps in the HDPE and does not damage the supporting soil surface.
- Record weather conditions including temperature, wind, and humidity. The HDPE shall not be deployed in the presence of excess moisture (fog, dew, mist, etc.), high winds and extreme temperatures as determined by the Geotechnical CQA Manager.
- Observe that people working during the installation of HDPE do not smoke, wear shoes which could damage the HDPE, or engage in activities which could damage the HDPE.
- Observe that the method used to deploy the panel minimizes wrinkles and that the panels are anchored to prevent movement by the wind.

- Observe that direct contact with the HDPE is minimized; (i.e., the HDPE is protected by geotextiles, extra HDPE, or other suitable materials, in areas where excessive traffic may be expected).

The Geotechnical CQA Monitors shall inform the Contractor, the Liner Subcontractor and the Construction Manager if the above conditions are not met.

After placement and prior to seaming, the Geotechnical CQA Monitors shall inspect each panel for damage. The Geotechnical CQA Monitors shall advise the Construction Manager which panels, or portions of panels, should be rejected, repaired, or accepted. Damaged panels or portions of damaged panels which have been rejected shall be marked and their removal from the work area recorded by the Geotechnical CQA Monitors.

#### **6.1.4.3 Field Seaming**

The Contractor shall provide the Construction Manager and Geotechnical CQA Manager with a seam and panel layout plan and shall update this plan daily as the job proceeds. No panels shall be seamed until the panel layout plan has been approved by the Construction Manager. A seam numbering system shall be agreed to by the Geotechnical CQA Monitors, Construction Manager, Contractor and Liner Subcontractor prior to the start of seaming operations.

Prior to seaming, each seaming apparatus (welder) shall be tested in accordance with the Specifications to determine if the equipment is functioning properly. The Geotechnical CQA Monitors shall observe all trial weld operations and record the results. It is important that the trial welds be completed under conditions similar to those under which the panels will be seamed. If at any time the Geotechnical CQA Monitor believes that an operator or seaming apparatus is not functioning properly, a test shall be performed on a trial weld. If there are large changes in temperature, humidity, or wind speed, the trial weld test shall be repeated. Laboratory tests may be carried out at the discretion of the Geotechnical CQA Monitors to verify field test results.

During seaming operations the Geotechnical CQA Monitors shall observe that:

- The Liner Subcontractor has the number of welders and spare parts agreed to in the pre-construction meeting.
- Equipment used for seaming will not damage the HDPE.
- The extruder is purged prior to beginning a seam until all the heat-degraded extrudate is removed (extrusion welding only).
- Seam grinding has been completed less than 1 hour before seam welding (extrusion welding only).
- The ambient temperature measured 6 inches above the HDPE surface is between 40 and 105 degrees Fahrenheit and relative humidity is less than 80 percent.
- The end of welds more than 5 minutes old, are ground to expose new material before restarting a weld (extrusion welding only).
- The weld is free of dust and other debris.
- For cross seams, the seam is ground to a smooth incline prior to welding.

- The seams are overlapped in a downgradient direction with a minimum overlap of 4 inches.
- No solvents or adhesives are present in the seam area.
- The procedure used to temporarily hold the panels together does not damage the panels and does not preclude Geotechnical CQA testing.
- The panels are being seamed in accordance with the Project Plans and Specifications using approved equipment with gauges giving applicable temperatures.
- There is no free moisture in the weld area.
- The electric generator is placed on a smooth base such that no damage occurs to the HDPE.
- A smooth insulating plate or fabric is placed beneath the hot welding apparatus after use.
- The geomembrane is protected from damage in heavily trafficked areas.

The Geotechnical CQA Monitors shall log all appropriate temperatures and conditions, and shall log and report to the Geotechnical CQA Manager any non-compliance.

### Trial Seams

Trial seam samples are not removed from installed seams, but are made along side the seaming work area by the Liner Subcontractor using a fragment of the same HDPE sheet and the same installation procedures as for the HDPE installation itself. As such, they are considered nondestructive samples. Such trial seams shall be made at the beginning of each seaming period (start of day, mid-day, and anytime the equipment is shut down or the seaming operation is suspended for more than 1/2 hour) for each piece of seaming equipment used that day. In addition, each welder shall make at least one trial seam each day. Trial seams shall be made under the same conditions as those anticipated for actual seams.

The trial seam sample shall be at least 3 ft. long by 1 ft. plus the seam width wide (after seaming) with the seam centered lengthwise. Seam overlap shall be as per the Specifications. Two opposite specimens, each 1 inch wide, shall be cut from the trial seam sample by the Contractor and/or Liner Subcontractor. Under the observation of a Geotechnical CQA Monitor, the specimens shall be tested by the Liner Subcontractor in shear and peel using a field tensiometer to verify that seams satisfy peel and tensile strength requirements. If a specimen fails, the seaming equipment and seamer shall not be accepted and shall not be used for seaming until the deficiencies are corrected and two consecutive successful full trial welds are achieved. After completing a successful trial/nondestructive sample, the Contractor and/or Liner Subcontractor shall cut a 2' x 2' remnant from the sample and mark the welder number, date, time, ambient temperature, welder temperature, and speed and submit it to the Geotechnical CQA Monitor who will assign an identification number and enter the information on the non-destructive sample form.

The results of field tests carried out on trial seams shall be documented by the Geotechnical CQA Monitors.

## General Seaming Procedure

Unless otherwise specified, the general seaming procedure to be used by the Contractor and/or Liner Subcontractor shall be as follows:

- All HDPE seams shall be overlapped a minimum of four (4) inches.
- "Fishmouths" or wrinkles at the seam overlaps shall be cut along the ridge of the wrinkle in order to achieve a flat overlap. The cut "fishmouths" or wrinkles shall be seamed and any portion where the overlap is inadequate shall then be patched with an oval or round patch of the same HDPE extending a minimum of 6 inches beyond the cut in all directions. All corners of the patch shall be rounded with a 1-inch minimum radius.
- Adjacent to anchor trenches, seaming shall extend up the panels a minimum of 12 inches past the crest of the anchor trench.
- All cross seams shall be offset at least two feet from the cross seam of the adjacent panel and be extrusion or wedge welded where they intersect.

