

**COUNTY OF VENTURA  
PUBLIC WORKS AGENCY**

**NOTICE INVITING BIDS, PROPOSAL FORM, & SPECIFICATIONS**

FOR

**PROJECT NAME**      **JOB ORDER CONTRACT FOR ROAD MAINTENANCE WORK**

**LOCATION**      **VENTURA COUNTY**

**SPECIFICATION NO.**      **RD12-08**

**COST ACCOUNTING PROJECT NO.**      **50492**

**CONSULTANT**      **THE GORDIAN GROUP**

**CHECKED BY:**      **CHRIS HOOKE**

**PROJECT MANAGER:** **RAJ CHIKKIAH**



**RECOMMENDED BY:**

*Chris Hooke*

**Deputy Director-Transportation Department**

**APPROVED BY:**

*[Signature]*

**Director-Transportation Department**

**APPROVED BY:**

*[Signature]*

**Director of Public Works Agency**

**BIDS WILL BE RECEIVED UNTIL 2:00 P.M.**

**APRIL 3, 2012**

**at County Surveyor's Public Counter  
Third floor, Hall of Administration,  
800 South Victoria Avenue,  
Ventura, California 93009-1670**

Construction bidding documents, including plans, specifications, addenda and any supplementary documents are now available on the Ventura County Web Site.

Printed copies may also be purchased at the Ventura County Hall of Administration, 800 South Victoria Ave, Ventura, CA 93009-1670 (Surveyor's Public Counter on 3<sup>rd</sup> floor).



# **NOTICE TO BIDDERS, SUBCONTRACTORS AND SUPPLIERS**

## **SOURCES OF INFORMATION**

### **DURING BIDDING PERIOD**

PLAN HOLDERS LIST & OTHER INFORMATION IS AVAILABLE ON THE INTERNET AT:

**<http://www.ventura.org>**

In Online Services, click **Construction Bids**.

- Or -

**<http://www.ventura.org/pwa/esd/>**

click on **Construction Projects**.

**NUMBER OF ADDENDA ISSUED:**

Phone: (805) 654-2068

**TECHNICAL QUESTIONS** on plans and specifications:

Please FAX questions early in the bidding period  
as an addendum may be required.

FAX: (805) 677-8762

indicate bid question.

**Please do not call other staff members or consultant.**

Note that our consultants are directed to refer all calls to the numbers listed.

### **DIRECTIONS TO VENTURA COUNTY GOVERNMENT CENTER**

**From US101 (Ventura Freeway)**, take Victoria Ave off ramp, north (towards mountains) about one mile to Telephone Road, then right on Telephone Road one block and turn left at Lark St. into the Government center parking lot.

**From Cal126 (Santa Paula Freeway)**, take Victoria Ave off ramp, south (away from mountains) about one mile to Telephone Road, then left on Telephone Road 1 block and turn left at Lark St. into the Government center parking lot.

**Go to the Hall of Administration** (building nearest the corner of Victoria & Telephone) and to the Surveyors counter on the third floor (at the top of the escalator) where plans can be purchased and bids placed in the **bid box**.

### **ONLY AFTER BID OPENING**

**BID RESULTS** are available on the internet site shown above, usually within 24 hours after bids are opened and include abstracts of unit prices, totals of all bids & subcontractor's list for low & 2<sup>nd</sup> bidder.

### **LOW BIDDER - ONLY AFTER AWARD OF CONTRACT**

**CONTRACT PREPARATION** (Low Bidder only)

Phone: (805) 654-3984

FAX: (805) 677-8762

**ALL QUESTIONS** concerning project

Project Manager  
named in the Notice of Award





**COUNTY OF VENTURA**  
**JOB ORDER CONTRACT**  
**FOR ROAD MAINTENANCE WORK**  
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**COUNTY OF VENTURA**  
**NOTICE INVITING BIDS- JOB ORDER CONTRACT FOR ROAD MAINTENANCE WORK**

Sealed bids will be received in the bid box at the County Surveyor's Public Counter, 3rd Floor, Administration Building, 800 South Victoria Avenue, Ventura, California 93009-1670, until **2:00 p.m. on April 3, 2012**, and afterwards publicly opened, for **JOB ORDER CONTRACT FOR ROAD MAINTENANCE WORK** with Specification No. **RD12-08** for the rehabilitation of county roads, slope protection, etc.

There will be a **\$50,000** minimum guarantee under this contract, and a maximum potential value of **\$4,000,000** of work.

**Bidders must attend a mandatory Pre-Bid Conference** to be held in the Hall of Administration, 3<sup>rd</sup> floor Conference room #331, 800 South Victoria Avenue, Ventura, California, at **10:00 A.M. on March 22nd, 2012** (NO GRACE PERIOD-must be on time) for the purpose of distributing documents, discussing the JOC concept, and discussing JOC from a contractor's perspective and answering questions. The County **strongly encourages a responsible managing officer** from the contractor's office to attend this meeting.

This Job Order Contract (hereinafter called JOC) is a competitively bid, unit-priced indefinite quantity contract with a duration of 12 months. It includes a collection of detailed repair and construction tasks and specifications that have established unit prices. It is placed with a Contractor for the accomplishment of repair, alteration, modernization, maintenance, rehabilitation, construction, etc., of roads, structures, or other real property. Ordering work is accomplished by the issuance of a Job Order against the annual Contract.

The contract documents under this JOC include:

- 1) the "Yellow Book" which contains the Notice Inviting Bids, Proposal form, Ventura County Job Order Specifications (VCJOS), and Special Provisions;
- 2) the Construction Task Catalog® (CTC) prepared by The Gordian Group;
- 3) the Technical Specifications, which correspond to the tasks shown in the CTC, prepared by The Gordian Group; and
- 4) other documents identified on page 2 of the VCJOS under "Contract Documents" and in Section 1000-2 of the Special Provisions.

The contract documents for this project are filed in the office of the Ventura County Surveyor and are, by reference, made a part of this Notice. Construction bidding documents, including specifications, addenda and any supplementary documents are now available on the Ventura County Web Site at :

**<http://www.ventura.org/esd/>** then click **Construction Projects**, then **Bidding**.

where the documents may be viewed, downloaded and printed. Printed copies of the document can be purchased at most printing companies that have internet access.

Printed copies of the "Yellow Book" (defined above) plus a CD containing the CTC and Technical Specifications may also be purchased for **\$16.39** including tax and shipping, non-refundable (**\$6.39** if picked up). Make checks payable to the County of Ventura and send to the attention of, or bring to, the County Surveyor's Office at the Ventura County Hall of Administration, 800 South Victoria Ave, Ventura, CA 93009-1670 (Surveyor's Public Counter on 3<sup>rd</sup> floor).

A **List of Plan Holders** is available on the **Website** shown above. An abstract of bids received will be available at the same web site under **Bids & Subs**.

For **Technical Questions** concerning bidding documents, **Fax 805-677-8762**.

**Work under this annual contract** is expected to include individual Job Orders for pavement rehabilitation using various materials, such as conventional AC, rubberized AC, slurry seal, and microsurfacing. It will also include the usual support tasks associated with pavement rehabilitation, such as traffic control and construction signing, road base repair, water pollution control, concrete curb and sidewalk replacement, road surface preparation and crack sealing, cold milling and grinding, AC taper with key, leveling course, miscellaneous paving, AC curb rehabilitation, shoulder backing, pavement delineation and striping, traffic signal loop detector replacement, traffic signal replacement, survey monument frame adjustment and replacement, and appurtenant work. It is also expected that slope protection and stabilization work will be done,

**The following items of work shall be done by the Contractor using his own forces**, not a subcontractor: Paving with conventional asphalt concrete, paving with rubberized asphalt concrete, and road base repairs. The Contractor, under the JOC contract, furnishes all management, labor, materials, equipment, and required permits from local jurisdictions needed to perform the work. The contractor will be required to provide a Superintendent from the Contractor's staff for each Job Order.

Each bidder must **submit two price adjustment factors** in order for the bid to be considered responsive. These same adjustment factors must apply to all work tasks listed in the Construction Task Catalog©. The first adjustment factor will be for projects accomplished during normal business hours. The second adjustment factor will be applied to work accomplished on other than normal business hours. It is estimated that 10% of the work accomplished under this contract will be on other than normal working hours, however, it could deviate from this estimate.

Bids must be submitted on the proposal form furnished with said documents. Each bid must be accompanied by a bid guarantee in the amount of **\$20,000.00, PAYABLE TO THE COUNTY OF VENTURA** and guaranteeing that the bidder will enter into a contract in accordance with the terms of the bidding documents if award is made. The bid guarantee shall be in one of the following forms: a bid bond written by an admitted surety insurer on the form included with the Proposal form, a cashier's check drawn by a National bank, a check certified by a National bank or cash. An electronically transmitted copy (FAX) of the bid bond form included in the Proposal form may be used, but the form must have the original signatures of the principal and surety. A FAX of the completed bond will not be accepted.

Bidders must have a Class **A** California Contractors license, and will be required to furnish a Performance Bond and a Payment Bond, each in the amount of \$4,000,000.

In accordance with Section 22300 of the Public Contract Code, securities may be substituted for funds withheld.

The contractor must post copies of the prevailing wage schedule at each job site.

California general prevailing wage rates for construction can be obtained from the following Web site: <http://www.dir.ca.gov/DLSR/PWD/index.htm>.

**PROPOSAL  
FOR**

**JOB ORDER CONTRACT FOR ROAD MAINTENANCE WORK**

**LOCATED IN  
VENTURA COUNTY, CALIFORNIA**

**MAKE BID GUARANTEE TO COUNTY OF VENTURA  
USE FORM PROVIDED (SEE PARAGRAPH 9, INSTRUCTION TO BIDDERS).**

**SPECIFICATION NO. RD12-08**

**BIDS WILL BE RECEIVED ON APRIL 3, 2012 AT 2:00 P.M.**

**A MANDATORY PRE-BID CONFERENCE WILL BE HELD AT 10AM ON MARCH 22, 2012. SEE NOTICE INVITING BIDS FOR LOCATION.**

**AGENCY IS ALLOWED 60 DAYS TO AWARD A CONTRACT (SEE SECTION 2-1.1).**

**THE STARTING DATE OF CONTRACT WILL BE THE DATE OF AWARD OF CONTRACT BY THE COUNTY BOARD OF SUPERVISORS.**

**CONTRACTOR'S LICENSE CLASSIFICATION REQUIRED IS CLASS A.**

**LIABILITY INSURANCE CLASS REQUIRED PER SECTION 7-4 IS L-C.**

**FEDERAL-AID CONTRACT PROVISIONS ARE NOT INCLUDED IN THESE SPECIFICATIONS.**

**THE NUMBER OF PAGES IN THIS PROPOSAL IS 8.**

|   |                              |
|---|------------------------------|
| <b>BIDDER SHALL COMPLETE</b>  |                              |
| NAME: _____   |                              |
| MAILING ADDRESS: _____  |                              |
| CITY: _____   | STATE: _____ ZIP CODE: _____ |
| TELEPHONE NUMBER: (____) _____ - _____ FAX No. (____) _____ - _____ |                              |
| eMAIL ADDRESS: _____  |                              |

**PROPOSAL**  
**Instruction to Bidders**

1. **LICENSING OF BIDDER.** Before submitting bids, bidders shall be licensed in accordance with the provisions of Sections 7000 through 7145 of the Business and Professions Code of the State of California in the classification required for the work bid on. The bidder's license number, classification, and expiration date shall be inserted on page 8 of the proposal form. The bidder's name shall correspond in all respects with the name shown on the license. License numbers and names are checked with the State.
2. **MODIFICATION AND INTERPRETATION.** Carefully review the plans and specifications for any errors, omissions, or ambiguities. If you discover any, notify the Engineering Services Department of the Agency far enough in advance of the bid opening to allow time for the issuance of appropriate written addenda. Written addenda shall be the sole means for modifying the plans and/or specifications prior to the bid opening. The Agency shall not be bound by oral communications purportedly modifying or interpreting the plans and/or specifications regardless of when or by whom such oral communications are made and you should not rely upon such oral communications in preparing your bid.
3. **DETERMINATION OF LOW BIDDER.** The lowest responsive, responsible bidder will be determined as follows: the "Normal Working Hours Adjustment Factor" shall be multiplied by .90, and the "Other than Normal Working Hours Adjustment Factor" shall be multiplied by .10. These two numbers will be summed for a composite bid, and the lowest composite bid will be considered the low bid.
4. **SIGNING OF BID.** Fill in all indicated blanks in this proposal using typewriter or ink and sign with ink. Proposals signed by an agent other than an owner, partner or corporate officer shall be accompanied by a power-of-attorney. Proposal form must be dated.
5. **NON-COLLUSION AFFIDAVIT.** The non-collusion affidavit required by Public Contract Code 7106 is included on page 5 of this Proposal.
6. **BID FORM NOT TO BE ALTERED.** Do not change the wording of this proposal. Any additions, deletions, conditions, limitations or provisions by the bidder will render the proposal irregular and may cause its rejection.
7. **CORRECTING BID.** Explain over your signature any erasures or deletions of information entered by the bidder in this proposal. Modifications submitted separately from this form will not be accepted.

9. **BID GUARANTEE.** Each bid must be accompanied by a bid guarantee in the amount \$20,000 and guaranteeing that the bidder will enter into a contract in accordance with the terms of the bidding documents if award is made to him. The bid guarantee shall be in one of the following forms: A bid bond written by an admitted surety insurer on the form included with the proposal form, a cashier's check drawn by a national bank, a check certified by a national bank or cash. An electronically transmitted copy (FAX) of the bid bond form included in the proposal form may be used, but the form must have the original signatures of the principal and surety. A FAX of the completed bond will not be accepted. Note: Performance and Payment Bonds are required from the bidder to whom a contract is awarded. See specifications Subsection 2-4 for contract bond requirements including limitations on the sureties that may issue the bonds.

10. **SUBMITTING BID.** Submit your bid on one copy only of this proposal form, with addenda acknowledged by inserting the addenda numbers on page 7 of this proposal and with bid guarantee attached, in a sealed envelope addressed to:

Public Works Agency, County of Ventura, County Surveyor's Public Counter,  
3rd Floor - Hall of Administration, 800 South Victoria Avenue, Ventura, California 93009-1670.

For proper handling, mark envelope as "SEALED BID", and show the project title and the bidder's name and address,. Do not enclose other documents in the bid envelope.

**IMPORTANT:** Proposals received that are not signed will not be considered.

Late bids will not be opened or considered.

Bids must be on this form. Electronically transmitted bids, bid modifications or bid withdrawals will not be considered.

Notwithstanding anything stated, directed or indicated in the other bidding documents, the only items to be included with this proposal are:

1. This proposal form, signed and dated with addenda acknowledged.
2. The bid bond with original signatures of surety representative and contractor, or other bid guarantee as specified in 9 above.

11. **TIME OF BID CLOSURE.** The bid box will be closed promptly at the time specified on the first sheet of the proposal form. The person opening bids will not accept bids that are not in the bid box at closing time. Time can be obtained from <http://www.time.gov/timezone.cgi?Pacific/d/-8> (local standard time). Note that clocks in the building may not be set to the correct time and should not be relied upon.

12. **DELIVERY OF BID.** Bids delivered in person must be placed in the bid box near the Surveyor's Public Counter located at the head of the escalator on the third floor of the Ventura County Hall of Administration Building, 800 South Victoria Avenue, Ventura, California. The Hall of Administration is on the corner of Victoria Avenue and Telephone Road and is accessible from the Ventura Freeway (U.S. 101) by taking the Victoria Avenue off ramp and proceeding north on Victoria Avenue about one mile to Telephone Road. Access from the Santa Paula Freeway (Cal. 126) is by the Victoria Avenue off ramp, then south about 1/4 mile to Telephone Road. Access to the Hall of Administration parking lot is from Telephone Road at Lark St one block east of Victoria Ave. Bids must be placed in the bid box prior to the hour and date designated on Page 1 of this proposal.

**13. MAILED BIDS (Including Express Delivery).** Bids received in the County's Mail Room by 8 a.m. on the bid opening date will be considered to have been placed in the bid box on time, whether or not actually delivered to the bid box on time. U. S. Postal Service Special delivery, Registered and Certified mail may slow actual receipt of bids. Bidder is responsible for sending bid early enough to insure delivery to the County on time.

Mark bids, not placed directly in the bid box, in large letters on the outside of the delivery envelope "SEALED BID" and show the Spec no.

Electronically transmitted bids or modifications will not be considered.

**14. WITHDRAWAL OF PROPOSAL.** Proposals may be withdrawn by the bidder prior to the time stated for opening bids upon written request, signed by the bidder or his authorized agent and submitted in the same manner as a bid. To retrieve a bid from the bid box may take 10 or more minutes as it requires a written request to withdraw the bid, the positive identification of the person requesting the withdrawal, and the opening of the bid box.

**15. ERRORS.** The bidder understands that the County reserves the right to reject any or all bids, to waive minor informalities in any bid, and to award the contract to the lowest responsible bidder.



## PROPOSAL

I, the person whose signature is affixed to page 7 of this proposal, submit this proposal to the Board of Supervisors of the County of Ventura and hereby declare:

1. That the bidder has read this proposal and has abided by and agrees to the conditions herein and has carefully examined the project plans and read the specifications and does hereby propose to furnish all materials and do all the work required to complete the work in accordance with the plans and specifications for the unit prices or lump sums named in the Schedule of Work and Prices.

2. That the addenda indicated on page 7 of this proposal are acknowledged.

3. That the bidder, as Principal, acknowledges himself as being bound by the attached bond or other acceptable bid guarantee.

4. That the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Contractor's Name \_\_\_\_\_

## PROPOSAL

\_\_\_\_\_  
Name of Bidder (Name of Firm)

### FORM OF PROPOSAL TO BE USED BY BIDDERS

NOTE: ANY ALTERATION OR ADDITION TO THE FORM OF PROPOSAL MAY INVALIDATE SAME. FILL OUT COMPLETELY ALL BLANK SPACES. LINE OUT NONAPPLICABLE BLANKS. INCOMPLETE FORM MAY INVALIDATE BID. THE COUNTY RESERVES THE RIGHT TO WAIVE ANY INFORMALITIES OR TO REJECT ANY OR ALL BIDS OR TO ACCEPT ANY ALTERNATIVES WHEN CALLED FOR.

The undersigned proposes to furnish all materials, labor and equipment required for the Job Order Contract for the County of Ventura in accordance with County's invitation for bids, including addenda thereto, if any, as follows:

- I. Adjustment Factors. The Contractor bids two adjustment factors that will be applied against the prices set forth in the Unit Price Book. These adjustment factors will be used to price out fixed price Work Orders by multiplying the adjustment factor by the unit prices and quantities.
- II. Base Period (12 months from date of Award of Contract by Board of Supervisors or expenditure of the \$4,000,000 maximum value of the contract, whichever occurs first)

**ADJUSTMENT FACTOR 1** - Unit work requirements to be performed during **Normal Working Hours** as ordered by the County in individual Job Orders against the contract.

|  |   |  |  |  |  |
|--|---|--|--|--|--|
|  | . |  |  |  |  |
|--|---|--|--|--|--|

Utilize four decimal places

**ADJUSTMENT FACTOR 2** - Unit work requirements to be performed during **Other-than-Normal Working Hours** as ordered by the County in individual Job Orders against the contract.

|  |   |  |  |  |  |
|--|---|--|--|--|--|
|  | . |  |  |  |  |
|--|---|--|--|--|--|

Utilize four decimal places

***NOTE – FACTOR 2 MUST BE GREATER THAN FACTOR 1 TO BE CONSIDERED RESPONSIBLE.***

The following addenda are acknowledged:

(Bidder must fill in number and date of each addenda or may enter the word "None " if appropriate)

Call (805) 654-2068 to determine addenda that have been issued.

| Number | Dated |
|--------|-------|
|        |       |
|        |       |
|        |       |

I make the above proposal and certify or declare under penalty of perjury under the laws of the State of California that the statements made on Page 5 of this Proposal, and below my signature, are true and correct.

Dated \_\_\_\_\_

Signature \_\_\_\_\_

At \_\_\_\_\_

Position \_\_\_\_\_

(City and State)

(Sole Owner, Partner, President, etc.)

License No. \_\_\_\_\_

Company Name \_\_\_\_\_

License Classification \_\_\_\_\_

Type of Organization \_\_\_\_\_  
(Individual, Partnership, Corp.)

License Expiration Date \_\_\_\_\_

Enter            }  
Name &         }  
Address        }  
of Bonding     }  
Company        }

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS: That we \_\_\_\_\_

\_\_\_\_\_, Principal,

and \_\_\_\_\_

\_\_\_\_\_, Surety, are held and firmly bound unto **COUNTY OF VENTURA** Obligee, in the sum of \$20,000 for the payment of which we bind ourselves, our legal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has submitted or is about to submit a proposal to Obligee on a contract for

**Job Order Contract for Road Maintenance Work**

NOW, THEREFORE, if that contract be awarded to Principal and Principal shall, within such time as may be specified, enter into the contract in the prescribed form in writing and give such bond or bonds as may be specified in the bidding or contract documents with surety acceptable to Obligee then this obligation shall be null and void; otherwise to remain in full force and effect.

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

Signed, sealed and dated

\_\_\_\_\_  
(Principal)

by \_\_\_\_\_ (Seal)

\_\_\_\_\_  
(Surety)

by \_\_\_\_\_  
Attorney-in-Fact

**COUNTY OF VENTURA  
PUBLIC WORKS AGENCY**

**PREVAILING RATES OF WAGES**

As provided in Subsection 7-2.2 of these specifications, and in accordance with Section 1770 et. seq. of the California Labor Code, determinations of the generally prevailing wages for various classes of workers in Ventura County have been made by the California Director of Industrial Relations as required by the California Labor Code.

As required by California Labor Code Section 1777.5, properly indentured apprentices shall be employed on the work. Travel and subsistence shall be paid in accordance with California Labor Code Section 1773.8.

The determinations made by the State are available on the Internet at <http://www.dir.ca.gov/DLSR/PWD/Index.htm> and are on file in the office of the Public Works Agency. A copy will be furnished without cost to the successful bidder.

The Contractor shall post a copy of the wage rates at each jobsite at a location readily available to the workers.



EXCERPTS FROM THE  
**CALIFORNIA LABOR CODE**  
AS OF JANUARY 1, 2009

The Labor Code sections furnished are those mentioned in the specifications section 7.2.2.2. They are furnished for the convenience of the contractor and in no way limit the required compliance with all laws.

**1771.** Except for public works projects of one thousand dollars (\$1,000) or less, not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the public work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in this chapter, shall be paid to all workers employed on public works.

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

**1775. (a) (1)** The contractor and any subcontractor under the contractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates as determined by the director for the work or craft in which the worker is employed for any public work done under the contract by the contractor or, except as provided in subdivision (b), by any subcontractor under the contractor.

**(2) (A)** The amount of the penalty shall be determined by the Labor Commissioner based on consideration of both of the following:

**(i)** Whether the failure of the contractor or subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor.

**(ii)** Whether the contractor or subcontractor has a prior record of failing to meet its prevailing wage obligations.

**(B) (i)** The penalty may not be less than ten dollars (\$10) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the contractor or subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor.

**(ii)** The penalty may not be less than twenty dollars (\$20) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the contractor or subcontractor has been assessed penalties within the previous three years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned.

**(iii)** The penalty may not be less than thirty dollars (\$30) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1.

**(C)** When the amount due under this section is collected from the contractor or subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 against that contractor or subcontractor shall be satisfied before applying that amount to the penalty imposed on that contractor or subcontractor pursuant to this section.

**(D)** The determination of the Labor Commissioner as to the amount of the penalty shall be reviewable only for abuse of discretion.

**(E)** The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the contractor or subcontractor, and the body awarding the contract shall cause to be inserted in the contract a stipulation that this section will be complied with.

**(b)** If a worker employed by a subcontractor on a public works project is not paid the general prevailing rate of per diem wages by the subcontractor, the prime contractor of the project is not liable for any penalties under subdivision (a) unless the prime contractor had knowledge of that failure of the subcontractor to pay the specified prevailing rate of wages to those workers or unless the prime contractor fails to comply with all of the following requirements:

**(1)** The contract executed between the contractor and the subcontractor for the performance of work on the public works project shall include a copy of the provisions of Sections 1771, 1775, 1776, 1777.5, 1813, and 1815.

**(2)** The contractor shall monitor the payment of the specified general prevailing rate of per diem wages by the subcontractor to the employees, by periodic review of the certified payroll records of the subcontractor.

**(3)** Upon becoming aware of the failure of the subcontractor to pay his or her workers the specified prevailing rate of wages, the contractor shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for work performed on the public works project.

**(4)** Prior to making final payment to the subcontractor for work performed on the public works project, the contractor shall obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages to his or her employees on the public works project and any amounts due pursuant to Section 1813.

**(c)** The Division of Labor Standards Enforcement shall notify the contractor on a public works project within 15 days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a subcontractor on that public works project to pay workers the general prevailing rate of per diem wages.

**1776. (a)** Each contractor and subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

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

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

**(b)** The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the contractor on the following basis:

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

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



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

**(c)** The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division. The payroll records may consist of printouts of payroll data that are maintained as computer records, if the printouts contain the same information as the forms provided by the division and the printouts are verified in the manner specified in subdivision (a).

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

**(e)** Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address, and social security number. The name and address of the contractor awarded the contract or the subcontractor performing the contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management Cooperation Act of 1978 (29 U.S.C. Sec. 175a) shall be marked or obliterated only to prevent disclosure of an individual's name and social security number. A joint labor management committee may maintain an action in a court of competent jurisdiction against an employer who fails to comply with Section 1774. The court may award restitution to an employee for unpaid wages and may award the joint labor management committee reasonable attorney's fees and costs incurred in maintaining the action. An action under this subdivision may not be based on the employer's misclassification of the craft of a worker on its certified payroll records. Nothing in this subdivision limits any other available remedies for a violation of this chapter.

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

**(g)** The contractor or subcontractor has 10 days in which to comply subsequent to receipt of a written notice requesting the records enumerated in subdivision (a). In the event that the contractor or subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars (\$25) 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, these penalties shall be withheld from progress payments then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

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

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

**1777.5. (a)** Nothing in this chapter shall prevent the employment of properly registered apprentices upon public works.

**(b)** Every apprentice employed upon public works shall be paid the prevailing rate of per diem wages for apprentices in the trade to which he or she is registered and shall be employed only at the work of the craft or trade to which he or she is registered.

**(c)** Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards and who are parties to written apprentice agreements under Chapter 4 (commencing with Section 3070) of Division 3 are eligible to be employed at the apprentice wage rate on public works. The employment and training of each apprentice shall be in accordance with either of the following:

**(1)** The apprenticeship standards and apprentice agreements under which he or she is training.

**(2)** The rules and regulations of the California Apprenticeship Council.

**(d)** When the contractor to whom the contract is awarded by the state or any political subdivision, in performing any of the work under the contract, employs workers in any apprenticeable craft or trade, the contractor shall employ apprentices in at least the ratio set forth in this section and may apply to any apprenticeship program in the craft or trade that can provide apprentices to the site of the public work for a certificate approving the contractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected. However, the decision of the apprenticeship program to approve or deny a certificate shall be subject to review by the Administrator of Apprenticeship. The apprenticeship program or programs, upon approving the contractor, shall arrange for the dispatch of apprentices to the contractor. A contractor covered by an apprenticeship program's standards shall not be required to submit any additional application in order to include additional public works contracts under that program. "Apprenticeable craft or trade," as used in this section, means a craft or trade determined as an apprenticeable occupation in accordance with rules and regulations prescribed by the California Apprenticeship Council. As used in this section, "contractor" includes any subcontractor under a contractor who performs any public works not excluded by subdivision (o).

**(e)** Prior to commencing work on a contract for public works, every contractor shall submit contract award information to an applicable apprenticeship program that can supply apprentices to the site of the public work. The information submitted shall include an estimate of journeyman hours to be performed under the contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to the awarding body if requested by the awarding body.

Within 60 days after concluding work on the contract, each contractor and subcontractor shall submit to the awarding body, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the contract. The information under this subdivision shall be public. The apprenticeship programs shall retain this information for 12 months.

**(f)** The apprenticeship program that can supply apprentices to the area of the site of the public work shall ensure equal employment and affirmative action in apprenticeship for women and minorities.

**(g)** The ratio of work performed by apprentices to journeymen employed in a particular craft or trade on the public work may be no higher than the ratio stipulated in the apprenticeship standards under which the apprenticeship program operates where the contractor agrees to be bound by those standards, but, except as otherwise provided in this section, in no case shall the ratio be less than one hour of apprentice work for every five hours of journeyman work.

**(h)** This ratio of apprentice work to journeyman work shall apply during any day or portion of a day when any journeyman is employed at the jobsite and shall be computed on the basis of the hours worked during the day by journeymen so employed. Any work performed by a journeyman in excess of eight hours per day or 40 hours per week shall not be used to calculate the ratio. The contractor shall employ apprentices for the number of hours computed as above before the end of the contract or, in the case of a subcontractor, before the end of the subcontract. However, the contractor shall endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the jobsite. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Chief of the Division of Apprenticeship Standards, upon application of an apprenticeship program, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification.

**(i)** A contractor covered by this section that has agreed to be covered by an apprenticeship program's standards upon the issuance of the approval certificate, or that has been previously approved for an apprenticeship program in the craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the applicable apprenticeship standards, but in no event less than the 1-to-5 ratio required by subdivision (g).

**(j)** Upon proper showing by a contractor that he or she employs apprentices in a particular craft or trade in the state on all of his or her contracts on an annual average of not less than one hour of apprentice work for every five hours of labor performed by journeymen, the Chief of the Division of Apprenticeship Standards may grant a certificate exempting the contractor from the 1-to-5 hourly ratio, as set forth in this section for that craft or trade.

**(k)** An apprenticeship program has the discretion to grant to a participating contractor or contractor association a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the contractor from the 1-to-5 ratio set forth in this section when it finds that any one of the following conditions is met:

**(1)** Unemployment for the previous three-month period in the area exceeds an average of 15 percent.

**(2)** The number of apprentices in training in the area exceeds a ratio of 1 to 5.

**(3)** There is a showing that the apprenticeable craft or trade is replacing at least one-thirtieth of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis.

**(4)** Assignment of an apprentice to any work performed under a public works contract would create a condition that would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large, or the specific task to which the apprentice is to be assigned is of a nature that training cannot be provided by a journeyman.

**(l)** When an exemption is granted pursuant to subdivision (k) to an organization that represents contractors in a specific trade from the 1-to-5 ratio on a local or statewide basis, the member contractors shall not be required to submit individual applications for approval to local joint apprenticeship committees, if they are already covered by the local apprenticeship standards.

**(m) (1)** A contractor to whom a contract is awarded, who, in performing any of the work under the contract, employs journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council the same amount that the director determines is the prevailing amount of apprenticeship training contributions in the area of the public works site. A contractor may take as a credit for payments to the council any amounts paid by the contractor to an approved apprenticeship program that can supply apprentices to the site of the public works project. The contractor may add the amount of the contributions in computing his or her bid for the contract.

(2) At the conclusion of the 2002-03 fiscal year and each fiscal year thereafter, the California Apprenticeship Council shall distribute training contributions received by the council under this subdivision, less the expenses of the Division of Apprenticeship Standards for administering this subdivision, by making grants to approved apprenticeship programs for the purpose of training apprentices. The funds shall be distributed as follows:

(A) If there is an approved multiemployer apprenticeship program serving the same craft or trade and geographic area for which the training contributions were made to the council, a grant to that program shall be made.

(B) If there are two or more approved multiemployer apprenticeship programs serving the same craft or trade and geographic area for which the training contributions were made to the council, the grant shall be divided among those programs based on the number of apprentices registered in each program.

(C) All training contributions not distributed under subparagraphs (A) and (B) shall be used to defray the future expenses of the Division of Apprenticeship Standards.

(3) All training contributions received pursuant to this subdivision shall be deposited in the Apprenticeship Training Contribution Fund, which is hereby created in the State Treasury. Notwithstanding Section 13340 of the Government Code, all money in the Apprenticeship Training Contribution Fund is hereby continuously appropriated for the purpose of carrying out this subdivision and to pay the expenses of the Division of Apprenticeship Standards.

(n) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section. The stipulations shall fix the responsibility of compliance with this section for all apprenticeable occupations with the prime contractor.

(o) This section does not apply to contracts of general contractors or to contracts of specialty contractors not bidding for work through a general or prime contractor when the contracts of general contractors or those specialty contractors involve less than thirty thousand dollars (\$30,000).

(p) All decisions of an apprenticeship program under this section are subject to Section 3081.

**1813.** The contractor or subcontractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of this article. In awarding any contract for public work, the awarding body shall cause to be inserted in the contract a stipulation to this effect. The awarding body shall take cognizance of all violations of this article committed in the course of the execution of the contract, and shall report them to the Division of Labor Standards Enforcement.

**1815.** Notwithstanding the provisions of Sections 1810 to 1814, inclusive, of this code, and notwithstanding any stipulation inserted in any contract pursuant to the requirements of said sections, work performed by employees of contractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon public work upon compensation for all hours worked in excess of 8 hours per day at not less than 1 1/2 times the basic rate of pay.

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**COUNTY OF VENTURA  
PUBLIC WORKS AGENCY  
STANDARD SPECIFICATIONS  
PART 1 - GENERAL PROVISIONS**

**SECTION 0 - SSPWC ADOPTION AND MODIFICATIONS**

**0-1 STANDARD SPECIFICATIONS**

The Standard Specifications are the Ventura County Job Order Specifications (73 pages with VCJOS typed at the bottom) supplemented by Parts 2 through 5 of the Standard Specifications for Public Works Construction (SSPWC), 2012 Edition, commonly known as the Greenbook, published by BNI Publications, Inc. The VCJOS replaces Part 1 of the SSPWC.

**0-2 DELETIONS**

The following portions of SSPWC are hereby deleted: Part 1 and Sections 200-1.6.2, and 301-1.4.

**0-3 NUMBERING OF SECTIONS**

The numbering in these modifications is compatible with the numbering in SSPWC. References to whole sections of SSPWC and these modifications are preceded by the word "Section", references to parts of sections show numbers only, such as "211-5", except at the beginning of a sentence, the word "Section" precedes the number. Standard Special Provisions, if included, are numbered as Sections 901 through 999. The Special Provisions are numbered starting with Section 1000 or higher.

Cross-references contained in SSPWC to sections deleted by 0-2 hereof shall be references to the sections of like number contained herein.

**0-4 ADDITIONS**

The sections that follow, either, replace sections of like number in SSPWC which were deleted in 0-2 above, modify sections of SSPWC, or add material not in SSPWC.

**0-5 INTERPRETATION OF TERMS IN VCJOS**

These Ventura County Job Order Specifications (VCJOS) apply to an annual maintenance contract with Job Orders to accomplish specific projects. Terms within the VCJOS shall be interpreted in accordance with this intent, based upon the context.

## **SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE AND SYMBOLS**

**1-1 GENERAL** Unless otherwise stated, the words directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory, or words of like meaning, refer to actions, expressions, and prerogatives of the Engineer.

### **1-2 TERMS AND DEFINITIONS**

**Acceptance**--The formal written acceptance by the Agency of the Work done for a specific Job Order which has been completed in all respects in accordance with the Plans and Specifications and any Modifications thereof.

**Addendum**--Written or graphic instrument issued prior to the opening of Bids which clarifies, corrects or changes the bidding or Contract Documents. The term "Addendum" shall include bulletins and all other types of written notices issued to potential bidders prior to opening of Bids.

**Adjustment Factor**-- is the Contractor's competitively bid price adjustment to the unit prices as published in the Construction Task Catalog® (CTC). Contractors must bid a total of two adjustment factors: one factor for Work to be accomplished during normal working hours; and a second factor for Work to be performed during other than normal working hours. The adjustment factors are multiplied by the published prices in the CTC to determine the actual contract unit prices.

**Agency**--The legal entity for which the Work is being performed.

**Agreement**-- See Contract.

**Award**— The award of the Contract to the Contractor by the Agency.

**Award Date**-- Date of the issuance of the Award.

**Base**--A layer of specified material of planned thickness placed immediately below the pavement or surfacing.

**Bid Documents**—See Contract Documents

**Bidder**--Any individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work, acting directly or through a duly authorized representative.

**Board**--The officer or body constituting the awarding authority of the Agency.

**Bond**--Bid, performance and payment bond or other instrument of security.

**Change Order**--A written order to the Contractor signed by the Agency directing an changes to the terms of the Contract.

**Code**--The terms Government Code, Labor Code, etc. refer to codes of the State of California.

**Construction Task Catalog® (CTC)**-- is a comprehensive listing of specific tasks together with a specific unit of measurement and a unit price. (Also referred to as the "CTC").

**Consultant**--A professional engineer, architect, landscape architect or other professional who designed the project or performed other services for the Agency on the project.

**Contract**—the written agreement between the Agency and the Contractor covering the Work.

**Contract Documents**--Including but not limited to; the Contract, any Addenda (which pertain to the Contract Documents), Notice Inviting Bids, Instruction to Bidders; Bid Proposal (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Contract, each individual Job Order, the Bonds, the general conditions, permits from other agencies, the Special Provisions, the Plans, Standard Plans, Construction Task Catalog®, Standard Specifications, Technical Specifications, Reference Specifications, and all Modifications issued after the execution of the Contract.

**Contractor**--The individual, partnership, corporation, joint venture, or other legal entity having a Contract with the Agency to perform the Work. In the case of work being done under permit issued by the Agency, the Permittee shall be construed to be the Contractor. The term "prime contractor" shall mean Contractor.

County—The County of Ventura

County Sealer--The Sealer of Weights and Measures of the Agency in which the Contract is let.

Days--Days shall mean consecutive calendar days unless otherwise specified.

Disputed Work--Work in which Agency and Contractor are in disagreement.

Due Notice--A written notification, given in due time, of a proposed action where such notification is required by the Contract to be given a specified interval of time (usually 48 hours or two Working Days) prior to the commencement of the contemplated action. Notification may be from Engineer to Contractor or from Contractor to Engineer.

Electrolier--Street light assembly complete, including foundation, standard, luminaire arm, luminaire, etc.

Engineer--The Director of Public Works Agency acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties delegated to them.

Environmental Requirements-- All applicable Federal, State, and local laws, ordinances, rules, regulations, and executive orders pertaining to environmental matters.

Field Directive--A written communication from the Engineer to the Contractor that does not make any Modification to the Contract Documents. It is used only to answer Contractor's questions and to provide decisions as specified in the Contract Documents.

Final Completion of the Job Order-- The last date on which all of the following events have occurred: the Agency has determined that all Punch List Work and any other remaining Work has been completed in accordance with the Contract Documents; final inspections have been completed and all operations systems and equipment testing have been completed; the issuance of final occupancy certifications (if any); all deliverables have been provided to the Agency and all contractual requirements for final payment for that Job Order have been completed.

Final Inspection Form-- A form signed by the Project Manager and the Contractor recommending to the Agency that the work for a Job Order is complete and establishing the date of completion. The form is signed by the Engineer.

Geotextile--Synthetic fiber used in civil engineering applications, serving the primary function of separation and filtration.

Hazardous Materials-- Asbestos and asbestos-containing materials, polychlorinated biphenyl (PCB), oil or any other petroleum products, natural gas, source material, special nuclear materials, and by-product materials regulated under the Atomic Energy Act (42 U.S.C. Sec. 201 1, et "g.), pesticides under the Federal Insecticide Fungicide and Rodenticide Act (7 U.S.C.. Sec. 136, et M.) and any hazardous waste, toxic substance or related material, including any substance defined or treated as "hazardous waste," or "toxic substance" (or comparable term) in the Comprehensive Environment Response, Compensation and Liability Act (42 U.S.C.. Sec 1801, et seg.), the Resource Conservation and Recovery Act (42 U.S.C. Sec 6901, &I M.), the Toxic Substance Control Act 15 U.S.C. Sec. 2601, et seg. , and any rules or regulations promulgated pursuant to such statutes or any other applicable Federal or State statute, rule, or regulation or local law, ordinance, rule, or regulation, as amended in each case.

House Connection Sewer--A sewer, within a public street or right of way, proposed to connect any parcel, lot, or part of a lot with a main line sewer.

Job Order-- The document that indicates the work to be accomplished under this Contract. The Agency will be responsible for the development of the Job Order as well as the supervision and acceptance of the Work contained within the Job Order. The Agency will review the Contractor's proposal and if acceptable, shall issue a Job Order for the Work described therein. Each Job Order will include a detailed Scope of Work, a firm fixed price from the Contractor to achieve that Scope of Work, a time duration for the completion of the Work and any special conditions that might apply to that specific Job Order, such as Liquidated Damages.

Job Order Contract (JOC)-- A competitively bid, fixed unit-price, indefinite-quantity contract for

accomplishing repair, maintenance, and construction-related services. Work is accomplished through the issuance of individual Job Orders against the Contract. Each Job Order issued under the Job Order Contract will be a firm fixed-priced order for accomplishing a specific detailed Scope of Work for a Project.

**Job Order Notice to Proceed**--A written notice given by the Agency to the Contractor fixing the date on which the Job Order Time will start.

**Job Order Proposal**-- as used herein is the Contractor's irrevocable offer to do Work. It refers to the documents prepared by the Contractor quoting a firm fixed price to achieve a specific Scope of Work as requested by the Agency. The Proposal consists of approved drawings, permits and submittals as necessary, a detailed cost proposal comprised of appropriate line items and quantities from the Construction Task Catalog®, supporting documentation for any non-prepriced items, a construction schedule, a list of subcontractors, and other documentation as may be required by the Agency prior to the issuance of a Job Order.

**Job Order Time** -- Calendar days required by individual Job Orders to accomplish the scope of work.

**Luminaire**--The lamp housing including the optical and socket assemblies (and ballast if so specified).

**Major Task Item**--A single Construction Task item constituting 10% or more of an individual Job Order Price.

**Mast Arm**--The structural member or bracket, which, when mounted on a Standard, supports the luminaire.

**Maximum Potential Contract Value**-- \$4,200,000.00

**Minimum Contract Amount**-- \$50,000.00

**Modification**--Includes Change Orders and Supplemental Agreements. A Modification may only be issued after the effective date of the Contract.

**Normal Working Hours**-- means standard shifts between the hours of 7:00 AM to 6:00 PM. Monday through Friday inclusive. Saturday, Sundays, and Agency holidays are excluded.

**Notice of Award**--The written notice by the Agency to the successful Bidder stating that upon compliance by it with the required conditions, the Agency will execute the Contract.

**Notice to Proceed**--A written notice given by the Agency to the Contractor allowing the Contractor to begin work.

**Owner**--Same meaning as Agency.

**Other than Normal Working Hours**-- Work done between the hours of 6:00 PM to 7:00 AM weekdays and any times during Saturday, Sunday, and County holidays. It also includes non-standard shifts.

**Person**--Any individual, firm, association, partnership, corporation, trust, joint venture, or other legal entity.

**Plans**-- means the Scope of Work, task descriptions in the Construction Task Catalog®, drawings, sketches, illustrations, specifications or other pertinent information included on or attached to the Job Order.

**Project**-- Collectively, the improvements to be completed by the Contractor pursuant to a Job Order.

**Project Record Documents**-- are all documents the Contract requires the Contractor to provide to the Agency including but not limited to shop drawings, as-built documents, parts manuals, operation and maintenance manuals, blue line drawings and project manuals and or specifications.

**Prompt**--The briefest interval of time required for a considered reply, including time required for approval by a governing body.

**Proposal**-- The offer of the Bidder submitted on the prescribed form setting forth the adjustment factors for the Contract.

**Reference Specifications**--Those bulletins, standards, rules, methods of analysis or testing, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents. These refer to the latest edition, including amendments in effect and published at the time of advertising the project or issuing the permit, unless specifically



referred to by edition, volume, or date.

Roadway--The portion of a street reserved for vehicular use.

Scope of Work-- Determined by individual Job Orders issued hereunder. The Scope of Work is the complete description of services to be provided by the Contractor under an individual Job Order. The Scope of Work will include sufficient documentation for a given Project. Documentation may include a narrative description of the Work, partial design documents or full design documents depending on the complexity of the specific maintenance Project.

Service Connection--All or any portion of the conduit, cable, duct, or meter, between a utility distribution line and an individual consumer.

Sewer--Any conduit intended for the reception and transfer of sewage and fluid industrial waste.

Special Provisions--Any provisions which supplement or modify the Standard Specifications.

Special Wastes-- Those substances as defined in the California Environmental Protection Act.

Specifications--Standard Specifications, Reference Specifications, Standard Special Provisions, Special Provisions, and specifications in Change Orders or Supplemental Agreements between the Contractor and the Board.

Standard—The shaft or pole used to support street lighting luminaire, traffic signal heads, mast arms, etc.

Standard Plans--Details of standard structures, devices, or instructions referred to on the Plans or in the Specifications by title or number.

Standard Special Provisions-- Special Provisions prepared in standardized form numbered in the series 401 through 499.

## 1-2 DEFINITIONS (Continued)

Standard Specifications—VCJOS and Parts 2 through 5 of the SSPWC. See Section 0. References to whole sections will be preceded by the word "Section", references to parts of sections will show numbers only, such as "3-2", except at the beginning of a sentence, the word "Section" precedes the number.

State--The State of California.

State Standard Plans--Standard Plans prepared by State of California, Business and Transportation Agency, Department of Transportation.

Storm Drain--Any conduit and appurtenances intended for the reception and transfer of storm water.

Street--Any road, highway, parkway, freeway, alley, walk or way.

Subbase--A layer of specified material of planned thickness between a base and the subgrade.

Subcontractor-- Any person or entity with whom Contractor contracts to provide any part of the Services, including subcontractors of any tier, suppliers and material men, whether or not in privity with Contractor.

Subgrade--For roadways, that portion of the roadbed on which pavement, surfacing, base, subbase, or a layer of other material is placed. For structures, the soil prepared to support a structure.

Supervision--Supervision, where used to indicate supervision by the Engineer, shall mean the performance of obligations, and the exercise of rights, specifically imposed upon and granted to the Agency in becoming a party to the Contract. Except as specifically stated herein, supervision by the Agency shall not mean active and direct superintendence of details of the Work.

Supplemental Agreement--A written amendment of the Contract Documents signed by both parties.

Surety--See 2-4.

Unit Price-- as used herein refers to the price published in the Construction Task Catalog® for a specific task. The unit prices are fixed for the duration of the Contract. Each unit price is comprised of the Labor, Equipment and Materials costs to accomplish that specific task.

Utility--Tracks, overhead or underground wires, pipelines, conduits, ducts, or structures, sewers or storm drains owned, operated or maintained in or across a public right of way or private easement.

Work-- The furnishing by Contractor of all labor, materials, equipment and other incidentals necessary or convenient to the completion of an individual Job Order.

## 1-3 ABBREVIATIONS

**1-3.1 General.** The abbreviations herein, together with others in general use, are applicable to these Standard Specifications and to all other Contract Documents.

All abbreviations and symbols used on Plans for structural steel construction shall conform to those given by the "Manual of Steel Construction" published by the American Institute of Steel Construction, Inc.

### 1-3.2 Common Usage

| <u>Abbreviation</u> | <u>Word or Words</u>                                     | <u>Abbreviation</u> | <u>Word or Words</u>        |
|---------------------|--|---------------------|-----------------------------|
| Aban                | Abandon  | l                   | Liters                      |
| Aband               | Abandoned  | Lab                 | Laboratory                  |
| ABS                 | Acrylonitrile-butadiene-styrene                          | Lat                 | Lateral                     |
| AC                  | Asphalt Concrete   | LD                  | Local depression            |
| ACP                 | Asbestos cement pipe                                     | LED                 | Light Emitting Diode        |
| Alt                 | Alternate  | LH                  | Lamp hole                   |
| AmerStd             | American Standard  | LL                  | Live load                   |
| APC                 | Air Placed Concrete                                      | LOL                 | Layout line                 |
| ARAM                | Asphalt Rubber Aggregate Membrane                        | Long                | Longitudinal                |
| ARHM                | Asphalt Rubber Hot Mix                                   | LP                  | Lamp post                   |
| AWG                 | American Wire Gage (non-ferrous wire)                    | LPS                 | Low pressure sodium (Light) |
| B/W                 | Back of wall   | LS                  | Lump sum                    |
| BC                  | Beginning of curve                                       | LTS                 | Lime treated soil           |
| BCR                 | Beginning of curb return                                 | m                   | Meters                      |
| Bdry                | Boundary   | Maint               | Maintenance                 |
| BF                  | Bottom of footing  | Max                 | Maximum                     |
| BM                  | Bench mark   | MC                  | Medium curing               |
| BMPs                | Best Management Practices                                | MCR                 | Middle of curb return       |
| BVC                 | Beginning of vertical curve                              | Meas                | Measure                     |
| C&G                 | Curb & Gutter  | MH                  | Manhole, maintenance hole   |
| C&G                 | Curb and gutter  | Mil Spec            | Military specification      |
| CAB                 | Crushed aggregate base                                   | Min                 | Minimum                     |
| CALOSHA             | California Occupational Safety and Health Administration | Misc                | Miscellaneous               |

| <u>Abbreviation</u> | <u>Word or Words</u>                                    | <u>Abbreviation</u> | <u>Word or Words</u>                       |
|---------------------|---|---------------------|--|
| CALTRANS            | California Department of Transportation                 | Mon                 | Monument                                   |
| CAP                 | Corrugated aluminum pipe                                | Mult                | Multiple                                   |
| CB                  | Catch Basin   | MUTCD               | Manual on Uniform Traffic Control Devices  |
| Cb                  | Curb  | MVL                 | Mercury vapor light                        |
| CBP                 | Catch Basin Connection Pipe                             | N/A                 | No applicable                              |
| CBR                 | California Bearing Ratio                                | NRCP                | Nonreinforced concrete pipe                |
| C-C                 | Center to center  | Obs                 | Obsolete                                   |
| CCFRPM              | Centrifugally Cast Fiberglass Reinforced Plastic Mortar | oc                  | On center                                  |
| CCR                 | California Code of Regulations                          | OD                  | Outside diameter                           |
| CCTV                | Closed Circuit TV                                       | OE                  | Outer edge                                 |
| CF                  | Cubic foot  | Opp                 | Opposite                                   |
| CF                  | Curb face   | Orig                | Original                                   |
| CFR                 | Code of Federal Regulations                             | PAV                 | Pressure Aging Vessel                      |
| CFS                 | Cubic feet per second                                   | PB                  | Pull box                                   |
| CHDPE               | Corrugated High Density Polyethylene                    | PC                  | Point of curvature                         |
| CIP                 | Cast iron pipe  | PCC                 | Point of compound curvature                |
| CIPP                | Cast-in-place pipe                                      | PCC                 | Portland cement concrete                   |
| CIPPC               | Cast-in-place Concrete Pipe                             | PCVC                | Point of compound vertical curve           |
| CL                  | Clearance, center line                                  | PE                  | Polyethylene                               |
| CLF                 | Chain link fence  | PG                  | Performance Graded                         |
| CLSM                | Controlled Low Strength Material                        | PI                  | Point of intersection                      |
| CMB                 | Crushed miscellaneous base                              | PL                  | Property line                              |
| CMC                 | Cement mortar-coated                                    | PLI                 | Pounds per linear inch                     |
| CML                 | Cement mortar-lined                                     | PMB                 | Processed miscellaneous base               |
| cms                 | Cubic meters per second                                 | POC                 | Point on curve                             |
| CO                  | Cleanout (Sewer)  | POT                 | Point on tangent                           |
| Col                 | Column  | PP                  | Power pole                                 |
| Conc                | Concrete  | PRC                 | Point of reverse curve                     |
| Conn                | Connection  | PRVC                | Point of reverse vertical curve            |
| Const               | Construct, Construction                                 | PSI                 | Pounds per square inch                     |
| Coord               | Coordinate  | PT                  | Point of tangency                          |
| CQS                 | Cationic Quick-Setting                                  | PVC                 | Polyvinyl chloride                         |
| CRM                 | Crumb Rubber Modifier                                   | Pvmt                | Pavement                                   |
| CRS                 | Cationic Rapid-Setting                                  | Pvt R/W             | Private right of way                       |
| CSEP                | Confined Space Entry Plan                               | Q                   | Rate of flow in cms (CFS)                  |
| CSP                 | Corrugated steel pipe                                   | Quad                | Quadrangle, Quadrant                       |
| CSPA                | Corrugated steel pipe arch                              | R                   | Radius or Resistance value                 |
| CSS                 | Cationic Slow-Setting                                   | R&O                 | Rock and Oil                               |
| CT                  | California Test   | R/W                 | Right of way                               |
| CTB                 | Cement treated base                                     | RA                  | Reclaimed Asphalt or Recycling agent       |
| CV                  | Check valve   | RAC                 | Recycled asphalt concrete                  |
| CY                  | Cubic yard  | RAP                 | Reclaimed asphalt pavement                 |
| D                   | Depth, Load of pipe                                     | RBAC                | Rubberized asphalt concrete                |
| db                  | Decibels  | RC                  | Reinforced concrete or Rapid Curing        |
| Dbl                 | Double  | RCB                 | Reinforced concrete box                    |
| DF                  | Douglas Fir   | RCE                 | Registered civil engineer                  |
| Dia                 | Diameter  | RCP                 | Reinforced concrete pipe                   |
| DIP                 | Ductile iron pipe                                       | RCV                 | Remote control valve                       |
| DL                  | Dead load   | Ref                 | Reference                                  |
| DT                  | Drain tile  | Reinf               | Reinforced or reinforcement                |
| Dwg                 | Drawing   | Res                 | Reservoir                                  |
| Dwy Appr            | Driveway approach                                       | RGE                 | Registered geotechnical engineer           |
| Dwy                 | Driveway  | RPPCC               | Reclaimed Plastic Portland Cement Concrete |
| Ea                  | Each  | RR                  | Railroad                                   |
| EC                  | End of curve  | RSE                 | Registered structural engineer             |
| ECR                 | End of curb return                                      | RTE                 | Registered traffic engineer                |
| EF                  | Each face   | RTFO                | Rolling Thin Film Oven                     |
| EG                  | Edge of gutter  | RW                  | Reclaimed Water                            |
| EGL                 | Energy grade line                                       | S                   | Slope                                      |
| EI                  | Elevation   | S/W                 | Sidewalk                                   |
| ELC                 | Electroliter lighting conduit                           | SC                  | Slow curing                                |
| ELT                 | Extra long ton of slurry                                | SCCP                | Steel cylinder concrete pipe               |
| Eng                 | Engineer, Engineering                                   | SCNs                | Supplementary Cementitious Materials       |
| EP                  | Edge of pavement  | SD                  | Storm drain                                |
| Esmt                | Easement  | SDR                 | Standard dimension ratio                   |
| ETB                 | Emulsion treated base                                   | SE                  | Sand Equivalent                            |
| EVC                 | End of vertical curve                                   | Sec                 | Section                                    |

| <b><u>Abbreviation</u></b> | <b><u>Word or Words</u></b>         | <b><u>Abbreviation</u></b> | <b><u>Word or Words</u></b>            |
|----------------------------|-------------------------------------|----------------------------|--|
| Exc                        | Excavation                          | SF                         | Square foot                            |
| Exist or Ex                | Existing                            | SG                         | Specific gravity                       |
| Exp Jt                     | Expansion joint                     | SI                         | International System of Units (Metric) |
| F & C                      | Frame and cover                     | Spec                       | Specifications                         |
| F & I                      | Furnish and install                 | SR                         | Standard ratio                         |
| F/W                        | Face of wall                        | SS                         | Sanitary sewer                         |
| Fab                        | Fabricate                           | SSB                        | Select sub-base                        |
| FAS                        | Flashing arrow sign                 | SSP                        | Structural steel plate pipe            |
| FD                         | Floor drain                         | SSPA                       | Structural steel plate pipe arch       |
| Fdn                        | Foundation                          | St Hwy                     | State highway                          |
| Fed Spec                   | Federal Specification               | Sta                        | Station                                |
| FG                         | Finished grade                      | Std                        | Standard                               |
| FL                         | Flow line                           | Str Gr                     | Straight grade                         |
| FS                         | Finished surface                    | Str                        | Straight                               |
| ft - lb                    | foot – pound                        | Struc                      | Structural/Structure                   |
| Ftg                        | footing                             | SW                         | Sidewalk                               |
| FW                         | Face of wall                        | SWD                        | Sidewalk drain                         |
| Ga                         | Gauge                               | SWPPP                      | Storm Water Pollution Prevention Plan  |
| Galv                       | Galvanized                          | SY                         | Square Yard                            |
| GG                         | Gap graded                          | T/W                        | Top of wall                            |
| GIP                        | Galvanized iron pipe                | Tan                        | Tangent                                |
| GL                         | Ground line or grade line           | TC                         | Top of curb                            |
| GM                         | Gas meter                           | TCP                        | Traffic control plan                   |
| GP                         | Guy pole                            | Tel                        | Telephone                              |
| Gr                         | Grade                               | TF                         | Top of footing                         |
| Grtg                       | Grating                             | Topo                       | Topography                             |
| GSP                        | Galvanized steel pipe               | Tr                         | Tract                                  |
| H                          | High or height                      | Trans                      | Transition                             |
| HB                         | Hose bib                            | TRMAC                      | Tire rubber modified asphalt concrete  |
| HC                         | House connection                    | TS                         | Traffic signal or transition structure |
| HDPE                       | High density Polyethylene           | TSC                        | Traffic signal conduit                 |
| HDWL                       | Headwall                            | TSS                        | Traffic signal standard                |
| HGL                        | Hydraulic grade line                | TTC                        | Temporary traffic control              |
| Hor, Horiz                 | Horizontal                          | TW                         | Top of wall                            |
| Hp                         | Horsepower                          | Typ                        | Typical                                |
| HPG                        | High pressure gas                   | U.S.                       | United States                          |
| HPS                        | High pressure sodium (Light)        | U.S.C.                     | United States Code                     |
| HRWRA                      | High Range Water Reducing Admixture | USA                        | Underground Service Alert              |
| Hyd, Hydr                  | Hydraulic                           | Var                        | Varies, Variable                       |
| ID                         | Inside diameter                     | VB                         | Valve box                              |
| Incl                       | Include, Including                  | VC                         | Vertical curve                         |
| Insp                       | Inspection                          | VCP                        | Vitrified clay pipe                    |
| Inv                        | Invert                              | Vert                       | Vertical                               |
| IP                         | Iron pipe                           | Vol                        | Volume                                 |
| J                          | Joules                              | VTCSH                      | Vehicle Traffic Controls Signal Heads  |
| JC                         | Junction chamber                    | W                          | Width or Wider                         |
| Jct                        | Junction                            | WI                         | Wrought iron                           |
| JS                         | Junction structure                  | WM                         | Water meter                            |
| Jt                         | Joint                               | WPJ                        | Weakened plane joint                   |
| kg                         | Kilograms                           | WTAT                       | Wet Track Abrasion Test                |
| kPa                        | KiloPascals                         | X Conn                     | Cross connection                       |
| L                          | Length                              | x (as in 2x4)              | by                                     |
|                            |                                     | X-Sec                      | Cross section                          |

### 1-3.3 Institutions.

| <u>Abbreviation</u> | <u>Word or Words</u>  |
|---------------------|---|
| AAN.....            | American Association of Nurserymen  |
| AASHTO .....        | American Association of State Highway and Transportation Officials        |
| ACI .....           | American Concrete Institute   |
| AGC .....           | Associated General Contractors of America                                 |
| AISC.....           | American Institute of Steel Construction                                  |
| ANSI.....           | American National Standards Institute                                     |
| API .....           | American Petroleum Institute  |
| APWA .....          | American Public Works Association   |
| AREA .....          | American Railway Engineering Association                                  |
| ASHRAE .....        | American Society of Heating, Refrigeration and Air-Conditioning Engineers |
| ASME .....          | American Society of Mechanical Engineers                                  |
| ASTM .....          | American Society for Testing and Materials                                |
| AWPA .....          | American Wood Preserver's Association                                     |
| AWS.....            | American Welding Society  |
| AWWA .....          | American Water Works Association  |
| CBSC .....          | California Building Standards Commission                                  |
| CRSI .....          | Concrete Reinforcing Steel Institute                                      |
| EIA .....           | Electronic Industries Association   |
| EPA.....            | Environmental Protection Agency   |
| ETL .....           | Electrical Testing Laboratories   |
| FCC.....            | Federal Communications Commission   |
| IAPMO .....         | International Association of Plumbing and Mechanical Officials            |
| ICC.....            | International Code Council  |
| IEEE .....          | Institute of Electrical and Electronics Engineers                         |
| IMSA .....          | International Municipal Signal Association                                |
| ITE .....           | Institute of Traffic Engineers  |
| NEMA.....           | National Electrical Manufacturers Association                             |
| NFPA .....          | National Fire Protection Association                                      |
| NOAA.....           | National Oceanic and Atmospheric Administration (Department of Commerce)  |
| RUS .....           | Rural Utility Service   |
| UL .....            | Underwriters' Laboratories, Inc.  |
| USGS .....          | United State Geological Survey  |
| WFCB .....          | Western Fire Chiefs Association   |

**1-3.4 Building Codes.** The Ventura County Building Code (VCBC) and Ventura County Fire Code (VCFC) are applicable to the Work. VCBC and VCFC adopt by reference a number of uniform and national codes. Where such codes are referenced directly in the Specifications, such references shall be to the VCBC or VCFC which adopt and modify certain provisions in the referenced codes.

| <u>Abbreviation</u> | <u>Code</u>   | <u>Publisher</u> |
|---------------------|---|------------------|
| CBC .....           | California Building Code .....                        | CBSC             |
| DBC .....           | Uniform Code for Abatement of Dangerous Building..... | ICC              |
| UBC .....           | Uniform Building Code .....                           | ICC              |
| UFC.....            | Uniform Fire Code .....                               | ICC and WFCB     |
| UHC .....           | Uniform Housing Code .....                            | ICC              |
| UMC .....           | Uniform Mechanical Code .....                         | IAPMO            |
| UPC .....           | Uniform Plumbing Code .....                           | IAPMO            |
| NEC .....           | National Electrical Code .....                        | NFPA             |

### 1-3.5 Reference Documents.

| <u>Abbreviation</u> | <u>Document</u>   |
|---------------------|---|
| HDM .....           | Highway Design Manual, State of California, Department of Transportation, Latest Edition                    |
| MUTCD .....         | Manual on Uniform Traffic Control Devices   |
| SSP .....           | Standard Plans, State of California, Department of Transportation, latest edition                           |
| SPPWC .....         | Standard Plans for Public Works Construction, Latest edition, published by BNi Building News, Los Angeles,  |
| SSPWC .....         | Standard Specifications for Public Works Construction, (See Section 0-1)                                    |
| SSS .....           | Standard Specifications, State of California, Department of Transportation, latest edition                  |
| VCJOS .....         | Ventura County Standard Specifications (Division 1, Sections 0 through 10, of which this section is a part) |

## 1-4 UNITS OF MEASURE

**1-4.1 General.** The International System of Units, also referred to as SI or the metric system, is the principal measurement system in these Specifications and shall be used for construction, unless otherwise stated in the Contract Documents. U. S. Standard Measure, also called U. S. Customary System, are included in parenthesis. SI units and U. S. Standard Measure in parenthesis may or may not be exactly equivalent. If U. S. Standard Measures are specified for use in the Contract Documents, then all values used for construction shall be U. S. Standard Measures shown in parentheses. However, certain material Specifications and test requirements contained herein use SI units specifically and conversions to U. S. Measures have not been included in these circumstances. When U. S. Standard Measures are not included in parentheses, the SI units shall control.

Reference is also made to ASTM E 380 for definitions of various units of the SI system and a more extensive set of conversion factors.

**1-4.1.1 Units for Work** Where U. S. Standard Measure units are shown on the Plans or are specified, U. S. Standard Measure shall be used for the Work.

### 1-4.2 Units of Measure, Equivalents and Abbreviations

| One U.S. Customary Unit       | (abbreviation)    | Is Equal To | #                                  | SI Unit                    |
|-------------------------------|-------------------|-------------|------------------------------------|----------------------------|
| mil (=0.001 in)               |                   | 25.4        | micrometers                        | ( $\mu\text{m}$ )          |
| inch                          | (in)              | 25.4        | millimeter                         | (mm)                       |
| inch                          | (in)              | 2.54        | centimeter                         | (cm)                       |
| foot                          | (ft)              | 0.3048      | meter                              | (m)                        |
| yard                          | (yd)              | 0.9144      | meter                              | (m)                        |
| mile                          |                   | 1.6093      | kilometer                          | (km)                       |
| square foot                   | ( $\text{ft}^2$ ) | 0.0929      | square meter                       | ( $\text{m}^2$ )           |
| square yard                   | ( $\text{yd}^2$ ) | 0.8361      | square meter                       | ( $\text{m}^2$ )           |
| cubic foot                    | ( $\text{ft}^3$ ) | 0.0283      | cubic meter                        | ( $\text{m}^3$ )           |
| cubic yard                    | ( $\text{yd}^3$ ) | 0.7646      | cubic meter                        | ( $\text{m}^3$ )           |
| acre (=43,560 $\text{ft}^2$ ) |                   | 0.4047      | hectare (1ha=10,000 $\text{m}^2$ ) | (ha)                       |
| gallon                        | (gal)             | 3.7854      | Liter                              | (L)                        |
| fluid ounce                   | (fl. oz.)         | 29.5735     | milliliter                         | (mL)                       |
| pound mass (avoirdupois)      | (lbs)             | 0.4536      | kilogram                           | (kg)                       |
| ounce mass                    | (oz)              | 0.02835     | kilogram                           | (kg)                       |
| ounce mass                    | (oz)              | 28.35       | grams                              | (g)                        |
| Ton (=2000 lb avoirdupois)    |                   | 0.9072      | Tonne (1 Tonne = 1000 kg)          |                            |
| Poise                         |                   | 0.10        | Pascal-second                      | (Pa-s)                     |
| centistoke                    | (cs)              | 1.00        | square millimeter/sec.             | ( $\text{mm}^2/\text{s}$ ) |
| pound force                   | (lbf)             | 4.4482      | Newton                             | (N)                        |
| pound per square inch         | (psi)             | 6.8948      | Kilopascal                         | (kPa)                      |
| pound force per foot          | (lbf/ft)          | 14.594      | Newton per meter                   | (N/M)                      |
| foot-pound force              | (ft-lbf)          | 1.3558      | Joules                             | (J)                        |
| foot-pound force per second   | ([ft-lbf]/s)      | 1.3558      | Watt                               | (W)                        |
| part per million              | (ppm)             | 1.00        | milligram/liter                    | (mg/L)                     |
| Degree Fahrenheit             | (°F)              | 0.5555      | Degree Celsius                     | (°C)                       |

#### Temperature: Celsius to Fahrenheit

$$\text{Temperature } ^\circ\text{F} = (1.8 \times ^\circ\text{C}) + 32$$

#### Temperature: Fahrenheit to Celsius

$$\text{Temperature } ^\circ\text{C} = (^\circ\text{F} - 32) / 1.8$$

#### SI Units Used in Both Systems

|            |              |              |
|------------|--------------|--------------|
| Ampere (A) | second (s)   | Candela (cd) |
| Volt (V)   | decibel (db) | Lumen (lm)   |

#### Common Metric Prefixes

|           |           |                 |           |          |            |
|-----------|-----------|-----------------|-----------|----------|------------|
| kilo (k)  | $10^3$    | milli (m)       | $10^{-3}$ | nano (n) | $10^{-9}$  |
| centi (c) | $10^{-2}$ | micro ( $\mu$ ) | $10^{-6}$ | pico (p) | $10^{-12}$ |

## 1-5 SYMBOLS

|   |   |                             |
|---|---|-----------------------------|
| ° Degree  | $\underline{R}$ Property line               | % Percent                   |
| ' Feet or minutes   | $\underline{S}$ Survey line or station line | # Number                    |
| " Inches or seconds   | $\underline{Q}$ Center line                 | / per or of (between words) |
| $\Delta$ Delta, the central angle or angle between tangents |   | $\angle$ Angle              |

1-6 **CONTRACT INTERPRETATION.** Any headings of this Contract are for convenience of reference only and do not define or limit the provisions thereof. In this Contract, unless the context otherwise requires, the terms "hereby", "herein", "hereof", "hereto", "hereunder" and any similar terms used in this agreement refer to this Contract; all provision references, unless otherwise expressly indicated, are to provisions of this Contract; words importing persons shall include firms, associations, partnerships, trusts, corporations, joint ventures and other legal entities, including public bodies, as well as natural persons. Words of any gender shall be deemed and construed to include correlative words of other genders. Words importing the singular number shall include the plural and vice versa, unless the context otherwise indicate. All references to any exhibit or document shall be deemed to include all supplements and/or amendments to any such exhibits or documents entered into in accordance with the terms and conditions hereof and thereof. All references to any person or entity shall be deemed to include any person or entity succeeding to the rights, duties, and obligations of such persons or entities in accordance with the terms and conditions of this Contract.

1-7 **SEVERABILITY.** If any provisions of this Contract shall be held or deemed to be or shall in fact be inoperative or unenforceable as applied in any particular case in any jurisdiction or jurisdictions or in all cases because it conflicts with any other provision or provisions hereof or of any constitution, statute, ordinance, rule of law, or public policy, or for any other reason, such circumstances shall not have the effect of rendering the provision in question inoperative or unenforceable in any other case or circumstances, or rendering any other provision or provisions herein contained invalid, inoperative, or unenforceable to any extent whatever. The invalidity of any one or more phrases, sentences, clauses, or provisions contained in this Contract shall not affect the remaining portions of this Contract or any part thereof.

## **SECTION 2 - SCOPE AND CONTROL OF WORK**

### **2-1 AWARD AND EXECUTION OF CONTRACT**

**2-1.1 Award of Contract** The right is reserved to waive minor irregularities in the proposals and to reject any or all proposals. The award of the Contract, if it be awarded, will be to the lowest responsive, responsible Bidder, determined as provided on the Proposal Form, whose Proposal complies with all the requirements prescribed. Such award, if made, will be made within the number of Days stated in the Proposal forms. If the lowest responsible Bidder refuses or fails to execute the Contract, the Agency may, within 45 additional Days, consider the next lowest Bidder to be the lowest responsive, responsible Bidder. The periods of time specified above within which the award of Contract may be made shall be subject to extension for such further period as may be agreed upon in writing by the Bidder concerned. If the Bidder's bid guarantee was in the form of a bid bond, the Bidder shall also submit a statement from the Surety that the bond has been extended for the same period.

Proposals not accompanied by a properly executed Noncollusion Affidavit required by Public Contract Code Section 7106 will be considered nonresponsive and will not be considered for award.

All bids will be compared on the basis of the two bid adjustment factors as shown on the Bid Proposal. The lowest responsive, responsible bidder will be determined as follows: the "Normal Working Hours Adjustment Factor" shall be multiplied by .90, and the "Other than Normal Working Hours Adjustment Factor" shall be multiplied by .10. These two (2) numbers will be summed for a composite bid, and the lowest composite bid will be considered the low bid.

Before award, the Bidder may be required to furnish acceptable evidence of adequate capability, equipment and financial resources to adequately perform the Work. Bidders found not to be so qualified may have their bids rejected. If reasonable cause exists to believe collusion exists among Bidders, or that prices Bid are unbalanced between Bid items, any or all proposals may be rejected.

Award will not be made to a Bidder who is listed by the State Labor Commissioner as ineligible to bid, work on, or be awarded public works projects.

**2-1.2 Notice of Award.** Within one Day after award of Contract by the Board, the Bidder to whom Contract is awarded will be notified of award by telephone, or if no contact is made by telephone, then by mail. Within three business days after award of Contract, a Notice of Award will be sent, transmitting the Contract Documents to such Bidder for execution. If telephone contact is made, the Bidder may request that the Contract Documents be held in Agency's office to be picked up.

**2-1.3 Execution of Contract Documents.** On receipt of the Contract Documents, the Bidder shall promptly obtain the required insurance coverage, certificates of insurance, power-of-attorney and Contract bonds, execute the Contract, and transmit all required documents to the Agency.

**2-1.4 Failure to Execute Documents.** Should the Bidder fail to furnish Agency all required documents, properly executed, within 30 calendar days of the date of the Award of Contract by the Board of

Supervisors, Agency may thereafter declare the Bidder to be in default and its Proposal guarantee forfeited.

**2-1.5 Return of Proposal Guarantees.** Within 10 Days after the award of the Contract, Agency will return the Proposal guarantees, other than Bidder's bonds, accompanying such of the proposals as are not to be further considered in making the award. The low and second Bidder's Proposal guarantee will be held until the Contract has been executed, after which all Proposal guarantees, except Bidders' bonds and any guarantees which have been forfeited, will be returned to the respective Bidders whose proposals they accompany.

**2-2 ASSIGNMENT.** No Contract or portion thereof may be assigned without consent of the Board except that the Contractor may assign money due or which will accrue to it under the Contract. If given written notice, such assignment will be recognized by the Board to the extent permitted by law, but any assignment of money shall be subject to all proper withholdings in favor of the Agency and to all deductions provided for in the Contract. All money withheld, whether assigned or not, shall be subject to being used by the Agency for completion of the Work, should the Contractor be in default.

**2-3 SUBCONTRACTS.**

**2-3.1** The Contractor shall not name Subcontractors at the time of proposal but at time of offer to perform work with the individual Job Orders.

**2-3.1.1 Use of Debarred Subcontractors Prohibited.** The Contractor is prohibited from performing work using a Subcontractor who is listed by the State Labor Commissioner as ineligible to work on public works projects.

**2-3.2 Additional Responsibilities.** The following items of work shall be done by the Contractor using his own forces, not a subcontractor: Paving with conventional asphalt concrete, paving with rubberized asphalt concrete, and road base repairs. Before the work of any Subcontractor is started, the Contractor shall submit to the Engineer for approval a written statement showing the work to be subcontracted giving the name and business of each Subcontractor and description and value of each portion of the work to be so subcontracted.



**2-3.3 Status of Subcontractors.** Subcontractors shall be considered employees of the Contractor, and the Contractor shall be responsible for their work.

**2-3.3.1 Subcontracts.** The Contractor shall incorporate into all subcontracts, and the Subcontractor shall incorporate into all lower tier subcontracts, all of the Plans and Specifications which are part of the Contract between the Contractor and the Agency.

**2-3.3.2 Contractor Responsible.** The Contractor is responsible for properly performing and completing all Work required by the Contract whether or not it employs subcontractors for certain portions of the Work. It shall coordinate the sequence and timing of its efforts and that of its subcontractors to insure the proper and timely completion of the Work.

**2-3.3.3 Specialty Contractors.** Where a specialty Contractor's license is required by law or by the Specifications in order to perform certain portions of the Work, the Contractor may perform such portion with its own forces if it holds the proper license. Otherwise, it shall employ a properly licensed subcontractor to perform that portion of the Work. Such requirement to employ a subcontractor does not modify the other requirements of 2-3.

**2-4 CONTRACT BONDS.** Before execution of the Contract by the Agency, the Bidder shall file surety bonds with the Agency to be approved by the Board in the amounts and for the purposes noted below. Bonds issued by a Surety who is listed in the latest version of U.S. Department of Treasury Circular 570, who is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract shall be deemed to be approved unless specifically rejected by the Agency. Bonds from all other sureties shall be accompanied by all of the documents enumerated in Code of Civil Procedure 995.660(a). The Bidder shall pay all bond premiums, costs, and incidentals.

Each bond shall incorporate, by reference, the Contract and be signed by both the Bidder and Surety and the signature of the authorized agent of the Surety shall be notarized.

The Bidder shall provide two good and sufficient surety bonds. The "Payment Bond" (Material and Labor Bond) shall be for \$4,000,000 to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The bond shall be maintained by the Contractor in full force and effect until the Work is accepted by the Agency, until all claims for materials and labor are paid, and shall otherwise comply with the Civil Code.

The "Performance Bond" shall be for \$4,000,000 to guaranty faithful performance of all Work, within the time prescribed, in a manner satisfactory to the Agency, and that all materials and workmanship will be free from original or developed defects. The bond must remain in effect until the end of the warranty period set forth in 6.8-2.

Should any bond become insufficient, the Contractor shall renew the bond within 10 Days after receiving notice from the Agency.

Should any Surety at any time be unsatisfactory to the Board, notice will be given the Contractor to that effect. No further payments shall be deemed due or will be made under the Contract until a new Surety shall qualify and be accepted by the Board.

Changes in the Work, or extensions of time, made pursuant to the Contract, shall in no way release the Contractor or Surety from its obligations. Notice of such changes or extensions shall be waived by the Surety.

**2-4.1 Bond Forms.** Bonds shall be on forms furnished by Agency.

## **2-5 PLANS AND SPECIFICATIONS**

**2-5.1 General.** The Contractor shall keep at the work site a copy of the Plans and Specifications, to which the Engineer shall have access at all times.

The Plans, Specifications, and other Contract Documents shall govern the Work. The Contract Documents are intended to be complementary and cooperative. Anything specified in the Specifications and not shown on the Plans, or shown on the Plans and not specified in the Specifications, shall be as though shown or specified in both.

The Plans shall be supplemented by such working drawings and shop drawings as are necessary to adequately control the Work.

The Contractor shall ascertain the existence of any conditions affecting the cost of the Work During the Joint Scope Meeting.

Existing improvements visible at the work site, for which no specific disposition is made on the Plans, but which interfere with the completion of the Work, shall be discussed and decided on at the Joint Scope Meeting

The Contractor shall, upon discovering any error or omission in the Plans or Specifications, immediately call it to the attention of the Engineer.

**2-5.1.1 Specifications Captions.** Captions accompanying specification parts, sections and paragraphs are for convenience of reference only and do not limit the content of such part, section or paragraph.

The division of the Plans into parts and the division of the Specifications into divisions and sections are for the ease of reference only and does not imply the division of work between trades or subcontractors.

**2-5.2 Precedence of Contract Documents.** If there is a conflict between any of the Contract Documents, the document highest in precedence shall control. The precedence shall be as follows:

- 1) Permits issued by jurisdictional regulatory agencies.
- 2) Supplemental Agreements.
- 3) Job Orders.
- 4) Contract/Agreement.
- 5) Addenda.
- 6) Bid/Proposal.
- 7) Special Provisions.
- 8) CTC®
- 9) Plans.
- 10) Standard Plans.
- 11) Standard Specifications.
- 12) Reference Specifications.
- 13) Technical Specifications

Detail drawings shall take precedence over general drawings.

### **2-5.3 Submittals.**

**2-5.3.1 General.** Submittals shall be provided, at the Contractor's expense, as required in 2-5.3.2, 2-5.3.3 and 2-5.3.4, when required by the Plans or Special Provisions, or when requested by the Engineer.

Materials shall neither be furnished nor fabricated, nor shall any work for which submittals are required be performed, before the required submittals have been reviewed and accepted by the Engineer. Neither review nor acceptance of submittals by the Engineer shall relieve the Contractor from responsibility for errors, omissions, or deviations from the Contract Documents, unless such deviations were specifically called to the attention of the Engineer in the letter of transmittal. The Contractor shall be responsible for the correctness of the submittals.

The Contractor shall allow a minimum of 20 working days for review of submittals unless otherwise specified in the Special Provisions. Each submittal shall be accompanied by a letter of transmittal.

**2-5.3.2 Working Drawings.** Working drawings are drawings showing details not shown on the Plans which are required to be designed by the Contractor. Working drawings shall be of a size and scale to clearly show all necessary details.

Six copies and one reproducible shall be submitted. If no revisions are required, three of the copies will be returned to the Contractor. If revisions are required, the Engineer will return one copy along with the reproducible for resubmission. Upon acceptance, the Engineer will return two of the copies to the Contractor and retain the remaining copies and the reproducible.

Working drawings are required in the following subsections:

**TABLE 2-5.3.2 (A)**

| Item | Section Number | Title                                | Subject                           |
|------|----------------|--------------------------------------|-----------------------------------|
| 1    | 7-10.4.1       | Safety Orders                        | Trench Shoring                    |
| 2    | 207-2.5        | Joints                               | Reinforced Concrete Pipe          |
| 3    | 207-8.4        | Joints                               | Vitrified Clay Pipe               |
| 4    | 207-10.2.1     | General                              | Fabricated Steel Pipe             |
| 5    | 300-3.2        | Cofferdams                           | Structure Excavation & Backfill   |
| 6    | 303-1.6.1      | General                              | Falsework                         |
| 7    | 303-1.7.1      | General                              | Placing Reinforcement             |
| 8    | 303-3.1        | General                              | Prestressed Concrete Construction |
| 9    | 304-1.1.1      | Shop Drawings                        | Structural Steel                  |
| 10   | 304-1.1.2      | Falsework Plans                      | Structural Steel                  |
| 11   | 304-2.1        | General                              | Metal Hand Railings               |
| 12   | 306-2.1        | General                              | Jacking Operations                |
| 13   | 306-3.1        | General                              | Tunneling Operations              |
| 14   | 306-3.4        | Tunnel Supports                      | Tunneling Operations              |
| 15   | 306-6          | Remodeling Existing Sewer Facilities | Polyethylene Liner Installation   |
| 16   | 306-8          | Microtunneling                       | Microtunneling Operations         |
| 17   | 307-4.3        | Controller Cabinet Wiring Diagrams   | Traffic Signal Construction       |

Working drawings listed above as Items 5, 6, 8, 9, 10, 12, 13, 14 and 16 shall be prepared by a Civil or Structural Engineer registered by the State of California.