The Geotechnical CQA Monitors shall observe that the above seaming procedures are followed, and shall inform the Construction Manager if they are not.

### 6.1.5 CONSTRUCTION TESTING

#### **6.1.5.1 Nondestructive Seam Testing**

The Contractor and/or Liner Subcontractor shall non-destructively test all field seams over their full length using a vacuum test unit, spark detector, or an air pressure test (for double wedge fusion seams only), as described below. The purpose of nondestructive tests is to check the continuity of seams. It does not provide any information on seam strength. Continuity testing shall be carried out as the seaming work progresses, not at the completion of field seaming.

#### Visual Inspection

All seams shall be visually evaluated by the Contractor and/or Liner Subcontractor as the installation progresses and again at completion of the installation. Defective and questionable sections shall be clearly marked and repaired as necessary.

#### Vacuum Box Testing

If the fillet weld, extrusion lap weld or single hot-wedge fusion lap weld technique is used to weld seams, the Contractor and/or Liner Subcontractor shall further test all seams and repairs in the HDPE by vacuum box. The vacuum box shall be an American Vacuum Seam Tester, Series A100 as manufactured by American Parts and Service Company, Alhambra, California, or an approved equal. All vacuum box testing shall be done in the presence of the Geotechnical CQA Monitor. The area to be tested shall be cleaned of all dust, debris, dirt and other foreign matter. A soap solution shall be applied to the test area with a brush, paint roller or spray bottle and a minimum vacuum of 10 inches of mercury (Hg) (5 psi) shall be induced and held as long as

necessary to visually inspect and mark for repair any suspicious areas as evidenced by bubbles in the soap solution.

### Spark Testing

If the fillet weld is used to weld seams, the Contractor and/or Liner Subcontractor may, in lieu of vacuum box testing, test all seams and repairs in the HDPE liner by using a high voltage spark detector, similar to Tinker and Rasor Holiday Detector (Model AP-W). The setting of the detector shall be 20,000 volts. In order to conduct this test, all seams to be tested shall be provided with 24-30 gauge copper wires properly embedded in the seams and grounded. All spark testing shall be done in the presence of the Geotechnical CQA Monitor. All defective areas shall be marked for repair.

### Air Pressure Test

If the double hot-wedge welding technique is used, the Contractor and/or Liner Subcontractor shall further test all seams in the HDPE lining by using the air pressure test which consists of inserting a needle with gauge in the air space between welds. Air shall be pumped to 35 psi within the weld void and held for at least 5 minutes. If the pressure loss exceeds 2 psi within the weld void during air pressure testing, the outside weld edge (not free edge) shall be sprayed with a soap solution and visually examined for bubbles. If no bubbles appear, the problem is with the inside weld and the seam is acceptable. If any bubbles appear, the defect shall be repaired by extrusion welding and tested by vacuum box and spark detector.

If pressure loss is not more than 2 psi, the opposite end of the seam will be punctured to release the air. If a blockage is present, it will be located and tests on both sides of the blockage will be completed. All penetration holes created during testing shall be sealed by patching and extrusion welding.

### Responsibilities of the Geotechnical CQA Monitors

The Geotechnical CQA Monitor/Manager shall:

- Observe and record the continuity of all testing.
- Record the location seam/panel number, date, time, equipment number, Geotechnical CQA Monitor name, test number, welding technician's name, weld, sheet and ambient temperatures and results of all testing.
- Mark the failed areas with a waterproof marker compatible with the lining material and inform the Contractor and/or Liner Subcontractor and the Construction Manager of any required repairs.
- Observe that all testing is completed in accordance with the Project Specifications.
- Observe that all repairs are completed and tested in accordance with the Project Specifications.

### **6.1.5.2 Destructive Seam Testing**

Destructive seam tests shall be performed at selected locations. The purpose of these tests is to evaluate seam strength. Seam strength testing shall be done as the seaming work progresses, not at the completion of all field seaming.

Destructive sampling involves samples which have been removed from the installed field seams by the Contractor/Liner Subcontractor. Test locations shall be determined at the discretion of the Geotechnical CQA Monitors and the Contractor/Liner Subcontractor shall not be informed in advance of the locations where the seam samples will be made or will be removed.

Destructive samples shall be shipped by the Contractor/Liner Subcontractor to the Independent Testing Laboratory. All costs associated with the collection, repair, shipping and testing of destructive samples will be borne by the Contractor/Liner Subcontractor.

A minimum of one destructive sample per 500 feet of field seam shall be obtained. This average frequency will be used for the entire installation with the actual frequency of samples based on performance as determined by the Geotechnical CQA Manager.

Additional samples may be removed if the Geotechnical CQA Monitor observes a suspect seam.

### **6.1.5.3 Sampling Procedures**

Samples shall be made or removed by the Contractor/Liner Subcontractor at locations selected by the Geotechnical CQA Monitors as the seaming operation progresses. The Geotechnical CQA Monitor shall:

- Observe making and/or removal of samples.
- Mark each sample with an identifying number which contains the seam number. (For nondestructive samples the seam number welded just prior to making a sample will be marked on the sample).
- Record sample location on the panel layout drawing and enter the information on a Destructive Sample Log Form.
- Record the sample location, date and time taken, weather conditions, and reason the sample was made and/or taken (e.g., random sample, visual appearance, result of a previous failure, etc.).
- Mark sample identifying number on HDPE adjacent to the location where the sample was taken.