**2-5.3.3 Shop Drawings.** Shop drawings are drawings showing details of manufactured or assembled products proposed to be incorporated into the Work. Shop drawings required shall be as specified in the Special Provisions.

**2-5.3.4 Supporting Information.** Supporting information is information required by the Specifications for the purposes of administration of the Contract, analysis for verification of conformance with the Specifications, the operation and maintenance of a manufactured product or system to be constructed as part of the Work, and other information as may be required by the Engineer. Six copies of the supporting information shall be submitted to the Engineer prior to the start of the Work unless otherwise specified in the Special Provisions or directed by the Engineer. Supporting information for systems shall be bound together and include all manufactured items for the system. If resubmittal is not required, three copies will be returned to the Contractor. Supporting information shall consist of the following and is required unless otherwise specified in the Special Provisions for each individual Job Order:

- 1) List of Subcontractors per 2-3.2.
- 2) List of Materials per 4-1.4.
- 3) Certifications per 4-1.5.
- 4) Construction Schedule per 6-1.
- 5) Confined Space Entry Program per 7-10.4.4.
- 6) Concrete mix designs per 201-1.1.
- 7) Asphalt concrete mix designs per 203-6.1.
- 8) Data, including, but not limited to, catalog sheets, manufacturer's brochures, technical bulletins, specifications, diagrams, product samples, and other information necessary to describe a system, product or item. This information is required for irrigation systems, street lighting systems, and traffic signals, and may also be required for any product, manufactured item, or system.

**2-5.4 Record Drawings.** The Contractor shall prepare and maintain a set of prints in the Engineer's Field Office on which the locations and description of all plumbing, mechanical, and electrical facilities, which were not detailed fully on the Plans, are marked in colored pencil. Such prints shall also indicate any authorized changes from the original Plans. Such prints shall be furnished to the Engineer before final Acceptance of the Work.

**2-6 WORK TO BE DONE.** The Contractor shall perform all work necessary to complete the Contract in a satisfactory manner. Unless otherwise provided, it shall furnish all materials, equipment, tools, labor and incidentals necessary to complete the Work.

All work under the Contract shall be performed in accordance with the highest standards prevailing in the trades unless otherwise specified on the Plans or in the Special Provisions. Unless otherwise specified, it is the intent that the Contractor will construct a complete facility ready for use.

**2-6.1 Manufacturer's Recommendations.** Where the manufacturer of any materials or equipment provides written recommendations or instructions for its use or method of installation (including labels, tags, manuals, or trade literature), such recommendations or instructions shall be complied with except where the Contract Documents specifically require deviations.

**2-6.2 Testing of Installed Components.** Where the specifications provide that any component of the Work is to be tested, calibrated or adjusted during or after installation, such testing shall be performed by a qualified firm, approved by the Engineer. The firm performing the testing or calibration shall be employed by and paid for by the Contractor.

**2-6.3 Training of Agency Personnel.** Where the specifications provide for training of Agency personnel in the use or maintenance of any component of the Work, the Contractor shall arrange for and pay for competent personnel to perform the training. Contractor shall schedule the training with the Engineer.

**2-7 SUBSURFACE DATA.** All soil and test hole data, groundwater elevations, and soil analyses shown on the Plans or included in the Specifications apply only at the location of the test holes and to the depths shown. Soil test reports for test holes which have been drilled are available for inspection at the office of the Engineer. Additional subsurface exploration may be performed by Bidders or the Contractor at their own expense.

The indicated groundwater elevation is that existing at the date specified in the data. It is the Contractor's responsibility to determine and allow for the groundwater elevation on the date the Work is performed. A difference in groundwater elevation between what is shown in soil boring logs and what is actually encountered during construction will not be considered as a basis for Extra Work per 3-3.

Opinions, recommendations or conclusions contained in any soils report, soil boring logs, subsurface materials investigation, geological report or other similar studies, tests or reports, prepared for the Agency, are not a part of the Contract. Contractor shall be responsible for forming its own opinions and conclusions from the facts set forth in such reports.

**2-8 RIGHTS-OF-WAY.** Rights-of-way, easements or rights-of-entry for the Work will be provided by the Agency. Unless otherwise provided, the Contractor shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required. The Contractor shall indemnify and hold the Agency harmless from all claims for damages caused by such actions.

## **2-9 SURVEYING**

**2-9.1 Permanent Survey Markers.** The Contractor shall notify the Engineer at least 7 Days before starting work to allow for the preservation of survey monuments, lot stakes (tagged), and bench marks. The Engineer, or the owner at its cost, shall file a Corner Record Form referencing survey monuments subject to disturbance in the Office of the County Surveyor prior to the start of construction and also prior to the completion of construction for the replacement of survey monuments. The Contractor shall not disturb survey monuments, lot stakes (tagged), or bench marks without the consent of the Engineer or the owner on Private Contracts. The Contractor shall bear the expense of replacing any that may be disturbed without permission. Replacement shall be done only under the direction of the Engineer by a Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the state.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, the Contractor shall adjust the monument cover to the new grade within 7 Days of finished paving unless otherwise specified.

**2-9.2 Survey Service.** The Engineer will set only the horizontal and vertical control survey points shown on the Plans. These will be set prior to the commencement of construction. The Contractor shall preserve these points as well as any other surveys established by the Engineer for use by the Contractor for the duration of their usefulness. If any survey points established by Engineer are lost or disturbed and need to be replaced, such replacement shall be by the Engineer at the expense of the Contractor. The Contractor shall employ engineers or surveyors to perform adequate surveys and staking necessary to construct the Work to the lines, elevations and grades shown on the Plans and for the Engineer's use in checking such work. Copies of the field notes or diagrams used in setting stakes shall be promptly furnished to the Engineer.

**2-9.2.1 Open Areas.** Where dimensions are not given on the Plans for parking lots, landscaped areas or graded areas, distances shall be scaled. Unless otherwise indicated, straight grades and smooth vertical curves shall be set between indicated elevations. Finished surfaces shall be sloped to drain in order to eliminate ponding of water.

**2-9.2.2 Utilities.** Section 5-5.1 requires the Contractor's cooperation during the relocation of utilities, which may require the setting of lines and grades when needed by utility owners performing relocations.

**2-9.3 Contractor's Surveys.** Surveying by private engineers and surveyors on the Work shall conform to the quality and practice required by the Engineer.

**2-9.3.1 Errors in Surveys.** The Contractor is responsible for the accuracy of all surveys except those performed by the Engineer. To assure that a survey point set by the Engineer has not been disturbed since it was set and that it was accurately set, all surveys by the Contractor shall be based on at least two survey points set by the Engineer or by other governmental surveys, in accordance with good survey practice. Should discrepancies be found between such points, the Engineer shall be notified and construction shall not proceed until the discrepancy has been resolved.

**2-9.4 Line and Grade.** All Work upon completion shall conform to the lines, elevations, and grades shown on the Plans.

**2-9.5 Quantity Surveys.** The Engineer will perform all quantity surveys for payment purposes, however, in performing such quantity surveys, it may make use of surveys performed by the Contractor.

**2-9.6 Payment for Surveys.** Payment for performing all of the surveying and staking as required by the Specifications and such additional surveying and staking as required by the Contractor will be made at the lump sum price set forth in the Proposal and shall be full compensation for furnishing all labor, equipment, instruments and materials necessary to perform the Work (SECTION 9-3). If no bid item for surveying is included in the Proposal, the cost of surveying shall be included in the prices bid for other applicable items of work.

**2-10 AUTHORITY OF BOARD AND ENGINEER.** The Board has the final authority in all matters affecting the Work. Within the scope of the Contract, the Engineer has the authority to enforce compliance with the Plans and Specifications. The Contractor shall promptly comply with instructions from the Engineer or its authorized representative.

On all questions relating to quantities, the acceptability of material, equipment, or work, the execution, progress or sequence of work, and the interpretation of Specifications or drawings, the decision of the Engineer is final and binding, and shall be precedent to any payment under the Contract, unless otherwise ordered by the Board.

**2-10.1 Decisions in Writing.** Any and all decisions of the Engineer interpreting Specifications or drawings shall be in writing. Any purported "interpretation" which is not in writing shall not be binding upon the Agency and should not be relied upon by the Contractor.

## **2-11 INSPECTION**

The Work is subject to inspection and approval of the Engineer. The Contractor shall notify the Engineer before noon of the working day before inspection is required. Work shall be done only in the presence of the Engineer, unless otherwise authorized. Any work done without proper inspection will be subject to rejection. The Engineer and any authorized representatives shall at all times have access to the Work during its construction at shops and yards as well as the Work site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these specifications. Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract.

**2-11.1 Permit Inspections.** The Contractor shall arrange for code compliance inspections by all agencies issuing permits for the Work. The Work shall not continue beyond mandatory inspection points without clearance from the controlling agency. Each agency involved shall be notified in accordance with the code they enforce or in accordance with their standard operating procedures. No extensions of time will be granted for delays occasioned by such inspections except where, through no fault of the Contractor, the inspection is delayed more than one Day beyond normal response time after proper notification has been given.

It shall be the Contractor's responsibility to see that any required inspection record card is signed off before proceeding with the next phase of the Work and completely signed off on completion of the Work.

**2-11.2 Structural Observation.** When the plans indicate that "Structural Observation" of specific work is required prior to Permit Inspection, Contractor shall notify Engineer, in writing, at least five working days prior to the date Contractor plans to have the work ready for structural observation. If the work is not ready for structural observation on the date indicated, Contractor shall reimburse Agency the cost of structural observer's visit to the Work site. If the work to be observed is substantially complete but is found to need correction before approval by the structural observer, Contractor shall give notice of a new date, as required above.

## **2-12 SPECIAL NOTICES.**

**2-12.1 General.** When specified in the Specifications or as directed by the Engineer, any notice required to be given in accordance with this subsection shall be in writing, dated, and signed by the Contractor or the Engineer. Such notices shall be served by any of the following methods:

- a) Personal delivery with proof of delivery which may be made by declaration under penalty of perjury by any person over the age of 18 years. The proof of delivery shall show that delivery was performed in accordance with these provisions. Service shall be effective on the date of delivery. Notices given to the Contractor by personal delivery may be made to the Contractor's authorized representative at the Work site; or
- b) Certified mail addressed to the mailing address of the recipient postage prepaid; return receipt requested. Service shall be effective on the date of the receipt of the mailing.

Simultaneously, the Agency may send the same notice by regular mail. If a notice that is sent by certified mail is returned unsigned, then delivery shall be effective pursuant to regular mail, provided the notice that was sent by regular mail is not returned.

## **2-13 AGENCY PERSONNEL AND AUTHORITY**

**2-13.1 General.** The Board has complete authority for the Contract within the limits prescribed by law. Pursuant to resolutions duly adopted by the Board, the authority to perform certain functions has been delegated to the Director of Public Works. Agency staff personnel and Consultants delegated thereto by the Director are authorized to perform functions limited as set forth in the following list of personnel and designated duties.

**2-13.2 Engineer.** The Director of the Public Works Agency of the County of Ventura is the Engineer and has general authority to administer the Job Order Contract. The Engineer has the following specific authority:

- (a) To issue individual Job Orders against the contract
- (b) To accept the Work when the Contractor has completed all obligations of the Job Order, in accordance with the Plans, Specifications and other Contract Documents. The Engineer also has authority to make and record the Notice of Completion.
- (c) To approve progress and final payments under the Contract, including the provisions for withholding funds.
- (d) To determine whether performance on the Work is satisfactory. Satisfactory performance includes compliance with all contract requirements.
- (e) To approve the substitution of a Subcontractor, where allowed by law, if the listed Subcontractor does not object when notified.
- (f) To suspend the Work for the benefit of the Agency.
- (g) In the absence of the Agency Director, a Public Works Agency Department Director, as Deputy Director of Public Works, may exercise the Engineer's authority. Such action will be indicated by "Acting" with the Department Director's signature.

**2-13.3 Department Director (Public Works Agency).** The Department Director responsible for the project is designated in the Notice to Proceed and may do the following:

- (a) (blank)
- (b) To issue extensions of Contract time in accordance with the Contract Documents.
- (c) To make final adjustment of quantities.
- (d) To approve the substitution of subcontractors, where allowed by law, if the listed Subcontractor does not object when notified.
- (e) To determine when the Work has been completed and acknowledge in writing the completion of the Work.

**2-13.4 Project manager.** The Project manager responsible for the project is designated in the Notice to Proceed. This person may also be referred to as Project Engineer. The Project manager has the following authority:

- (a) To interpret the Plans and Specifications.
- (b) To make minor changes in the location or features of the Work where no change in cost is involved. Such changes in cost may not be the net of multiple changes.
- (c) To approve substitutes for material and equipment specified by proprietary names when such material and equipment meet the Contract requirements.
- (d) To approve shop drawings and submittals.
- (e) To issue stop Job Orders when necessary to enforce the provisions of the Contract.
- (f) To make determinations of each Working Day to be charged against the Contract time in accordance with 6-7.3.
- (g) To take over a portion of the Work for Agency's use in accordance with 6-10.
- (h) To receive all correspondence and other documents from the Contractor.
- (i) To inspect the Work and perform Final Inspection subject to review by the Department Director and the Engineer.

**2-13.5 Inspector.** One or more inspectors will be assigned to the project by the Project manager. Substitutes may be used during absence of the assigned inspector. The Inspector has the following authority subject to review by the Project manager, Department Director and the Engineer:

- (a) To view and inspect the Work, sample and test components (at the Work site and at offsite manufacturing locations), and to discuss the Work with the Contractor's field representative.
- (b) To determine compliance with the Plans, Specifications and other Contract Documents and to issue warnings of noncompliance.
- (c) To issue stop work notices in the following two instances only:
  - 1) Where a safety hazard exists that has an immediate potential for serious injury or death.
  - 2) Where the operation in progress, if continued for even a short period of time, could be adverse to the Agency's interests.

#### **2-13.6 Other Agency Personnel and Consultants.**

**2-13.6.1 Materials Engineer.** The Materials Engineer is designated in the Notice to Proceed. The Materials Engineer may assign one or more Materials Inspectors to the project.

Materials Inspectors have authority to sample and test material at the Work site and at offsite manufacturing or storage locations. They may furnish available written test results to the Contractor's field representative. At batch plants, they may issue warnings of noncompliance, but stop notices require the signature of the Materials Engineer or Project manager.

**2-13.6.2 Surveyors & Technicians.** Surveyors and technicians shall have free access to the site to perform their duties but have no authority related to Contract administration.

**2-13.6.3 Other Persons.** Other Agency personnel who are not involved in construction administration and the general public may be present at the site because it is their present place of work, as client/customers, as visitors, as future users of the facility, or as persons who will maintain the completed facility. Where the facility is to continue in use during construction, work access for Agency workers and client/customers shall be maintained as provided in the Special Provisions. Where the facility (or portion where construction is being performed) is not in use during construction, admittance to the Work site by Agency personnel not involved in construction administration and visitors may be allowed by the Contractor or by the inspector, subject to compliance with safety regulations. Such persons have no authority under the Contract and the Agency is not responsible for their comments, suggestions or directions.

**2-13.6.4 Consultants.** Consultants hired by the Agency shall have free access to the site to perform their duties but have no authority related to Contract administration, unless such duties are specifically identified in writing to the Contractor. When so identified, Consultant may perform the duties of certain Agency personnel described above.

### SECTION 3 - CHANGES IN WORK

#### 3-1 CHANGES REQUESTED BY THE CONTRACTOR

**3-1.1 General.** Changes in specified methods of construction may be made at the Contractor's request when approved in writing by the Engineer. Changes in the Plans and Specifications, requested in writing by the Contractor, which do not materially affect the Work and which are not detrimental to the Work or to the interests of the Agency, may be granted by the Board to facilitate the Work, when approved in writing by the Engineer. Nothing herein shall be construed as granting a right to the Contractor to demand acceptance of such changes.

#### 3-2 CHANGES INITIATED BY THE AGENCY

**3-2.1 General.** The Agency may change the individual Job Order, Plans, Specifications, character of the Work, or quantity of work with a Supplemental Job Order..

#### 3-2.2 Payment for Changes Initiated by the Agency.

**3-2.2.1 Contract Unit Prices.** If a change is ordered in an item of work covered by a Contract unit price, an adjustment in payment will be made based upon the increase or decrease in quantity in a supplemental Job Order

**3-3.2.2** ~~**Basis for Establishing Costs — See 6-1.**~~ *NO TEXT*

**3-4** ~~**NO TEXT DELETED**~~

**3-5 DISPUTED WORK.** If the Contractor and the Agency are unable to reach agreement on disputed work, the Agency may direct the Contractor to proceed with the Work. Dispute resolution shall be as provided in Section 6-11 and 6-12.



## SECTION 4 - CONTROL OF MATERIALS

### 4-1 MATERIALS AND WORKMANSHIP

**4-1.1 General.** All materials, parts, and equipment furnished by the Contractor in the Work shall be new, high grade, and free from defects. Quality of work shall be in accordance with the generally accepted standards. Material and work quality shall be subject to the Engineer's approval.

Materials and work quality not conforming to the requirements of the Specifications shall be considered defective and will be subject to rejection. 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 Engineer.

If the Contractor fails to replace any defective or damaged work or material after reasonable notice, the Engineer may cause such work or materials to be replaced. The replacement expense will be deducted from the amount to be paid to the Contractor.

Used or secondhand materials, parts, and equipment may be used only if permitted by the Specifications.

**4-1.1.1 Materials Furnished by Agency.** Materials furnished by the Agency will be available at locations designated in the Special Provisions or if not designated in the Special Provisions, they will be delivered to a single location of Agency'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 Agency shall be considered as included in the price paid for the Contract item involving such furnished materials.

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 Agency 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.

**4-1.2 Protection of Work and Materials.** The Contractor shall provide and maintain storage facilities and employ such measures as will preserve the specified quality and fitness of materials to be used in the Work. Stored materials shall be reasonably accessible for inspection. The Contractor shall also adequately protect new and existing work and all items of equipment for the duration of the Contract.

The Contractor shall not, without the Agency's consent, assign, sell, mortgage, hypothecate, or remove equipment or materials which have been installed or delivered and which may be necessary for the completion of the Contract.

### 4-1.3 Inspection Requirements

**4-1.3.1 General.** Unless otherwise specified, inspection is required at the source for asphalt concrete pavement mixtures, structural concrete, metal fabrication, metal casting, welding, concrete pipe manufacture, protective coating application, and similar shop or plant operations. Steel pipe in sizes less than 450 mm (18 inches), vitrified clay and cast iron pipe in all sizes are acceptable upon certification as to compliance with the Specifications, subject to sampling and testing by the Agency. Standard items of equipment such as electric motors, conveyors, elevators, plumbing fixtures, etc., are subject to inspection at the Work site only. Special items of equipment such as designed electrical panel boards, large pumps, sewage plant equipment, etc., are subject to inspection at the source, normally only for performance testing. The Specifications may require inspection at the source for other items not typical of those listed in this section.

**4-1.3.2 Inspection of Materials Not Locally Produced.** When the Contractor intends to purchase materials, fabricated products, or equipment from sources located more than 80 km (50 miles) outside the geographical limits of the Agency, an inspector or accredited testing laboratory (approved by the Engineer), shall be engaged by the Contractor at its expense, to inspect the materials, equipment or process. This approval shall be obtained before producing any material or equipment. The inspector or representative of the testing laboratory shall evaluate the materials for conformance with the Plans and Specifications. The Contractor shall forward reports required by the Engineer. No materials or equipment shall be shipped nor shall any processing, fabrication or treatment of such materials be done without proper inspection by the approved agent. Approval by said agent shall not relieve the Contractor of responsibility for complying with the Contract requirements.

**4-1.3.3 Inspection by the Agency.** The Agency will provide all inspection and testing laboratory services within 80 km (50 miles) of the geographical limits of the Agency.

**4-1.3.4 Certificates of Compliance.** The Engineer may require certificates of compliance with the Specifications for materials or manufactured items produced outside of the Work site. Such certificates will not relieve the Contractor from the requirements of providing material and manufactured items complying with the Specifications even though they have been incorporated into the Work.

**4-1.4 Tests of Materials.** Before incorporation in the Work, the Contractor shall submit samples of materials, as the Engineer may require, at no cost to the Agency. The Contractor, at its own expense, shall deliver the materials for testing to the place and at the time designated by the Engineer. Unless otherwise provided, all initial testing and a reasonable amount of retesting shall be performed under the direction of the Engineer, and at no expense to the Contractor. If the Contractor is to provide and pay for testing, the Specifications will so state.

The Contractor shall notify the Engineer in writing, at least 15 Days in advance, of its intention to use materials for which tests are specified, to allow sufficient time to perform the tests. The notice shall name the proposed supplier and source of material.

If the notice of intent to use is sent before the materials are available for testing or inspection, or is sent so far in advance that the materials on hand at the time will not last but will be replaced by a new lot prior to use on the Work, it will be the Contractor's responsibility to re-notify the Engineer when samples which are representative may be obtained.

**4-1.5 Certification.** The Engineer may waive materials testing requirements of the Specifications and accept the manufacturer's written certification that the materials to be supplied meet those requirements. Materials test data may be required as part of the certification.

**4-1.6 Trade Names or Equals.** The Contractor may supply any of the materials specified or offer an equivalent. The Engineer shall determine whether the material offered is equivalent to that specified. Adequate time shall be allowed for the Engineer to make this determination.

Whenever any particular material, process, or equipment is indicated by patent, proprietary or brand name, or by name of manufacturer, such wording is used for the purpose of facilitating its description and shall be deemed to be followed by the words **or equal**. A listing of materials is not intended to be comprehensive, or in order of preference. The Contractor may offer any material, process, or equipment considered to be equivalent to that indicated. The substantiation of offers shall be submitted as provided in the Contract Documents.

The Contractor shall, at its expense, furnish data concerning items offered by it as equivalent to those specified. The Contractor shall have the material tested as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item will fulfill its intended function.

Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results and determine if the substitute item is equivalent. The Engineer's findings shall be final. Installation and use of a substitute item shall not be made until approved by the Engineer.

If a substitute offered by the Contractor is not found to be equal to the specified material, the Contractor shall furnish and install the specified material.

The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this section.

**4-1.6.1 Compatibility with Design.** Where the size, configuration, weight, fastening locations, fastening strength, utility rough-in locations, and utility capacities of equipment or devices offered by the Contractor as equivalents do not conform to those provided for in the Contract Documents or those which are necessary for equipment or devices indicated by brand names, the Contractor shall bear all costs of redesign and changes in construction necessary to adapt the offered equipment or device to the Work.

Equipment or devices will not be considered "equal" where the life cycle cost of operation, utilities and maintenance of the offered alternate is greater than those listed by brand names. Life cycle costs shall mean utility charges (demand and usage charges), maintenance, operating personnel and replacement (equipment, installation and down time expenses) all reduced to an average annual rate using the current interest rate earned on funds invested by the County Treasurer.

**4-1.6.2 Trade Names Listed.** Where the Agency has listed products by brand or trade name on the Plans or in the Specifications, or both, this shall not be construed as meaning every product may be used without furnishing shop drawings, without redesign of the facility or without a change in utility rough-in requirements.

Where use of products listed on the Plans or in the Specifications, or both, or where use of a substitute proposed as an "equal" product requires shop drawings, redesign of the facility, or revisions in the size and location of rough-in utility connections, or in connecting work, the Contractor shall provide any necessary shop drawings, or shall cause the preparation of any necessary redesign or revisions to the Plans at its own expense and shall bear the full cost of any necessary additional construction or reconstruction work. No work described in shop drawings, a redesign, or a revision to the Plans shall be undertaken until such shop drawings, redesign, or revisions have been approved by the Engineer. Any proposed redesign or revision to the Plans shall be accompanied by complete computations and details prepared by an appropriate licensed design professional.

**4-1.7 Weighing Equipment.** All scales used for proportioning materials shall be inspected for accuracy and certified within the past 12 months by the State of California Bureau of Weights and Measures, by the County Director or Sealer of Weights and Measures, or by a scale mechanic registered with or licensed by the Agency.

The accuracy of the work of a scale service agency, except as stated herein, shall meet the standards of the California Business and Professions Code and the California Code of Regulations pertaining to weighing devices. A certificate of compliance shall be presented, prior to operation, to the Engineer for approval and shall be renewed whenever required by the Engineer at no cost to the Agency.

All scales shall be arranged so they may be read easily from the operator's platform or area. They shall indicate the true net weight without the application of any factor. The figures of the scales shall be clearly legible. Scales shall be accurate to within 1 percent when tested with the plant shut down. Weighing equipment shall be so insulated against vibration or moving of other operating equipment in the plant area that the error in weighing with the entire plant running will not exceed 2 percent for any setting nor 1.5 percent for any batch.

**4-1.8 Calibration of Testing Equipment.** Testing equipment, such as, but not limited to, pressure gages, metering devices, hydraulic systems, force (load) measuring instruments, and strain-measuring devices shall be calibrated by a testing agency acceptable to the Engineer at intervals not to exceed 12 months and following repairs, modification, or relocation of the equipment. Calibration certificates shall be provided when requested by the Engineer.

## SECTION 5 - UTILITIES

**5-1 LOCATION.** The Permittee (in the case of Private Contracts) and the Agency (in the case of Cash or Assessment Act Contracts), will search known substructure records and furnish the Contractor with copies of documents which describe the location of utility substructures, or will indicate on the Plans for the project those substructures (except for service connections) which may affect the Work. Information regarding removal, relocation, abandonment, or installation of new utilities will be furnished to prospective bidders.

Where underground main distribution conduits such as water, gas, sewer, electric power, telephone, or cable television are shown on the Plans, the Contractor shall assume that every property parcel will be served by a service connection for each type of utility.

As provided in Section 4216 of the California Government Code, at least 2 working days prior to commencing any excavation, the Contractor shall contact the regional notification center (Underground Service Alert of Southern California) and obtain an inquiry identification number.

The California Department of Transportation is not required by Section 4216 to become a member of the regional notification center. The Contractor shall contact it for location of its subsurface installations.

The Contractor shall determine the location and depth of all utilities, including service connections, which have been marked by the respective owners and which may affect or be affected by its operations.

**5-2 PROTECTION.** The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the owner or order from the Agency. All valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

Where protection is required to ensure support of utilities located as shown on the Plans or in accordance with 5-1, the Contractor shall, unless otherwise provided, furnish and place the necessary protection at its expense.

Upon learning of the existence and location of any utility omitted from or shown incorrectly on the Plans, the Contractor shall immediately notify the Engineer in writing. When authorized by the Engineer, support or protection of the utility will be paid for as provided in 3-2.2.3 or 3-3.

The Contractor shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged. The Contractor shall bear the costs of repair or replacement of any utility damaged if located as noted in 5-1.

When placing concrete around or contiguous to any non-metallic utility installation, the Contractor shall at its expense:

1. Furnish and install a 50 mm (2 inch) cushion of expansion joint material or other similar resilient material; or
2. Provide a sleeve or other opening which will result in a 50 mm (2 inch) minimum-clear annular space between the concrete and the utility; or
3. Provide other acceptable means to prevent embedment in or bonding to the concrete.

Where concrete is used for backfill or for structures which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the Contractor's operations, the Contractor shall notify the Engineer and arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system.

**5-3 REMOVAL.** Unless otherwise specified, the Contractor shall remove all interfering portions of utilities shown on the Plans or indicated in the Bid documents as "abandoned" or "to be abandoned in place". Before starting removal operations, the Contractor shall ascertain from the Agency whether the abandonment is complete, and the costs involved in the removal and disposal shall be included in the Bid for the items of work necessitating such removals.

**5-4 RELOCATION.** When feasible, the owners responsible for utilities within the area affected by the Work will complete their necessary installations, relocations, repairs, or replacements before commencement of work by the Contractor. When the Plans or Specifications indicate that a utility installation is to be relocated, altered, or constructed by others, the Agency will conduct all negotiations with the owners and work will be done at no cost to the Contractor, except as provided in 301-1.6. Utilities which are relocated in order to avoid interference shall be protected in their position and the cost of such protection shall be included in the Bid for the items of work necessitating such relocation.

After award of the Contract, portions of utilities which are found to interfere with the Work will be relocated, altered or reconstructed by the owners, or the Engineer may order changes in the Work to avoid interference. Such changes will be paid for in accordance with 3-2.

When the Plans or Specifications provide for the Contractor to alter, relocate, or reconstruct a utility, all costs for such work shall be included in the Bid for the items of work necessitating such work. Temporary or permanent relocation or alteration of utilities requested by the Contractor for its convenience shall be its responsibility and it shall make all arrangements and bear all costs.

The utility owner will relocate service connections as necessary within the limits of the Work or within temporary construction or slope easements. When directed by the Engineer, the Contractor shall arrange for the relocation of service connections as necessary between the meter and property line, or between a meter and the limits of temporary construction or slope easements. The relocation of such service connections will be paid for in accordance with provisions of 3-3. Payment will include the restoration of all existing improvements which may be affected thereby. The Contractor may agree with the owner of any utility to disconnect and reconnect interfering service connections. The Agency will not be involved in any such agreement.

**5-5 DELAYS.** The Contractor shall notify the Engineer of its construction schedule insofar as it affects the protection, removal, or relocation of utilities. Said notification shall be included as a part of the construction schedule required in 6-1. The Contractor shall notify the Engineer in writing of any subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities.

The Contractor will not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, noted, and completed in accordance with 5-1.

The Contractor may be given an extension of time for unforeseen delays attributable to unreasonably protracted interference by utilities in performing work correctly shown on the Plans.

The Agency will assume responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities within the area affected by the Work if such utilities are not identified in the Contract Documents. The Contractor will not be assessed liquidated damages for any delay caused by failure of Agency to provide for the timely removal, relocation, or protection of such existing facilities.

If the Contractor sustains loss due to delays attributable to interferences, relocations, or alterations not covered by 5-1, which could not have been avoided by the judicious handling of forces, equipment, or plant, there shall be paid to the Contractor such amount as the Engineer may find to be fair and reasonable compensation for such part of the Contractor's actual loss as was unavoidable and the Contractor may be granted an extension of time.

**5-5.1 Cooperation During Utility Relocation.** When utilities are to be relocated during construction, the Contractor shall cooperate and coordinate with the respective utility owners so they may relocate their facilities to clear the Work. Delays in relocation of utilities which result from failure to cooperate and coordinate will not be a cause for an extension of time or Non-Working Days.

**5-6 COOPERATION.** When necessary, the Contractor shall so conduct its operations as to permit access to the Work site and provide time for utility work to be accomplished during the progress of the Work.

## SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK

### 6-1 Procedures for Ordering Work

1. This is an indefinite-quantity Contract for the supplies or services specified, and effective for the period stated in these General Conditions. The Contractor will be required to Work at any of the County's facilities and on any city and county roads.
2. The Agency makes no commitment as to the award of individual Job Orders except that a minimum of \$50,000 shall be ordered. All costs associated with preparing proposals are considered as already included in the unit prices (as adjusted by the Adjustment Factors).
3. Work or performance shall be made only as authorized by Job Orders issued in accordance with these VCJOS, and the "Procedure for Ordering Work". The Contractor shall furnish to the Agency, the supplies or services specified in the Job Orders up to and including the maximum value of the Contract. The Agency shall order at least the minimum value of construction services designated in the Contract Documents.
4. The Scope of Work of this Contract shall be determined by individual Job Orders issued hereunder. The Contractor shall provide all management, shop drawings, documents, Work, materials, supplies, parts (to include system components), transportation, plant, supervision, labor, and equipment needed to complete the Job Order. The Contractor shall also be responsible for site safety as well as site preparation and cleanup.
5. The Work shall be conducted by the Contractor in strict accordance with the Contract and all applicable laws, regulations, codes, or directives including Federal, State of California and the local Agencies.
6. Contractor shall maintain accurate and complete records, files and libraries of documents to include Federal, State, and local regulations, codes, applicable laws listed herein, and manufacturers' instructions and recommendations, which are necessary and related to the Work to be performed.
7. Contractor shall prepare and submit required reports, maintain current record drawings, and submit required information. The Contractor shall provide: materials lists to include trade names and brand names, and model materials lists to include trade names, brand names, model number, and ratings (if appropriate) for all materials necessary for a complete job.
8. All Work will be ordered and funded when needed in accordance with the procedures contained in the Contract Documents.

#### B. Procedure For Ordering Work

1. As the need exists for performance by the Contractor under the terms of this Contract, the Agency will notify the Contractor of the construction Work and provide written notification. This notification shall be in the form of an Invitation to Joint Scope Meeting.
2. Upon receipt of this notification, the Contractor shall respond within one working day by:
  - a) Establishing verbal contact with the Agency or the County Project Manager to further define the scope of the requirement, and
  - b) Visiting the proposed Work site in the company of the County Project Manager, and participating in the conduct of a joint scope meeting which will include discussion and establishment of the following:
    - (1) Project number and title
    - (2) Existing site conditions
    - (3) Methods and alternatives for accomplishing Work
    - (4) Definition and refinement of requirements
    - (5) Schedule for preparing Proposal
    - (6) Detailed Scope of Work

- (7) Requirements for sketches, shop drawings, etc.
  - (8) Tentative construction schedule
  - (9) Preliminary quantity estimates
- 3. Upon completion of the joint scope meeting, the Agency will issue a Request for Proposal (RFP) that requires that the Contractor prepare a Proposal for the Work under consideration.
- 4. The Contractor will prepare the Proposal in accordance with the following:
  - a) Prepriced Work requirements. Prepriced Work requirements will identify the type and number of Work units required from the Construction Task Catalog®. The price per unit set forth in the Construction Task Catalog® shall serve as the base price for the purpose of the operation of this provision. The Contractor's Proposal shall include support documentation to indicate that adequate engineering and planning for the requirement has been done, and that the Work units proposed are reasonable for the tasks to be performed. Documentation to be submitted with the Proposal shall include, but not be limited to, catalog cuts, specifications, Subcontractor list, and construction schedule.
  - b) Where feasible and possible the Contractor shall use assemblies to complete the work requirements and only use components to complete the work when no assemblies exist to accomplish the task required.
  - c) Where there are two or more items to accomplish a requirement, the Contractor shall use the least expensive item where possible if that item accomplishes the task required.
  - d) The Contractor's Proposal must be submitted within the schedule agreed upon at the joint scope meeting or agreed to by the Agency in writing. This schedule for the proposal will be stated on the RFP.
  - e) The Agency reserves the right to reject a Contractor proposal based on unjustifiable quantities, performance periods, inadequate documentation, or other inconsistencies on the Contractor's part. The Agency also reserves the right to not award a Job Order if that is determined to be in the best interests of the Agency or the proposed cost exceeds the Agency's estimate. In these instances, the Contractor has no right of claim to recoup proposal expenses. The Agency may pursue continuing valid requirements where agreement was not reached with the Contractor by other means.
  - f) By submitting a signed Proposal to the Agency, the Contractor is agreeing to accomplish the Detailed Scope of Work included in the RFP for that particular Job Order. It is the Contractor's responsibility to include the necessary scope items in the Proposal prior to submitting it to the Agency.
  - g) Each Job Order issued to the Contractor shall reference the Detailed Scope of Work that shall dictate the obligations of the Contractor. The Proposal does not govern the obligations of the Contractor or define the scope of work. The Job Order shall state the fixed price of performance, the performance schedule, and shall cite the funds allotted for payment of the Job Ordered. All clauses of this Contract shall be applicable to any Job Orders issued under this clause. Job Orders will be written on an appropriate form. The Job Order, which must be signed by Engineer, constitutes the Agency's acceptance of the Contractor's Proposal. A signed copy will be provided to the Contractor.

C. Notice to Proceed

- 1. The Contractor shall not mobilize for the job and shall not start any work on-site until receipt of a written Notice To Proceed (NTP) from the Agency. Prior to mobilization on site, the Project Manager will direct Contractor to proceed with design of specified systems. Permitting of designed systems must be complete prior to mobilization on site. The NTP will normally stipulate a specific date for start of work on site determined by Project Manager considering Contractor's approved schedule and work plan submittal, contract requirements, Contractor's projected product receipt dates, and any necessary schedule coordination for other contracts affecting the work.

2. Normally, such NTP will follow receipt and approval of all submittals, and issuance of the Job Order. Agency may elect to further delay issuance of the NTP to accommodate Agency operations at the facility, to conduct the Pre-Construction Conference, to provide proper notice to occupants of the facility, or for other reasons impacting the work.
3. Contractor shall promptly advise Project Manager and shall propose start date adjustment accordingly if delivery dates or the status of his preparations subsequently change.
4. Agency will consider Contractor's project schedule/work plan proposing a start date prior to Contractor's receipt of all materials and equipment for the work only if:
5. Significant preparation work can be completed prior to Contractor receipt of such longer lead time products.
6. Contractors work plan and schedule avoids an interim jobsite shut down awaiting materials.
7. Contractor's Vendor provides written confirmation of delivery date for products on critical path of Contractor's project schedule.
8. The Project Manager may require certificates of compliance with the specifications for materials or manufactured items produced outside of the job site. Such certificates will not relieve the Contractor from the requirements of providing material and manufactured items complying with the specifications even though they have been incorporated into the job.
9. In the event that "immediate emergency response" is necessary the Agency may elect to use an alternative procedure for such type of Job Orders as long as the alternative procedure is not substantially more burdensome to the Contractor than the procedure described in this section.

#### D. Measurements to be Verified

Before ordering any material or doing any Work, the Contractor shall verify all measurements at the site of a specific Job Order, and shall be responsible for the correctness of the measurements. No extra charge or compensation will be allowed based on the difference between actual dimensions and the measurements indicated in the Request for Proposal (RFP).

#### E. Caution to Contractors

The Contractor is cautioned in regard to Proposals for Job Orders to be issued hereunder that when the word approximate is used in conjunction with measurements, quantities, dimensions, etc., it is the Contractors' responsibility to verify any and all such items prior to submission of the proposal. Contractors are also cautioned that any Job Order awarded is for all services or Work, as necessary, to repair, and construct the facilities covered by the Contract in accordance with all Contract terms and conditions. It shall also be the duty and responsibility of the Contractor to manage, and conduct the required Work in the most effective and efficient manner possible and meet or exceed minimum critical rates or standards.

In addition the Contractor is cautioned that no claims for additional monies will be entertained, when such claim is based upon a contention the Contract fails to mention a specific item or component of facility covered by Contract and the Work is required in the normal course of operations. For example, surfaced area repair statements may not mention culverts. However, culverts are a normal component of roads, streets, or erosion controls and are shown on plots or maps provided. As culverts are a normal component of the system, the Contractor shall be responsible for providing all necessary repair, or replacement Work or service.

#### F. Changes in the Work

1. The Agency, without invalidating the Job Order, may order changes in the Work by altering, adding to or deducting from the work, the Job Order sum being adjusted accordingly. All such work shall be executed under the conditions of the original Job Order.
2. No changes shall be made unless in pursuance of a written Order from the Agency stating that the Agency has authorized the extra work or change, and no claim for an



addition to the Job Order amount shall be valid unless so ordered. For the Agency, all said written Job Orders must be signed or countersigned by the Engineer.

**G. Pre-Construction Conference**

Before the issuance of the first Job Order under this Contract, a conference will be conducted by the Agency to acquaint the Contractor with Agency policies and procedures that are to be observed during the prosecution of the Work and to develop mutual understanding relative to the administration of the Contract.

**H. Computer Requirements**

The Contractor will be required to have a personal computer system with high speed Internet access and personnel proficient in basic computer operations capable of operating JOC software furnished by the Agency.

**I. County Furnished Software**

County-furnished software will be provided to the Contractor for use as a tool to assist with expedient preparation of cost proposals in response to Agency needs. This software will contain an electronic version (copy) of the Construction Task Catalog® (CTC), which can be accessed to locate and select desired items from the CTC. Once the desired items are selected, the software provides for selection of quantities and, based on the selected quantities, will extend and total CTC costs for each proposal. Contractor proposals will be submitted on forms generated by the software, as well as an electronic proposal file that is transmitted to the Agency.