All holes in the HDPE resulting from destructive seam sampling shall be immediately repaired in accordance with repair procedures described herein. The continuity of the new seams in the repaired area shall be tested according to procedures described herein.



#### **6.1.5.4 Size of Samples**

Two types of samples shall be made or removed at each location. First, two samples shall be removed for field testing. Each of these samples shall be 1 inch wide with a length of 12 inches plus the seam width. For destructive sampling, the sample shall be taken perpendicular to the seam and the distance between these two samples shall be 38 inches. Samples designated for laboratory testing shall be that portion of seam located between the two samples taken for field testing. The samples for laboratory testing shall be 36 inches long with a width of 12 inches plus the seam width. The seam shall be centered lengthwise. The samples for laboratory testing shall be cut into three equal parts and distributed as follows:

- One part for the Independent Testing Laboratory for testing.
- One part to the Contractor/Liner Subcontractor.
- One part to the Construction Manager for archive storage.

#### **6.1.5.5 Field Testing**

The two 1 inch wide samples shall be tested in the field for peel adhesion and bonded seam strength (shear) by the Contractor/Liner Subcontractor, and shall not fail in the seam. If one or both of the samples fails in either peel or shear, the Contractor/Liner Subcontractor can, at his/her discretion, (1) reconstruct or cap strip the seam between passed test locations, or (2) take two additional test samples 10 feet on either side of the point of the failed test and repeat this procedure. If the second test passes, the Contractor/Liner Subcontractor shall reconstruct or cap strip the same between the two passed test locations. If subsequent tests fail, the procedure is repeated until the length of the poor quality seam is established. Repeated failures indicate that either the seaming equipment and/or operator is not performing properly, and appropriate action shall be taken.

#### **6.1.5.6 Laboratory Testing**

Once the field tests have passed, a sample shall be recovered from between passing field sample locations for testing by the Independent Testing Laboratory. Destructive test samples shall be packaged and shipped to the laboratory by the Contractor/Liner Subcontractor and will be handled in a manner which will not damage the test sample. The Construction Manager will be responsible for storing the archive samples.

Destructive seam samples will be tested by the Independent Testing Laboratory in accordance with ASTM D-6392 and the test results evaluated in accordance with GRI Test Method GM 19. Destructive seam testing shall include peel adhesion and bonded seam strength (shear). At least five specimens each shall be tested for peel and shear. Minimum test values are presented in the Specifications. In accordance with GRI Test Method GM 19, the strength of four out of five 1-inch wide specimens (coupons) tested in shear and peel should meet or exceed the specified strength. The fifth specimen must meet or exceed 80 percent of the specified strength. In addition, the shear percent break elongation should exceed the specified values, and the peel separation (or incursion) should not exceed the specified values. In regard to the locus-of-break

patterns of the different seaming methods in shear and peel, the following are unacceptable break codes per their description in ASTM D-6392:

Wedge/Fusion Weld: AD and AD-Brk > 25%

Extrusion/Fillet Weld: AD1, AD2, and AD-WLD (unless strength is achieved).

The Independent Testing Laboratory shall provide test results within 24 hours after receipt of samples for testing. Certified test results shall be provided within 5 days. The Geotechnical CQA Monitor shall document all test results on the appropriate forms and shall immediately notify the Geotechnical CQA Manager, Construction Manager, and/or Contractor/Liner Subcontractor in the event of a failed test.

For destructive samples which have failed, corrective measures shall include a rerun of the weld test using the same sample. If the second test passes, the Geotechnical CQA Monitor may assume an error was made in the first test and the field seam may be accepted. If the second test fails, the Contractor/Liner Subcontractor shall reconstruct or cap strip the field seam between any two previous passed seam locations which include the failed seam or shall go on both sides of the failed seam location (10-feet minimum), take another sample each side, and test both in the independent laboratory.

If both samples pass, the Contractor/Liner Subcontractor shall reconstruct or cap strip the field seam between the two passing locations. If either fails, the Contractor/Liner Subcontractor shall repeat the process of taking samples for testing by the Independent Testing Laboratory. In all cases, acceptable field seams must be bounded by two passed test locations. In cases involving more than 50 feet of reconstructed or cap stripped seam, the reconstructed or cap stripped seam shall also be tested. The results of the Independent Testing Laboratory govern seam acceptance. In no case shall field testing of installed seams be used for final acceptance.

The Contractor/Liner Subcontractor's laboratory test results shall be presented to the Geotechnical CQA Manager for comments.

## **6.1.6 DEFECTS AND REPAIRS**

### **6.1.6.1 Identification**

All seams and non-seam areas of the HDPE shall be examined by the Geotechnical CQA Monitors for identification of defects, holes, blisters, undispersed raw materials and any sign of contamination by foreign matter. Because light reflected by the HDPE helps to detect defects, the surface of the HDPE shall be clean at the time of examination. The HDPE surface shall be cleaned by the Contractor/Liner Subcontractor if the amount of dust or mud inhibits examination.

Each suspect location as identified by the Geotechnical CQA Monitors, both in seam and non-seam areas, shall be non-destructively tested using the methods described herein, as appropriate. Each location which fails the nondestructive testing shall be marked by the Geotechnical CQA Monitor and then repaired and re-tested by the Contractor/Liner Subcontractor. Work shall not

proceed with any materials which will cover locations which have been repaired until laboratory test results with passing values have been obtained.

#### **6.1.6.2 Repair Procedures**

Any portion of the HDPE with a flaw or which fails a nondestructive or destructive test shall be repaired in accordance with the Specifications. The Geotechnical CQA Monitor shall locate and describe all repairs on the appropriate forms. Repair procedures include:

- Patching - used to repair large holes, tears, large panel defects, and destructive sample locations which are less than 25 sq. feet in total area.
- Extrusion - used to repair relatively small defects in panels and seams.
- Capping - used to repair failed welds or liner seams where welds cannot be non-destructively tested.
- Removal - used to replace areas with large defects where the preceding methods are not appropriate. Also used to remove excess material (wrinkles) from the installed HDPE.

#### **6.1.6.3 Seam Test Summary**

Documentation of all nondestructive and destructive seam testing results, including repairs, shall be summarized by the CQA Monitor on the appropriate forms.

#### **6.1.7 WRINKLES**

When placing soil or drain materials over the HDPE, temperature changes or creep may cause wrinkles to develop in the HDPE. Any wrinkles which can fold over shall be repaired either by cutting out excess material or, if possible, allowing the HDPE to contract due to temperature reduction. In no case shall material be placed over the HDPE which could result in the HDPE folding. All folded HDPE shall be removed. No material shall be placed in areas where liner is not in contact with the supporting subgrade.

#### **6.1.8 ANCHOR TRENCH**

The anchor trench shall be adequately drained to prevent ponding or softening of the adjacent soils while the trench is open. The anchor trench shall be backfilled and compacted as outlined in the Specifications. Fill soils shall consist of on-site granular soil essentially free of organic and deleterious material and approved by the Geotechnical CQA Monitor and Construction Manager. The material shall have a maximum particle size of 1 inch.

Care shall be taken when backfilling the trenches to prevent any damage to the geosynthetics. The Geotechnical CQA Monitor shall observe the bottom of the trenches prior to fill placement to ensure they are free of loose and disturbed materials. The Geotechnical CQA Monitor shall also observe the backfilling and compaction operation, and shall notify the Geotechnical CQA Manager and the Construction Manager of work performed not in accordance with the Project Specifications.

#### **6.1.9 HDPE ACCEPTANCE**

The Contractor/Liner Subcontractor shall retain all ownership and responsibility for the HDPE until acceptance by the Owner. The HDPE shall be accepted by the Owner when:

- The installation is finished and approved.
- All seams have been inspected and approved.
- All required laboratory tests have been completed and approved.
- All required Contractor/Liner Subcontractor supplied documentation has been received and approved.
- All record drawings have been completed and approved.

#### 6.1.10 LINER MATERIALS

The Geotechnical CQA procedures indicated in this section are intended to allow the installation of materials in contact with the geosynthetics without causing damage to the HDPE.

Important points for Quality Assurance of materials in contact with HDPE include:

- A geotextile or drainage medium approved by the Construction Manager shall be installed above the HDPE.
- Equipment used for placing soil shall not be driven directly on the HDPE/geotextile.
- In heavily trafficked areas, such as access ramps, soil thickness should be at least three (3) feet over the geosynthetics.
- Placement of soils, gravels, sand or other types of earth materials on top of the HDPE/geotextile shall not be performed until all destructive and nondestructive testing has been performed and accepted.
- Placement of overlying earth materials shall be performed in a manner to minimize wrinkles. Equipment operators shall be briefed on methods of placement relative to thermal expansion and contraction of the HDPE.
- Soil material(s) placed on top of the HDPE/geotextile shall be stockpiled and displaced off the stockpile to create a cascading effect of the material on top of the HDPE/geotextile.

The Geotechnical CQA Monitors shall inform the Geotechnical CQA Manager if the above conditions are not fulfilled.

### 6.2 **GEOSYNTHETIC CLAY LINER (GCL)**

The Contractor/GCL Manufacturer shall provide the Construction Manager with the following documentation:

- A properties sheet for geotextile and bentonite materials which includes all specified properties measured using test methods indicated in the Project Specifications.
- Certificates for raw bentonite and geotextile materials which indicate that materials provided meet or exceed all applicable specification requirements.
- Manufacturer's Quality Control Certificates.
- Attachment F-1 of Project Specifications.

- Internal shear strength certificate in accordance with specification requirements.
- A panel placement plan.

The Geotechnical CQA Manager shall verify that:

- The property values certified by the GCL Manufacturer meet or exceed the Project Specifications.
- The measurement of properties by the GCL Manufacturer are properly documented and the test methods used are acceptable.

Prior to shipment, the Contractor/GCL Manufacturer shall provide the Construction Manager with a quality control certificate for each GCL roll which is intended for use on the project. The quality control certificate(s) shall be signed by a responsible person employed by the Manufacturer, and shall include roll numbers and identification.

The Geotechnical CQA Manager shall:

- Verify that the quality control certificates have been provided at the specified frequency for all rolls, and that each certificate identifies the rolls to be delivered.
- Review the quality control certificates and verify that the certified roll properties meet the Project Specifications.

#### 6.2.1. GCL DELIVERY

The Contractor/GCL Subcontractor shall submit for approval by the Construction Manager, method(s) for handling and storage of GCL material(s) prior to installation. The Geotechnical CQA Monitor shall observe that:

- Equipment used to unload the rolls will not damage the material.
- Care is used to unload the rolls.
- All GCL rolls shall be wrapped in plastic to prevent hydration.
- All documentation required by the specifications has been received.

Upon delivery at the site, the Geotechnical CQA Monitor(s) shall conduct a surface inspection of all rolls for defects and damage. This inspection shall be conducted without unrolling rolls unless defects or damage are found or suspected. The Geotechnical CQA Monitor(s) shall report to the Construction Manager/Geotechnical Manager any rolls, or portions thereof, which should be rejected and removed from the site because of severe flaws. These rolls shall be clearly marked as rejected.

Any damaged rolls shall be rejected and removed from the site or stored at a location, designated by the Construction Manager separate from accepted rolls. All rolls which do not have proper documentation from the Manufacturer shall also be stored at a separate location until all documentation has been received and approved. A log of the GCL material(s) received shall be maintained by the Geotechnical CQA Monitor(s).