**6-1.1 Beginning of Work.** The issuance of Notice to Proceed by Agency for a Job Order shall constitute the Contractor's authority to enter upon the site of the Work and to begin operations provided it has also notified Engineer at least 24 hours in advance. Entry upon the site without authority will be treated as trespassing.

**6-1.2 Starting Work.** The Contractor may start work at any time after the Notice to Proceed for a Job Order is issued but work shall begin within 10 Days after the starting date for the Job Order, or at such other time as may be indicated in the Job Order. The actual date on which the Contractor starts work on the Job Order will not affect the required time for completion as provided for in 6-7 and 6-7.1.

**6-1.3 Work Sequence.** If required by the Job Order, the Contractor shall start operations on that part of the Work designated by the Engineer.

**6-1.4 Resources Required.** The Work shall be conducted in such a manner and with sufficient materials, equipment, and labor to insure its completion in accordance with the Plans and Specifications within the time set forth in the Job Order .

**6-2 PROSECUTION OF WORK.** To minimize public inconvenience and possible hazard and to restore streets and other Work areas to their original condition and former state of usefulness as soon as practicable, the Contractor shall diligently prosecute the Work to completion. If, in the Engineer's opinion, the Contractor fails to prosecute the Work to the extent that the above purposes are not being accomplished, the Contractor shall, upon orders from the Engineer, immediately take the steps necessary to fully accomplish said purposes. All costs of prosecuting the Work as described herein shall be absorbed in the Contractor's unit price. Should the Contractor fail to take the necessary steps to fully accomplish said purposes, after orders of the Engineer to do so, the Engineer may suspend the Work in whole or in part, until the Contractor takes said steps.

As soon as possible under the provisions of these Specifications, the Contractor shall backfill all excavations and restore to usefulness all improvements existing prior to the start of the Work.

If Work is suspended through no fault of the Agency, all expenses and losses incurred by the Contractor during such suspensions shall be borne by the Contractor. If the Contractor fails to properly provide for public safety, traffic, and protection of the Work during periods of suspension, the Agency may elect to do so, and deduct the cost thereof from monies due the Contractor. Such action will not relieve the Contractor from liability.

**6-3 SUSPENSION OF WORK**

**6-3.1 General.** The Work may be suspended in whole or in part when determined by the Engineer that the suspension is necessary in the interest of the Agency. The Contractor shall comply immediately with any written order of the Engineer. Such suspension shall be without liability to the Contractor on the part of the Agency except as otherwise specified in 6-6.3.

**6-3.2 Archaeological and Paleontological Discoveries.** If discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer. When resumed, excavation operations within the area of discovery shall be as directed by the Engineer.

Discoveries which may be encountered may include, but not be limited to, dwelling sites, stone implements or other artifacts, animal bones, human bones and fossils.

The Contractor shall be entitled to an extension of time and compensation in accordance with the provisions of 6-6.

**6-3.3 Temporary Suspension of Work.** Should suspension of Work be ordered by reason of the failure of the Contractor to carry out orders or to perform any provisions of the Contract; or by reason of weather conditions being unsuitable for performing any item or items of Work; the Contractor, at its expense, shall do all the work necessary to provide a safe, smooth, and unobstructed passageway through construction for use by public traffic during the period of such suspension. In the event that the Contractor fails to perform the work above specified, the Agency may perform such work and the cost thereof will be deducted from monies due or to become due the Contractor.

If the Engineer orders a suspension of all of the Work, or a portion of the Work which is the current controlling operation or operations, due to unsuitable weather or to such other conditions as are considered unfavorable to the suitable prosecution of the Work, Contractor shall be granted additional days equivalent to the delay that is beyond his control.

If a suspension of Work is ordered by the Engineer due to the failure on the part of the Contractor to carry out orders given or to perform any provision of the Contract, Contractor shall not be granted additional days due to the delay.

#### **6-4 TERMINATION OF THE CONTRACT FOR DEFAULT**

**6.4.1 General.** If, prior to the acceptance of the Work, the Contractor:

- a) becomes insolvent, assigns its assets for the benefit of its creditors, is unable to pay its debts as they become due, or is otherwise financially unable to complete the Work,
- b) abandons the Work by failing to report to the Work site and diligently prosecute the Work to completion,
- c) disregards written instructions from the Agency or materially violates provisions of the Contract Documents,
- d) fails to prosecute the Work according to the schedule approved by the Engineer,
- e) disregards laws or regulations of any public body having jurisdiction, or
- f) commits continuous or repeated violations of regulatory or statutory safety requirements,

then the Agency will consider the Contractor in default of the Contract.

Notices, and other written communications regarding default between the Contractor, the Agency, and the Surety shall be transmitted in accordance with 2-12.

**6-4.2 Notice to Cure.** The Agency will issue a written notice to cure the default to the Contractor and its Surety. The Contractor shall commence satisfactory corrective actions within 5 Working Days after receipt.

**6-4.3 Notice of Termination for Default.** If the Contractor fails to commence satisfactory corrective action within 5 Working Days after receipt of the notice to cure, or to diligently continue satisfactory and timely correction of the default thereafter, then the Agency will consider the Contractor in default of the Contract and:

- a) will terminate the Contractor's right to perform under the Contract by issuing a written notice of termination for default to the Contractor and its Surety,
- b) may use any materials, equipment, tools or other facilities furnished by the Contractor to secure and maintain the Work site, and
- c) may furnish labor, equipment, and materials the Agency deems necessary to secure and maintain the Work site. The provisions of this subsection shall be in addition to all other legal rights and remedies available to the Agency.

**6-4.4 Responsibilities of the Surety.** Upon receipt of the written notice of termination for default, the Surety shall immediately assume all rights, obligations and liabilities of the Contractor under the Contract to complete outstanding Job Orders. If the Surety fails to protect and maintain the Work site, the Agency may do so, and may recover all costs incurred. The Surety shall notify the Agency that it is assuming all rights, obligations and liabilities of the Contractor under the Contract and all money that is due, or would become due, to the Contractor shall be payable to the Surety as the Work progresses, subject to the terms of the Contract.

Within 15 Working Days of receipt of the written notice of termination for default, the Surety shall submit to the Agency a written plan detailing the course of action it intends to take to remedy the default. The Agency will review the plan and notify the Surety if the plan is satisfactory. If the Surety fails to submit a satisfactory plan, or if the Surety fails to maintain progress according to the plan accepted by the Agency, the Agency may, upon 48 hours written notice, exclude the Surety from the premises, take possession of all material and equipment, and complete the Work in any way the Agency deems to be expedient. The cost of completing the Work by the Agency shall be charged against the Surety and may be deducted from any monies due, or which would become due, the Surety. If the amounts due under the Contract are insufficient for completion, the Surety shall pay to the Agency, within 30 days after the Agency submits an invoice, all costs in excess of the remaining Contract Price.

**6-4.5 Payment.** The Surety will be paid for completion of the Work in accordance with 9-3 less the value of damages caused to the Agency by acts of the Contractor.

**6-5 TERMINATION OF CONTRACT.** The Board may terminate the annual Contract or any Job Order at its own discretion or when conditions encountered during the Work make it impossible or impracticable to proceed, or when the Agency is prevented from proceeding with the Contract by act of God, by law, or by official action of a public authority.

The Agency will issue a written notice of termination for convenience in accordance with 2-12. Upon receipt, the Contractor shall immediately cease work, except work the Contractor is directed to complete by the Engineer or required to complete for public safety and convenience. The Contractor shall immediately notify Subcontractors and suppliers to immediately cease their work.

The Contractor will be paid without duplication for:

- a) work completed in accordance with the Contract Documents prior to the effective date of termination for convenience;
- b) reasonable costs incurred in settlement of terminated contracts with Subcontractors, suppliers and others; and
- c) reasonable expenses directly attributable to termination.

The Contractor shall submit a final termination settlement proposal to the Agency no later than 90 days from the effective date of termination, unless extended, in writing, by the Agency upon written request by the Contractor.

If the Contractor fails to submit a proposal, the Agency may determine the amount, if any, due the Contractor as a result of the termination. The Agency will pay the Contractor the amount it determines to be reasonable. If the Contractor disagrees with the amount determined by the Agency as being reasonable, the Contractor shall provide notice to the Agency within 30 days of receipt of payment. Any amount due shall be as later determined by arbitration, if the Agency and the Contractor agree thereto, or as fixed in a court of law.

## **6-6 DELAYS AND EXTENSIONS OF TIME ON JOB ORDERS**

**6-6.1 General.** If delays are caused by unforeseen events beyond the control of the Contractor, such delays will entitle the Contractor to an extension of time as provided herein, but the Contractor will not be entitled to damages or additional payment due to such delays, except as provided in 6-6.3. Such unforeseen events may include war, government regulations, labor disputes, strikes, fires, floods, adverse weather necessitating cessation of work, other similar action of the elements, inability to obtain materials, equipment or labor, or other specific events as may be further described in the Specifications.

No extension of time will be granted for a delay caused by the Contractor's inability to obtain materials unless the Contractor furnishes to the Engineer documentary proof of the inability to obtain such materials in a timely manner in accordance with the sequence of the Contractor's operations and the approved construction schedule.

If delays beyond the Contractor's control are caused by events other than those mentioned above, but substantially equal in gravity to those enumerated, and an extension of time is deemed by the Engineer to be in the best interests of the Agency, an extension of time may be granted, but the Contractor will not be entitled to damages or additional payment due to such delays, except as provided in 6-6.3.

If delays beyond the Contractor's control are caused solely by action or inaction by the Agency, such delays will entitle the Contractor to an extension of time as provided in 6-6.2.

**6-6.2 Extensions of Time.** Extensions of time, when granted, will be based upon the effect of delays to the Work as a whole and will not be granted for non-controlling delays to minor included portions of Work unless it can be shown that such delays did, in fact, delay the progress of the Work as a whole.

**6-6.3 Payment for Delays to Contractor.** The Contractor will be compensated for damages incurred due to delays for which the Agency is responsible if such delays are unreasonable in the circumstances involved and were not within the contemplation of the parties when the Contract was awarded to the Contractor and delay the Work as a whole. Such actual costs will be determined by the Engineer. The Agency will not be liable for, and in making this determination the Engineer will exclude, all damages which the Engineer determines the

Contractor could have avoided by any reasonable means including, without limitation, the judicious handling of forces, equipment, or plant.

**6-6.4 Written Notice and Report.** If the Contractor desires payment for a delay as specified in 6-6.3 or an extension of time, it shall, within 30 Days after the beginning of the delay, file with the Agency a written request and report as to the cause and extent of the delay. The request for payment or extension must be made at least 15 Days before the specified completion date. Failure by the Contractor to file these items within the time specified will be considered grounds for refusal by the Agency to consider such request.

**6-6.4.1 Documentation of Delays.** When the Contractor requests an extension of time for delay due to inability to obtain materials or equipment, the documentary proof required by 6-6.1 shall include the following:

1. Date Engineer was notified of delay.
2. Date the delay began.
3. Exact description of material or equipment causing delay.
4. Documentation showing when and from whom ordered.
5. Documentation of promise to deliver.
6. Documentation of actual delivery date.
7. Description of how late delivery caused delay (include construction schedule).
8. Documentation of measures taken to get prompt delivery.
9. Documentation of attempts to get delivery from other sources.
10. Description of steps taken in project scheduling to minimize effects of late delivery.
11. Description of steps taken to get project back on schedule after actual delivery.
12. Statement of actual time lost as a result of late delivery.

## **6-7 TIME OF COMPLETION OF JOB ORDERS**

**6-7.1 General.** The Contractor shall complete the Work within the time set forth in the Job Order. The Contractor shall complete each portion of the Work within such time as set forth in the Job Order for such portion. Unless otherwise specified, the time of completion of the Job Order shall be expressed in Calendar Days.

**6-7.2.1 Holidays.** The following days are designated as holidays by the Agency.

| <u>MONTH</u>   | <u>AGENCY HOLIDAYS</u> |
|----------------|------------------------|
| January.....   | 1st day; 3rd Monday    |
| February ..... | 3rd Monday             |
| May.....       | Last Monday            |
| July .....     | 4th day                |
| September..... | 1st Monday             |
| November.....  | 4th Thursday           |
| December.....  | 25th                   |

If any day listed above falls on Saturday, the preceding Friday is the holiday. If any day listed above falls on Sunday, the succeeding Monday is the holiday.

**6-7.2.2 No Text.**

**6-7.4 No Text.**

## **6-8 COMPLETION, ACCEPTANCE AND WARRANTY OF JOB ORDERS**

**6-8.1 Completion and Acceptance.** Acknowledgment of completion of the Work will occur prior to Acceptance by the Agency. Acceptance will only occur after all Job Order requirements have been fulfilled, such as training, submission of warranties, maintenance manuals, record drawings, Release on Job Order and the like. Acceptance by the Agency will occur when the Engineer signs the Notice of Completion. The Work will be inspected by the Engineer promptly upon receipt of the Contractor's written assertion that the Work has been completed. If, in the Engineer's judgment, the Work has been completed in accordance with the Plans and Specifications, the Engineer will acknowledge completion of the Work. Completion of the Work, as used above, shall include the Contractor showing evidence of having received an occupancy clearance from Building and Safety, or other permit issuing agency, when a building, plumbing electrical, grading, or other permit is required for the Work. The Engineer will, in acknowledging completion of the Work, set forth in writing the date when the Work was completed. This will be the date when the Contractor is relieved from responsibility to protect the Work. This will also be the date to which liquidated damages will be computed.

**6-8.2 Warranty** The Work shall be warranted by the Contractor against defective workmanship and materials for a period of 1 year from the date the Work was completed. The Contractor shall replace or repair any such defective workmanship and materials in a manner satisfactory to the Engineer, after notice to do so from the Engineer, and within the time specified in the notice. If the Contractor fails to make such replacement or repair within the time specified in the notice, the Agency may perform the replacement or repair and the Contractor and its sureties shall be liable for the cost thereof.

**6-8.3 No Waiver of Legal Rights.** The Agency shall not be precluded or stopped by any measurement, estimate, or certificate made either before or after the completion and Acceptance of the Work and payment therefor from showing the true amount and character of the Work performed and materials furnished by the Contractor, nor from showing that any such measurement, estimate, or certificate is untrue or is incorrectly made, nor that the Work or materials do not in fact conform to the Job Order.

The Agency shall not be precluded or stopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor or its sureties, or both, such damages as it may sustain by reason of the Contractor's failure to comply with the terms of the Job Order.

Neither the Acceptance by the Engineer or by its representative, nor any payment for or Acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the Engineer shall operate as a waiver of any portion of the Job Order or of any power herein reserved, or of any right to damages.

A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

**6-8.4 Landscape Maintenance Period.** Final Acceptance of the Job Order shall follow the satisfactory completion of all Job Order Work, including the landscape maintenance period if one is specified.

**6-8.5 Non-complying Work.** Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by the Agency, shall constitute an Acceptance of Work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

**6-8.6 Written Warranties.** The Contractor shall obtain and deliver to the Engineer all written warranties required to be furnished by the Specifications. Each of such warranty shall be underwritten by the Contractor for the full period prescribed therein, and shall bear its endorsement to such effect.

## **6-9 LIQUIDATED DAMAGES FOR JOB ORDERS**

Failure of the Contractor to complete the Work within the time allowed will result in damages being sustained by the Agency. Such damages are, and will continue to be, impracticable and extremely difficult to determine. For each consecutive calendar day in excess of the time specified, as adjusted in accordance with 6-6, for completion of the Work the Contractor shall pay to the Agency, or have withheld from monies due it, the sum of \$800, unless otherwise provided in the Contract Documents.

Execution of the Contract under these Specifications shall constitute agreement by the Agency and Contractor that \$800 per day is the minimum value of the costs and actual damage caused by failure of the Contractor to complete the Work within the allotted time, that such sum is liquidated damages and shall not be construed as a penalty, and that such sum may be deducted from payments due the Contractor if such delay occurs.

## **6-10 USE OF IMPROVEMENT DURING CONSTRUCTION.**

The Agency reserves the right to take over and utilize all or part of any completed facility or appurtenance. The Contractor will be notified in writing in advance of such action. Such action by the Agency will relieve the Contractor of responsibility for injury or damage to said completed portions of the improvement resulting from use by public traffic or from the action of the elements or from any other cause, except injury or damage resulting from the Contractor's operations or negligence. The Contractor will not be required to reclean such portions of the improvement before field completion, except for cleanup made necessary by its operations. Nothing in this section shall be construed as relieving the Contractor from full responsibility for correcting defective work or materials.

In the event the Agency exercises its right to place into service and utilize all or part of any completed facility or appurtenance, the Agency shall assume the responsibility and liability for injury to persons or property arising out of or resulting from the utilization of the facility or appurtenance so placed into service, except for any willful or negligent act or omission by the Contractor, Subcontractor, their officers, employees or agents.

**6-10.1 Use of Improvements - Exceptions.** The provisions of 6-10 shall not apply to projects for the repair, modification, enlargement or improvement of existing facilities that are to remain in use during construction except where a portion of the project which is completely independent from the rest of the Work can be completed and put into use by the Agency.

On projects on public roads, after satisfactory completion of an isolated section of the Work involving roadway improvements or repairs, when all temporary signs and other temporary Contractor facilities have been removed, the section is not being used as a detour, the section is no longer under the Contractor's control, and the section is opened to public traffic through the end of the Job Order period, that section of the Work shall be taken over by the Agency as provided in 6-10. The Contractor shall indicate to the Engineer in writing when the conditions of this paragraph have been complied with and shall specify the limits of the section involved. Any taking over of the Work by the Agency shall be effective only when formal written notification is issued by the Agency.

**6-11 NOTICE OF POTENTIAL CLAIM FOR ADDITIONAL COMPENSATION.** Procedures for notice of claims in specific situations and circumstances are provided in the following sections:

6-6.4..... Delay and Extensions of Time

6-7.3..... Contract Time Accounting

Compliance with this section is not prerequisite to assertion of a claim involving those sections or based on differences in measurements or errors of computation as to Job Order quantities.

Compliance with the provisions of this section is required in all other situations and circumstances.

It is the intention of this section that differences arising between the parties under and by virtue of the Job Order be brought to the attention of the Engineer at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action taken to resolve such differences.

The Contractor shall give the Engineer written notice of a potential claim, setting forth: (1) the reasons for which the Contractor believes additional compensation will or may be due; (2) the nature of the costs involved; and (3) insofar as possible, the amount of the potential claim.

If the claim is based upon an act or failure to act by the Engineer, the said notice must be given to the Engineer prior to the date when the work giving rise to the potential claim is commenced; in all other cases the said notice must be given to the Engineer within 15 Days after the happening of the event, thing or occurrence giving rise to the potential claim.

The Contractor shall not be entitled to the payment of any additional compensation where the written notice of potential claim has not been given to the Engineer in the manner required by and within the time

notice of potential claim has not been given to the Engineer in the manner required by and within the time limitations of this section.

## **6-12 DISPUTES AND CLAIMS; PROCEDURE.**

**6-12.1 GENERAL.** Any and all decisions made on appeal pursuant to this section shall be in writing. Any "decision" purportedly made pursuant to this section which is not in writing shall not be binding upon the Agency and should not be relied upon by the Contractor.

Filing or giving the notices required under 3-4, 6-6.4, 6-7.3 and 6-11 is prerequisite to recovery under a Contractor's claim for additional compensation; nothing in this section shall excuse the Contractor from its duty to file or give the required notices, or from performing other duties required by the Contract Documents.

**6-12.2 ADMINISTRATIVE REVIEW.** Prior to filing a Complaint in Arbitration, the Contractor shall exhaust its administrative remedies by attempting to resolve its dispute or claim with Agency's staff in the following sequence:

Project manager  
Department Director (Public Works Agency)  
Director of the Public Works Agency (the Engineer)

Should the Project manager or the Department Director (Public Works Agency) fail to address a request by the Contractor for review of a disputed decision within 14 calendar Days after receiving such request, the Contractor may proceed directly to the next person on the list.

At the option of the Agency, the person to whom the request for review is directed may elect to take such request to a higher level and the Contractor's request shall be deemed to be properly submitted to such higher level.

The Engineer shall address disputes or claims within 28 calendar Days after receiving such request and all necessary supporting data. The Engineer's decision on the dispute or claim shall be the Agency's final decision.

Requests for review made to the Project manager may be either oral or written. Requests for review made to the Department Director (Public Works Agency) and The Engineer shall be made in writing and shall include:

- a. A copy of the disputed decision.
- b. A statement as to why the Contractor believes the decision is in error.
- c. All correspondence and evidence that the Contractor wishes to have considered in the review. Where the request for review is made to the Engineer, in lieu of resubmitting correspondence and evidence which has already been submitted to the Department Director (Public Works Agency), the request may include a list of the correspondence and evidence which should be considered by the Engineer. Any additional correspondence and evidence not previously submitted to the Department Director (Public Works Agency) shall be included with the request to the Engineer, if the Contractor wishes it to be considered. If relevant evidence is not available at the time the request is made to the Department Director (Public Works Agency) or the Engineer, such evidence shall be identified and a statement included as to when such evidence will be submitted.

Each request for review shall be submitted by the Contractor within 21 calendar Days of receipt of the decision which it wishes reviewed.

**6-12.3 ARBITRATION.** Claims and disputes arising under or related to the performance of the Contract, except for claims which have been released by execution of the "Release on Contract for the Job Order" as provided in 9-4, shall be resolved by arbitration unless the Agency and the Contractor agree in writing, after the claim or dispute has arisen, to waive arbitration and to have the claim or dispute litigated in a court of competent jurisdiction. Arbitration shall be pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2 of the Public Contract Code and the regulations promulgated thereto, Chapter 4 (commencing with Section 1300) of Division 2 of Title 1 of the California Code of Regulations. The arbitration decision shall be decided under and in accordance with California law, supported by substantial evidence and, in writing, contain the basis for the decision, findings of fact, and conclusions of law.

Arbitration shall be initiated by a Complaint in Arbitration made in compliance with the requirements of said Chapter 4. A Complaint in Arbitration by the Contractor shall be filed not later than 90 calendar Days after receipt of the final written decision of the Agency on the claim or dispute or within 300 Days after Acceptance of the Work by the Agency if no written decision has been issued. For the purposes of this section, "Acceptance of the Work by the Agency" shall be defined as the date the Notice of Completion is filed.

Where an election is made by either party to use the Simplified Claims Procedure provided under



Sections 1340-1346 of said Chapter 4, the parties may mutually agree to waive representation by counsel.

All contracts valued at more than \$25,000 between the Contractor and its subcontractors and suppliers shall include a provision that the subcontractors and suppliers shall be bound to the Contractor to the same extent that the Contractor is bound to the Agency by all terms and provisions of the Contract, including this arbitration provision.

#### **6-13 CONTRACTOR'S WORK HOURS**

**6-13.1 Working Hours Limitations.** Except as otherwise specified, no work shall be performed by the Contractor at the Work site between the hours of 6:00 p.m. and 7:00 a.m. the following day, nor shall work be performed on Saturdays, Sundays or holidays listed in 6-7.2.1.

**6-13.2 Regular Work Schedule.** The Contractor shall furnish a work schedule with the Construction Schedule required by 6-1 and inform the Engineer at least two Days in advance of changing the schedule. The schedule shall include the times for starting and ending work on each day. Such starting and ending times shall not be more than 10 1/2 hours apart.

**6-13.3 Exceptions.** The limitations on working hours and days shall not apply to emergency work made necessary by unusual conditions where such work is necessary to protect the Work, to protect the property of others, to protect life, or to ensure the orderly flow of traffic.

The limitations of this section shall not apply where work at times other than allowed by 6-13.1 and 6-13.2 is necessary in order to make utility connections or is required by other provisions contained in these Specifications in order to perform the work in the manner specified. In these cases, the Contractor shall obtain prior written approval of the Engineer at least two Days in advance of performing the work.

## SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

### 7-1 THE CONTRACTOR'S EQUIPMENT AND FACILITIES.

**7-1.1 General.** The Contractor shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work.

The Contractor shall provide and maintain enclosed toilets for the use of employees engaged in the Work. These accommodations shall be maintained in a neat and sanitary condition, and regularly pumped out.

**7-1.2 Temporary Utility Services.** The Contractor shall, at its own expense, make all arrangements necessary for the provision of temporary utility services necessary for its own use during performance of the Work.

The Contractor shall not draw water from any fire hydrant (except to extinguish a fire), without obtaining permission from the water utility owner.

**7-1.3 Crushing and Screening Operations.** Unless otherwise specified in the Special Provisions, the establishment and operation of portable screens and crushers will not be allowed on or adjacent to the Work site.

### 7-2 LABOR

**7-2.1 General.** Only competent workers shall be employed on the Work. Any person employed, who is found to be incompetent, intemperate, troublesome, disorderly or otherwise objectionable, or who fails or refuses to perform its work properly and acceptably, shall be immediately removed from the Work by the Contractor and not be reemployed on the Work.

**7-2.1.1 Special Qualifications.** Where the Engineer determines certain portions of the Work require experience, training, certification or other special qualifications that may not be possessed by the average journeyman, such portions of the Work will be specifically identified in the Special Provisions and the special qualifications identified.

When work requiring special qualifications is being performed, a person with such qualifications must be in immediate charge of the work. The person may be a lead journeyman, foreman or trade superintendent. The general superintendent or a foreman who is not specifically assigned to the area where the identified work is being performed will not be considered to be in immediate charge of the work.

Written certification of the required qualifications shall be furnished to the Engineer at least one week prior to the time work is commenced on the work requiring such qualifications. Such certification is subject to review and acceptance by the Engineer. If, during performance of work requiring special qualifications, the qualified person becomes temporarily or permanently unavailable to the Contractor, work shall not proceed until a qualified replacement has been accepted by the Engineer. The Engineer will promptly consider the certification of the replacement.

If identified work is performed without a person having the special qualifications in charge, the Engineer may, at its sole discretion, order such work removed and replaced at the Contractor's expense.

If, after certification is accepted, the Engineer finds that the certification was inaccurate, or work on the project indicates a lack of the knowledge and experience to supervise the work, the Engineer may order the work stopped until an acceptable replacement has been certified, accepted and is in charge.

**7-2.2 Laws.** The Contractor, its agents, and employees shall be bound by and comply with all applicable provisions of the Labor Code and with Federal, State, and local laws related to labor.

The Contractor shall strictly adhere to the provisions of the Labor Code regarding minimum wages, the 8 hour day and the 40 hour week, overtime, Saturday, Sunday, and holiday work, and non-discrimination because of race, color, national origin, sex or religion. The Contractor shall forfeit to the Agency the penalties prescribed in the Labor Code for violations.

In accordance with the Labor Code, the Board has on file and will publish a schedule of prevailing wage rates for the types of work to be done under the Contract. The Contractor shall not pay less than these rates.

Each worker shall be paid subsistence and travel as required by the collective bargaining agreements on file with the State of California, Department of Industrial Relations.

The Contractor's attention is directed to Section 1776 of the Labor Code which imposes responsibility upon the Contractor for the maintenance, certification, and availability for inspection of such records for all persons employed by the Contractor or Subcontractor in connection with the Work. The Contractor shall agree through the Contract to comply with this Section and the remaining provisions of the Labor Code.

**7-2.2.1 Apprentices.** Apprentices shall be employed on the Work in accordance with Labor Code Section 1777.5. The Contractor is responsible for compliance with Labor Code Section 1777.5 for all apprenticeable occupations whether employed directly or through subcontractors.

**7-2.2.2 Contractors' Duties Concerning Labor Code Compliance.** Labor Code Sections 1771, 1775, 1776, 1777.5, 1813 and 1815 are required to be included in the contract between the Contractor and subcontractors. The Contractor agrees to comply with these sections and all remaining provisions of the Labor Code.

## **7-3 INDEPENDENCE OF CONTRACTOR, INDEMNIFICATION AND POLLUTION**

**7-3.1 Independence of Contractor.** It is understood and agreed that Contractor is at all times an independent contractor and that no relationship of employer-employee exists between the parties hereto. Contractor will not be entitled to any benefits payable to employees of Agency, including but not limited to overtime, retirement benefits, workers' compensation benefits, injury leave or other leave benefits. Agency is not required to make any tax or benefit deductions from the compensation payable to Contractor under the provisions of this Agreement. As an independent contractor, Contractor hereby holds Agency harmless from any and all claims that may be made against Agency based upon any contention by any third party that an employer-employee relationship exists by reason of the Agreement.

If, in the performance of this Agreement, any third persons are employed by Contractor, such persons will be entirely and exclusively under the direction, supervision and control of Contractor. All terms of employment, including hours, wages, working conditions, discipline, hiring and discharging or any other terms of employment or requirements of law, will be determined by Contractor. Agency will have no right or authority over such persons or the terms of such employment, except as provided in this Agreement.

**7-3.2 Indemnification and Hold Harmless Clause.** All activities arising out of or relating to the performance of the Work covered by this Contract shall be at the risk of Contractor. To the fullest extent permitted by law, Contractor shall defend (at County's request), indemnify and hold harmless Agency, and the County of Ventura if the County of Ventura is not the entity defined as Agency under this Contract, including all of their boards, agencies, departments, officers, employees, agents and volunteers, against any and all claims, suits, actions, legal or administrative proceedings, judgments, debts, demands, damages, including injury or death to any person or persons, and damage to any property including loss of use resulting therefrom, incidental and consequential damages, liabilities, interest, costs, attorneys' fees and expenses of whatsoever kind of nature, whether arising before, during or after commencement or completion of this Contract, whether against Contractor, Agency or the County of Ventura or which are in any manner, directly, indirectly, in whole or in part, arising from any act, omission, fault or negligence, whether active or passive, of Contractor, a Subcontractor or anyone directly or indirectly employed by them or anyone for whose acts they may be liable in connection with or incident to the Contract, even though the same may have resulted from the joint, concurring or contributory negligence, whether active or passive, of Agency, the County of Ventura or any other person or persons, unless the same be caused by the sole negligence or willful misconduct of Agency or County of Ventura.

The Agency will notify the Contractor of the receipt of any third party claims.

**7-3.3 Contamination and Pollution.** Contractor, solely at its own cost and expense, will provide clean up of any premises, property or natural resources contaminated or polluted due to Contractor activities. Any fines, penalties, punitive or exemplary damages assigned due to contaminating or polluting activities of the Contractor will be borne entirely by the Contractor.

## **7-4 INSURANCE REQUIREMENTS**

Contractor, at its sole cost and expense, shall obtain and maintain in full force during the term of this Contract the following types of insurance:

### **7-4.1 Workers' Compensation Insurance.**

**7-4.1.1 Coverage.** Workers' Compensation coverage, in full compliance with Labor Code 3700, for all employees of Contractor and Employer's Liability in the minimum amount of \$1,000,000. The Agency, the County of Ventura, its officers, employees or Consultants, will not be responsible for any claims in law or equity occasioned by failure of Contractor to comply with this paragraph.

**7-4.1.2 Certification.** Before execution of the Contract by Agency, Contractor shall file with the Engineer the following signed certification:

"I am 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 I will comply with such provisions before commencing the performance of the Work of this Contract."

#### **7-4.2 Commercial General Liability Insurance**

##### **7-4.2.1 Insurance Classes.** "Occurrence" coverage in the minimum amount of:

| <u>Coverage Class</u> | <u>Coverage</u> |
|-----------------------|-----------------|
|-----------------------|-----------------|

|     |   |
|-----|---|
| L-C | \$5,000,000 CSL bodily injury and property damage each occurrence and \$5,000,000 aggregate |
|-----|---|

including but not limited to coverages for premises/operations; products/completed operations; independent contractors; underground, explosion and collapse hazards; personal injury; broad form property damage; broad form blanket contractual.

**7-4.2.2 Coverage Exceptions.** On projects where no explosives will be used and no demolition is involved, the coverage for explosion may be omitted. On projects where no excavation is involved, the coverage for underground hazard may be omitted. The omission of said coverages is at Agency's option, and shall not abrogate Contractor's responsibilities for indemnification as set forth in these Specifications.

**7-4.2.3 Excess Liability Policies.** All Excess Liability policies, if used, shall be on an "umbrella" or following form or the primary layer of coverage.

#### **7-4.3 Commercial Automobile Liability Insurance**

Coverage in the minimum amount of \$1,000,000 CSL bodily injury and property damage, including automobile liability, any auto.

#### **7-4.4 Property Insurance**

Contractor shall arrange for its own "Course of Construction" insurance on the project to protect its interests, as Agency does not have this coverage.

Contractor is responsible for delivering to Agency Work completed in accordance with the Contract except as provided in 7-18 (Acts of God). Should the Work being constructed be damaged by fire or other causes during construction, it shall be replaced by Contractor in accordance with the requirements of the Plans and Specifications without additional expense to Agency.

#### **7-4.5 Other Insurance Provisions.**

**7-4.5.1 Insurance Company Qualifications.** All insurance required shall be issued by (a) an admitted company or admitted companies authorized to transact business in the State of California which have a BEST rating of B+ or higher and a Financial Size Category (FSC) of VII or larger or (b) a California approved Surplus Line carrier or carriers which have a BEST rating of A or higher and a Financial Size Category (FSC) of VII or larger.

Workers compensation insurance not meeting the above requirements but meeting all other requirements of the specifications, will be accepted.

**7-4.5.2 Primary Coverage.** All insurance required shall be primary coverage as respects Agency and any insurance or self-insurance maintained by Agency or the County of Ventura shall be in excess of Contractor's insurance coverage and shall not contribute to it.

**7-4.5.3 Aggregate Limits Exceeded.** Agency shall be notified immediately if any aggregate insurance limit is exceeded. Contractor shall purchase additional coverage to meet requirements.

**7-4.5.4 Liability in Excess of Limits.** Insurance coverage in the minimum amounts set forth herein shall not be construed to relieve Contractor for liability in excess of such coverage, nor shall it preclude Agency or the County of Ventura from taking such other actions as is available to it under any other provisions of this Contract or otherwise in law.

**7-4.5.5 Additional Insured Endorsements.** The Agency and the County of Ventura, including its boards, all special Districts governed by the Board of Supervisors, agencies, departments, officers, Consultants, employees, agents and volunteers, shall be named as Additional Insured as respects Work done by Contractor under the terms of the Contract on all policies required (except Workers' Compensation).

**7-4.5.6 Waiver of Subrogation Rights.** Contractor agrees to waive all rights of subrogation against the Agency, the County of Ventura, its boards, districts, agencies, departments, officers, employees, agents and volunteers for losses arising directly or indirectly from the activities or Work performed by Contractor under the Contract (applies only to Workers' Compensation and Commercial General Liability).

**7-4.5.7 10 Day Notice Required.** Policies shall not be canceled, non-renewed or reduced in scope of coverage until after 10 Days written notice by mail has been given to Agency. Policies shall not be cancelled for non-payment of premium until after 10 Days written notice by mail has been given to Agency.

**7-4.5.8 Documentation Required.** Prior to execution of the Contract by Agency, Contractor shall provide Agency with Certificates of Insurance for all required coverages (see Appendix A for example) and indicating that the endorsement(s) required have been issued.

It is the responsibility of the Contractor to confirm that all terms and conditions of Section 7-4 Insurance Requirements are complied with by any and all subcontractors that Contractor may use in the completion of this Agreement.

**7-5 PERMITS.** The Agency will obtain, at no cost to the Contractor, all encroachment and building permits necessary to perform Contract Work in streets, highways, railways or other rights of way, unless the necessity for such permit(s) is created by a method of operation chosen by the Contractor. The Contractor shall obtain and pay for all costs incurred for permits necessitated by its operations such as, but not limited to, those permits required for night Work, overload, blasting and demolition.

The Contractor shall pay all business taxes or license fees that are required for the Work.

**7-5.1 Highway and Railroad Permits.** The Engineer will obtain the basic State highway and railroad encroachment permits which will include checking of plans. However, the Contractor must also obtain permits from these agencies. Inspection fees charged by these agencies must be paid by the Contractor.

#### **7-5.2 Grading Ordinance**

**7-5.2.1 General.** All excavation, filling and grading operations in Ventura County are governed by the Ventura County Grading Ordinance or City Ordinances, except within the project right of way shown on the Plans.

**7-5.2.2 Permits Required.** Work outside the project right of way which involves excavation or filling of soils is subject to all requirements of the applicable grading ordinance. The requirements may include, but are not limited to, submitting of a grading plan prepared by a Civil Engineer, obtaining a grading permit, paying the permit fee, posting a grading bond, hiring professionals for engineering and testing services, compacting fills, constructing drainage facilities and providing erosion protection.

**7-5.2.3 Imported and Exported Material.** To insure that neither the Agency nor the Contractor is a party to aiding or abetting any property owner (who is ultimately responsible) to violate the applicable grading ordinance, no material shall be imported from or exported or wasted outside the project right of way until the Contractor has furnished the Engineer a copy of the grading permit covering such operation on land where material is to be deposited or excavated, unless exempt.

**7-5.2.4 Exemptions from Permit.** No grading permit is required of the Contractor for Work performed within the project right of way shown on the Plans or on borrow or disposal areas shown on the Plans or described in the Special Provisions and which are specifically designated as being exempt from such permit requirements.

#### **7-5.3 No Text**

#### **7-5.4 Coastal Zone Permits**

**7-5.4.1 Agency Furnished Permits.** Permits required for Work on the project within rights of way furnished by the Agency within the Coastal Zone will be obtained by the Agency.

**7-5.4.2 Contractor Furnished Permits.** Permits required for the Contractor's operations outside of rights of way furnished by the Agency must be obtained by the Contractor. Such permits are required for brush removal, grading, dredging, disposal of material and many other operations within the Coastal Zone.

**7-6 THE CONTRACTOR'S REPRESENTATIVE.** Before starting work, the Contractor shall designate in writing a representative who shall have complete authority to act for it. An alternative representative may be designated as well. The representative or alternate shall be present at the Work site whenever work is in progress or whenever actions of the elements necessitate its presence to take measures necessary to protect the Work, persons, or property. Any order or communication given to this representative shall be deemed delivered to the Contractor. A joint venture shall designate only one representative and alternate. In the absence of the Contractor or its representative, instructions or directions may be given by the Engineer to the superintendent or person in charge of the specific work to which the order applies. Such order shall be complied with promptly and referred to the Contractor or its representative.

In order to communicate with the Agency, the Contractor's representative, superintendent, or person in charge of specific work shall be able to speak, read, and write the English language.

**7-7 COOPERATION AND COLLATERAL WORK.** The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. The Agency, its workers and contractors and others, shall have the right to operate within or adjacent to the Work site during the performance of such work.

The Agency, the Contractor, and each of such workers, contractors and others, shall coordinate their operations and cooperate to minimize interference.

The Contractor shall include in its Bid all costs involved as a result of coordinating its work with others. The Contractor will not be entitled to additional compensation from the Agency for damages resulting from such simultaneous, collateral, and essential work. If necessary to avoid or minimize such damage or delay, the Contractor shall redeploy its work force to other parts of the Work.

Should the Contractor be delayed by the Agency, and such delay could not have been reasonably foreseen or prevented by the Contractor, the Engineer will determine the extent of the delay, the effect on the Work, and any extension of time.

## **7-8 WORK SITE MAINTENANCE**

**7-8.1 General** Throughout all phases of construction, including suspension of the Work, and until acceptance per 6-8, the Contractor shall keep the Work site clean and free from rubbish and debris. Rubbish and debris collected on the Work site shall only be stored in roll-off, enclosed containers prior to disposal. Stockpiles of such will not be allowed.

When required by the Special Provisions, the Contractor shall provide a self-loading motorized street sweeper equipped with a functional water spray system. The sweeper shall clean all paved areas within the Work site and all paved haul routes at least once each working day.

The Contractor shall ensure there is no spillage along haul routes. Any such spillage shall be removed immediately and the area cleaned.

Should the Contractor fail to keep the Work site free from rubbish and debris, the Engineer may suspend the Work per 6-3 until the condition is corrected.

**7-8.2 Air Pollution Control** The Contractor shall not discharge smoke, dust, equipment exhaust, or any other air contaminants into the atmosphere in such quantity as will violate any Federal, State, or local regulations.

The Contractor shall also abate dust nuisance by cleaning, sweeping and spraying with water, or other means as necessary. The use of water shall conform to 7-8.6.

**7-8.3 Noise Control.** Noise generated from the Contractor's operations shall be controlled as specified in the Special Provisions.

## **7-8.4 Storage of Equipment and Materials.**

**7-8.4.1 General** Materials and equipment shall be removed from the Work site as soon as they are no longer necessary. Before inspection by the Engineer for acceptance, the Work site shall be cleared of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance.

Excess excavated material shall be removed from the Work site immediately unless otherwise specified in the Special Provisions.

Forms and form lumber shall be removed from the Work site as soon as practicable after stripping.

**7-8.4.2 Storage in Public Streets.** Construction materials and equipment shall not be stored in streets, roads, or highways for more than 5 days after unloading unless otherwise specified in the Special Provisions or approved by the Engineer. All materials or equipment not installed or used in construction within 5 days after unloading shall be stored at a location approved by the Engineer.

Excavated material, except that which is to be used as backfill in the adjacent trench, shall not be stored in public streets unless otherwise specified in the Special Provisions or approved by the Engineer. Immediately after placing backfill, all excess material shall be removed from the Work site.

## **7-8.5 Sanitary Sewers.**

**7-8.5.1 General.** The flow of sewage shall not be interrupted. Should the Contractor disrupt the operation of existing sanitary sewer facilities, or should disruption be necessary for performance of the Work, the Contractor shall bypass the sewage flow around the Work. Sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches nor be covered by backfill.

Whenever sewage bypass and pumping is required by the Plans or Specifications, or the Contractor so elects to perform, the Contractor shall submit per 2-5.3 a working drawing conforming to 7-8.5.2 detailing its proposed plan of sewage bypass and pumping.

**7-8.5.2 Sewage Bypass and Pumping Plan.** The plan shall indicate the locations and capacities of all pumps, sumps, suction and discharge lines. Equipment and piping shall be sized to handle the peak flow of the section of sewer line to be bypassed and pumped. Equipment and piping shall conform to 7-10, the Plans, and the Special Provisions. Bypass piping, when crossing areas subject to traffic loads, shall be constructed in trenches with adequate cover and otherwise protected from damage due to traffic. Lay-flat hose or aluminum piping with an adequate casing and/or traffic plates may be allowed if so approved by the Engineer. Bypass pump suction and

discharge lines that extend into manholes shall be rigid hose or hard pipe. Lay flat hose will not be allowed to extend into manholes. The Contractor shall provide a backup bypass pumping system in case of malfunction. The backup bypass system shall provide 100 percent standby capability, and be in place and ready for immediate use.

Each standby pump shall be a complete unit with its own suction and discharge piping. In addition to the backup system, the Contractor shall furnish and operate vacuum trucks when required by the Plans or Special Provisions.

**7-8.5.3 Spill Prevention and Emergency Response Plan.** The Contractor shall prepare and submit per 2-5.3 a spill prevention and emergency response plan. The plan shall address implementation of measures to prevent sewage spills, procedures for spill control and containment, notifications, emergency response, cleanup, and spill and damage reporting.

The plan shall account for all storm drain systems and water courses within the vicinity of the Work which could be affected by a sewage spill. Catch basins that could receive spilled sewage shall be identified Unless otherwise specified in the Special Provisions, these catch basins shall be sealed prior to operating the bypass and pumping system. The Contractor shall remove all material used to seal the catch basins when the bypass and pumping system operations are complete.

The Contractor shall be fully responsible for containing any sewage spillage, preventing any sewage from reaching a watercourse, recovery and legal disposal of any spilled sewage, any fines or penalties associated with the sewage spill imposed upon by the Agency and/or the Contractor by jurisdictional regulatory agencies, and any other expenses or liabilities related to the sewage spill.

**7-8.6 Water Pollution Control** The Contractor shall prevent, control, and abate discharges of pollutants from the construction site in order to protect the storm drain system, which includes pipes, channels, streams, waterways, and other bodies of water, by the construction, installation or performance of water pollution control measures as shown on the Stormwater Pollution Control Plan (SWPCP) or Stormwater Pollution Prevention Plan (SWPPP) depending on the land area affected by the construction activity. The Contractor shall ensure compliance with the current State NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activity (General Construction Permit), NPDES No. CAS000002 and current Ventura County NPDES Municipal Separate Storm Sewer System (MS4) Permit No. CAS004002.

## **7-8.6.1 Compliance with NPDES General Construction Permit**

### **7-8.6.1.1 Construction Sites**

If the Work involves construction activity that results in soil disturbance of one acre or more of total land area, or results in soil disturbances of less than one acre but is a part of a work area larger than one acre, the Contractor shall comply with the requirements of the General Construction Permit NPDES No. CAS000002. Construction activity includes clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement. Construction activity does not include routine maintenance such as, maintenance of original line and grade, hydraulic capacity, or original purpose of the facility.

The Contractor shall comply with requirements of the General Construction Permit (NPDES No. CAS000002), obtained by the Agency, including a site-specific Storm Water Pollution Prevention Plan (SWPPP) for the Work to be developed by Qualified SWPPP Developer (QSD) and implemented by the Qualified SWPPP Practitioner (QSP). After July 1, 2010, the Agency will electronically file all required Permit Registration Documents (PRDs) through the State Water Board's Stormwater Multi-Application and Report Tracking System (SMARTS) website, as required prior to the commencement of construction activity. PRDs consist of the Notice of Intent (NOI), Risk Assessment, Post-Construction Calculations, a Site Map, the SWPPP, a signed certification statement by the Legally Responsible Party (LRP), and the first annual fee. For the Permit application, the Contractor shall submit to Project Manager the following:

- The completed site-specific Risk Assessment
- Post-construction calculations if applicable for the project, and
- Site-specific SWPPP developed in accordance with applicable Permits.

**7-8.6.1.2 Linear Utility Projects;** Contractor shall comply with the requirements of the General Construction Permit NPDES No. CAS000002 for Linear Underground/Overhead projects (LUPs) one acre or greater.

### **7-8.6.2 Compliance with NPDES MS4 Permit**

**7-8.6.2.1 Construction Sites Less Than One Acre** The Contractor shall ensure implementation of an effective combination of erosion and sediment control Best Management Practices (BMPs) listed in **Table 6** of the Ventura County NPDES MS4 Permit. The Contractor shall develop and implement a Storm Water Pollution Control Plan (SWPCP).

**7-8.6.2.2 Construction Sites One Acre but Less Than 5 Acres** The Contractor shall ensure implementation of an effective combination of appropriate erosion and sediment control BMPs from **Table 7** (BMPs at Construction sites 1 acre or greater but less than 5 acres) of the Ventura County NPDES MS4 Permit in addition to the ones identified in **Table 6** (BMPs at Construction sites less than 1 acre) to prevent erosion and sediment loss, and the discharge of construction wastes. For all construction sites one acre or greater, the Contractor shall submit the SWPPP to the Agency for review and certification as the Local SWPPP.

**7-8.6.2.3 Construction Sites 5 Acres and Greater** The Contractor shall ensure implementation of an effective combination of the following BMPs in **Tables 8** (BMPs at Construction sites 5 acres or greater) in addition to the ones identified in **Table 6** (BMPs at Construction sites less than 1 acre) and **Table 7** (BMPs at Construction sites 1 acre or greater but less than 5 acres) at all construction sites 5 acres and greater to prevent erosion and sediment loss, and the discharge of construction wastes. For all construction sites one acre or greater, the Contractor shall submit the SWPPP to the Agency for review and certification as the Local SWPPP.

#### **7-8.6.2.4 Enhanced Construction BMP Implementation**

Construction sites located on hillsides, adjacent or directly discharging to CWA 303(d) listed waters for siltation or sediment, and directly adjacent to Environmentally Sensitive Areas are termed "high risk sites." Contractor shall implement enhanced practices that preclude impacts to water quality posed by the high risk sites.

Contractor shall ensure that high risk sites are inspected by the Qualified SWPPP Developer, Qualified SWPPP Practitioner, or Certified Professionals in Erosion and Sediment Control (CPESC) at the time of BMP installation, at least weekly during the wet season, and at least once each 24 hour period during a storm event that generates runoff from the site, to identify BMPs that need maintenance to operate effectively, that have failed or could fail to operate as intended.

During the wet season, the area of disturbance shall be limited to the area that can be controlled with an effective combination of erosion and sediment control BMPs. Enhanced sediment controls should be used in combination with erosion controls and should target portions of the site that cannot be effectively controlled by standard erosion controls described above. Effective sediment and erosion control BMPs proposed by the Contractor shall include the BMPs listed in Table 9 (Enhanced Construction BMP Implementation) of the NPDES MS4 Permit. The Contractor shall implement the BMPs listed in Table 9 unless shown unnecessary. Also, the Contractor shall retain records of the inspection and a determination and rationale of the BMPs selected to control runoff.



### **7-8.6.3 Plan.**

**7-8.6.3.1** The SWPCP, required for construction projects less than one acre, shall be prepared in accordance with the requirements of current Ventura County NPDES MS4 Permit No. CAS004002 and County Ordinance No. 4142.

**7-8.6.3.2** The SWPPP, required for construction projects one acre or greater, shall be prepared in accordance with the requirements of the state's General Construction Permit NPDES Permit CAS000002, Ventura Countywide Stormwater Quality Management Program, NPDES MS4 Permit No. CAS004002, and County Ordinance No. 4142.

**7-8.6.3.3** The SWPCP/SWPPP shall identify potential pollutant sources on the construction site that may affect the quality of discharges, whether non-stormwater or stormwater, from the site and design the use and placement of water pollution control measures, BMPs, to effectively prohibit the entry of pollutants from the site into the storm drain system during construction. At a minimum, and depending on the size of the project area, the SWPCP/SWPPP will include all appropriate minimum BMPs as required by the Ventura Countywide Stormwater Quality Management Program, NPDES MS4 Permit No. CAS004002 (Tables 6 through 9). The SWPCP/SWPPP must utilize the measures recommended in the California Stormwater Quality Association (CASQA) Stormwater BMPs Handbook for Construction (January 2003 version until July 1, 2010 and 2009 version after July 1, 2010). Starting July 1, 2010 SWPPP shall be prepared by QSD as defined in the NPDES Permit CAS000002. The Contractor shall complete, sign and submit the SWPCP/SWPPP for review and final approval by the Project Engineer, prior to issuance of the Notice to Proceed as provided in 6-7.4.

**7-8.6.3.4** For all construction projects one acre and greater, the Contractor shall submit the SWPPP to the Agency for review and certification as Local SWPPP in accordance with NPDES MS4 Permit No. CAS004002 prior to the Notice to Proceed as provided in 6-7.4.

**7-8.6.4 Measures.** All water pollution control measures shall conform to the requirements of the submitted SWPCP/SWPPP. If circumstances during the course of construction require changes to the original SWPCP/SWPPP, a revised SWPCP/SWPPP shall be promptly submitted to the Project Manager in each instance. The SWPPP shall be amended or revised by QSD. A copy of the current SWPCP/SWPPP including revisions and amendments shall be kept at the site to ensure that field personnel has access to the current document at all times. If measures being taken are inadequate to control water pollution effectively, the Project Manager may direct the Contractor to revise the operations and no further work shall be performed until adequate water pollution control measures are implemented. Effective September 2, 2011, implementation of the SWPPP shall be overseen by the Contractor's QSP as defined in the General Construction Permit NPDES No. CAS000002. All work installed by the Contractor in connection with the SWPCP/SWPPP but not specified to become a permanent part of the Work shall be removed and the site restored in so far as practical to its original condition prior to completion of the Work.

**7-8.6.4.1 Post-Construction Standards;** Contractor shall ensure that applicable post-construction standards are implemented to meet applicable project requirements of the Ventura County NPDES MS4 Permit and General Construction Permit NPDES No. CAS000002 (effective September 2, 2012).

**7-8.6.4.2 Active Treatment Systems;** Contractor shall comply with requirements of the General Construction Permit NPDES No. CAS000002 for active treatment systems as applicable.

### **7-8.6.5 Monitoring and Reporting**

**7-8.6.5.1 Monitoring;** In accordance with the General Construction Permit NPDES No. CAS000002, the Contractor shall develop and implement monitoring program for Risk Level 2 and 3 sites. In addition at Risk Level 3 sites, contractor shall perform receiving water monitoring to meet Permit requirements.

**7-8.6.5.2 Reporting;** the Contractor shall ensure that all submittals and reports are prepared and submitted to the RWQCB in accordance with the applicable Permits. At minimum the reports will include Annual Report (for applicable projects due September 1<sup>st</sup>), Rain Event Action Plan (due 48 hrs prior to the rain event for the applicable projects), Numeric Action Levels (NAL) Exceedance Report (as required), Numeric Effluent Limitations (NELs) Violation Report (within 24 hours after NEL exceedance is identified). Contractor shall submit required reports to the Project Manager for review and approval prior to submittal to the RWQCB.

**7-8.6.6 Dewatering Activities.** All dewatering activities shall be performed in accordance with applicable regulatory requirements issued by the Los Angeles Regional Water Quality Control Board, including specific requirements contained in the Waste Discharge Requirements (WDR) when issued for the Work.

**7-8.6.7 Payment.** Water pollution control shall include full compensation per the Construction Task Catalog® for furnishing all labor, materials, tools, equipment, services and incidentals and for doing all work involved in water pollution control as specified herein.

**7-8.7 Drainage Control.** The Contractor shall maintain drainage within and through the Work areas. Earth dams will not be permitted in paved areas. Temporary dams of sandbags, asphaltic concrete or other acceptable material will be permitted when necessary to protect the Work, provided their use does not create a hazard or nuisance to the public. Such dams shall be removed from the site as soon as their use is no longer necessary.

**7-8.8 Final Cleaning.** At the completion of the Work, the Contractor shall remove all waste materials and rubbish from and about the project, as well as all tools, construction equipment, temporary facilities, machinery, and surplus materials.

At completion of construction and just prior to final inspection, the Contractor shall thoroughly clean the interior and exterior of the buildings, including hardware, floors, roofs, sills, ledges, glass, or other surfaces where debris, plaster, paint, spots, and dirt or dust may have collected. All glass shall be washed clean and polished. Remove all grease, stains, labels, fingerprints, and other foreign materials from interior and exterior surfaces. Repair, patch, and touch up marred surfaces to match adjacent finishes.

The Contractor shall use only experienced workmen or professional cleaners for final cleaning. It shall use only cleaning materials recommended by the manufacturer of the surface to be cleaned, and use cleaning materials only on surfaces recommended by the cleaning material manufacturer.

It shall broom-clean all paved surfaces and rake-clean other surfaces of grounds.

The Contractor shall replace air conditioning filters if units were operated during construction, and clean all ducts, blowers, and coils if air conditioning units were operated without filters during construction.

After cleaning, the Contractor shall maintain the building in a clean condition until it is accepted by the Agency.

**7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS.** The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property.

The Contractor shall repair or replace all existing improvements within the right-of-way which are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.) which are damaged or removed as a result of its operations. When a portion of a sprinkler system within the right-of-way must be removed, the remaining lines shall be capped. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimension.

Maintenance of street and traffic signal systems that are damaged, temporarily removed or relocated shall be done in conformance with 307-1.5.

Trees, lawns, and shrubbery that are not designated to be removed shall be protected from damage or injury. If damaged or removed because of the Contractor's operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible. Lawns shall be reseeded and covered with suitable mulch.

The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers and other improvements which are designated for removal and would be destroyed because of the Work.

All costs to the Contractor for protecting, removing, and restoring existing improvements shall be absorbed in its bid.

In existing buildings, all surfaces, equipment, furniture and other property shall be protected from loss or damage by or as result of the Contractor's operations. The Contractor shall replace damaged property or shall repair and restore it to its previous condition. Patching, painting, replacement of wall, ceiling and floor covering and similar Work shall be done in such a manner that the repaired Work will not be readily noticeable.

## **7-10 PUBLIC CONVENIENCE AND SAFETY**

**7-10.1 Traffic and Access.** The Contractor's operations shall cause no unnecessary inconvenience. The access rights of the public shall be considered at all times. Unless otherwise authorized, traffic shall be permitted to pass through the Work, or an approved detour shall be provided.

Safe and adequate pedestrian and vehicular access shall be provided and maintained to: fire hydrants; commercial and industrial establishments; churches, schools and parking lots; service stations and motels; hospitals; police and fire stations; and establishments of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the Engineer.

Safe and adequate pedestrian zones and public transportation stops, as well as pedestrian crossings of the Work at intervals not exceeding 90m (300 feet), shall be maintained unless otherwise approved by the Engineer .

Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time. If backfill has been completed to the extent that safe access may be provided, and the street is opened to local traffic, the Contractor shall immediately clear the street and driveways and provide and maintain access.

The Contractor shall cooperate with the various parties involved in the delivery of mail and the collection and removal of trash and garbage to maintain existing schedules for these services.

Grading operations, roadway excavation and fill construction shall be conducted by the Contractor in a manner to provide a reasonably satisfactory surface for traffic. When rough grading is completed, the roadbed surface shall be brought to a smooth, even condition satisfactory for traffic.

Unless otherwise authorized, work shall be performed in only one-half the roadway at one time.

One half shall be kept open and unobstructed until the opposite side is ready for use. If one-half a street only is being improved, the other half shall be conditioned and maintained as a detour.

The Contractor shall include in its Bid all costs for the above requirements.

**7-10.2 Storage of Equipment and Materials in Public Streets.** Construction materials may not be stored in streets, roads, or highways for more than 5 Days after unloading. All materials or equipment not installed or used in the construction within 5 Days after unloading shall be stored elsewhere by the Contractor at its expense unless it is authorized additional storage time.

Construction equipment shall not be stored at the Work site before its actual use on the Work nor for more than 5 Days after it is no longer needed on the Work. Time necessary for repair or assembly of equipment may be authorized by the Engineer.

Excavated material, except that which is to be used as backfill in the adjacent trench, may not be stored in public streets, roads or highways unless otherwise permitted. After placing backfill, all excess material shall be removed immediately from the site.

**7-10.3 Street Closures, Detours, Barricades.** The Contractor shall comply with all applicable State, County and City requirements for closure of streets. The Contractor shall provide barriers, guards, lights, signs, temporary bridges, flagpersons and watchpersons, advising the public of detours and construction hazards. The Contractor shall also be responsible for compliance with additional public safety requirements which may arise during construction. The Contractor shall furnish and install, and upon completion of the Work, promptly remove all signs and warning devices.

At least 48 hours in advance of closing, or partially closing, or of reopening, any street, alley, or other public thoroughfare, the Contractor shall notify the Police, Fire, Traffic and Engineering Departments of jurisdictional agencies involved, and comply with their requirements. Deviations must first be approved in writing by the Engineer.

The Contractor shall secure approval, in advance, from authorities concerned for the use of any bridges proposed by it for public use. Temporary bridges shall be clearly posted as to load limit, with signs and posting conforming to current requirements set forth in the "CALTRANS Manual on Uniform Traffic Control Devices" published by the California Department of Transportation, covering "signs." This manual shall also apply to the street closures, barricades, detours, lights, and other safety devices required.

All costs involved shall be included in the bid.

#### **7-10.4 Public Safety**

**7-10.4.1 Safety Orders.** The Contractor shall have at the Work site, copies or suitable extracts of: Construction Safety Orders, Electrical Safety Orders, and General Industrial Safety Orders issued by the State Division of Industrial Safety. It shall comply with provisions of these and all other applicable laws, ordinances, and regulations.

Before excavating any trench 1.5 meters (5 feet) or more in depth, the Contractor shall submit to the Agency a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for the workers' protection from the hazard of caving ground during the excavation of such trench. If the plan varies from the shoring system standards, the plan shall be prepared by a Registered Civil Engineer. No excavation shall be commenced until the Engineer has accepted the plan and the Contractor has obtained a permit from the State Division of Industrial Safety. A copy of the permit shall be submitted to the Engineer.

Payment for performing all Work necessary to provide safety measures shall be included in the prices bid for other items of Work except where separate bid items for excavation safety are provided, or required by law.

**7-10.4.2 Use of Explosives.** Explosives may be used only when authorized in writing by the Engineer, or as otherwise stated in the Specifications. Explosives shall be handled, used, and stored in accordance with all applicable regulations.

The Engineer's approval of the use of explosives shall not relieve the Contractor from its liability for claims caused by its blasting operations.

**7-10.4.3 Special Hazardous Substances and Processes.** Materials that contain hazardous substances or mixtures may be required on the Work. A Material Safety Data Sheet as described in Section 5194 of the California Code of Regulations shall be requested by the Contractor from the manufacturer of any hazardous product used.

Material usage shall be accomplished with strict adherence to California Division of Industrial Safety requirements and all manufacturers' warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.

The Contractor shall notify the Engineer if a specified product cannot be used under safe conditions.

#### **7-10.4.4 Confined Spaces.**

- (a) Confined Space Entry Program. The Contractor shall be responsible for implementing, administering and maintaining a confined space entry program (CSEP) in accordance with Sections 5156, 5157, and 5158 Title 8, CCR.

Prior to starting the Work, the Contractor shall prepare and submit its comprehensive CSEP to the Engineer. The CSEP shall address all potential physical and environmental hazards and contain procedures for safe entry into confined spaces, including, but not limited to the following:

- 1) Training of personnel
- 2) Purging and cleaning the space of materials and residue
- 3) Potential isolation and control of energy and material inflow
- 4) Controlled access to the space
- 5) Atmospheric testing of the space
- 6) Ventilation of the space
- 7) Special hazards consideration
- 8) Personal protective equipment
- 9) Rescue plan provisions

The Contractor's submittal shall include the names of its personnel, including subcontractor personnel, assigned to the project who will have CSEP responsibilities, their CSEP training, and their specific assignment and responsibility in carrying out the CSEP.

- (b) Permit-Required Confined Spaces. Entry into permit-required confined spaces as defined in Section 5157, Title 8, CCR may be required as a part of the Work. All manholes, tanks, vaults, pipelines excavations, or other enclosed or partially enclosed spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The Contractor shall implement a permit space program prior to performing any Work in a permit-required confined space. A copy of the permit shall be available at all times for review by Contractor and Agency personnel at the work site.
- (c) Payment. Payment for implementing, administering, and providing all equipment and personnel to perform the CSEP shall be included in the bid items for which the CSEP is required.

#### **7-10.4.5 Asbestos Safety & Prohibited Use**

**7-10.4.5.1 Asbestos Warning Signs.** If any work is to be performed in an area of an existing building where there is the potential for employees working in the building to come into contact with, or release or disturb, asbestos or asbestos-containing construction materials, the Contractor shall post that area with a clear and conspicuous warning notice. The posted warning notice shall read, in print which is readily visible because of its large size and bright color, as follows:

"CAUTION. ASBESTOS. CANCER AND LUNG DISEASE HAZARD. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT."

**7-10.4.5.2 Products Containing Asbestos.** No product containing any asbestos fibers shall be used on the Work or by the Contractor on the Work site unless specifically identified on the Plans or in the Special Provisions as containing asbestos and not being subject to this section. Asbestos Cement (AC) pipe may be used, when specified, providing all worker safety regulations and manufacturer's recommendations are complied with.

**7-11 PATENT FEES OR ROYALTIES.** The Contractor shall absorb in its Bid, the patent fees or royalties on any patented article or process which may be furnished or used in the Work. The Contractor shall indemnify and hold the Agency harmless from any legal action that may be brought for infringement of patents.

**7-12 ADVERTISING.** The names of contractors, subcontractors, architects, or engineers, with their addresses and the designation of their particular specialties, may be displayed on removable signs. The size and location of such signs shall be subject to the Engineer's approval.

Commercial advertising matter shall not be attached or painted on the surfaces of buildings, fences, canopies, or barricades.

**7-13 LAWS TO BE OBSERVED.** The Contractor shall keep fully informed of State and National laws and County and Municipal ordinances and regulations which in any manner affect those employed in the Work or the materials used in the Work or in any way affect the conduct of the Work. It shall at all times observe and comply with all such laws, ordinances and regulations.

**7-13.1 Mined Materials.** Mined material from California surface mines, used on the Work, shall be from a mine identified in the list published by the California Department of Conservation (referred to as 3098 List), as required by Public Contract Code 20676. This list is available on the Internet at [www.conservation.ca.gov/OMR/ab\\_3098\\_list/index.htm](http://www.conservation.ca.gov/OMR/ab_3098_list/index.htm).

**7-14 ANTITRUST CLAIMS.** Section 7103.5 of the Public Contract Code provides:

"In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding 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, services, or materials pursuant to the public works contract or subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgement by the parties."

**7-15 RECYCLABLE CONSTRUCTION & DEMOLITION WASTES.** Ventura County Ordinance Code Section, 4770 et seq., requires that If any recyclable solid wastes or marketable reusable materials will be generated on the site of the Work, the Contractor shall prepare a Construction & Demolition Debris Waste Diversion Plan and submit it to the Ventura County Public Works Agency, Water & Sanitation Department - Integrated Waste Management Division (IWMD). The Contractor shall prepare and file Construction & Demolition Debris Waste Diversion Reporting Forms as required by the IWMD.

The Contractor shall submit an IWMD Form B-Recycling Plan approved by IWMD prior to issuance of the Notice to Proceed as provided in 6-7.4.

The Contractor shall submit an IWMD Form C-Reporting Form approved by IWMD prior to the Engineer preparing the final estimate as provided in 9-3.2.

**7-16 BLANK**

**7-17 LOSS OR DAMAGE TO THE WORK.** The Contractor is responsible for delivering to the Agency Work completed in accordance with the Contract except as provided in 7-18. Should the Work being constructed be damaged by fire or other causes before Acceptance by the Agency, it shall be replaced in accordance with the requirements of the Plans and Specifications without additional expense to the Agency. The Agency does not carry "Course of Construction" insurance on the Work. Contractor should arrange for its own insurance to protect its interests.

**7-18 ACTS OF GOD.** As provided in Section 7105 of the California Public Contract Code, the Contractor shall not be responsible for the cost of repairing or restoring damaged portions of the Work determined to have been proximately caused by an act of God in excess of 5 percent of the contracted amount, provided that the Work damaged was built in accordance with accepted and applicable building standards and the Specifications and Drawings. The Contractor shall obtain insurance to indemnify the Agency for any damage to the Work caused by an act of God if the premium of said insurance coverage is called for as a separate bid item in the bidding schedule for the Work. For purposes of this section, the term "acts of God" shall include only the following occurrences or conditions and effects: earthquakes in excess of a magnitude of 3.5 on the Richter Scale, and tidal waves.

## SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

8-1 No Text

8-2 No Text

## **SECTION 9 - MEASUREMENT AND PAYMENT**

### **9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK**

**9-1.1 General.** Payment for all Job Orders shall be for the total of quantities times unit prices in the CTC times the Adjustment Factor, unless specified otherwise in the individual Job Order. Payment shall be for actual measured field quantities. Also, unless otherwise specified, quantities of work shall be determined from measurements or dimensions in horizontal planes. However, linear quantities of pipe, piling, fencing, and timber shall be considered as being the true length measured along longitudinal axis.

Unless otherwise provided in Specifications, volumetric quantities shall be the product of the mean area of vertical or horizontal sections and the intervening horizontal or vertical dimension. The planimeter shall be considered an instrument of precision adapted to measurement of all areas.

**9-1.2 Methods of Measurement.** Materials and items of Work which are to be paid for on the basis of measurement shall be measured in accordance with the methods stipulated in the particular sections involved.

**9-1.3 Certified Weights.** When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales or, when approved by the Engineer, on a completely automated weighing and recording system. The Contractor shall furnish the Engineer with duplicate licensed weighmaster's certificates showing actual net weights. The Agency will accept the certificate as evidence of weights delivered.

**9-1.4 Units of Measurement.** Measurements shall be in accordance with 1-4.1 and 1-4.2. A metric ton or "tonne" is equal to 1000 kilograms and the unit of liquid measure is a Liter (in U.S. Standard Measures, a pound is an avoirdupois pound; a ton is 2000 pounds avoirdupois; and the unit of liquid measure is a gallon).

### **9-2 No Text**

### **9-3 PAYMENT**

**9-3.1 General.** Payment to the Contractor will be made only for the actual quantities of Job Order items constructed in accordance with the scope of work, Plans, and Specifications. Upon completion of construction, if the actual quantities show either an increase or decrease from the quantities given in the Job Order proposal, the scope of work will prevail. Payment for those items identified will be handled with a new Job Order.

The Construction Task Catalog® prices times the quantity of that item installed or demolished, times the Adjustment factor shall be full compensation for the items of work and all appurtenant work, including furnishing all materials, labor, equipment, tools and incidentals.

Payment for items shown on the Plans or required by the Specifications, for which no pay item is provided, shall be considered included in the prices named for the other items shown on the Proposal.

Payment will not be made for materials wasted or disposed of in a manner not called for under the Contract. This includes rejected material not unloaded from vehicles, material rejected after it has been placed and material placed outside of the Plan lines. No compensation will be allowed for disposing of rejected or excess material.

Whenever any portion of the Work is performed by the Agency at the Contractor's request, the cost thereof shall be charged against the Contractor, and may be deducted from any amount due or becoming due from the Agency.

Whenever immediate action is required to prevent injury, death, or property damage, and precautions which are the Contractor's responsibility have not been taken and are not reasonably expected to be taken, the Agency may, after reasonable attempt to notify the Contractor, cause such precautions to be taken and shall charge the cost thereof against the Contractor, or may deduct such cost from any amount due or becoming due from the Agency. Agency action or inaction under such circumstances shall not be construed as relieving the Contractor or its Surety from liability.



### **9-3.1 General. (Continued)**

Payment shall not relieve the Contractor from its obligations under the Contract; nor shall such payment be construed to be Acceptance of any of the Work. Payment shall not be construed as the transfer of ownership of any equipment or materials to the Agency. Responsibility of ownership shall remain with the Contractor who shall be obligated to store, protect, repair, replace, rebuild, or otherwise restore any fully or partially completed work or structure for which payment has been made; or replace any materials or equipment required to be provided under the Contract which may be damaged, lost, stolen or otherwise degraded in any way prior to completion of the Work under the Contract, except as provided in 6-10.

Warranty periods shall not be affected by any payment but shall commence on the date equipment or material is placed into service at the written direction of the Engineer. In the event such items are not placed into service prior to partial or final completion of the Work, the warranty periods will commence on the date set forth as the date of field completion in the Engineer's acknowledgement of completion.

If, within the time fixed by law, a properly executed notice to stop payment is filed with the Agency, due to the Contractor's failure to pay for labor or materials used in the Work, all money due for such labor or materials will be withheld from payment to the Contractor in accordance with applicable laws.

At the expiration of 35 Days from the date of recording of the Notice of Completion, or as prescribed by law, the amount deducted from the final estimate and retained by the Agency will be paid to the Contractor except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

**9-3.2 Partial and Final Payment.** The Engineer will, after award of the Job Order, establish a closure date for the purpose of making monthly progress payments. The Contractor may request in writing that such monthly closure date be changed. The Engineer may approve such request when it is compatible with the Agency's payment procedure.

Each month, the Engineer will make an approximate measurement of the Work performed to the closure date and, as a basis for making monthly payments, estimate its value based on the Job Order individual task item Prices or as provided for in 9-2. When the Work has been satisfactorily completed, the Engineer will determine the quantity of Work performed and prepare the final estimate.

Work not conforming to the Contract Documents shall not be measured for payment.

Satisfactory performance shall be, in addition to constructing the Work in accordance with the Contract Documents, the Contractor's compliance with those portions of the Contract Documents not directly related to the completed Work, including but not limited to: construction and maintenance of detours; diversion and control of water; protection and repair of existing facilities of the Agency and adjacent owners; site maintenance; coordination with utilities and other contractors on the site; proper survey procedures and records; obtaining required permits and inspections; complying with working hour limitations; providing a Contractor's representative while Work is being performed; complying with environmental requirements; maintaining access and safety for users of facilities that are to remain in service during construction; and obeying all laws affecting the Work.

Payment for Extra Work will be made only on approved Daily Extra Work Reports with supporting documentation as required in 3-3.

From each progress estimate, 5 percent will be deducted and retained by the Agency, and the remainder less the amount of all previous payment will be paid to the Contractor.

No progress payment made to the Contractor or its sureties will constitute a waiver of the liquidated damages under 6-9.

### **9-3.2 Partial and Final Payment. (Continued)**

As provided for in Sections 22300 of the California Public Contract Code, the Contractor may substitute securities for any monies withheld by the Agency to ensure performance under the Contract. In substituting securities, the Contractor may either:

- a. Deposit qualifying securities already owned by the Contractor with the Escrow prior to the Contract payment date, or
- b. Direct the Agency to send retained funds to the Escrow to be invested by the Escrow in qualifying securities as directed by the Contractor.

**9-3.2.1 Release of Withheld Contract Funds.** Pursuant to Public Contract Code Section 22300, Contractor has the option to deposit securities with an Escrow Agent as a substitute for retention earnings required to be withheld by Agency pursuant to the construction Contract between the Agency and the Contractor. A form of Escrow Agreement for Security Deposits in Lieu of Retention has been adopted by the Agency as one of the Contract Documents; procedures for implementing the provisions of the Escrow Agreement are contained in Escrow Instructions which shall become effective upon exercise of the option by the Contractor.

The Contractor shall take the following steps if it desires to substitute securities:

- a. Execute the Escrow Agreement for Security Deposits in Lieu of Retention.
- b. Furnish to the Escrow Agent a power of attorney and other forms necessary to empower the Escrow Agent to convert the securities to cash.
- c. Furnish to the Escrow Agent the securities described.
- d. Pay the Escrow Agent's fees and costs.

When the Contractor deposits with the Escrow Agent securities in lieu of money required to be withheld from progress payments, a sum of money equivalent to the current cash value of the securities as determined by the Escrow Agent shall be released to the Contractor by, or upon the direction of, the Agency.

If the total of the money plus the current cash conversion value of securities on deposit should fall below the aggregate amount of the sums required to be withheld from progress payments pursuant to 9-3.1 and 9-3.2, an amount equal to the difference shall be withheld from the next regular progress payment in addition to the amount which would ordinarily be withheld pursuant to 9-3.1 and 9-3.2. If the next regular progress payment is less than the total of the amounts to be withheld therefrom, the Contractor shall immediately either deposit with the Agency cash in the amount of the difference or deposit with the Escrow Agent additional securities having a current cash conversion value equal to or greater than the difference.

The Contractor shall be the beneficial owner of any such securities on deposit with the Escrow Agency and shall be entitled to any interest earned thereon prior to conversion. The Agency may direct the Escrow Agency to convert securities with the Escrow Agency into cash, and to deliver the cash to the Agency, in any case where the Contractor is in default, including the following:

- a. where the Agency would be entitled to use funds withheld pursuant to 9-3.1 and 9-3.2 to satisfy claims of workers, materials suppliers or subcontractors, or to complete or correct work which the Contractor has failed or refused to complete or correct, or
- b. where the Contractor has failed to comply with the requirements of this section respecting the deposit of additional cash or securities to make up for a fall in the value of securities already on deposit with the Escrow Agency.

The Agency may hold and use cash resulting from such a conversion of securities in the same manner as it would be entitled to hold and use funds withheld pursuant to 9-3.1 and 9-3.2.

**9-3.2.2 Timely Progress Payments.** As required by Public Contract Code Section 20104.50, the Contractor is informed that should a progress payment not be made within 30 Days after receipt of an undisputed and properly submitted payment request from the Contractor, the Agency shall pay interest to the Contractor on the unpaid amount at the rate set forth in the Code of Civil Procedures, Section 685.010(a). Agency shall promptly review payment requests, and if not determined to be proper, document to the Contractor, within 7 Days, the reasons why the request is not proper.

Contractor should refer to the code sections cited for further information.

#### **9-3.4 Mobilization**

**9-3.4.1 Scope.** Mobilization includes preliminary services, work and operations, including but not limited to, furnishing required bonds, obtaining necessary permits and work areas, providing a specified field office, the movement of labor, supplies, equipment and incidentals to the Work site, and for all other work, services and operations which must be performed or for which costs are incurred prior to performing work of the other Contract items.

**9-3.4.2 Payment.** Mobilization shall include full compensation per the Job Order based on the appropriate items from the Construction Task Catalog®. Paid as follows: price multiplied by the quantity, multiplied by their Adjustment Factor for furnishing all labor, materials, tools, equipment, services and incidentals and for doing all work involved in mobilization as specified herein.

**9-4 TERMINATION OF AGENCY LIABILITY.** Within 14 calendar days of "completion" as that word is defined in subdivision (c) of section 7107 of the Public Contract Code, Contractor shall execute and submit to Agency a Release on Contract for the Job Order Form. Said form shall release and discharge the Agency from all claims of and liability to the Contractor for all manner of debts, demands, accounts, claims, and causes of action under or by virtue of said Job Order except:

- a. The claim against the Agency for the remainder, if any, of the amounts retained as provided in 9-3.2, and any amounts retained as required by Stop Notices or Labor Code provisions.
- b. Any unsettled claims or disputes listed on the Release on Contract for the Job Order form which has been processed in compliance with the requirements for making claims under the Job Order, including given timely notice pursuant to the applicable provisions of the Contract and following the procedure set forth in 6-12.

Acceptance of the Release on Contract for the Job Order by the Agency shall not be deemed a waiver or release of the Agency's right to contest either the substantive or procedural validity of any listed unsettled claims or disputes.

When executing the Release on Contract for the Job Order, the Contractor shall certify that each unsettled claim or dispute listed thereon has been processed in compliance with the requirements for making claims under the Contract, including giving timely notice pursuant to the applicable provisions of the Contract and following the procedures for resolution of disputes or claims set forth in 6-12 and that acceptance of the Release on Contract for the Job Order by the Agency shall not be deemed a waiver or release of the Agency's right to contest either the substantive or procedural validity of any listed unsettled claims or disputes.

If Contractor fails to execute and submit a Release on Contract for the Job Order within the 14 day time period set forth above, the Release on Contract for the Job Order shall be deemed to have been submitted with no unsettled claims or disputes listed on the Release on Contract for the Job Order. A payment of \$1.00 will be made to the Contractor for such Release on Contract for the Job Order and waiver.

## **SECTION 10 - DIVERSION, CONTROL AND REMOVAL OF WATER**

**10-1 DESCRIPTION.** This section covers the diversion, control and removal of all water entering into the construction area or otherwise affecting construction activities.

**10-2 REQUIREMENTS.** All permanent construction shall be performed in a site free from water unless otherwise provided for in the Special Provisions. The Contractor shall construct, maintain, and operate all necessary cofferdams, pumps, channels, flumes, drains, well points and/or other temporary diversion, protective, and water removal works required for diversion, control and removal of all water, whether surface or groundwater, whatever its source, during construction.

Inundation of partially completed Work due to lack of control during non-working periods will not be permitted, and may be cause for requiring removal and replacement of Work already completed.

The Contractor shall be responsible for obtaining the use of any property in addition to that provided for in the Plans and Specifications, which may be required for the diversion, protective, and water removal works so as not to create a hazard to persons or property or to interfere with the water rights of others.

It shall be understood and agreed that the Contractor shall hold the Agency and the Engineer harmless from legal action taken by any third party with respect to construction and operations of the diversion and protective works.

### **10-3 DIVERSION AND CONTROL WORKS.**

Prior to beginning of work involving diversion, control and removal of water, the Contractor shall submit a water control plan to the Engineer. In the event circumstances during the course of construction require changes to the original water control plan, a revised water control plan shall be promptly submitted to the Engineer in each instance. No responsibility shall accrue to the Engineer or the Agency as a result of the plan or as a result of knowledge of the plan.

Construction and operation of the diversion, control and removal works shall be in accordance with the water control plan submitted, except deviations therefrom may be specifically approved by the Engineer.

All works installed by the Contractor in connection with dewatering, control, and diversion of water but not specified to become a permanent part of the Work, shall be removed and the site restored, insofar as practical, to its original condition prior to completion of construction or when directed by the Engineer.

**10-4 PAYMENT.** Payment for this item of Work will be by the Unit Prices in the Construction Task Catalog®. The Unit Prices are for complete and in-place construction and include all labor, equipment, and material required to complete the task as described in the CTC®.

## PART 2 CONSTRUCTION MATERIALS

### SECTION 200 - ROCK MATERIALS

#### 200-1 ROCK PRODUCTS

##### 200-1.6 Stone for Riprap

**200-1.6.1A Alternate Stone for Riprap.** As an alternate to the requirements of Subsection 200-1.6, the sample may be subject to the following tests:

| TESTS                     | TEST METHOD NO.       | REQUIREMENTS |
|---------------------------|-----------------------|--------------|
| Apparent Specific Gravity | ASTM C 127            | 2.40 Min.    |
| Resistance to Abrasion    | ASTM C 535, Grading 1 | 35% Max.     |
| Soundness                 | Section 211-8         | 10% Max.     |
| Wet and Dry Loss          | Section 211-9         | 5% Max.      |
| Solubility                | Section 211-10        | No Loss      |

All rock shall be angular or subangular in shape. Angular shall be defined as having sharp corners and straight planes on all faces, with no evidence of wear caused by wind, water or abrasion. Subangular shall be defined the same as angular except that evidence of wear by wind, water or abrasion may be allowed. Determination of angularity will be made by the Engineer.