The Construction Manager shall designate storage space in a location (or several locations) on-site. Storage space shall be protected by the Contractor from theft, vandalism, damage from the actions of Manufacturer, weather, animals and other sources. The Geotechnical CQA Monitor(s) shall observe that the materials are stored in accordance with Manufacturers recommendations and are protected against damage pursuant to ASTM D4873.

## **6.2.2 GCL CONFORMANCE TESTING**

### **6.2.2.1 Tests**

Upon delivery of the GCL material(s), the Geotechnical CQA Monitor shall ensure that the Contractor obtains and forwards samples to the approved Independent Testing Laboratory for testing of conformance with the design specifications. Conformance tests, including interface direct shear, will be performed as detailed in the Project Specifications.

Where optional procedures are noted in the test method, the requirements of the specifications shall prevail. Updated or alternative test methods may be used to determine the physical properties of the GCL materials at the discretion of the Construction Manager.

The results of Conformance Testing will be documented by the Geotechnical CQA Manager.

### **6.2.2.2 Sampling Procedures**

Samples shall be taken across the entire width of the roll(s) and shall not include the first three feet. Unless otherwise specified, samples shall be three (3) feet long by the roll width. The Geotechnical CQA Monitor shall mark the machine direction on the samples with an arrow, and the Manufacturers roll identification number.

### **6.2.2.3 Test Results**

The Geotechnical CQA Manager shall examine all results from the laboratory conformance testing. All specimens tested shall pass. If any specimen fails, the entire sample shall be considered as a failure and rejected. In this event, the GCL material represented by the sample shall be considered non-conformant with the specifications, and corrective measures shall be implemented. Corrective measures shall include a rerun of the conformance testing using a portion of the same sample. If the second test passes, the Geotechnical CQA Manager may assume an error was made in the first test and the GCL material can be accepted. If the second test fails, the Contractor/GCL Subcontractor shall remove all material represented by the sample from the work area. The decision of the Construction Manager shall be final.

### 6.2.3 GCL INSTALLATION

#### 6.2.3.1 Surface Preparation

Prior to installation, the Construction Manager and Geotechnical CQA Monitor(s) shall observe that:

- All lines and grades have been verified by the project surveyor and all construction stakes and hubs have been removed.
- The subgrade has been prepared in accordance with the Project Specifications and the supporting surface does not contain rocks or irregular surfaces which could damage the GCL.
- There are no excessive soft spots or ponded water which could result in damage to the GCL.
- The Contractor/GCL Subcontractor has certified in writing that the surface on which the GCL will be installed is acceptable.
- The Contractor/GCL Subcontractor shall give each GCL panel an identification number which shall be agreed to and used by the Geotechnical CQA Monitor(s) and the Contractor/GCL Subcontractor. The Geotechnical CQA Monitor shall establish a chart showing correspondence between roll numbers, certification reports and panel numbers.

During panel placement, the Geotechnical CQA Monitor(s) shall:

- Observe the GCL as it is placed and record all defects and disposition of the defects (panel rejects, patch installed, etc.). All repairs are to be made in accordance with the Project Specifications.
- Observe that Manufacturer's defects do not exceed that allowed by the Project Specifications.
- Observe that equipment used does not damage the GCL by handling, traffic, leakage of hydrocarbons, or other means.
- Observe that people working during installation of the GCL do not smoke, wear shoes that could damage the GCL, or engage in other activities that could damage the GCL.
- Observe that the GCL is anchored to prevent movement by the wind.
- Observe that adjacent panels of GCL are overlapped a minimum of twelve (12) inches on longitudinal seams, and two-(2) foot on butt seams, and the proper amount and type of bentonite is installed along the full length of all seams.
- Observe that the number of panels deployed are covered and protected from moisture at the end of the work day.

The Geotechnical CQA Monitor(s) shall inform both the Contractor/GCL Subcontractor and the Construction Manager if the above minimum conditions are not met.

The Contractor/GCL Subcontractor shall provide the Construction Manager with a panel layout plan, and shall update this plan daily as the job proceeds. No GCL shall be placed until the panel layout plan has been approved by the Construction Manager. During panel placement, the Geotechnical CQA Monitor(s) shall also observe the following:

- That GCL material is cut with an approved GCL cutter, and is not torn or ripped.



- The bentonite to be used on all seams meets the requirements of the Project Specifications.
- That the panels are overlapped and sealed in accordance with the Project Plans and Specifications.

#### 6.2.4 REPAIRS

Any necessary repairs to the GCL shall be made with approved GCL material, using approved overlaps, materials, equipment and techniques. The patch size shall be 12 inches or larger in all directions than the area to be patched.

### 6.3 **GEOTEXTILES**

The Contractor/Liner Manufacturer shall provide the Construction Manager with the following documentation:

- A properties sheet which includes all specified properties measured using test methods indicated in the specifications.
- A description of the sampling procedure and appropriate test results.
- A certification that values given in the properties sheet are guaranteed by the Liner Manufacturer.
- The Geotechnical CQA Manager shall verify that:
- The property values certified by the Liner Manufacturer meet or exceed the project specifications.
- The measurement of properties by the Liner Manufacturer are properly documented and the test methods used are acceptable.

Prior to shipment, the Contractor/Liner Manufacturer shall provide the Construction Manager with a quality control certificate for each roll of geotextile. The quality control certificate shall be signed by a responsible person employed by the Liner Manufacturer, and shall include roll number and identification.

The Geotechnical CQA Manager shall:

- Verify that the quality control certificates have been provided at the specified frequency for all rolls, and that each certificate identifies the rolls to be delivered.
- Review the quality control certificates and verify that the certified roll properties meet the project specifications.