##### 200-1.6.2 Riprap Size

The individual classes of rock used for riprap shall conform to the following:

| Rock Sizes      | RIPRAP CLASSES         |                    |                    |        |        |        |
|-----------------|------------------------|--------------------|--------------------|--------|--------|--------|
|                 | 1-Tonne<br>(1 Ton)     | ½-Tonne<br>(½ Ton) | ¼-Tonne<br>(¼ Ton) | Light  | Facing | Cobble |
|                 | PERCENTAGE LARGER THAN |                    |                    |        |        |        |
| 2-Tonne (2-Ton) | 0-5                    |                    |                    |        |        |        |
| 1-Tonne (1-Ton) | 50-100                 | 0-5                |                    |        |        |        |
| ½-Tonne (½-Ton) |                        | 50-100             | 0-5                |        |        |        |
| ¼-Tonne (¼-Ton) | 90-100                 |                    | 50-100             | 0-5    |        |        |
| 100 kg (200-lb) |                        | 90-100             |                    | 50-100 | 0-5    |        |
| 35 kg (75-lb)   |                        |                    | 90-100             | 90-100 | 50-100 | 0-5    |
| 10 kg ( 25-lb)  |                        |                    |                    |        | 90-100 | 95-100 |
| 0.5 kg (1-lb)   | 100                    | 100                | 100                | 100    | 100    | 100    |

The amount of material smaller than the smallest size listed in the table for any class of riprap shall not exceed the percentage limit listed in the table determined on a weight basis.

Compliance with the percentage limit shown in the table for all other sizes of the individual pieces of any class of riprap shall be determined by the ratio of the number of individual pieces larger than the specified size compared to the total number of individual pieces larger than the smallest size listed in the table for that class.

Flat or needle shapes will not be accepted unless the thickness of individual pieces is greater than 1/3 the length.

Before placing in final location, depositing, or stockpiling within the project limits, each individual load of riprap must meet the size requirements of the class specified.

## SECTION 206 - MISCELLANEOUS METAL ITEMS

### 206-3 GRAY IRON CASTINGS

#### 206-3.3 Manhole Frame and Cover Sets

**206-3.3.1 Selection.** Unless otherwise specified, manhole frames and covers shall be in accordance with the following Standard Plans contained in the SPPWC:

| Clear Opening<br>Diameter<br>mm (Inches) | SPPWC<br>Plan No. | Catalog Numbers  |                       |
|--|-------------------|------------------|-----------------------|
|  |                   | Alhambra Foundry | Long Beach Iron Works |
| 600 (24)                                 | 630-1             | A-1495           | X-162                 |
| 675 (27)                                 | 631-1             | A-1496           | X-164                 |
| 750 (30)                                 | 632-1             | A-1497           | X-163                 |
| 900 (36)                                 | 633-1             | A-1498           | X-106A                |

### 206-5 METAL RAILINGS.

#### 206-5.2 Flexible Metal Guard Rail Materials.

**206-5.2A Flexible Metal Guard Rail Materials; Modification.** The "Construction" grade Douglas Fir for "posts, including blocks" does not have to be "free of heart center".

## SECTION 210 - PAINT AND PROTECTIVE COATINGS

**210-6 STORM DRAIN HARDWARE.** All storm drain hardware, including manhole frames and covers, grates, protection bars, steps, etc., shall be protected from corrosion.

Storm drain hardware made of cast iron shall be protected by painting with, or dipping in, a commercial grade asphalt paint. Storm drain hardware made of steel shall be galvanized.

## SECTION 211 - MATERIAL TESTS

**211-3 SIEVE ANALYSIS.** Sieve analysis shall be performed in accordance with ASTM C136.

**211-4 Sand Equivalent Test.** This test is intended to serve as a field test to indicate the presence or absence of plastic fine material. The test shall be run in accordance with Calif. test 217 or ASTM D2419. When testing material containing asphalt, this test method shall be modified by drying the sample at a temperature not exceeding 38°C (100°F).

**211-5 R-VALUE.** Resistance (R-value) shall be determined by California Test 301.

**211-6 SPECIFIC GRAVITY AND ABSORPTION.** Apparent specific gravity, bulk specific gravity and absorption shall be determined by California Test 206, 207, 208, 209, 224, 225, or 308, Method C where zinc stearate may be substituted for paraffin.

**211-7 LOS ANGELES RATTLER TEST.** Loss in Los Angeles Rattler shall be determined by California Test 211.

**211-8 SOUNDNESS.** For riprap, the soundness shall be determined in accordance with Calif. Test 214, excluding sections D, E, G.2.b, and H, and adding the following:

- a. The test sample shall be prepared by breaking or sawing a representative sampling of riprap into particles passing the 75 mm (three inch) and retained on the 50 mm (two inch) sieve. If there are a variety of rock types or degrees of weathering within a rock type, each unique type or condition must meet the loss requirement.
- b. The test sample size shall be 25,000 grams (55 lbs.)  $\pm$  1 percent.
- c. All particles of test sample which break into three or more pieces during testing shall be discarded. The remaining sample shall be washed on a 4.75 mm (#4) sieve and all particles retained shall be oven dried.
- d. The loss in weight shall be determined by subtracting from the original weight of the test sample the final weight of all particles retained on the 4.75 mm (#4) sieve. Divide the loss in weight by the original weight and multiply by 100 to determine the percent loss.
- e. Report the following:
  - (1) The percent loss.
  - (2) The number of pieces affected, classified as to number disintegrating, splitting, crumbling, cracking, flaking, etc.

**211-9 WET AND DRY LOSS.** Wet and dry loss shall be determined as follows:

A sample of rock shall be crushed, screened, oven dried, and 1,000 g (2.2 lbs.) to 1,500 g (3.3 lbs.) of the 19 mm (3/4-inch) to 9.5 mm (3/8-inch) fraction shall be taken for the test.

The crushed and graded sample shall be submerged in tap water for 8 hours at room temperature, after which the sample shall be drained and oven dried at 78°C (140°F). When dry, the sample shall be cooled to room temperature. This completes one cycle.

After 10 cycles, the percent loss shall be computed as follows:

$$\% \text{ Loss} = \frac{100 \times \text{Weight of Material Passing 4.75 mm (No. 4) Sieve}}{\text{Total Weight of Sample}}$$

**211-10 SOLUBILITY.** Approximately 0.5 kg (one pound), air dried samples shall be immersed in local tap water and in Pacific Ocean water (or a 3.5% sodium chloride solution) for 8 hours each at 78°C (140°F). After immersion, the samples shall be washed with tap water, air dried and reweighed.

**211-11 Permeability Test.** Permeability tests for granular soils shall be performed in accordance with ASTM D2434, using samples compacted to the specified field density.

## **PART 3 CONSTRUCTION METHODS**

### **SECTION 301 - TREATED SOILS, SUBGRADE PREPARATION MATERIALS**

### **AND PLACEMENT OF BASE**

#### **301-1 SUBGRADE PREPARATION**

##### **301-1.3 Relative Compaction**

**301-1.3.1 Firm, Hard and Unyielding.** The term "firm, hard and unyielding" as used in 301-1.3 shall mean that when the heaviest construction and hauling equipment used on the Work drives over the subgrade, no permanent deformation shall occur either before or during pavement construction.

**301-1.4 Subgrade Tolerances.** Subgrade for pavement, sidewalk, curb and gutter, driveways, or other roadway structures shall not vary more than 15 mm (0.05 feet) from the specified grade and cross section. Subgrade for subbase or base material shall not vary more than 15 mm (0.05 feet) from the specified grade and cross section.

Variations within the above specified tolerances shall be compensating so that the average grade and cross section specified are met.

#### **301-2 UNTREATED BASE**

##### **301-2.3 Compacting**

**301-2.3.1 Tolerances.** The tolerance requirement in 301-2.3 is modified from 6 mm (0.02 foot) to 15 mm (0.05 foot).

## **SECTION 302 - ROADWAY SURFACING**

#### **302-5 ASPHALT CONCRETE PAVEMENT**

##### **302-5.1 General**

**302-5.1.1 Asphalt Concrete Berms.** Asphalt concrete berms shall be constructed of Class III-D-PG70-10 asphalt concrete by mechanical means to conform to the details and location as shown on the Plans.

A tack coat, as provided in 302-5.4, shall be applied to the existing or new pavement preceding the placement of the asphalt concrete berms.

##### **302-5.4 Tack Coat**

**302-5.4.1 Fog Seal.** When specified, a fog seal consisting of material meeting the requirements of 203-3 shall be applied to the surfaces of all completed asphalt concrete at the rate of 0.36 liter per square meter (0.08 gallon per square yard) of the combined emulsion or such lesser rate ordered by the Engineer. Surface to be sealed shall be free from dust, dirt, and other foreign material. Surface shall be sealed within 7 Days after paving.

##### **302-5.9 Measurement and Payment**

**302-5.9.1 Measurement and Payment for Asphalt Berm.** Asphalt concrete berms will be paid for by the Unit Prices in the Construction Task Catalog®. The Unit Prices are for complete and in-place construction and include all labor, equipment, and material required to complete the task as described in the CTC®.

**302-5.9.2 Measurement and Payment for Fog Seal, Tack Coat, and Prime Coat.** Measurement and payment for the specified material shall be by the Unit Prices in the Construction Task Catalog®. The Unit Prices are for complete and in-place construction and include all labor, equipment, and material required to complete the task as described in the CTC®. Emulsions shall be measured after the specified dilution has been made.



## SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION

### 303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS AND DRIVEWAYS

#### 303-5.1 Requirements

**303-5.1.4 Concrete Substitution.** Class 280-C-14 (470-C-2000) may be used in lieu of Class 310-C-17 (520-C-2500) and Class 280-D-14 (470-D-2000) in lieu of Class 310-D-17 (520-D-2500) as specified in 201-1.1.2 for street surface improvements, excluding concrete pavement, when no class is specified on the Plans or in the Special Provisions.

## SECTION 306 - UNDERGROUND CONDUIT CONSTRUCTION

### 306-1 OPEN TRENCH OPERATIONS

#### 306-1.2 Installation of Pipe

##### 306-1.2.1 Bedding

**306-1.2.1.1 Bedding Material.** When native material is allowed for backfill in the bedding zone, no rocks larger than 40 mm (1½") in maximum dimensions shall be included. Material containing ashes, cinders, and types of refuse or other deleterious material shall not be used as bedding.

**306-1.2.1.2 Sewer Pipe Bedding.** Bedding for sewer pipe from 100 mm (4") below the pipe to the spring line (horizontal diameter) of the pipe shall be free draining, granular material with a maximum size of 15 mm (1/2 inch), unless another bedding method is shown on the Plans.

Densification of the bedding material may be by the application of water or by mechanical means. Unless otherwise specified, all bedding material shall be densified to a relative density of 90%. Acceptability of densification in the bedding zone will be determined by visual inspection and probing to determine that no voids exist in the backfill material. In this paragraph, the word "voids" does not include intergranular voids in the soil structure.

**306-1.2.1.3 Flexible Pipe Bedding.** Bedding for flexible drainage and sewer pipe shall be granular material having a sand equivalent of at least 50. The bedding material shall be placed and compacted from 150 mm (six inches) below the pipe to the top of the bedding as defined in 306-1.2.1. A 1 m (three-foot) long section of low permeability material (50% passing 75 µm (200) sieve) shall be installed and mechanically compacted in lieu of the above specified bedding material at intervals of 60 m (200 feet) or as otherwise indicated on the Plans.

**306-9 DISINFECTION.** All water mains and appurtenances shall be disinfected before being placed in service in accordance with AWWA C651 except as specified herein:

- a. The water mains shall be chlorinated so that a chlorine residual of not less than 20 ppm remains in the water after standing in the pipe for 24 hours.
- b. The Agency will perform sampling and testing of bacteriologic samples. Disinfection shall be repeated until two or more consecutive samples are negative for coliform organisms.

The pressure in the line being chlorinated shall be maintained at least 35 kPa (5 psi) lower than that existing in any Agency line to which it is connected.

## **306-10 WATERWORKS APPURTENANCES**

### **306-10.1 Valves.** Valves shall be located as shown on the drawings.

Each valve shall be operated prior to its installation to assure proper functioning. Valves shall be installed plumb and in alignment with the water main. Valves shall be anchored by metal ties to a concrete base. Line valves may be moved to the closest joint upon approval of the Engineer.

**306-10.2 Valve Boxes.** Each underground valve shall be provided with a valve box. The valve boxes shall be installed plumb and centered over the operating nut of the valve. Valve boxes shall be installed with concrete collars.

Where valve boxes are to be placed in asphaltic type pavement, they shall not be set to grade until after paving has been completed.

Where valve boxes are to be placed in concrete pavement, they shall be set to grade prior to paving operations.

**306-10.3 Thrust Devices.** A reaction or thrust device shall be provided on all dead ends, tees, elbows, and bends with more than 5 degrees deflection on pressure pipe lines.

Thrust devices shall be cast-in-place concrete, poured against undisturbed or compacted earth. Thrust devices shall be sized and constructed in accordance with the Plans.

Thrust devices and anchor blocks shall be constructed of Class 280-C-14 (420-C-2000) concrete. Thrust devices and anchor blocks shall be cured at least 7 Days where Type IP or II cement is used or at least 48 hours where Type III cement is used.

Metal tie-rods or clamps shall be of adequate strength to prevent movement of pipe. All metal shall be coated in accordance with AWWA C110.

### **306-10.4 Fire Hydrants.** Fire Hydrants shall be installed as shown on the Plans.

All hydrants shall stand plumb and shall have their nozzles parallel with or at right angles to the curb, with the pumper nozzle facing the curb, except that hydrants having only two hose nozzles 90 degrees apart shall be set with each nozzle facing the curb at an angle of 45 degrees.

In uncurbed public road rights of way, fire hydrants shall be located as far as possible from the traveled way while providing a 1 m (3-foot) wide clear space between the fire hydrant and the right of way line. In curbed public road rights of way, fire hydrants shall be installed so that there is 300 mm (12 inches) clear between the face of curb and the fire hydrant.

**306-10.5 Fire Hydrant Barricades.** Fire hydrant barricades shall consist of 100 mm (4-inch) standard steel pipe, schedule 40, filled with concrete, and having a total length of 2 m (72 inches). They shall be embedded in concrete blocks 300 mm (12 inches) in diameter and 1000 mm (40 inches) deep below ground surface with the barricade pipe embedded to 100 mm (4 inches) above the bottom of the concrete so 1 m (36 inches) extends above ground surface. The steel pipe above ground shall be painted chrome yellow in accordance with AWWA C503.

Barricades shall be installed between the fire hydrant and vehicle traffic paths at locations indicated on the Plans or where required by the water purveyor or Fire Department. Barricades shall not be installed within public road rights of way.

Fire hydrant barricades shall not obstruct the hydrant outlets.

## **SECTION 310 - PAINTING**

### **310-5 Painting Various Surfaces**

#### **310-5.6 Painting Traffic Striping, Pavement Markings, and Curb Markings.**

**310-5.6.8A Application of Paint - Two Coats** All painted traffic striping and markings shall be applied in two coats. The price named in any Bid item for painting traffic striping and markings shall include all costs for both applications, including any delays entailed for the required drying time between applications. If bleeding, curling or discoloration occurs following application of the second coat, unsatisfactory areas shall be given an additional coat, or coats, of paint. No additional payment will be made for work necessary to correct bleeding, curling or discoloration.

## **PART 4**

### **SECTION 400 - ALTERNATE ROCK PRODUCTS, ASPHALT CONCRETE, PORTLAND CEMENT CONCRETE AND UNTREATED BASE MATERIAL**

Alternate rock material, Type S, as specified in Section 400 may be used on the Work.

Suppliers of portland cement concrete and asphalt concrete shall file mix designs as required by 400-1.1.2

#### **400-4 ASPHALT CONCRETE**

##### **400-4.1 General**

**400-4.1.1A Asphalt Concrete - Alternate Grade.** Unless otherwise specified, III-B3-PG64-10 asphalt concrete shall be used. On roads with PCC curbs, where the width between curbs is 12 m (40 feet) or less, III-C3-PG64-10 shall be used.

|  |
|--|
| <p><b>COVERAGES</b></p> <p>THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.</p> |
|--|

| DESCRIPTION OF OPERATIONS/LOCATION(S)/VEHICLE(S)/EXCLUSIONS ADDED BY ENDORSEMENT(S)/SPECIAL PROVISIONS  |
|---|
| <p>&lt;&lt;Agency Name&gt;&gt; - &lt;&lt;Project Name&gt;&gt; Spec No. &lt;&lt;SpecNo&gt;&gt;</p> <p>The Agency and the County of Ventura, including its boards, all special Districts governed by the Board of Supervisors, agencies, departments, officers, consultants, employees, agents and volunteers, is named as Additional Insured as respects work done by Contractor under the terms of the contract on General Liability and Auto Liability Policies. Waiver of Subrogation is applicable to the Agency and the County of Ventura, its boards, districts, agencies, departments, officers, employees, agents and volunteers for Work Comp and General Liability. Endorsements required for referenced contract will be issued by the Insurance Company.</p> |

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ESCROW AGREEMENT FOR  
SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between  
("Agency") whose address is \_\_\_\_\_ and  
("Contractor") whose address is \_\_\_\_\_ and  
("Escrow Agent") whose address is \_\_\_\_\_.

For the consideration hereinafter set forth, the Agency, Contractor and Escrow Agent agree as follows:

- (1) Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Agency pursuant to the Construction Contract entered into between the Agency and Contractor for in the amount of dated \_\_\_\_\_, (hereinafter referred to as the "Contract") which Contract is identified by Spec. No. \_\_\_\_\_ and Auditor Controller's Contract No. \_\_\_\_\_. Alternatively, on written request of the Contractor, the Agency shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Agency within ten days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the Agency and Contractor. Securities shall be held in the name of \_\_\_\_\_, and shall designate the Contractor as the beneficial owner.
- (2) The Agency shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.
- (3) When the Agency makes payments of retentions earned directly to Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Agency pays the Escrow Agent directly.
- (4) Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the escrow account. These expenses and payment terms shall be determined by the Agency, Contractor and Escrow Agent.
- (5) The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Agency.
- (6) Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Agency to the Escrow Agent that Agency consents to the withdrawal of the amount sought to be withdrawn by Contractor.
- (7) The Agency shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from the Agency of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Agency.
- (8) Upon receipt of written notification from the Agency certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, the Escrow Agent shall release to the Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
- (9) Escrow Agent shall rely on the written notifications from the Agency and the Contractor pursuant to Sections (1) to (8), inclusive, of this Agreement and the Agency and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

(10) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Agency and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of Agency:

\_\_\_\_\_, Director,  
Public Works Agency

\_\_\_\_\_, Director  
Central Services Department

\_\_\_\_\_, Director  
Engineering Services Department

Address for all of the above:  
Public Works Agency  
800 South Victoria Avenue  
Ventura, CA 93009

**SAMPLE FORM**

Form used for escrow will have names and signatures of persons authorized in accordance with paragraph 10.

On behalf of Contractor:

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
City & State

\_\_\_\_\_  
Zip Code

On behalf of Escrow Agent:

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
City & State

\_\_\_\_\_  
Zip Code

At the time the Escrow Account is opened, the Agency and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

Agency:  
(Agency name)

Contractor:  
(Contractor company name)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

EXHIBIT "A"  
ESCROW INSTRUCTIONS

The parties to this escrow are \_\_\_\_\_ ("Agency") and \_\_\_\_\_ ("Contractor") and \_\_\_\_\_ ("Escrow Agent"). Agency and Contractor have entered into a contract for the construction of \_\_\_\_\_ which contract is identified by Spec. No. and Auditor-Controller's Contract No. \_\_\_\_\_ and was entered into by and between Agency and Contractor ("Construction Contract"). Pursuant to Public Contract Code Section 22300, Contractor may substitute certain securities for an equivalent amount of money required to be withheld from progress payments by Agency to Contractor pursuant to the Construction Contract.

The Escrow Agent is hereby instructed as follows:

1. Contractor may deliver to Escrow Agent:
  - (a) Securities of the types specified in Sections 22300 of the Public Contract Code and Section 16430 of the Government Code.
  - (b) Such other documents as are necessary to enable Escrow Agent to convert such securities into cash.
2. Upon receipt of such securities and other documents, Escrow Agent shall notify Agency within ten days of the deposit, and shall examine them to determine whether they are in a form sufficient to effect conversion of the securities into cash. Escrow Agent shall thereupon send written notice of its determination to Agency.
3. Escrow Agent shall hold such securities as trustee for Agency. The right of Agency to such securities is superior to any other lien or claim of lien; provided, however, that Contractor shall be entitled to any interest earned by such securities prior to their conversion to cash pursuant to section 5 hereof, and further provided that such interest may be withdrawn by Contractor at any time and from time to time without notice to Agency.

Securities may be substituted by Contractor, but any securities substituted for securities previously deposited shall not reduce the current cash value of securities held below that last reported to Agency by Escrow Agent.
4. Escrow Agent shall determine the current cash value of such securities held by it as of the close of business on the first business day following the \_\_\_\_\_ day of each month and, in addition, on any other days which the Agency may from time to time specify in a written notice to Escrow Agent. Current cash value shall be determined as follows:
  - (a) For securities traded over-the-counter or on a stock exchange:
    - (1) Determine either the current bid price for the securities as of the close of business or the face value of the securities, whichever is less.
    - (2) Subtract the cost of sale (broker commission).
    - (3) Subtract all unpaid escrow fees and costs associated therewith.
  - (b) For certificates of deposit:
    - (1) Determine the face amount.
    - (2) Subtract the potential interest penalty for immediate conversion.
    - (3) Subtract all unpaid escrow fees and costs associated therewith.
  - (c) Determine the value of other securities by procedures calculated to determine net realizable value. Promptly upon making each such determination, Escrow Agent shall notify Agency of the securities held and current cash value of such securities.



5. At any time or times that Agency believes it has a right to do so under the provisions of the Construction Contract, Agency may, without the consent of Contractor, deliver to Escrow Agent a written demand that Escrow Agent convert to cash all or any part of such securities. Upon seven days' written notice from Agency of such demand, Escrow Agent shall convert to cash all or part of such securities as demanded and shall distribute the cash as instructed by the Agency.
6. When the Construction Contract has been satisfactorily completed on the part of Contractor and any stop notices filed against the Construction Contract have been released, Agency shall give written notice to Escrow Agent that such securities may be returned to Contractor. Upon receipt of such written notice and payment of all escrow fees and costs, the Escrow Agent shall deliver to Contractor all money, interest, securities and other documents remaining in escrow and the escrow shall terminate.
7. Contractor, and not Agency, shall be liable to Escrow Agent for all of Escrow Agent's fees and costs associated with this escrow.
8. The Director of the Ventura County Public Works Agency, a Department Director of said Agency, or other person authorized in writing by such Director or Department Director is authorized to give written notice and to make written demands on behalf of Agency pursuant to sections 4, 5 and 6 hereof.
9. All written notices and demands pursuant to the escrow agreement and these Instructions shall be addressed as follows:
  - (a) To Agency:
 

Director, Ventura County Public Works Agency  
800 South Victoria Avenue  
Ventura, California 93009
  - (b) To Contractor:
  - (c) To Escrow Agent:

DATED: \_\_\_\_\_

|             |             |             |
|-------------|-------------|-------------|
| _____       | _____       | _____       |
| By _____    | By _____    | By _____    |
| Title _____ | Title _____ | Title _____ |

AGENCY

CONTRACTOR

ESCROW AGENT  
 Bank Charter: State ☐   
                             Federal ☐   
 Escrow Agent's Address:

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

RELEASE ON CONTRACT FOR THE JOB ORDER

CONTRACT NAME: \_\_\_\_\_

SPEC. NO. \_\_\_\_\_, PROJECT NO. \_\_\_\_\_

WHEREAS, by the terms of the contract dated \_\_\_\_\_, 20\_\_\_\_ entered into by

\_\_\_\_\_, and the undersigned CONTRACTOR,

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

undersigned CONTRACTOR agreed to perform certain work for the compensation specified in said contract; and

WHEREAS, the CONTRACTOR represents that said work is fully completed and that final payment is due to the CONTRACTOR under terms of said contract,

NOW, THEREFORE, in consideration of the promises and the payment by [AGENCY NAME] to the CONTRACTOR of the amount due under the contract, to wit, the sum of \$\_\_\_\_\_ and the additional consideration of \$1.00, receipt of which is hereby acknowledged by the CONTRACTOR, the CONTRACTOR hereby releases and forever discharges \_\_\_\_\_ of and from all manner of debts, dues, demands, sum or sums of money, accounts, claims and causes of action, in law and in equity, under or by virtue of said contract except the claim against the Agency for the remainder, if any, of the amounts retained as provided in 9-3.2, any amounts retained as required by Stop Notices or Labor Code Provisions, and any unsettled claims or disputes as follows: (If none, leave blank)

| Description of Claim<br>or Dispute | Amount | Date of<br>Claim | Date of Notice<br>of Potential<br>Claim |
|------------------------------------|--------|------------------|---|
|------------------------------------|--------|------------------|---|

The CONTRACTOR certifies that each unsettled claim or dispute listed hereon has been processed in compliance with the requirements for making claims under the contract, including giving notice pursuant to the applicable provisions of the contract, and following the procedures for resolution of disputes or claims set forth in subsection 6-12 of the contract. Acceptance of this Release on Contract for the Job Order by the [Agency Name] shall not be deemed as a waiver or release of its right to contest either the substantive or procedural validity of any listed unsettled claims or disputes.

IN WITNESS WHEREOF, the hand and seal of the CONTRACTOR have been  
hereunto set this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

THIS FORM MUST BE ACCOMPANIED  
by a proper acknowledgement form  
(See Civil Code Section 1189)

Contractor

By

Title

BLANK

## PERFORMANCE AND PAYMENT

Whereas, the Board of Supervisors of the «Agency», State of California, hereinafter called "Agency", and «Contr», hereinafter called "Principal", have entered into a contract whereby principal agrees to install and complete certain designated work, which said contract dated «ContrDate», and identified as project «ProjName» (Spec. No.«SpecNo») is hereby referred to and made a part hereof; and

Whereas, said principal is required under the terms of said contract to furnish a bond for the faithful performance of said contract.

Now, therefore, we the principal and the undersigned, as corporate surety, are held and firmly bound unto Agency in the

penal sum of «CostText» (\$«OrigCost») lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above bounded principal, the principal's 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 provisions in the said contract and any alteration thereof made as therein provided, on principal's 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 and save harmless Agency, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

And, whereas, under the terms of said contract, principal is required before entering upon the performance of the work, to file a good and sufficient payment bond with the Agency to secure the claims to which reference is made in Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code of the State of California.

Now, therefore, said principal and the undersigned, as corporate surety, are held firmly bound unto the Agency and all contractors, subcontractors, laborers, materialmen and other persons employed in the performance of the aforesaid contract and referred to in the aforesaid Civil Code in the like sum of «CostText» (\$«OrigCost») for materials furnished or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, or for any amounts required to be deducted, withheld and paid over to the Franchise Tax Board from the wages of employees of the contractor and the contractor's subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, that said surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees including reasonable attorney's fees, to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment herein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should this 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.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said contract or the plans and specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

In witness whereof, this instrument has been duly executed by the principal and surety above named

on \_\_\_\_\_, 20\_\_.

«Contr» \_\_\_\_\_  
Name of Principal)

By \_\_\_\_\_

Title \_\_\_\_\_

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

By \_\_\_\_\_  
Attorney-in-Fact

Address \_\_\_\_\_

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

**SAMPLE BOND FORM**

Agency will prepare the Bond in this format and transmit it to the Contractor along with the Contract and the Notice of Award letter.

Surety shall fill in the Bond No., date and identification of surety in place provided.

Contractor shall sign and indicate title in place provided.

INDICATE COMPLETE ADDRESS OF SURETY TO WHICH CORRESPONDENCE CONCERNING THIS BOND SHOULD BE DIRECTED.

Telephone No. \_\_\_\_\_

A-467/9

## COUNTY OF VENTURA VCJOS SPECIAL PROVISIONS

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## SPECIAL PROVISIONS

### 1000 GENERAL REQUIREMENTS

#### 1000-1 DESCRIPTION OF WORK

Work under this contract consists of pavement rehabilitation including

- public access and notice
- mobilization
- traffic control and construction signing
- water pollution control
- roadway preparation
- root pruning and tree removal
- surface preparation and crack sealing
- concrete curb and gutter
- concrete curb
- driveway apron reconstruction
- PCC sidewalk removal and replacement
- concrete cross and longitudinal gutter
- base repair
- cold milling and grinding
- AC taper with key
- leveling course
- asphalt concrete hot mix
- asphalt concrete warm mix
- asphalt rubber hot mix
- asphalt rubber warm mix
- miscellaneous paving
- AC curb rehabilitation
- AC Dike
- AC curb seal
- shoulder backing
- curb backing
- median backing
- pavement delineation and striping
- traffic counter station with counter
- traffic counter station





- traffic signal loop detector replacement
- survey monument frame adjustment
- survey monument frame replacement
- storm drain and sewer manhole adjustment
- Central Plant Mix Rubberized Emulsion Aggregate Slurry (REAS)
- Asphalt Rubber Aggregate Membrane (ARAM)
- Type II Slurry Seal Street Resurfacing
- Microsurfacing
- Compensation Adjustments For Price Index Fluctuations

and appurtenant work.

All work shall be performed in accordance with the Plans, the Standard Specifications and these Special Provisions. During the duration of this contract, overlay limits may be revised or other roads within the project areas may be added to or deleted from the contract in accordance with 3-2 of the Standard Specifications.

## 1000-2 REFERENCE SPECIFICATIONS AND STANDARD PLANS

### 1000-2.1 SPECIFICATIONS

The Standard Specifications for this project are the Ventura County Job Order Specifications (73 pages with VCJOS typed at the bottom) supplemented by the Standard Specifications for Public Works Construction (SSPWC), 2012 Edition, commonly known as the Greenbook, published by BNI Publications, Inc.

Where used herein, SSS shall mean the State Standard Specifications, being the State of California, Department of Transportation Standard Specifications, May 2006 Edition, with amendments issued in May 2009. Where required by the Special Provisions, work shall conform to the requirements of said SSS except that where reference is made in the SSS to other sections thereof which are not specifically referred to in these Special Provisions, such reference shall be deemed to be reference to the applicable sections of the Standard Specifications, and all references to "State" shall mean County of Ventura.

### 1000-2.2 STANDARD PLANS

The contract drawings utilize and make reference to the State Standard Plans (SSP), which is that document published by the State of California, Department of Transportation, dated July 2004, and the Standard Plans for Public Works Construction (SPPWC) published by BNI Publications Inc, 2009 Edition.

Standard Details, included in Appendix K, shall apply to all work unless directed otherwise by Engineer.

### 1000-2.3 MODIFICATIONS TO STANDARD SPECIFICATIONS

Section 6-1.2 is amended to include the following:

A Preconstruction Meeting will be scheduled by the Agency prior to the beginning of contract time. The meeting will be held at the Administration Building of the County of Ventura Government Center on a date and time established by the Engineer. Attendance at the Pre-construction Meeting by the Contractor's Representative as described in 7-6 of the Standard

Specifications is mandatory prior to starting work. Subcontractors' representatives as required by the Engineer shall also attend the Pre-construction Meeting.

Section 2-9.1 shall only apply to Ventura County Standard Monuments (centerline well monuments). All other survey monuments, including nails, iron pipes, and any other objects in the public right-of-way referenced on recorded maps and Ventura County Field Notes will be replaced or reestablished by the Agency following construction.

If Applicable:

Because this contract involves paving within residential areas during the winter months, Section 6-13 of the Standard Specifications is modified such that the Contractor shall not begin to work before 8:00 a.m. This will allow more time for ambient temperatures to rise before paving and avoid noise in the early morning hours.

#### 1000-3 GENERAL GUARANTEE

Section 6-8.2 of the Standard Specifications is hereby deleted and the following is substituted:

The Contractor shall obtain and assign to the Agency, such warranties or guarantees given as customary trade practice for any material or product purchased for use in the project constructed under this contract.

The last sentence of the third paragraph of 2-4, is hereby deleted and the following is substituted:

The material and labor bond must remain in effect until the expiration of six months after the period in which verified claims may be filed as provided in the Civil Code.

#### 1000-4 PERMITS

In accordance with Section 7-5, the Contractor shall obtain and keep in force during the term of this contract all necessary permits required by the County of Ventura or any other permits necessary to perform the work.

[If applicable]

An encroachment permit for work within State right-of-way has been obtained by the Agency from the State of California, Department of Transportation (Caltrans). A copy of this permit is included in the Appendices of these Special Provisions. The Contractor shall obtain at his own expense the necessary separate (double) Caltrans encroachment permit prior to beginning work that may disrupt traffic or encroach onto on a state highway. Contact Caltrans at (805) 654-4508 per the permit instructions prior to starting work. The Caltrans local office address is Department of Transportation, Ventura Satellite Office, 950 County Square Drive, Suite 112, Ventura, California 93003-5442

#### 1000-5 REQUIRED DOCUMENTS FOR WORK AREAS

The Contractor shall submit to the Engineer, for review and approval, the following documents at least three working days prior to beginning work in any specified area indicated on the vicinity maps shown on the Plans.

- A. Order of Work and Traffic Control Plan, including map(s) and descriptions indicating the locations of work areas, construction signing, text used for changeable message signs and timing of advance notice. Traffic Control Plan shall be updated and re-submitted for approval as necessary to accurately reflect the Contractor's planned operations.
- B. As-Built Plan of existing striping and marking. The plan shall be prepared by the Contractor.
- C. Plans documenting ties to the existing location of any facility planned for relocation, adjustment, or replacement including, but not limited to, survey monuments, manholes, valves, clean-outs, signs, roadside markers, and guardrails.
- D. A map or written description of material haul routes.
- E. A copy of the Notice To Resident/Business/Institution.
- F. Copies of any required encroachment permits.
- G. Underground Service Alert confirmation number.
- H. Name and phone number of person(s) responsible for 24-hour maintenance of construction signing and traffic control.

1000-6 MEASUREMENT AND PAYMENT

Payment for complying with these General Requirements Special Provisions shall be considered included in the prices paid for other items of work and no additional compensation will be made.

**1001 PUBLIC ACCESS AND NOTICE**

1001-1 SCOPE

This work consists of notification to the public and maintaining access during construction.

1001-2 NOTICE TO RESIDENT/BUSINESS/INSTITUTION

The Contractor shall notify all adjacent residents, businesses and institutions four days prior to starting any work, using "door-knob" type notices. These notices will notify affected people in the area of impending work.

1001-3 PARKING RESTRICTIONS

The Contractor shall furnish and place "No Parking" signs, 12" x 18" minimum size approved by the Engineer, along the street, in front of every residence affected by the work, three working days in advance of any work. In rural areas, the signs shall be placed at a spacing not exceeding 400 feet. The signs shall include the day and the time during which parking is not permitted.

Parking restrictions shall be limited to the interval between 7:00 a.m. and 5:00 p.m. to allow for parking during the night. Parking restrictions for night work shall allow for parking during non-working hours. The Contractor shall remove these signs immediately when they are no longer needed.

If the work is delayed or rescheduled for any reason after placement of "No Parking" signs, the Contractor shall re-date the signs affected. If the work is delayed more than five days, the Contractor shall notify local authorities, remove the signs, and place re-dated signs two days in advance of the work.

1001-4 ACCESS

The Contractor shall provide property owners and residents with access to their properties at all times except when paving operations make access to properties impractical or unsafe, in accordance with the Plans, the Standard Specifications and these Special Provisions.

1001-5 MEASUREMENT AND PAYMENT

Payment for Public Access and Notice shall be considered included in the prices paid for other items of work and no additional compensation will be made.

**1002 MOBILIZATION**

1002-1 SCOPE

In addition to the work specified in 9-3.4.1, Mobilization includes work, services and operations necessary to establish access to the project site, restoration of such areas to their original conditions or to a condition approved by the Engineer, the movement of labor, supplies, equipment and incidentals to and from the project site, and for all other work for which costs are incurred prior to or after performing work of other Contract items.

1002-2 MEASUREMENT AND PAYMENT

Measurement and payment for Mobilization will be made in accordance with 9-3.4.2. The contract lump sum price shall be considered full compensation for all labor, materials and equipment necessary to mobilize and completely demobilize.

**1003 TRAFFIC CONTROL AND CONSTRUCTION SIGNING**

1003-1 SCOPE

The Contractor shall be responsible for maintaining Traffic Control in accordance with the provisions of 7-10 of the Standard Specifications, 12-3 and 56-2 of the SSS, SSP T11, T12, or T13, the current requirements set forth in the Caltrans Manual on Uniform Traffic Control Devices (California MUTCD) adopted on September 2006 by the California Department of Transportation.

The Contractor shall notify the Engineer and County Traffic Engineer at (805) 654-2063 of its intention to begin work at least ten working days before starting any work.

The Contractor shall replace all STOP bars the same day they are removed by grinding or paving, as indicated in Pavement Delineation and Striping of these Special Provisions.

1003-2 TRAFFIC CONTROL

The Contractor shall be responsible for handling vehicular and pedestrian traffic in

accordance with 7-10 of the Standard Specifications and these Special Provisions.

The Contractor shall submit in writing, for approval by the Engineer, an Order of Work and Traffic Control Plan (graphic form) at least five working days prior to beginning work on the project site. No work on site shall begin until such approval is obtained.

The Traffic Control Plan shall include map(s) and descriptions indicating the location of work areas, intersecting streets, construction signing, and text used for changeable message signs, and timing of advance notice. The Plan shall be updated and re-submitted for approval as necessary to accurately reflect the Contractor's planned operations.

Traffic control signs shall be covered or removed when not in use.

In areas of high volume pedestrian traffic, such as schools and shopping centers, the Contractor shall provide for controlled pedestrian crossings through the work or schedule work to avoid peak pedestrian volumes. Crossings shall provide pedestrians a means of passing over or through the work without tracking tack coat or hot asphalt concrete.

At intersections, if a cross road needs to be temporarily closed when work is in progress through the intersection and the anticipated traffic delay is more than five minutes, a detour sign shall be installed on the cross road and shall include the installation of a changeable message sign displaying the anticipated delay time. The signing shall be approved by the Engineer.

When two-way traffic is restricted to one lane, and when applying the overlay past intersecting roads, traffic shall be controlled as shown on SSP T13. A pilot car and driver will be required at various locations if control by flaggers proves deficient in the opinion of the Engineer.

Overnight parking of construction equipment on adjacent County roads is not permitted. If construction equipment is parked on the shoulder area overnight, barricades and other suitable warning devices shall be placed around the equipment. No part of the equipment shall be less than 4 feet from the edge of pavement.

#### 1003-3 CONSTRUCTION SIGNING

Construction Signing shall consist of furnishing, installing, maintaining and removing construction signs and barricades.

A "Road Work Ahead" sign (W20-1) mounted on either a 4" x 4" wood post or a Type III barricade shall be installed at each approach in accordance with SSP T11, T12, or T13. The signs for each road shall be installed prior to starting work on that road and shall not be removed until all work has been completed on that road.

When locations are changed, the full traffic control system shall be in place at the new

location prior to starting any work and shall not be removed until all work has been completed at that location.

#### 1003-4 TEMPORARY GUIDE MARKERS

Temporary Guide Markers shall be portable delineators as specified in SSS 12-3.04 and these Special Provisions. Only one type of Temporary Guide marker shall be used on any road at any one time.

Temporary Guide Markers shall be placed adjacent to the edge of all overlays 1-1/2 inches in thickness or greater, at such locations as called for elsewhere in this Section, and as directed by the Engineer. Spacing of Temporary Guide Markers shall not exceed 30 feet on tangents or 15 feet on curves.

Temporary Guide Markers shall be placed at the required locations prior to sundown on the same day the overlay is placed. Temporary Guide Markers shall be left in place along the completed edges of pavement and maintained, repaired, and replaced as required until the shoulder backing has been completed. If the Temporary Guide Markers are damaged, displaced, or are not in an upright position, from any cause, said markers shall immediately be replaced or restored to their original locations, in an upright position by the Contractor. Upon completion of the shoulder backing, all components of the traffic control system shall be removed from the work site.

#### 1003-5 GENERAL WORK SEQUENCE AND RESTRICTIONS ON CLOSURE OF TRAFFIC LANES

The full width of the traveled way on all roads shall be open for use by public traffic on Saturday, Sunday and any day designated by the Agency as a holiday, after 3:00 p.m. on Friday, after 3:00 p.m. on the day preceding an Agency-designated holiday, and when construction operations are not actively in progress on working days. Days designated by the Agency as holidays are listed in 6-7.2.1 of the Standard Specifications.

Contractor shall keep at least one lane of traffic open at all times during working hours and one lane in each direction open at all other times. Contractor's equipment and personal vehicles of the Contractor's employees shall not be parked on the traveled way, or on any section where traffic is restricted at any time. Overnight parking of construction equipment on adjacent county roads is not permitted.

[if applicable]

Additionally, closure of a traffic lane shall be restricted to the times shown for the following roads:

|                    |                       |
|--------------------|-----------------------|
| High Volume Road   | 8:30 a.m. – 4:00 p.m. |
| Roads with schools | 9:00 a.m. – 3:30 p.m. |

A changeable message sign displaying the anticipated delay time shall be placed at each end of lane closure and at the approaches to any side streets within the lane closure.

1003-6      **ROAD CLOSURES**

Except as provided herein, road closures are generally not allowed and the Contractor shall maintain one lane of traffic through the work area at all times. Limited road closures may be allowed under unusual circumstances, subject to advance approval by the Engineer and public notice.

If in the Engineer's opinion, the Contractor demonstrates that a 12-foot wide lane cannot be maintained through the work area, or demonstrates that a partial closure would be in the best interests of the Agency and minimizes public inconvenience, a limited road closure may be approved. Prior to approval of any limited road closure, the Contractor shall prepare a site-specific traffic control (detour) plan 10 days prior to the intended date of the road closure for approval by the Engineer. The traffic control (detour) plan shall include notice to the public with placement of changeable message signs at least 72 hours prior to physically closing the road.

1003-7      **MEASUREMENT AND PAYMENT**

Payment for Traffic Control and Construction Signing will be made as per the CTC®. Such payment shall be considered full compensation for furnishing all materials, labor, equipment, and all incidentals necessary to complete the work in accordance with the Standard Specifications and these Special Provisions.

**1004      WATER POLLUTION CONTROL**

1004-1      **SCOPE**

This item shall consist of preventing, controlling, and abating discharges of pollutants from the construction site, and shall be performed in accordance with the Standard Specifications and these Special Provisions. The Contractor shall prepare and submit a Storm Water Pollution Control Plan (SWPCP) covering pollution control measures and best management practices in general for all locations.

1004-2      **CONSTRUCTION METHODS**

All work for Water Pollution Control proposed by the Contractor shall be approved by the Engineer. All work shall be performed in accordance with 7-8 of the Standard Specifications.

If the Contractor determines that discharge of ground water to surface water will be necessary to complete the work, the Contractor shall obtain a Waste Discharge Permit under General NPDES Permit No. CAG994001 from the California Regional Water Quality Board, Los Angeles Region. The Contractor will be given an extension of time to obtain the Water Discharge Permit based on a written request to the Engineer in accordance with 6-6.4 of the Standard Specifications.

1004-3      **MEASUREMENT AND PAYMENT**

Payment for Water Pollution Control will be made as per the CTC®. The contract lump sum price for Water Pollution Control shall be considered full compensation for obtaining and complying with all necessary permits and installation and removal of Water Pollution Control works, including all labor, materials, tools and equipment and all other necessary incidental items required to complete the work.

**1005 EXISTING UTILITY AND ROADWAY FACILITIES**

**1005-1 SCOPE**

Work shall conform to the provisions in Section 5 of the Standard Specifications and these Special Provisions.

Prior to placing a pavement overlay on a street, the Contractor shall document or mark the location of each utility valve box, lid, cover, manhole, vault, cleanout, or any other utility access at the road surface that will be covered by the new pavement with two swing ties or perpendicular offsets to a marker or fixed feature at the side of the road. These swing ties or offset measurements shall be written in an organized manner and provided to the Engineer. The Contractor shall demonstrate the utility markings to the Engineer and receive acceptance prior to paving any street. Immediately after paving, the Contractor shall indent the new pavement at each location while the pavement is still hot, and paint a white "X" at each location on the asphalt overlay. The indentation shall be clearly visible after rolling and compacting.

The Contractor shall remove wasted material from the interior and exterior of manholes, valve boxes, storm drains, gutters or other facilities.

All manholes, valve covers and cleanouts shall be covered with roofing paper prior to applying the tack coat in order to permit easy removal of the materials. Covers that are partially exposed shall be cleaned to the satisfaction of the Engineer.

The Contractor shall contact Underground Service Alert and the respective utility companies at least two working days prior to starting any work on each road by which those companies are affected.

The Contractor shall provide access to utility owners at all times during the construction life of the project. The Contractor shall coordinate work by others in accordance with 7-7 of the Standard Specifications.

**1005-2 UTILITY CONTACTS**

Utility contacts sorted by service area will be included on every individual project under this contract.

**1005-3 ROADWAY FACILITIES**

The Contractor shall protect existing Roadway Facilities, including but not limited to, curbs, curb and gutters, cross gutters, spandrels, traffic striping, from being disfigured by overspray of materials or by tracking of materials by equipment used in the project. If such overspray or tracking does occur, the contractor shall, at its own expense, clean, restore, or replace disfigured items to the satisfaction of the Engineer.

Existing Signs, Clearance Markers and Delineators within the existing pavement area or which interfere with the Contractor's work on any road to be rehabilitated, shall be removed, and re-installed at their original locations after completion of work on that road. The Contractor shall exercise extreme caution when removing the markers or delineators. Damaged markers or delineators shall be replaced at the expense of the Contractor.

**1005-4 MEASUREMENT AND PAYMENT**

Payment for costs incurred in protecting and marking existing utility and roadway facilities, and including all of the requirements set forth in this section, shall be made as per the CTC®.



**1006 ROADWAY PREPARATION**

**1006-1 SCOPE**

The work under this section consists of preparing the roadway prior to the overlay. Such work shall include the removal and disposal off site of soil and dirt deposits on existing pavement and swales, trimming of interfering trees and shrubbery, scraping and removing spilled concrete on pavement, removing raised pavement markers, eradication and removal of vegetation, controlling nuisance water, sweeping, watering, and removing loose and broken asphalt concrete pavement and foreign material as specified in these Special Provisions and as required by the Engineer.

Eradication of vegetation shall include treatment with an approved herbicide (Rodeo, Roundup, or equal) at least five working days prior to asphalt concrete overlay.

**1006-2 MEASUREMENT AND PAYMENT**

Payment for Roadway Preparation shall be considered included in the prices paid for other items of work and no additional compensation will be made.

**1007 ROOT PRUNING AND TREE REMOVAL**

**1007-1 SCOPE**

This work consists of Root Pruning, Root Barrier, and Tree Removal as listed in these Special Provisions, marked in the field or as determined by the Engineer. The Contractor shall notify the Engineer a minimum of 2 working days prior to beginning root pruning. In areas not already designated in these Special Provisions for Tree Removal, the determination of tree removal versus root pruning will be made by the Engineer after the roots are exposed to a depth of 18". If, in the opinion of the Engineer, the root pruning operation would cause the tree to be unstable, the tree and all roots under any sidewalk, parkway and roadway shall be removed and stump ground to 18 inches below the existing grade or sidewalk. All parts of the tree, including grindings, shall be disposed of by the Contractor and the void filled with unclassified material and compacted prior to placing new sidewalk, curb, gutter or asphalt concrete.

**1007-2 ROOT PRUNING**

If, in the opinion of the Engineer, the Root Pruning operation would not cause the tree to be unstable, the existing tree roots shall be neatly cut 4 inches behind the back edge of the berm/curb line to a depth of 18 inches, the roots removed and disposed of, root sealer applied to the pruned roots, a root barrier placed, the root void filled, and the curb and gutter area regarded and compacted prior to placing new sidewalk, curb, gutter, berm, or asphalt concrete.

**1007-3 ROOT SEALING**

An approved root sealer shall be applied to all cut root areas, which are larger than 2 inches in diameter. The sealer shall be applied as soon as practical after the cuts have been made. Root sealer shall be submitted for approval by the Engineer at least two working days in advance of the pruning operation.

1007-4      **ROOT BARRIER**

The Root Barrier shall be fabricated from a high density and high impact plastic such as polyvinyl chloride, ABD, or polyethylene and shall be expressly designed for the purpose of root deflection. The plastic shall have a minimum thickness of 0.06 inch and shall have ½" to ¾" high raised vertical ribs on the inner surface spaced not more than 8 inches apart and shall be placed throughout the width of exposed roots of each tree and a minimum of 18 inches wide. The Root Barrier shall be continuous and shall be placed four inches away from and parallel to the edge of repaired curb. The Root Barrier shall be installed with the top edge of the barrier at the same grade as the new curb, berm, curb and gutter or edge of pavement surface and with the deflection ribs facing the tree.

1007-5      **TREE REMOVAL**

Tree Removal shall include cutting, stump grinding, and removal of roots to a depth of 18 inches under the roadway and within the limits specified herein. Limits of removal include the width of the parkway between the sidewalk and curb and gutter, below curb and gutter at locations of curb and gutter replacement, below the sidewalk at locations of sidewalk replacements, below driveway aprons at locations of driveway apron replacement, and below base repair areas at locations of base repair. Following removal of roots, the voids shall be filled to a minimum 90 percent relative compaction with unclassified fill as necessary to match the existing ground. Compaction shall be 95% beneath any asphalt concrete or Portland cement concrete facilities.

1007-6      **MEASUREMENT AND PAYMENT**

Payment for Root Pruning and Tree Removal will be as per the CTC® for each tree requiring root pruning or removal. Such payment shall be considered full compensation for finishing all labor, materials, tools, equipment, and all incidentals necessary to complete the work in accordance with these Special Provisions.

**1008      CONCRETE CROSS AND LONGITUDINAL GUTTER**

1008-1      **SCOPE**

This work shall consist of the removal and replacement/construction of Concrete Cross and Longitudinal Gutter as shown on the Plans, and as listed below. Concrete shall be Class 520-C-2500. Work shall be performed in accordance with 303-5 of the Standard Specifications, SPPWC Standard Plan 122-2, and these Special Provisions.

1008-2      **LOCATION**

Concrete Cross and Longitudinal Gutter removal and replacement/construction shall be accomplished at the following locations:

1008-3      **MEASUREMENT AND PAYMENT**

Concrete Cross and Longitudinal Gutter will be as per the CTC®. Payment for Concrete Cross and Longitudinal Gutter will be made at the contract unit price. Such payment shall be considered full compensation for furnishing all labor, materials, tools, equipment, removal and replacement of AC pavement, and all incidentals necessary to complete the work as shown on the Plans and in accordance with the Standard Specifications and these Special Provisions.

**1009      CONCRETE CURB AND GUTTER**

1009-1      **SCOPE**

The work consists of the removal, disposal, and reconstruction of PCC (Portland Cement Concrete) Curb and Gutter as shown on the Plans and as marked in the field. Concrete shall be Class 520-C-2500. Work shall be performed in accordance with 303-5 of the Standard Specifications, the Plans and these Special Provisions. All curb and gutter construction shall be performed prior to AC overlay.

1009-2      **CONCRETE CURB AND GUTTER**

Concrete Curb and Gutter shall be constructed in accordance with the Plans and SPPWC, Standard Plan 120-2 and 121--2. "CF" and "W" shall match the dimensions of the adjacent facilities.

1009-3      **MEASUREMENT AND PAYMENT**

Concrete Curb and Gutter Replacement will be measured by the linear foot. Payment will be made as per the CTC® on the basis of actual measured quantities completed in accordance with these Special Provisions. Such payment shall be considered full compensation for furnishing all labor, materials, tools, equipment and all incidentals necessary to complete the work.

**1010      DRIVEWAY APRON RECONSTRUCTION**

1010-1      **SCOPE**

Selected driveway aprons, driveways or portions thereof will be removed and reconstructed as described herein. Concrete shall be Class 520-C-2500. Work shall be performed in accordance with 303-5 of the Standard Specifications, the Plans and these Special Provisions. All Driveway Apron Reconstruction shall be performed prior to AC overlay.

1010-2      **DRIVEWAY APRON RECONSTRUCTION**

Driveway Apron Reconstruction shall be constructed in accordance with the Plans and SPPWC, Standard Plan 110-2, and to match adjacent PCC improvements.

1010-3 MEASUREMENT AND PAYMENT

Driveway Apron Reconstruction will be measured as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, tools, equipment, including subgrade preparation, removal and disposal of existing driveway materials, and all incidentals necessary to complete the work as shown on the Plans and in accordance with the VCJOS and these Special Provisions.

1011 PCC SIDEWALK REMOVAL AND REPLACEMENT

1011-1 SCOPE

This work consists of the removal and replacement of PCC Sidewalk as described herein. Concrete shall be Class 560-C-2500. The work shall be performed in accordance with SPPWC Standard Plan 112-2, 300-1 and 303-5 of the Standard Specifications, the Plans and these Special Provisions.

If the saw cut in sidewalk would fall within 30 inches of a construction joint, expansion joint, or dredge, the concrete shall be removed to the joint or edge, except that where the saw cut would fall within 12 inches of a score mark, the saw cut shall be made in and along the score mark.

1011-2 MEASUREMENT AND PAYMENT

PCC Sidewalk Removal and Replacement will be measured as per the CTC®. Portions or the entire amount of this work may be deleted without adjustment to the contract unit price. Such payment shall be considered full compensation for furnishing all labor, materials, tools equipment, including subgrade preparation, and all incidentals necessary to complete the work as shown on the Plans and in accordance with the Standard Specifications and these Special Provisions.

## 1012 SURFACE PREPARATION AND CRACK SEALING

### 1012-1 SCOPE

Cracks in the existing pavement less than 1/4" in width need no treatment, except that any weeds in the cracks shall be removed. Cracks 1/4" wide up to 3/4" wide shall be repaired by removing all weeds, cleaning out the cracks, and filling the cracks with an elastomeric crack sealant, as described below. This is referred to as crack sealing herein. Cracks greater than 3/4" wide shall be repaired by removing all weeds, cleaning out the cracks, and filling the cracks with asphalt concrete hot mix or cold mix, hand-placed and compacted, as described below. This is referred to as crack filling herein.

Crack cleaning and pavement grinding/planning to remove ridges shall be completed before crack sealing or crack filling is performed.

Immediately prior to overlay, the road surface shall be cleaned of dust, dirt and other foreign material. Vacuum or air generated type sweepers shall be used for surface preparation. Mechanical- type sweepers, including "kick-broom" sweepers shall not be used.

### 1012-2 MATERIAL

Crack Sealing: Material used for sealing pavement cracks shall be Crafcro Polyflex Type III Sealant as manufactured by Crafcro, Inc., Chandler, Arizona (800-528-8242), Deery 200 Sealant as manufactured by Deery American Corporation, Grand Junction, Colorado (800-227-4059), Nuvo CS C, manufactured by Maxwell Products, Inc., Salt Lake City, Utah (801-972-2090) or approved equal. Sealant shall conform to ASTM Designation D 5078 and the following specifications:

| TEST PARAMETER                          | SPECIFICATION LIMITS |
|---|----------------------|
| Safe Heating Temperature                | 400°F                |
| Recommended Application Temperature     | 380°F                |
| Penetration, 77°F, 0.1 mm (ASTM D3407)  | 15-45 max.           |
| Resilience, 77°F, Recovery (ASTM D3407) | 30% min.             |
| Softening Point (ASTM D36)              | 200°F min.           |
| Ductility, 77°F, cm (ASTM D113)         | 30 min.              |
| Flexibility (Crafcro Procedure)         | Pass at 30°F         |
| Asphalt Compatibility (ASTM D3407)      | Pass                 |
| Bitumen Content (ASTM D4)               | 60% min.             |
| Tensile Adhesion (ASTM D3583)           | 400% min.            |

Equal materials shall, as a minimum, be hot applied single component elastically modified asphalt, which conforms to ASTM Designation D 5087 and generally conforms to the above listed specifications. Equal materials shall be formulated to seal cracks as narrow as 1/4 inch wide.

Crack Filling: Material used for crack filling shall be Type D asphalt concrete. Cold mix is allowed.

- A. Crack sealing and filling shall be done at least two (2) weeks before pavement is placed.
- B. Sealing or filling of cracks and joints shall not commence until cracks, joints and the surrounding pavement are clean and dry and all ridges along the sides of cracks or elsewhere on the pavement have been planed or ground smooth.
- C. Crack Cleaning: Cracks and pavement within 3 inches of the crack shall be air-blasted clean by compressed air of pressure not less than 130 psi to provide an intact bonding surface, to remove all dirt, sand, gravel, weeds, or other debris that might be in the crack. Cracks having vegetation shall be sprayed with weed killer before crack sealing. Contractor shall remove from the road all material generated by crack cleaning that same day. Routing of cracks is not required.
- D. The gutter lip joint between the asphalt pavement and concrete gutter shall be sealed if the concrete gutter is located in the center of the street only. The gutter lip joint between the asphalt pavement and the standard curb and gutter does not have to be sealed.
- E. Crack Sealing: All cracks and joints in the asphalt pavement surface 1/4-inch up to 3/4-inch wide shall be filled with an asphaltic-elastomeric crack sealant. Sealant material shall be melted in a jacketed double boiler type application unit, equipped with both agitation and recirculation systems, which is capable of maintaining sealant application temperatures of between 380°F and 400°F. Sealant, which has been heated to above the manufacturer's safe heating temperature, shall be properly and legally disposed of at the Contractor's expense. Sealant shall not be cut with solvents, diluents, or cleaning agents.
- F. Crack Sealing: Cracks 1/4" to 3/4" wide shall be sealed using a pressure-fed wand, to the surface level and struck flush with the pavement surface by use of a squeegee immediately after application. The finished sealant surface shall be flush with or slightly below the surrounding pavement surface. Overbanding shall not be allowed, as it may reflect bumps to the surface of the overlay that will follow.
- G. Sealant extending more than 1/2- inch onto any concrete improvement shall be removed. The Contractor shall protect the sealant from public traffic until cured. The Engineer may require a release agent (Glensoil, or equal) be applied to the sealant surface to reduce tracking; no additional compensation will be made for providing or applying a release agent.
- H. Crack Filling: Cracks 3/4" or more wide, after being cleaned by pressurized air blasting and receiving weed killer, shall be filled with Type D (fine gradation) asphalt hot mix. The material shall be placed by hand using shovels and tamping bars, and shall be compacted in place in the crack, flush with the surrounding pavement surface. No overbanding or protrusion above the surrounding surface shall occur.
- I. Sand Blotter shall be used when directed by the Engineer to provide for access. Excess blotter shall be removed by sweeping within 48 hours of placement.

Payment for Surface Preparation and Crack Sealing will be made as per the CTC®. The above contract price shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals for surface preparation, in accordance with the manufacturer's specifications and these Special Provisions.

**1013 BASE REPAIR**

**1013-1 SCOPE**

In areas delineated by a double dashed white line painted on the existing road, the structural section of the roadway shall be removed to a depth of six inches below the existing road surface or to sub-grade, whichever is greater. The remaining base and/or sub-grade material shall be compacted to 95 percent relative compaction to a depth of six inches. The structural section removed shall be replaced with six inches of asphalt concrete placed in two equal lifts and compacted, as specified in 302-5.5 and 302-5.6 of the Standard Specifications, prior to placing the asphalt concrete overlay.

**1013-2 JOINING EXISTING PAVEMENT**

Where new asphalt concrete pavement for base repair is placed against existing pavement, the pavement shall be removed in a manner that will not result in ragged and loose edges of the existing pavement. Tack coat shall be applied to exposed edges of the existing pavement per 302-5.4 of the Standard Specifications.

**1013-3 MATERIAL**

Asphalt concrete used in Base Repair shall be B-PG 64-10.

**1013-4 MEASUREMENT AND PAYMENT**

Payment for Base Repair, complete in place, will be made as per the CTC® and in accordance with 302-5.9 of the Standard Specifications and these Special Provisions. Such payment shall be considered full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary in the removal and disposal of existing pavement, compaction of base and/or sub-grade, applying tack coat, and AC backfill.

**1014 COLD MILLING AND GRINDING**

**1014-1 SCOPE**

Cold Milling and Grinding shall be performed in accordance with the 302-1.3 and 302-1.5 of the Standard Specifications, as shown on the Plans, marked in the field, and as specified in these Special Provisions. The placing of AC overlay shall follow cold milling and grinding, including AC taper with key and all similar grinding-related operations within six calendar days.

Grinding shall be performed at locations listed on the Plans. The limits of grinding will be as marked in the field by a single dashed line or as directed by the Engineer.

Utility covers, manholes, vaults, etc., within the grinding area shall be ramped with temporary AC pavement as specified in 306-1.5.1. Ramps shall be constructed the same day as grinding and removed the same day as permanent paving. Ramp dimensions and compaction shall be approved by the Engineer. Ramps shall be constructed as soon as practicable for the maximum convenience of the public.

Base repair shall be performed prior to cold milling and grinding. In the event that additional base repair becomes necessary after Cold Milling and Grinding, the Contractor shall perform such base repair prior to AC overlay as directed by the Engineer and compensation will be made at contract unit prices.

The Contractor shall contact the County Traffic Engineer, Mr. Richard Herrera, at (805) 654-2063 and make arrangements for revised signal operation a minimum of 3 working days prior to grinding, and/or cold milling at signalized intersections where such work affects signal operation. Cold milling and/or grinding work shall not begin near signalized intersections until the Engineer notifies the Contractor that the revised signal operation is in service.

**1014-2 MEASUREMENT AND PAYMENT**

Cold Milling will be measured by the linear foot along the edge of the adjacent traveled way. Grinding will be measured by the square foot of ground pavement to the depth specified on the Plans or in these Special Provisions. Payment will be made as per the CTC® on the basis of actual measured quantities of cold milling completed. Such payment shall be considered full compensation for providing all labor and equipment and performing all work related to cold milling, including dust control and disposal of the material removed.

**1015 AC TAPER WITH KEY**

**1015-1 SCOPE**

AC Taper with Key shall be provided at ends of the overlay as shown on the Plans, marked in the field, and as specified in these Special Provisions.

The key shall be formed by saw cutting at the joint line, and removing and disposing of a portion of the existing AC pavement as shown on the Plans. If the placing of the AC taper cannot be completed on the same day the key is formed, a temporary AC ramp shall be installed to enhance traffic safety. The asphalt concrete temporarily placed shall be removed prior to the final placement of AC taper.

The Contractor shall contact the County Traffic Engineer, Mr. Richard Herrera, at (805) 654-2063 and make arrangements for revised signal operation a minimum of 3 working days prior to AC taper with key at signalized intersections where such work affects signal operation. The AC taper with key shall not begin near signalized intersections until the Engineer notifies the Contractor that the revised signal operation is in service.

**1015-2 MEASUREMENT AND PAYMENT**

Payment for AC Taper with Key will be measured as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, equipment, tools and incidentals necessary to complete the work. No separate payment will be made for AC used in the installation of temporary ramps.

**1016 TACK COAT**

**1016-1 MATERIAL AND APPLICATION**

Tack Coat shall be Thermoplastic Polymer Modified High Performance Seal, also known as HPS No-Track Tack, manufactured by Paramount Petroleum, no known equal.

The tack coat shall not be applied until the preparation of the existing surface has been completed, and then only so far in advance of placing the asphalt concrete overlay as permitted by the Engineer. Tack coat shall not be applied when the temperature of the surface to be tacked is below 50° F in the



shade. No tack coat shall be applied when rain is imminent.

No tack coat shall be left exposed overnight. Immediately in advance of placing the asphalt concrete, additional tack coat shall be applied as directed by the Engineer to areas where the tack coat has been destroyed or otherwise rendered ineffective, and no additional compensation will be allowed for such work.

Tack coat shall be heated slowly to temperature between 325-425 degrees F. At no time shall the product be heated to above 450 degrees F. The product shall be applied through a distributor truck equipped with a heating unit. It shall be equipped with a full circulating spreader bar and pumping system capable of applying the tack coat material within 0.05 gallons per square yard tolerance of the specified application rate and give a uniform covering of the surface to be treated. The distributor shall also include tachometer, pressure gauge, and volume measuring device and thermometer.

The application rate shall be between 0.10 to 0.18 gallons per square yard and the rate to be determined by the prevailing surface conditions or as approved by the Engineer.

The Tack Coat shall not be applied until the preparation of the existing surface has been completed, and then only so far in advance of placing the asphalt concrete overlay as permitted by the Engineer. The Engineer will determine if the pavement is sufficiently clean and dry for the application of Tack Coat.

Existing concrete surfaces shall be protected against disfigurement from the asphalt. Residue of the material shall be removed by sandblasting to the extent required by the Engineer.

#### 1016-2 MEASUREMENT AND PAYMENT

Payment for Tack Coat shall be paid for as per the CTC®.

#### 1017 AC LEVELING COURSE

##### 1017-1 SCOPE

Roads shall receive an AC Leveling Course for the entire roadway segment to the average thickness as shown on the Plans and as specified herein. Pavement removed by grinding shall also receive leveling course within the limits of grinding.

##### 1017-2 CONSTRUCTION METHOD

Prior to placing the AC Leveling Course, a tack coat shall be applied to the existing pavement as specified in other sections of these Special Provisions.

Placing and wheel rolling asphalt concrete prior to placing AC Leveling Course shall repair potholes not specified for Base Repair.

##### 1017-3 MATERIAL

Asphalt concrete for leveling course shall be in accordance with 203-6 of the Standard Specifications, and these Special Provisions. Asphalt concrete for average thickness less than 1½ inches shall be

D2-PG 64-10. Asphalt concrete for leveling course thickness 1½ inches or greater shall be C2-PG 64-10.

**1017-4      DISTRIBUTION AND SPREADING**

The asphalt concrete shall be distributed and spread in accordance with 302-5.5 of the Standard Specifications and as directed by the Engineer.

**1017-5      MEASUREMENT AND PAYMENT**

Payment for AC Leveling Course, complete in place, will be made as per the CTC® in accordance with 302-5.9 of the Standard Specifications and these Special Provisions. Such payment shall be considered full compensation for furnishing all labor, materials, tools and equipment, and all incidentals necessary to complete the work.

**1018          ASPHALT CONCRETE HOT MIX**

**1018-1      SCOPE**

Asphalt Concrete Hot Mix (ACHM) shall be performed in accordance with the Plans, 203-6 and 302-5 of the Standard Specifications, and these Special Provisions.

The width of streets tabulated on the Plans is the weighted average width determined by adding the areas of portions of the street of different widths and dividing by the total length of the street to be overlaid. The full width of existing pavement shall be overlaid, including paved medians and asphalt tapers at paved driveways.

**1018-2      MATERIALS**

Material for overlays shall be C2-PG 64-10 or B-PG 64-10 Asphalt Concrete in accordance with the Plans, 203-6 of the Standard Specifications and these Special Provisions. In addition to the requirements of 203-6.6, a certificate of calibrated batch scales per California State Test 109 from the batch plant supplying the material is required.

**1018-3      DISTRIBUTION AND SPREADING**

New longitudinal joints shall be located as approved by the Engineer with the following order of preference:

1. Longitudinal joints shall be located a minimum of two feet away from existing longitudinal joints.
2. Longitudinal joints shall not be placed in wheel paths.
3. Longitudinal joints shall occur within one foot of lane lines or the center line.

The full width of undivided roadway shall be paved such that no unfinished longitudinal joints of asphalt concrete exist at the end of the workday.

In addition to the requirements of 302-5.5 of the Standard Specifications, asphalt concrete shall be

placed with spreading equipment equipped with fully automatic screed and grade sensing controls, which shall control the longitudinal grade of the screed. Automatic controls shall conform to and be operated in accordance with the following provisions.

Unless approved otherwise, ski-type devices, with a minimum length of 30 feet, shall be used to provide a reference for the grade sensor. Skis shall be constructed and installed in such a manner that a reference to the average elevation of the existing pavement, along the length of ski, is maintained at the sensor point. When placing surfacing adjacent to surfacing previously placed in conformance with these provisions, a joint matching shoe of adequate size and type to properly sense the grade of the previously placed mat, may be used in lieu of the 30-foot ski.

The ski shall be mounted at a location, which will provide an accurate reference for the surfacing being placed. This may require the ski to be mounted ahead of, and inside the outer limits of the screed. Automatic cross slope control may be accomplished by use of a ski and grade sensor on each side of the paving machine.

Automatic screed controls shall be installed in such a manner that the occasional manual adjustments, necessary to maintain the attitude of the screed parallel to the underlying pavement, are readily accomplished. Automatic screed controls shall be installed so that with little or no delay, use of the automatic controls can be discontinued and the screed controlled by manual methods.

Should the automatic screed controls fail to operate properly during any day's work, the Contractor may use manual control of the spreading equipment for the remainder of that day, provided the quality of the work conforms to the requirements of 302-5 of the Standard Specifications. Should the methods and equipment used for automatic control fail to result in the quality of work required by said 302-5, the paving operations shall be temporarily discontinued and the Contractor shall make the necessary changes to the equipment, or furnish other equipment conforming to the requirements herein, before paving is resumed.

If it is determined by the Engineer that the existing grade and cross slope is too irregular for the automatic controls to provide the quality of work required, the use of the automatic controls shall be discontinued and the spreading equipment adjusted by manual methods. Use of the automatic equipment shall be resumed when the Engineer has determined that it is again practical and so orders.

Base repairs, as specified in these Special Provisions, shall be accomplished in advance of the paving operation. Repair of potholes may be accomplished directly in front of the leveling course or paving operation using material taken from the hopper of the paving machine as directed by the Engineer.

As directed by the Engineer, placement of a seal coat of SS1h emulsion in accordance with 203-3 may be required at areas where new pavement meets existing asphalt concrete.

1018-4 ROLLING

In addition to the requirements of 302-5.6 of the Standard Specifications, the number of rollers required for each paving operation shall be such that all rolling for density shall be completed before the temperature of the asphalt concrete mixture drops below 240°F.

Breakdown rolling shall commence when the asphalt concrete is placed. Rolling shall be accomplished with the drive wheel forward and with the advance and return passes in the same line.

1018-5 INTERSECTIONS

Where Asphalt Concrete Overlay work is required on a through street at an intersection with no concrete cross gutter, the overlay on the cross-street shall extend a distance of ten feet per inch of overlay thickness (including leveling course) past the end of the pavement or curb return unless otherwise marked in the field or as directed by the Engineer.

Existing road surface drainage pattern(s) shall be maintained.

1018-6 SAMPLING

The Engineer will sample the asphalt concrete from the hopper of the paving machine at various intervals. The Contractor shall facilitate the sampling process.

1018-7 MEASUREMENT AND PAYMENT

Payment for Asphalt Concrete Hot Mix, complete in place, will be made as per the CTC®. The unit prices paid for asphalt concrete shall be considered full compensation for all labor, materials, and equipment required to construct asphalt concrete as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, including asphalt concrete overlay, paving of driveway approaches, and AC shoulder tapers.

**1019 ASPHALT CONCRETE WARM MIX**

1019-1 SCOPE

Asphalt Concrete Warm Mix shall conform to 203-6 and 302-5 except as modified herein or as directed by Engineer in consultation with the warm mix supplier.

The width of streets tabulated on the Plans is the weighted average width determined by adding the areas of portions of the street of different widths and dividing by the total length of the street to be overlaid. The full width of existing pavement shall be overlaid, including asphalt tapers at paved driveways.

1019-2 WARM MIX ASPHALT ADDITIVES SUPPLIER

The Contractor shall use one of the following Warm Mix Asphalt Additives:

Product Name: Double Barrel Green System (foamed asphalt)  
Producer Name: ASTEC, Inc.  
Contact: Eddie Van Zyl  
Phone Number (423) 667-3270 or (423) 867-4210

Product Name: Evotherm  
Producer Name: MeadWest Vaco Corporation  
Contact: Scott Dmytrow or Wade Miller, Associates Liaison  
Phone Number (916) 825-9415 (949) 495-4855

Product Name: Sasobit  
Producer Name: Sasol Wax Americas, Inc.  
Contact: Larry Michael, Asphalt Consultant  
Phone Number: (510) 232-8704

#### 1019-3 REQUIRED SUBMITTALS

Submittals shall be supplied to the Engineer for approval at least 10 working days before construction is scheduled. In addition to the requirements of 203-6.2, submittals shall include the following:

1. Source of paving asphalt and grade of asphalt cement.
2. Source and grade of additives used.

Submit information from the warm mix asphalt additive selected. Seven days prior to production of the Asphalt Concrete Warm Mix, the Contractor shall submit samples of aggregate, binder, and warm mix asphalt additive.

At the start of production and placement of Asphalt Concrete Warm Mix, the Contractor shall submit samples of loose plant-produced Asphalt Concrete Warm Mix, as directed by Engineer.

#### 1019-4 PRE-PAVING CONFERENCE

The Contractor shall attend a pre-paving conference with the Agency to discuss Asphalt Concrete Warm Mix. Included in the discussion will be the Contractor's methods of production and placement, contingency planning, and standards for workmanship.

The following Contractor's representatives shall attend the pre-paving conference:

1. Project Manager
2. Field Superintendent
3. Technical representative from warm mix asphalt additive producer selected
4. Paving subcontractors, if any.
5. Plant Manager
6. Plant Operator

## 1019-5 TECHNICAL REPRESENTATIVES

Technical representatives from the warm mix asphalt additive producer shall be present during construction and placement of Asphalt Concrete Warm Mix. The Contractor shall pay for services of the warm mix representative. The technical representatives will advise the Engineer and shall direct the mix operation as it relates to the warm mix asphalt additive.

The Technical representatives shall advise the plant manager and plant operator regarding plant and controller modifications necessary for product delivery and proper mixing. Plant modifications shall comply with Caltrans' Material Plant Quality Program.

## 1019-6 DATA COLLECTIONS

The device controlling warm mix asphalt additive proportioning shall produce a log of production data. The log shall be a series of data captured at one-minute intervals during production. Each one-minute data set shall register the production activity for that minute and not be summation of the preceding minute. Each one-minute data set represents the amount of material produced 5 minutes before and 5 minutes after the capture time. Store collected data with the plant control device while the contract is in progress. Twenty four hours after completion of paving operations using warm mix additive, the Contractor shall provide the Engineer with all data collections in electronic format compatible with .xls format.

## 1019-7 MATERIALS

Material for overlay shall be C2-PG 64-10 or B-PG 64-10 asphalt concrete as specified on the Plans, in accordance with 203-6 and these Special Provisions.

In addition to the requirements of 203-6.6, a certificate of calibrated batch scales per California State Test 109 from the batch plant supplying the material is required.

The Optimum Binder Content (OBC) shall be as directed by the Engineer in consultation with the technical representative from the warm mix asphalt additive producer.

Any proposed change to the viscosity grade, as specified, shall be submitted to the Engineer by the Contractor 48 hours prior to beginning work.

## 1019-8 PROPORTIONING WARM MIX ASPHALT ADDITIVES

The Contractor shall proportion warm mix asphalt additives by weight.

## 1019-9 CONTINUOUS MIXING

Determine the exact ratio of warm mix asphalt additive to the total asphalt concrete at the production rates to be used. Rate-of-flow indicators and totalizers for like materials shall be accurate to within 0.5 percent of each other. Measure emulsified warm mix asphalt additive with a meter. While operating from 50 to 100 percent of production capacity, the difference between the indicated weight of emulsion delivered and the actual weight delivered shall not exceed 1.0 percent of the actual weight for 3 individual runs. The weigh tests shall be performed on a platform scale located at the proportioning plant. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Run tests for at least 300 gallons of each product of emulsified warm mix asphalt additive.

Asphalt Concrete Warm Mix shall be constructed as specified in 302-5 except as modified herein.

Asphalt Concrete Warm Mix Production and Placement:

1. Only spread and compact if the atmospheric and surface temperature is at least 50 degrees (F) and rising
2. Produce Asphalt Concrete Warm Mix at 300 degrees (F), unless otherwise approved by the Engineer. If necessary to achieve compaction, and as approved by the Engineer, this temperature may be raised.
3. The first coverage using 2 rollers shall occur before the surface temperature drops below 250 degrees (F).
4. Complete compaction before surface temperature drops below 210 degrees (F).
5. Do not allow traffic on new AC with warm mix asphalt additives until the mid-depth temperature is below 140 degrees (F).
6. If the atmospheric temperature is below 72 degrees (F), cover loads in trucks with tarpaulins.

The Contractor shall provide surface temperature readings with an infrared heat measurement device when requested by the Engineer.

Heat the paving machine, especially the hopper and pavement area which will be paved immediately.

New longitudinal joints shall be located as approved by the Engineer with the following order of preference:

1. Longitudinal joints shall be located a minimum of two feet away from existing longitudinal joints.
2. Longitudinal joints shall not be placed in wheel paths.
3. Longitudinal joints shall occur within one foot of lane lines or the center line.

The full width of undivided roadway shall be paved such that no unfinished longitudinal joints of asphalt concrete exist at the end of the workday.

In addition to the requirements of 302-5.5 of the Standard Specifications, asphalt concrete shall be placed with spreading equipment equipped with fully automatic screed and grade sensing controls, which shall control the longitudinal grade of the screed. Automatic controls shall conform to and be operated in accordance with the following provisions.

Unless approved otherwise, ski-type devices, with a minimum length of 30 feet, shall be used to provide a reference for the grade sensor. Skis shall be constructed and installed in such a manner that a reference to the average elevation of the existing pavement, along the length of ski, is maintained at the sensor point. When placing surfacing adjacent to surfacing previously placed in conformance with these provisions, a joint matching shoe of adequate size and type to properly sense the grade of the previously placed mat, may be used in lieu of the 30-foot ski.

The ski shall be mounted at a location, which will provide an accurate reference for the surfacing being placed. This may require the ski to be mounted ahead of, and inside the outer limits of the screed. Automatic cross slope control may be accomplished by use of a ski and grade sensor on each side of the paving machine.

Automatic screed controls shall be installed in such a manner that the occasional manual

adjustments, necessary to maintain the attitude of the screed parallel to the underlying pavement, are readily accomplished. Automatic screed controls shall be installed so that with little or no delay, use of the automatic controls can be discontinued and the screed controlled by manual methods.

Should the automatic screed controls fail to operate properly during any day's work, the Contractor may use manual control of the spreading equipment for the remainder of that day, provided the quality of the work conforms to the requirements of 302-5 of the Standard Specifications. Should the methods and equipment used for automatic control fail to result in the quality of work required by said 302-5, the paving operations shall be temporarily discontinued and the Contractor shall make the necessary changes to the equipment, or furnish other equipment conforming to the requirements herein, before paving is resumed.

If it is determined by the Engineer that the existing grade and cross slope is too irregular for the automatic controls to provide the quality of work required, the use of the automatic controls shall be discontinued and the spreading equipment adjusted by manual methods. Use of the automatic equipment shall be resumed when the Engineer has determined that it is again practical and so orders.

The Contractor shall provide a minimum of 2 rollers. Additional rollers shall be on the job site and ready to be used as necessary and as directed by the Engineer.

Base repairs, as specified in these Special Provisions, shall be accomplished in advance of the paving operation. Repair of potholes may be accomplished directly in front of the leveling course or paving operation using material taken from the hopper of the paving machine as directed by the Engineer.

As directed by the Engineer, placement of a seal coat of SS1h emulsion in accordance with 203-3 may be required at areas where new pavement meets existing asphalt concrete.

#### 1019-11 INTERSECTIONS

Where Asphalt Concrete overlay is required on a through street at an intersection with no concrete cross gutter, the overlay on the cross-street shall extend a distance of ten feet per inch of overlay thickness (including leveling course) past the end of the pavement or curb return unless otherwise marked in the field or directed by the Engineer.

Existing road surface drainage pattern(s) shall be maintained.

#### 1019-12 SAMPLING

The Engineer will sample the asphalt concrete from the hopper of the paving machine at various intervals. The Contractor shall facilitate the sampling process.

#### 1019-13 COMPACTION TESTING

The Engineer will take nuclear gage compaction test every 200 feet to verify the minimum 95% compaction requirement. The Engineer's testing will be used as the basis for reduced compensation provisions described in the Measurement and Payment section of these Special Provisions for the width and thickness of roadway 100 feet on each side of the test area.



At any time during the process of batching and placing AC with warm mix additive, if the Engineer determines that it is in the best interest of Agency to cease using the warm mix additive and place Asphalt Concrete Hot Mix, the Engineer shall have the authority to so direct. The Contractor shall comply and shall not have the right to claim damages for the change.

## 1019-15 MEASUREMENT AND PAYMENT

Payment for constructing Asphalt Concrete Warm Mix will be made as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, tools, and equipment, including warm mix asphalt additives, compensation for technical assistance by the warm mix additive producer, asphalt concrete overlay, paving of driveway approaches, and AC shoulder tapers.