#### 6.3.1 GEOTEXTILE DELIVERY

The Contractor/Liner Subcontractor shall submit for approval by the Construction Manager, method(s) for handling and storage of geotextile material(s) prior to installation. The Geotechnical CQA Monitor shall observe that:

- Equipment used to unload the rolls will not damage the geotextile.
- Care is used to unload the rolls.

- All geotextile rolls shall be wrapped in plastic to prevent UV degradation.
- All documentation required by the Specifications has been received.

Upon delivery to the site, the Geotechnical CQA Monitors shall conduct a surface inspection of all rolls for defects and damage. This inspection shall be conducted without unrolling rolls unless defects or damage are found or suspected. The Geotechnical CQA Monitors shall indicate to the Geotechnical CQA Manager any rolls, or portions thereof, which should be rejected and removed from the site because they have severe flaws. These rolls shall be clearly marked as rejected.

Any damaged rolls shall be rejected and removed from the site or stored at a location, designated by the Construction Manager separate from accepted rolls. All rolls which do not have proper documentation from the manufacturer shall also be stored at a separate location until all documentation has been received and approved. A log of the geotextile material(s) received shall be maintained by the Geotechnical CQA Monitor(s).

The Construction Manager shall designate storage space in a location (or several locations) on-site. Storage space shall be protected by the Contractor from theft, vandalism, damage from the actions of man, weather, animals and other sources. The Geotechnical CQA Monitors shall observe that the material is not stored directly on the ground and that storage of the geotextile provides protection against damage pursuant to ASTM D4873.

### 6.3.2 GEOTEXTILE CONFORMANCE TESTING

#### 6.3.2.1 Tests

Upon delivery of the geotextile, the Geotechnical CQA Monitor shall ensure that samples are obtained and forwarded to an Independent Laboratory for testing of conformance with the design specifications. As a minimum, the following tests will be performed to ensure that geotextile materials are in conformance with the design specifications.

- |  |   |
|--|---|
| • Thickness<br>(ASTM D1777)                    | • Permittivity<br>(ASTM D4491)          |
| • Mass per unit Area<br>(ASTM D5261)           | • Grab Tensile Tests<br>(ASTM D4632)    |
| • Trapezoidal Tear<br>Strength<br>(ASTM D4533) | • Apparent Opening Size<br>(ASTM D4751) |
| • Puncture Strength<br>(ASTM D6241)            | •                                       |

Where optional procedures are noted in the test method, the requirements of the Specifications shall prevail. Updated or alternative ASTM Test Methods may be used to determine the physical properties of the geotextile materials at the discretion of the Construction Manager.

The results of Conformance Testing will be documented by the Geotechnical CQA Manager.

### **6.3.2.2 Sampling Procedures**

Samples shall be taken across the entire width of the roll and shall not include the first three feet. Unless otherwise specified, samples shall be three feet long by the roll width. The Geotechnical CQA Monitor shall mark the machine direction on the samples with an arrow, and the Manufacturer's roll identification number.

Unless otherwise specified, samples shall be taken at a rate of one per lot or one per 100,000 square feet, whichever results in the greater number of samples.

### **6.3.2.3 Test Results**

The Geotechnical CQA Manager shall examine all results from the laboratory conformance testing. All specimens tested shall pass. If any specimen fails, the entire sample shall be considered as a failure and rejected. In this event, the geotextile material represented by the sample shall be considered nonconformant with the Specifications, and corrective measures shall be implemented. Corrective measures shall include a rerun of the conformance testing using a portion of the same sample. If the second test passes, the Geotechnical CQA Manager may assume an error was made in the first test and the geotextile material can be accepted. If the second test fails, the Contractor/Liner Subcontractor shall remove all material represented by the sample from the work area. The decision of the Construction Manager shall be final.

## **6.3.3 GEOTEXTILE INSTALLATION**

### **6.3.3.1 Surface Preparation**

Prior to installation, the Construction Manager and Geotechnical CQA Monitors shall observe that:

- All lines and grades have been verified.
- The subgrade has been prepared in accordance with the Project Specifications and the supporting surface does not contain rocks or irregular surfaces which could damage the geotextile.
- There are no excessively soft areas which could result in damage to the geotextile.
- All construction stakes and hubs have been removed.
- The Contractor/Liner Subcontractor has certified in writing that the surface on which the geotextile will be installed is acceptable.

### **6.3.3.2 Placement**

The Contractor/Subcontractor shall give each geotextile panel an identification number which shall be agreed to and used by the Geotechnical CQA Monitors and the Contractor/Liner Subcontractor. The Geotechnical CQA Monitor shall establish a chart showing correspondence between roll numbers, certification reports, and panel numbers.

During panel placement, the Geotechnical CQA Monitor shall:

- Observe the geotextile as it is placed and record all defects and disposition of the defects (panel rejected, patch installed, etc.). All repairs are to be made in accordance with the Specifications.
- Observe that equipment used does not damage the geotextile by handling, traffic, leakage of hydrocarbons, or other means;
- Observe that people working during installation of geotextile do not smoke, wear shoes that could damage the geotextile, or engage in other activities that could damage the geotextile
- Observe that the geotextile is anchored to prevent movement by the wind.
- Observe that adjacent panels of geotextile are overlapped a minimum of 18 inches where the fabric is not seamed (welded or sewn). When seamed, a three inch minimum overlap will be required.

The Geotechnical CQA Monitors shall inform both the Contractor/Liner Subcontractor and the Geotechnical CQA Manager if the above minimum conditions are not met.

The Contractor/Liner Subcontractor shall provide the Construction Manager with a panel layout plan, and shall update this plan daily as the job proceeds. No geotextile shall be placed until the panel layout plan has been approved by the Construction Manager. During geotextile placement, the Geotechnical CQA Monitors shall observe that:

- The geotextile is cut only with an approved geotextile cutter, and is not torn or ripped.
- The thread and sewing machinery meet the Project requirements (if sewing is the elected method of joining panels).
- The panels are being overlapped or joined in accordance with the Project Plans and Specifications.
- Any roll of geotextile with a tear exceeding 10 percent of roll width is removed and replaced.

#### 6.3.4 REPAIRS

Any necessary repairs to the geotextile shall be made with the geotextile material itself, using approved overlaps or sewing systems, equipment and techniques. The patch size shall be 18 inches or larger in all directions than the area to be patched and all corners shall be rounded.

## 7.0 LINER LEAK LOCATION SURVEY

### 7.1 GENERAL

The Contractor will employ the services of a Liner Leak Location Survey sub-contractor to verify the integrity of the completed liner system. The Liner Leak Location Survey shall be conducted in two phases in accordance with ASTM D7002 and D7007 and each phase of the Leak Location Survey will be monitored and observed by the CQA Monitor to assure compliance with the Project requirements. The first phase will be performed once the geomembrane installation is complete and before placement of the overlying materials (bare geomembrane). The second phase will be performed after installation of the Protective Cover

Soil Layer. The principal of the electrical survey method for geomembrane liners is to impress a high DC voltage across the liner and measure the resulting potential gradients on or in the conducting material on the liner. If any holes are present, characteristic anomalies in the potential measurements caused by electrical current flowing through the holes indicate their location. In the event a hole in the geomembrane is indicated, appropriate measure will be taken to repair or patch the affected area.

Prior to conducting the leak location survey, the contractor will submit a Workplan to the Engineer detailing the methods to be used in conducting the leak location survey. At a minimum, the Workplan will include the following:

- Description of the proposed methods and procedures.
- Required site preparations.
- Duration of the survey(s).
- Methods of investigation and repair of identified leaks.
- Quality control and field calibration procedures.

## **7.2 SITE PREPARATION**

The Liner Leak Location Contractor will coordinate with the General Contractor and/or liner installation contractor to properly prepare the site for the leak location survey. In order for leaks in the geomembrane to be identified, sufficient moisture must be present. This will be accomplished using one or more of the following methods:

- Uniformly wetting the bare geomembrane with an equivalent of 0.2 inches of water.
- Uniformly moisture conditioning the soil layer over the geomembrane to achieve the performance requirements listed below.
- The Leak Location Contractor may specify additional preparation conditions to achieve the specified performance requirements.

## **7.3 EXECUTION**

The leak location survey will be conducted in accordance with ASTM D-6747, D-7002, and D-7007, and in conformance with the requirements of the Project Specifications. In general, the leak location survey will include the following items.

- A uniform measurement of density of greater than one measurement for every 10 square feet.
- Survey lines shall be spaced no more than twice the leak detection distance determined for the artificial leak as discussed in the Project Specifications. The measurement electrode spacing shall be no less than that used for the performance demonstration.
- The data shall be recorded, plotted, and analyzed for leak signals. The positions of these leaks shall be located and the leaks investigated. Any identified leaks shall be repaired in accordance with the requirements of the Project Specifications.
- Following the repair, the leak location survey shall be repeated on the two closest survey lines for a distance extending 20 feet before and beyond the identified leak location. If

another leak signal is detected, the entire repair and resurvey process will be repeated until no additional leaks are detected.

## **7.4 REPORTING**

The Leak Location Contractor will submit daily reports to the CQA Monitor on a daily basis as the survey work progresses. At the completion of the leak location survey, the Leak Location Contractor shall submit a comprehensive report detailing the work performed and the results of the leak location survey. The report will document the methodology used, the locations and descriptions of the identified leaks, the procedures employed to repair any identified leaks, and a drawing of the liner area showing the approximate leak locations.

## **8.0 DOCUMENTATION**

The Geotechnical CQA Plan depends on thorough monitoring and documentation of all construction activities. Therefore, the Geotechnical CQA Manager shall document that all Geotechnical CQA requirements have been addressed and satisfied. Documentation shall consist of daily reports, construction problem reports, photographs, design and specification revisions, and a certification report.

### **8.1 DAILY REPORTS**

Daily reports shall consist of field notes, summary of the daily meeting with the Contractor/Liner Subcontractor, observation and data sheets and construction problem reports. This information shall be submitted daily to the Geotechnical CQA Manager for review and approval. The summary of the daily meeting with the Contractor/Liner Subcontractor shall include:

- Date, project name, and location.
- Names of parties attending.
- Scheduled activities.
- Items discussed.
- Signature of Geotechnical CQA Monitor.

### **8.2 OBSERVATION AND TEST DATA REPORTS**

Observation and test data reports shall include:

- Date, project name, and location.
- Weather data.
- A reduced scale site plan showing work areas, including sample and test locations.
- A description of ongoing construction.
- A summary of test results identified as passing, failing, or, in the event of a failed test, retest.
- Test equipment calibrations, if applicable.
- A summary of decisions regarding acceptance of the work and/or corrective actions taken.
- The signature of the Geotechnical CQA Monitor.

A summary of observation and test data reports shall be submitted on a schedule mutually agreeable to the Construction Manager and Geotechnical CQA Manager.

### **8.3 CONSTRUCTION PROBLEM REPORTS**

These reports identify and document construction problems and solutions. They are intended to document problems involving significant rework, and are not intended to document problems which are easily corrected unless the problems are recurring. Each report shall include:

- A detailed description of the problem.
- The location and cause of the problem
- The solution to the problem.
- The personnel involved.
- Signatures of the Geotechnical CQA Manager and Construction Manager.

### **8.4 DESIGN AND SPECIFICATION REVISIONS**

Design and specification revisions may be required during construction. In such cases, the Geotechnical CQA Manager shall notify the Construction Manager. Design and specification revisions shall become official only after written approval of the Construction Manager.

### **8.5 PHOTOGRAPHS**

Construction activities will be photographed, including significant problems and remedial actions. The photographs will be identified by location, time, date, and photographer.

### **8.6 AS-BUILT PLANS**

As-built plans shall be prepared by the Contractor/Subcontractor from surveying and base maps prepared by a Registered Land Surveyor. The Geotechnical CQA Monitors shall observe on a daily basis that the "As-Built" plans include:

- Dimensions of all field panels;
- Location of each panel relative to the surveyor's plan;
- Identification of all panels and seams (including manufacturer's roll identification numbers);
- Location of all patches and repairs;
- Location of all nondestructive and destructive test sampling;
- Identification of problems or unusual conditions.

## **8.7 FINAL CERTIFICATION REPORT**

At completion of the work, the Geotechnical CQA Manager shall submit a final certification report. This report shall render an opinion as to whether the work was performed in compliance with the project plans and specifications.

As a minimum, the final certification report shall include:

- A summary of all construction activities;
- Laboratory and field test results;
- Observation and test data sheets;
- Sampling and testing location plans;
- A description of significant construction problems and the solutions of these problems;
- A list of revisions from the construction plans and specifications, and the justification for these revisions;

A certification statement signed and sealed by a Civil Engineer or Certified Engineering Geologist registered in the State of California.

NOT FOR BID



**APPENDIX B**  
**HEALTH AND SAFETY PROVISIONS**

**NOT FOR BID**

## HEALTH AND SAFETY PROVISIONS

Within seven days of the award of the Contract, the Contractor shall submit for the review of the SWMD, a copy of its Injury and Illness Prevention Program (IIPP). The IIPP shall be in sufficient detail to include all aspects of health and safety that may be anticipated by the scope of work.

The Contractor is advised that decomposing refuse produces landfill gas which is approximately 50 percent methane (natural gas) by volume. Landfill gas is colorless, can be odorless, may contain hydrogen sulfide, is combustible, and contains no oxygen. Landfill gas can also migrate through soil near the landfill. The Contractor is, therefore, advised of the need for precautions against fire, explosion, and asphyxiation when working in or near construction areas which are in or near refuse areas. The Contractor's IIPP shall address this issue.

The Contractor shall at all times be responsible for the safe prosecution of the Work and protection of its employees and the public. Review of the Contractor's IIPP by SWMD shall not relieve the Contractor of responsibility for any aspect of the work, or for compliance with all Federal, State, and local laws pertaining to health and safety. Strict Adherence to the Contractor's Health and Safety Plan will be required for all Contractor and subcontractor personnel.

The contents of the Health and Safety Plan must meet all regulatory requirements for the specific work that is proposed. The following is a list of some of the elements for a Health and Safety Plan. Those plan elements which will not apply to the specific contract should be noted (such as "this construction does not involve any confined space work,").

One or more of the following may be required to be included in an employer's (Contractor's) Health and Safety Plan (HSAP).

### **Mandatory**

1. Site Background and Scope of Work: Site specific with an emphasis on the type(s) of service(s) performed, the hazards associated with such work, and the programs in effect to protect the employee against those recognized hazards.
2. Injury and Illness Prevention Program (Title 8, California Code of Regulations, Section 3203): Required of all employers of 10 or more employees.
3. Code of Safe Practices (Cal. Code Regs., Title 8, §1509): All employers are required to have a Code of Safe Practices in writing and posted at the work place.
4. Emergency Medical Services (Cal. Code Regs., Title 8, §1512): All employers are required to have this program in writing.
5. Fire Protection Program (Cal. Code Regs., Title 8, §1920): All employers are required to have this program in writing.

### **Required by Scope of Work**

6. Hazard Communication Program (Cal. Code Regs., Title 8, §5194): All employers are required to have this program in writing if there is a potential for their employees to come in contact with any products that may be hazardous.
7. Requirements for Excavation and Shoring (Cal. Code Regs., Title 8 §1541.1): All employers are required to have this program in writing.

8. Confined Space Procedures (Cal. Code Regs., Title 8, §5156): All employers are required to have this program in writing if confined spaces will be entered.
9. Hearing Conservation Program (Cal. Code Regs., Title 8 §5097): This program shall be written into the HASP if employee noise exposures meet or exceed the levels outlined in Cal. Code Regs., Title 8, §5097.
10. Personal Protective Equipment (Cal. Code Regs., Title 8, §§3380-3400): Requirements must be included in the HASP if personal protective equipment is required for the contracted work.
11. Storage, Handling, and Dispensing of Flammable/Combustible Liquids (Uniform Fire Code Article 79): Requirements must be included in the HASP if flammable/combustible liquids will be stored, handled, or dispensed.
12. Welding, Brazing, and Cutting (Cal. Code Regs., Title 8, §§1536, 1537): Requirements must be included in the HASP if performing these actions.
13. Compressed Gas Cylinders (Cal. Code Regs., Title 8, §§1740-1743): Requirements must be included in the HASP if storing or using compressed gas cylinders.

In addition to submittal of the IIPP, the Contractor shall provide safety checklists for each piece of operated equipment to be used on the site. The checklists shall reflect that the equipment has been properly maintained, that all protection features are in good repair, and that the equipment is safe to operate.

**APPENDIX C**  
**Industrial Activity Storm Water Pollution Prevention Plan (SWPPP)**

**NOT FOR BID**

**APPENDIX D**  
**Project Addenda**

**NOT FOR BID**

## APPENDIX E

- **National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Industrial Activities Order No. 97-03-DWQ, NPDES No. CAS000001 (hereinafter referred to as the “IAO”). Order No. 2009-0009-DWQ, NPDES No. CAS000002, (Construction General Permit) as modified January 8, 2009 (hereinafter referred to as the “Order”). A Construction General Storm Water Permit is required for this project.**