If 95% compaction or better is not achieved, the Contractor shall receive decreased payment in accordance with the following:

If requested by the Contractor and approved by the Engineer, asphalt concrete or asphalt concrete base with a relative compaction of 93.0 percent or greater may remain in place on the provision that the Contractor shall reimburse the Agency with the difference between the contract unit price and the amount of reduced compensation for the quantity with relative compaction less than 95.0 percent and greater than or equal to 93.0 percent. The amount of reduced compensation will be calculated using the total tons of the quantity with relative compaction less than 95.0 percent and greater than or equal to 93.0 percent multiplied by the contract price per ton for asphalt concrete or asphalt concrete base reduced by the following compensation factors:

| Relative Compaction (Percent) | Reduced Compensation Factor | Relative Compaction (Percent)     | Reduced Compensation Factor |
|-------------------------------|-----------------------------|-----------------------------------|-----------------------------|
| 95.0                          | 0.000                       | 93.8                              | 0.300                       |
| 94.8                          | 0.050                       | 93.6                              | 0.350                       |
| 94.6                          | 0.100                       | 93.4                              | 0.400                       |
| 94.4                          | 0.150                       | 93.2                              | 0.450                       |
| 94.2                          | 0.200                       | 93.0                              | 0.500                       |
| 94.0                          | 0.250                       | LESS THAN 93.0<br>NO COMPENSATION |                             |

Pavement with relative compaction less than 93% must be removed and no payment will be made.

If the Engineer directs the Contractor to use Asphalt Concrete Hot Mix in accordance with the option specified elsewhere in these Special Provisions, the Contractor will be paid the contract unit price for Asphalt Concrete Warm Mix minus four percent of that amount. This shall apply to the remaining quantity under this contract item. No other price adjustments will be made.

## 1020 ASPHALT RUBBER-- HOT MIX

### 1020-1 SCOPE

Asphalt Rubber Hot Mix shall be performed in accordance with the Plans, Section 200 of the Standard Specifications and these Special Provisions.

The width of streets tabulated on the Plans is the weighted average width determined by adding the areas of portions of the street of different widths and dividing by the total length of the street to be overlaid. The full width of existing pavement shall be overlaid, including paved medians and asphalt tapers at paved driveways.

### 1020-2 MATERIALS

Material for overlays shall be ARHM GG-C or GG-B Asphalt Concrete with PG 64-16 binder as specified on the Plans and in accordance with 203-11 of the Standard Specifications and these Special Provisions. In addition to the requirements of 203-6.6, a certificate of calibrated batch scales per California State Test 109 from the batch plant supplying the material is required.

### 1020-3 DISTRIBUTION AND SPREADING

New longitudinal joints shall be located as approved by the Engineer with the following order of preference:

1. Longitudinal joints shall be located a minimum of two feet away from existing longitudinal joints.
2. Longitudinal joints shall not be placed in wheel paths.
3. Longitudinal joints shall occur within one foot of lane lines or the center line.

The full width of undivided roadway shall be paved such that no unfinished longitudinal joints of asphalt concrete exist at the end of the workday.

The third sentence included in 302-9.4 is hereby deleted and replaced with the following:

"Asphalt Rubber Hot Mix shall not be placed unless the atmospheric temperature is at least 55°F and rising or during unsuitable weather."

In addition to the requirements of 302-9.4 of the Standard Specifications, asphalt concrete shall be placed with spreading equipment equipped with fully automatic screed and grade sensing controls, which shall control the longitudinal grade of the screed. Automatic controls shall conform to and be operated in accordance with the following provisions.

Unless approved otherwise, ski-type devices, with a minimum length of 30 feet, shall be used to provide a reference for the grade sensor. Skis shall be constructed and installed in such a manner that a reference to the average elevation of the existing pavement, along the length of ski, is maintained at the sensor point. When placing surfacing adjacent to surfacing previously placed in conformance with these provisions, a joint matching shoe of adequate size and type to properly sense the grade of the previously placed mat, may be used in lieu of the 30-foot ski.

The ski shall be mounted at a location, which will provide an accurate reference for the surfacing being placed. This may require the ski to be mounted ahead of, and inside the outer limits of the screed. Automatic cross slope control may be accomplished by use of a ski and grade sensor on

each side of the paving machine.

Automatic screed controls shall be installed in such a manner that the occasional manual adjustments, necessary to maintain the attitude of the screed parallel to the underlying pavement, are readily accomplished. Automatic screed controls shall be installed so that with little or no delay, use of the automatic controls can be discontinued and the screed controlled by manual methods.

Should the automatic screed controls fail to operate properly during any day's work, the Contractor may use manual control of the spreading equipment for the remainder of that day, provided the quality of the work conforms to the requirements of 302-5 of the Standard Specifications. Should the methods and equipment used for automatic control fail to result in the quality of work required by said 302-5, the paving operations shall be temporarily discontinued and the Contractor shall make the necessary changes to the equipment, or furnish other equipment conforming to the requirements herein, before paving is resumed.

If it is determined by the Engineer that the existing grade and cross slope is too irregular for the automatic controls to provide the quality of work required, the use of the automatic controls shall be discontinued and the spreading equipment adjusted by manual methods. Use of the automatic equipment shall be resumed when the Engineer has determined that it is again practical and so orders.

Base repairs, as specified in these Special Provisions, shall be accomplished in advance of the paving operation. Repair of potholes may be accomplished directly in front of the leveling course operation using material taken from the hopper of the paving machine as directed by the Engineer.

As directed by the Engineer, placement of a seal coat of SS1h emulsion in accordance with 203-3 may be required at areas where new pavement meets existing asphalt concrete.

#### 1020-4 ROLLING

In addition to the requirements of 302-9.5 of the Standard Specifications, the number of rollers required for each paving operation shall be such that all rolling for density shall be completed before the temperature of the asphalt concrete mixture drops below 290°F.

Breakdown rolling shall commence when the asphalt concrete is placed. Rolling shall be accomplished with the drive wheel forward and with the advance and return passes in the same line.

Road dust blotter shall be applied in accordance with 302-9.6.

#### 1020-5 INTERSECTIONS

Where AC overlay is required on a through street at an intersection with no concrete cross gutter, the overlay on the cross-street shall extend a distance of ten feet per inch of overlay thickness (including leveling course) past the end of the pavement or curb return unless otherwise marked in the field or as directed by the Engineer.

Existing road surface drainage pattern shall be maintained.

#### 1020-6 SAMPLING

The Engineer will sample the asphalt concrete from the hopper of the paving machine at various intervals. The Contractor shall facilitate the sampling process.

#### 1020-7 MEASUREMENT AND PAYMENT

Payment for Asphalt Rubber Hot Mix, complete in place, will be made as as per the CTC® and these Special Provisions. The unit prices paid for asphalt concrete shall be considered full compensation for all labor, materials, and equipment required to construct asphalt concrete overlays as shown on the Plans and as specified in the Standard Specifications and these Special Provisions including AC overlay at AC taper with key, paving of driveway approaches, and AC shoulder tapers.

## 1021 ASPHALT RUBBER-- WARM MIX

### 1021-1 SCOPE

Asphalt Rubber Warm Mix shall conform to 203-11 and 302-9 of the Standard Specifications except as modified herein or as directed by Engineer in consultation with the warm mix supplier.

The width of streets tabulated on the Plans is the weighted average width determined by adding the areas of portions of the street of different widths and dividing by the total length of the street to be overlaid. The full width of existing pavement shall be overlaid, including asphalt tapers at paved driveways.

### 1021-2 WARM MIX ASPHALT ADDITIVES SUPPLIER

Use one of the following Warm Mix Asphalt Additives or Processes:

Product Name: Double Barrel Green System (foamed asphalt)  
Producer Name: ASTEC, Inc.  
Contact: Eddie Van Zyl  
Phone Number (423) 667-3270 or (423) 867-4210

Product Name: Evotherm  
Producer Name: MeadWest Vaco Corporation  
Contact: Scott Dmytrow or Wade Miller, Associates Liaison  
Phone Number (916) 825-9415 (949) 495-4855

Product Name: Sasobit  
Producer Name: Sasol Wax Americas, Inc.  
Contact: Larry Michael, Asphalt Consultant  
Phone Number: (510) 232-8704

### 1021-3 REQUIRED SUBMITTALS

Submittals shall be in accordance with 203-11.6 and supplied to the Engineer for approval at least 10 working days before construction is scheduled. In addition to the requirements of 203-11.6, submittals shall include the following:

#### Paving Asphalt

1. Source of paving asphalt and grade of asphalt cement.
2. Source and grade of additives used.
3. Percentage of asphalt cement and additives by total weight of the asphalt-rubber blend.

#### Crumb Rubber Modifier (CRM)

1. Source of CRM
2. Identification or grade of CRM
3. Percentage of CRM by total weight of the asphalt-rubber blend. If CRM from more than one

source is used, the above information shall be required for each CRM used.

Certificate of calibrated batch scales per California State Test 109 from the batch plant supplying the material is also required.

Submit information from the warm mix asphalt additive selected. Seven days prior to production of the AC with a warm mix asphalt additive, submit samples of aggregate, binder, and warm mix asphalt additive.

At the start of production and placement of AC with the warm mix asphalt additive, submit samples of loose plant-produced AC with warm mix asphalt additives, as directed by Engineer.

#### 1021-4 PRE-PAVING CONFERENCE

Discuss AC with warm mix asphalt additive at the pre-paving conference. Discuss the methods for production and placement, including contingency planning and standards for workmanship.

The following people must attend the pre-paving conference.

The following Contractor's representatives shall attend the pre-paving conference:

1. Project Manager
2. Field Superintendent
3. Technical representative from warm mix asphalt additive producer selected
4. Paving subcontractors, if any.
5. Plant Manager
6. Plant Operator

#### 1021-5 TECHNICAL REPRESENTATIVES

Technical representatives from the warm mix asphalt additive producer must be present during construction and placement of AC with warm mix asphalt additive. Contractor shall pay for services of the warm mix representative. The technical representatives will advise the Engineer and shall direct the mix operation as it relates to their warm mix asphalt additive.

The Technical representatives shall advise the plant manager and plant operator regarding plant and controller modifications necessary for product delivery and proper mixing. Plant modifications must comply with Caltrans' Material Plant Quality Program.

#### 1021-6 DATA COLLECTIONS

The device controlling warm mix asphalt additive proportioning must produce a log of production data. The log must be a series of data captured at one-minute intervals during production. Each one-minute data set must register the production activity for that minute and not be summation of the preceding minute. Each one-minute data set represents the amount of material produced 5 minutes before and 5 minutes after the capture time. Store collected data with the plant control device while the contract is in progress. Twenty four hours after completion of paving operations using warm mix additive, Contractor shall provide The Engineer with all in electronic format compatible with .xls format.

#### 1021-7 MATERIALS

Material for overlay shall be gap graded C2-PG 64-16 asphalt concrete as specified on the plans and in accordance with 203-11 and these Special Provisions.

In addition to the requirements of 203-6.6, a certificate of calibrated batch scales per California State Test 109 from the batch plant supplying the material is required.

The Optimum Binder Content (OBC) shall be as directed by the Engineer in consultation with the technical representative from the warm mix asphalt additive producer.

Any proposed change to the viscosity grade, as specified, shall be submitted to the Engineer by the Contractor 48 hours prior to beginning work.

#### 1021-8 PROPORTIONING WARM MIX ASPHALT ADDITIVES

Proportion warm mix asphalt additives by weight.

#### 1021-9 CONTINUOUS MIXING

Determine the exact ratio of warm mix asphalt additive to the total asphalt concrete at the production rates to be used. Rate-of-flow indicators and totalizers for like materials shall be accurate to within 0.5 percent of each other. Measure emulsified warm mix asphalt additive with a meter. While operating from 50 to 100 percent of production capacity, the difference between the indicated weight of emulsion delivered and the actual weight delivered shall not exceed 1.0 percent of the actual weight for 3 individual runs. The weigh tests shall be performed on a platform scale located at the proportioning plant. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Run tests for at least 300 gallons of each product of emulsified warm mix asphalt additive.

#### 1021-10 CONSTRUCTION

Asphalt Rubber Warm Mix shall be constructed as specified for asphalt concrete pavement in 302-9 of the SSPWC, except as modified herein.

Asphalt Rubber Warm Mix Production and Placement:

1. Only spread and compact if the atmospheric and surface temperature is at least 50 degrees (F) and rising.
2. Produce Asphalt Rubber Warm Mix at 300 degrees (F), unless approved otherwise by Engineer. If necessary to achieve compaction, and as approved by Engineer, this temperature may be raised.
3. Complete the first coverage using 2 rollers before surface temperature drops below 250 degrees (F).
4. Complete compaction before surface temp. drops below 210 degrees (F).
5. Do not allow traffic on new AC with warm mix asphalt additives until the mid-depth temperature is below 140 degrees (F).
6. If the atmospheric temperature is below 72 degrees (F), cover loads in trucks with tarpaulins.

The Contractor shall provide surface temperature readings with an infrared heat measurement device when requested by the Engineer.

Heat the paving machine, especially the hopper and pavement area which will be paved immediately.

New longitudinal joints shall be located as approved by the Engineer with the following order of preference:

1. Longitudinal joints shall be located a minimum of two feet away from existing longitudinal joints.
2. Longitudinal joints shall not be placed in wheel paths.
3. Longitudinal joints shall occur within one foot of lane lines or the center line.

The full width of undivided roadway shall be paved such that no unfinished longitudinal joints of asphalt concrete exist at the end of the workday.

In addition, the requirements in 302-9.4 of the SSPWC, the AC pavement shall be placed with spreading equipment equipped with fully automatic screed and grade sensing controls which shall control the longitudinal grade of the screed. Automatic controls shall conform to and be operated in accordance with the following provisions.

Unless approved otherwise, ski-type devices, with a minimum length of 30 feet, shall be used to provide a reference for the grade sensor. Skis shall be constructed and installed in such a manner that a reference to the average elevation of the existing pavement, along the length of ski, is maintained at the sensor point. When placing surfacing adjacent to surfacing previously placed in conformance with these provisions, a joint matching shoe of adequate size and type to properly sense the grade of the previously placed mat, may be used in lieu of the 30-foot ski.

The ski shall be mounted at a location, which will provide an accurate reference for the surfacing being placed. This may require the ski to be mounted ahead of, and inside the outer limits of the screed. Automatic cross slope control may be accomplished by use of a ski and grade sensor on each side of the paving machine.

Automatic screed controls shall be installed in such a manner that the occasional manual adjustments, necessary to maintain the attitude of the screed parallel to the underlying pavement, are readily accomplished. Automatic screed controls shall be installed so that with little or no delay, use of the automatic controls can be discontinued and the screed controlled by manual methods.

Should the automatic screed controls fail to operate properly during any day's work, the Contractor may use manual control of the spreading equipment for the remainder of that day, provided the quality of the work conforms to the requirements of 302-5 of the Standard Specifications. Should the methods and equipment used for automatic control fail to result in the quality of work required by said 302-5, the paving operations shall be temporarily discontinued and the Contractor shall make the necessary changes to the equipment, or furnish other equipment conforming to the requirements herein, before paving is resumed.

If it is determined by the Engineer that the existing grade and cross slope is too irregular for the automatic controls to provide the quality of work required, the use of the automatic controls shall be discontinued and the spreading equipment adjusted by manual methods. Use of the automatic equipment shall be resumed when the Engineer has determined that it is again practical and so orders.

Initial rolling shall commence immediately following the placement of AC. A vibratory roller shall be used for initial breakdown rolling. The initial breakdown rolling shall be completed before the AC temperature falls below 295 degrees (F) measured immediately in front of the roller. If Contractor is not rolling fast enough, the operation shall be stopped and the problem shall be corrected by having extra workers and/or breakdown rollers.

The Contractor shall provide a minimum of 2 rollers. Additional rollers shall be on the job site and ready to be used as necessary and as directed by the Engineer.

Base repairs, as specified in these Special Provisions, shall be accomplished in advance of the paving operation. Repair of potholes may be accomplished directly in front of the leveling course or paving operation using material taken from the hopper of the paving machine as directed by the

Engineer.

Road dust blotter shall be applied in accordance with 302-9.6.

As directed by the Engineer, placement of a seal coat of SS1h emulsion in accordance with 203-3 may be required at areas where new pavement meets existing asphalt concrete.

#### 1021-11 COMPACTION TESTING

Engineer will take nuclear gage compaction test every 200 feet to ensure the minimum 95% compaction requirement is being met. If 95% compaction or better is not achieved, Contractor shall receive decreased payment in accordance with the following:

The Contractor shall reimburse the Agency with the difference between the contract unit price and the amount of reduced compensation for the quantity with relative compaction less than 95.0 percent and greater than or equal to 93.0 percent. The amount of reduced compensation will be calculated using the total tons of the quantity with relative compaction less than 95.0 percent and greater than or equal to 93.0 percent multiplied by the contract price per ton for asphalt concrete reduced by the following compensation factors:

| Relative Compaction<br>(Percent) | Reduced<br>Compensation<br>Factor | Relative Compaction<br>(Percent)  | Reduced<br>Compensation<br>Factor |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 95.0                             | 0.000                             | 93.8                              | 0.300                             |
| 94.8                             | 0.050                             | 93.6                              | 0.350                             |
| 94.6                             | 0.100                             | 93.4                              | 0.400                             |
| 94.4                             | 0.150                             | 93.2                              | 0.450                             |
| 94.2                             | 0.200                             | 93.0                              | 0.500                             |
| 94.0                             | 0.250                             | LESS THAN 93.0<br>NO COMPENSATION |                                   |

Pavement with relative compaction less than 93% must be removed and no payment will be made.

#### 1021-12 INTERSECTIONS

Where Asphalt Concrete Overlay work is required on a through street at an intersection with no concrete cross gutter, the overlay on the cross-street shall extend a distance of ten (10) feet per inch of overlay thickness (including leveling course) past the end of the pavement or curb return unless otherwise marked in the field or as directed by the Engineer. Existing road surface drainage pattern shall be maintained.

#### 1021-13 OPTION TO CHANGE TO CONVENTIONAL AC

At any time during the process of batching and placing Asphalt Rubber Warm Mix, if Engineer determines that it is in the best interest of Agency to cease using Asphalt Rubber Warm Mix and place conventional Asphalt Concrete Hot Mix (ACHM) or Asphalt Rubber Hot Mix (ARHM), the Engineer shall have authority to so direct. Contractor shall comply and shall not have the right to claim damages for the change. The 25% limit in quantity change of section 3-2.2.1 is deleted with regard to ACHM, ARWM and ARHM.

#### 1021-14 MEASUREMENT AND PAYMENT

Payment for constructing Conventional AC with warm mix additive will be made as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, tools, equipment, including warm mix asphalt additives and compensation for technical assistance by the warm mix additive producer and incidentals necessary for constructing AC with warm mix overlay.



**1022 MISCELLANEOUS PAVING**

**1022-1 SCOPE**

Miscellaneous Paving shall include resurfacing existing asphalt drainage aprons and swales contiguous to the overlay construction, and feathering asphalt concrete to maintain surface drainage patterns at locations directed by Engineer. The work shall include Roadway Preparation and shall be in accordance with the Plans, the Standard Specifications and these Special Provisions.

**1022-2 MATERIAL**

Asphalt concrete for Miscellaneous Paving shall be D2-PG 64-10 in accordance with 203-6 of the Standard Specifications for paving up to 1 1/2 inch thickness. The Contractor may substitute a paving asphalt mix upon approval of the Engineer.

**1022-3 MEASUREMENT AND PAYMENT**

Payment for Miscellaneous Paving, complete in place, will be made as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials equipment, tools and incidentals necessary to complete the work.

**1023 AC CURB REHABILITATION**

**1023-1 SCOPE**

AC Curb Rehabilitation shall consist of capping, new construction and/or removal and replacement of AC curb in accordance with the Plans, the Standard Specifications and these Special Provisions.

AC curb capping, constructing or removal and replacement shall be at the discretion of the Engineer.

If, in the opinion of the Engineer, the existing curb is in sound condition, firmly attached to the underlying pavement and in proper alignment with the road, capping will be allowed unless otherwise specified.

If, in the opinion of the Engineer, the existing curb is not in sound condition, or not firmly attached to the underlying pavement, or in proper alignment with the road, the existing curb shall be removed and disposed of and new curb constructed.

**1023-2 CONSTRUCTION METHOD**

Road overlay shall be performed prior to rehabilitation of AC curb. All surfaces of the AC pavement shall be cleaned and free of loose materials, dirt, vegetation, and shall be tack-coated prior to construction of the AC curb. A self-powered curb extrusion machine shall be used for AC Curb Rehabilitation.

When AC Curb Rehabilitation work is performed adjacent to sidewalks, capping and rehabilitation/reconstruction of curb shall be interrupted at the edge of sidewalk and recommence at the opposite edge of sidewalk in order to avoid introduction of pedestrian trip hazards. The curb adjacent to the sidewalk shall be completely removed and reconstructed flush with the top of existing sidewalk.

**1023-3 MATERIAL**

The asphalt concrete shall be D1-PG 70-10 in accordance with 203-6 of the Standard Specifications. Tack coat shall be paving asphalt PG 64-10, PG 70-10 or as specified in these Special Provisions.

**1023-4 MEASUREMENT AND PAYMENT**

Payment for AC Curb Rehabilitation will be made as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, tools, equipment, and all incidentals necessary to complete the work, including clearing and grubbing, grinding, removal and disposal of asphalt concrete, and tack coat.

**1024 AC CURB SEAL**

**1024-1 SCOPE**

Work under this section consists of applying a seal coat on existing AC Curb as specified in the Standard Specifications and these Special Provisions. Seal coat shall be applied to all existing AC Curb shown on the Plans.

**1024-2 MATERIAL**

The seal coat shall be SS-1h complying with the provisions of 203-3 of the Standard Specifications.

**1024-3 CONSTRUCTION**

Roadway preparation shall be performed prior to the seal coat application. The application shall extend 1 foot into the existing pavement and shall be performed after placing an asphalt concrete overlay. Rate of application shall be 0.15 to 0.20 gallons per square yard.

**1024-4 MEASUREMENT AND PAYMENT**

AC Curb Seal will be measured and payment shall be made as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, tools and equipments, and other incidental necessary to complete the work.

**1025 SHOULDER BACKING**

**1025-1 SCOPE**

This work shall consist of scarifying and shaping existing shoulder and adding Processed Miscellaneous Base (PMB), as modified herein, to bring shoulders to the new pavement surface. The existing shoulder backing shall be scarified to a minimum distance of three feet from the edge of pavement, watered and shaped prior to adding PMB. The PMB shall be watered, shaped and compacted by rolling to a smooth, firm surface using a pneumatic tire roller or a 4 - 6 ton steel wheel roller.

Shoulder Backing shall start no sooner than three (3) calendar days and shall be completed no later than seven (7) calendar days after placing the adjacent overlay. PMB shall conform to the provisions of 200-2.5 of the Standard Specifications; however, the percentage passing sieve No. 200 shall be 7 - 11 percent and the sand equivalent requirement does not apply. Pavement materials removed by cold milling may be incorporated into the modified PMB provided the resulting blend of materials meets the above requirements at locations approved by the Engineer; however, materials larger than one (1) inch in size shall not be used. Native material shall not be removed from beyond the shoulder scarification limit in lieu of furnishing PMB to be used for shoulder backing material.

Existing drainage patterns shall be maintained. Where unusual conditions not represented by the typical sections of the Plans are encountered, the Contractor shall notify the Engineer in advance of performing the work. The Engineer will specify the methodology to be employed to ensure road drainage patterns are not disrupted.

In the event that Shoulder Backing cannot be completed within the specified number of days, the

Engineer may order asphalt concrete paving operations suspended in accordance with 6-2 to allow shoulder backing work to catch up to the schedules specified in these Special Provisions.

**1025-2 MEASUREMENT AND PAYMENT**

Shoulder Backing will be measured and payment made as per the CTC®. The CTC® prices for Shoulder Backing shall be considered full compensation for furnishing all labor, material, and equipment and for doing all the work involved in scarifying existing material, furnishing and placing PMB, reshaping shoulders, and maintaining drainage patterns as specified in these Special Provisions.

**1026 MEDIAN BACKING**

**1026-1 SCOPE**

This work shall consist of scarifying and shaping existing median and adding Processed Miscellaneous Base (PMB), as modified herein, to the bring median to the new pavement surface. The existing median backing shall be scarified, watered and shaped the full width of the median prior to adding PMB. The PMB shall be watered, shaped and compacted by rolling to a smooth, firm surface using a pneumatic tire roller or a 4 - 6 ton steel wheel roller.

Median Backing shall start no sooner than three (3) calendar days and shall be completed no later than seven (7) calendar days after placing the adjacent overlay. PMB shall conform to the provisions of 200-2.5 of the Standard Specifications; however, the percentage passing sieve No. 200 shall be 7 - 11 percent and the sand equivalent requirement does not apply. Pavement materials removed by cold milling may be incorporated into the modified PMB provided the resulting blend of materials meets the above requirements at locations approved by the Engineer; however, materials larger than one (1) inch in size shall not be used.

Existing drainage patterns shall be maintained. Where unusual conditions not represented by the typical sections of the Plans are encountered, the Contractor shall notify the Engineer in advance of performing the work. The Engineer will specify the methodology to be employed to ensure road drainage patterns are not disrupted.

In the event that Median Backing cannot be completed within the specified number of days, the Engineer may order asphalt concrete paving operations suspended in accordance with 6-2 to allow shoulder backing work to catch up to the schedules specified in these Special Provisions.

**1026-2 MEASUREMENT AND PAYMENT**

Median Backing will be measured and payment made as per the CTC®. The contract unit price paid for Median Backing shall be considered full compensation for furnishing all labor, material, and equipment and for doing all the work involved in scarifying existing material, furnishing and placing PMB, reshaping medians, and maintaining drainage patterns as specified in these Special Provisions.

**1027 CURB BACKING**

**1027-1 SCOPE**

This work shall consist of scarifying and shaping existing curb backing material and adding Processed Miscellaneous Base (PMB), as modified herein, to the bring the backing to the top of the berm. The existing berm backing shall be scarified to a minimum distance of 3 feet from the edge of the berm, watered, and shaped prior to adding PMB. The PMB shall be watered, shaped and compacted by rolling to a smooth, firm surface using a pneumatic tire roller or a 4 - 6 ton steel wheel

roller or as approved by the Engineer.

PMB shall conform to the provisions of 200-2.5 of the Standard Specifications; however, the percentage passing sieve No. 200 shall be 7 - 11 percent and the sand equivalent requirement does not apply. Pavement materials removed by cold milling may be incorporated into the modified PMB provided the resulting blend of materials meets the above requirements at locations approved by the Engineer; however, materials larger than one (1) inch in size shall not be used.

Existing drainage patterns shall be maintained. Where unusual conditions not represented by the typical sections of the Plans are encountered, the Contractor shall notify the Engineer in advance of performing the work. The Engineer will specify the methodology to be employed to ensure road drainage patterns are not disrupted.

## **1027-2 MEASUREMENT AND PAYMENT**

Curb Backing will be measured and payment made as per the CTC®. The contract unit price paid for Curb Backing shall be considered full compensation for furnishing all labor, material, and equipment and for doing all the work involved in scarifying existing material, furnishing and placing PMB, reshaping, and maintaining drainage patterns as specified in these Special Provisions.

## **1028 PAVEMENT DELINEATION AND STRIPING**

### **1028-1 SCOPE**

Pavement Delineation shall consist of installing thermoplastic striping and markings; rumble strips, and pavement markers. The Contractor shall tie down existing pavement striping and markings prior to starting any work. The overlaid pavement shall be delineated in the manner, which existed prior to the overlay, modified as shown on the Plans, as specified in these Special Provisions, or as directed by the Engineer. Pavement markings shall be of the same color, size, pattern and location as previously existed except as shown on the Plans or herein modified.

On roads to be delineated, prior to removing traffic control, temporary markings shall be placed. Permanent Pavement Delineation on each road to be delineated shall be completed within 14 calendar days following completion of the overlay on that road unless otherwise specified in these Special Provisions. In the event that striping cannot be completed within the specified number of days, the Engineer may order asphalt concrete paving operations suspended in accordance with 6-2 to allow striping work to meet schedules specified in these Special Provisions. Centerline striping shall be completed within 10 calendar days after placing AC overlay. Pavement markers, edge line striping and markings shall be completed within 7 calendar days after completion of shoulder backing work.

### **1028-2 TEMPORARY MARKINGS**

**STOP bars:** On roads to be delineated and on which permanent delineation will not be applied before public traffic is allowed on the freshly ground or paved surface, Temporary Stop bars shall be placed at all signals and stop signs the same day that paving or grinding occurs. Temporary Stop Bars shall be 12 inches wide.

Temporary Markings shall be placed at the centerline of pavement and on multi-lane roads at each lane line the same day that grinding occurs or overlay is placed. Temporary centerline markings shall consist of temporary raised pavement markers (Davidson Plastics Co., M. V. Plastics, or approved equal) at 25-foot maximum intervals. Temporary lane line markings shall be reflective tape or painted spots (cat-tracking) at 50-foot maximum intervals or a painted dribble line. Temporary Markings shall be maintained, replaced, restored or augmented as directed by the Engineer until permanent

pavement delineation is completed. When the Engineer determines Temporary Markings as specified herein do not provide adequate temporary delineation, the Contractor shall install Temporary Markings as specified for permanent delineation. All Temporary Markings shall be removed prior to the installation of permanent markings and striping.

#### **1028-3 PAVEMENT MARKERS**

Pavement Markers shall be placed in accordance with SSS Section 85, SSP A20A through A20D and these Special Provisions. Markers shall be placed in the same pattern and locations as previously existed or modified as shown on the Plans and these Special Provisions. Pavement markers shall include placement of blue fire hydrant markers. The Contractor shall replace any damaged Pavement Markers, without cost to the Agency, prior to the Agency's acceptance of the project.

#### **1028-4 THERMOPLASTIC TRAFFIC STRIPING AND PAVEMENT MARKINGS**

Thermoplastic Traffic Striping and Pavement Markings shall be 90 mils in thickness and shall conform to the provisions of 84-2 of the SSS, SSP, and these Special Provisions. Striping and markings shall be reapplied in the original pattern on all roads, except as shown on the Plans and as specified herein. The size, color, and spacing of the striping shall conform to the requirements of Section 310 of the Standard Specifications and the State Standard Specifications, State of California, Department of Transportation Standard Plans as shown on SSP A20A, A20B, A20C and A20D.

#### **1028-5 MEASUREMENT AND PAYMENT**

Payment for Pavement Delineation and Striping will be made as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to complete the work.

### **1029 SURVEY MONUMENT FRAME REPLACEMENT AND ADJUSTMENT**

#### **1029-1 SCOPE**

Ventura County survey monument frames with triangular covers shall be removed, salvaged and replaced to the new finished grade with new monument frames with circular covers. Salvaged triangular covers shall be delivered to the Ventura County Government Center. Contact Mike Sullivan at (805) 662-6832 to make arrangement for delivery.

Ventura County Survey monument frames with circular covers shall be adjusted to the new finished grade.

When removing and replacing or adjusting frames and covers, the Contractor shall not move, undermine, disturb, or damage in any way, the existing concrete monument cores or their attached metal survey markers.

All Ventura County Survey monument frames and covers to be replaced or adjusted, shall be performed in accordance with each individual job order scope of work, the Standard Specifications, and these Special Provisions.

#### **1029-2 REPLACEMENT**

Existing concrete Survey Monument Frames with triangular cast iron covers shall be removed and replaced with standard Ventura County survey monument cast iron frames, round covers, and PVS slip couplings. The Contractor shall salvage and deliver the old triangular lids and deliver them to the Agency.

The new PVC slip couplings shall be extended upward as needed by placing a section of white, 8" PVC pipe (Class 125 with 9/32" wall thickness) on top of the couplings. The tops of the new frames shall be flush with the new pavement surface. A standard survey monument kit (frame, cover, and PVC slip couplings) can be purchased at the County Surveyor's public counter, Third Floor, Administration Building, 800 S. Victoria Avenue, Ventura, CA 93009 for \$221.90 including tax plus a requisition fee of \$7.50 per lot.

**1029-3      ADJUSTMENT**

Existing standard Ventura County survey monument cast iron frames and round covers that are to be adjusted so that the tops of the existing frames are flush with the new pavement surfaces are listed herein.

The existing PVC slip couplings or vitrified clay pipe and bells at the frames and covers to be raised shall be left in place and shall be extended upward as needed by placing a section of white, 8" PVC pipe (Class 125 with 9/32" wall thickness) on top of the existing couplings or pipe and bells.

**1029-4      LOCATION AND TYPE OF MONUMENTS**

Monuments, which are to be adjusted or replaced and adjusted, will be called out in the individual projects under this contract.

**1029-5      MEASUREMENT AND PAYMENT**

Payment for Survey Monument Frame Adjustment and Survey Monument Frame Replacement will be made as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, tools, equipment, and all incidentals necessary to perform the work, complete in place.

**1030      TRAFFIC COUNTER STATION WITH COUNTER**

**1030-1      SCOPE**

Traffic Counter Station installation shall be performed in accordance with Section 86, "Signals, Lighting, and Electrical Systems" of the SSS, SSP ES-4A, ES-4B, ES-5A, ES 5B, ES-5E, ES-8, the Standard Specifications, and these Special Provisions.

Each traffic counter station shall include the loop detector terminals and the wiring necessary to connect with the traffic counter. A Type E loop shall be installed in each lane of the roadway.

**1030-2      TRAFFIC COUNTER CABINET**

A Type M cabinet, 8L-4RT solar counter with lock, and auxiliary equipment shall be furnished and installed at each location by the Contractor. No electrical service or traffic signal equipment is required except chain and external loop cable; detector loops, loop detector terminals, #5 pullbox, DLC, terminal block and a wiring harness necessary to connect with a Vaman Trax III L traffic counter. Cabinet shelf spacing shall be 17 inches minimum. Cabinet locks shall be keyed to match existing County of Ventura Traffic Counter Cabinets. Contact the Agency Traffic Engineer, Mr. Richard Herrera, at (805) 654-2063 prior to ordering.

**1030-3      TRAFFIC COUNTER**

Traffic Counter shall be as manufactured by Jamar Technologies, Inc. TRAX-III Counter/Classifier model JT3-1024-4L/2 Rt. No substitutions are acceptable in order to be compatible with existing Agency traffic counters and to utilize existing Agency software.

**1030-4      MEASUREMENT AND PAYMENT**

Payment for Traffic Counter Station with Counter will be made as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, equipment, and incidentals

necessary to complete the work, including detector loops, ready for service in accordance with the Standard Specifications, the SSS, and these Special Provisions.

**1031 TRAFFIC SIGNAL LOOP DETECTOR REPLACEMENT**

**1031-1 SCOPE**

The work in this section consists of abandoning existing traffic signal loop detectors and installing new Type E Traffic Signal Loop Detectors.

All work shall be performed in accordance with Section 86, "Signals, Lighting, and Electrical Systems" of the SSS, applicable portions of SSP ES-5A, ES 5B, the Standard Specifications, and these Special Provisions.

Existing damaged loop detectors may be abandoned in place providing they do not interfere with new work.

**1031-2 MEASUREMENT AND PAYMENT**

Payment for Traffic Signal Loop Detector Replacement will be made as per the CTC®. Payment for detector loops used for traffic counters is included in the price paid for Traffic Counter Station. Such payment shall be considered full compensation for furnishing all labor, materials, equipment and incidentals necessary to complete the work.

**1032 STORM DRAIN AND SEWER MANHOLE ADJUSTMENT**

**1032-1 SCOPE**

This work in this section consists of adjusting storm drain and sewer manhole frames and covers of facilities maintained by the County of Ventura. Manhole frames and covers shall be adjusted to the finished asphalt concrete surface by the Contractor in accordance with 302-5.8 of the Standard Specifications and these Special Provisions.

**1032-2 MEASUREMENT AND PAYMENT**

Storm Drain and Sewer Manhole Adjustment will be as per the CTC®. Such payment shall be considered full compensation for furnishing all labor, materials, equipment and incidentals necessary to complete the work.

**1033 CENTRAL PLANT MIX RUBBERIZED EMULSION AGREGATE SLURRY (REAS)**

**1033-1 SCOPE**

These are approved changes by the Asphalt Task Force to the Editorial Standards revisions (Change 125NS)

This work shall consist of formulating a mix design, cleaning pavement surfaces, mixing and applying a crumb rubber asphalt slurry-seal surface treatment and protecting the completed slurry seal until set. All work shall be according to these special provisions, and as approved by the Engineer. Rubberized Emulsion Agregate Slurry shall be type II for each project.

**1033-2 MATERIAL**

Rubberized Polymer Modified Emulsion (RPME) shall conform to 203-3.4.5. The percentage of Rubberized Polymer Modified Emulsion (RPME) and residual RPME solids shall conform to table 203-5.5.2.2.(A)



TABLE 203-5.5.2.2 (A)

| Tests   | Test Method                                    | Type Fine |      | Type I |      | Type II |      | Type III |      |
|---|--|-----------|------|--------|------|---------|------|----------|------|
|   |  | Min.      | Max. | Min.   | Max. | Min.    | Max. | Min.     | Max. |
| RPME % by Weight of Dry of Aggregate <sup>1</sup> | ASTM D6307 <sup>2</sup> or CT 382 <sup>2</sup> | 61        | 85   | 50     | 57   | 33      | 40   | 28       | 35   |
| Residual RPME Solids <sup>3</sup>                 |  | 31        | 47   | 26     | 31   | 17      | 22   | 15       | 19   |

1. Must meet RPME Solids.

2. Sample size shall be 500g minimum.

3. Residual RPME Solids = RPME % (ASTM D6307 or CT 382) ÷ x Residue by Evaporation of RPME % (ASTM D6934).

Aggregate shall conform to 203-5 and water 203-3.2.

Rubberized Emulsion Aggregate Slurry (REAS) shall be a stable mixture of Rubberized Polymer Modified Emulsion (RPME), aggregate, water, and Portland cement. Materials for REAS shall conform to the following immediately before mixing.

The RPME shall consist of a mixture of an emulsified asphalt, crumb rubber, and latex. RPME shall contain between 0.55 lbs/gal (66 g/L) and 0.65 lbs/gal (78 g/L) of crumb rubber.

Polymer modifier shall be latex, and shall constitute a minimum of 2% of the weight of the RPME.

The crumb rubber material shall be granulated scrap tire rubber free from fabric wires and other contaminants. Rubber shall be dry and free flowing. Calcium carbonate or talc may be added to a maximum of 4% by dry weight of crumb rubber to prevent rubber particles from sticking together. Crumb rubber shall have a specific gravity of between 1.15 and 1.20. 100% of the crumb rubber shall pass the No. 16 (1.18mm) sieve, 95% shall pass the No. 20 sieve, and a minimum of 1% shall pass the No. 200 sieve.

The Manufacturers shall certify that the material meets the requirements of this specification and be within the ranges in **TABLE 203-3.4.4.2(A)**.

TABLE 203-3.4.4.2 (A)

| Tests  | ASTM Test Method | Requirement             |                         |
|--|------------------|-------------------------|-------------------------|
|  |                  | Min.                    | Max.                    |
| Viscosity, 77°F (25°C), Brookfield, Model RVT #6 Spindle @ 10 RPM (Centipoise) @ 60 sec. | D 2196           | 4,000                   | 12,000                  |
| Residue by Evaporation % (including fillers)   | D6934            | 50                      | 55                      |
| Sieve Test % retained on (No. 20), 850 µm  | D6933            | -----                   | 2.0 <sup>1</sup>        |
| Penetration of Residue, 77°F (25°C), 0.1 mm,   | D 5              | 15                      | 30                      |
| Solubility of Residue  | D 2042           | 75                      | -----                   |
| Weight lbs/gallon (g/L) 77°F ± 1°F (25°C ± 5°C)  | D 1475           | 8.33 lbs/gal (1,000g/L) | 8.75 lbs/gal (1,050g/L) |
| Asphalt Content <sup>2</sup>   | -----            | 40                      | -----                   |

1. Sieve test of original emulsion is 0.10 max.

2. Asphalt Content shall be determined by multiplying Residue by Evaporation by Solubility of Residue.

Test reports and certification shall conform to 203-1.3.

Emulsified asphalt may be reheated, but at no time after loading for transportation from the refinery to the purchaser shall the temperature of the emulsion be raised above 160°F (70°C). During reheating, emulsified asphalt shall be agitated to prevent localized overheating. Emulsified asphalt shall not be permitted to cool to a temperature less than 40°F (5°C).

Unless otherwise specified in the special provisions, emulsified asphalt shall be mixed and applied within the temperature range specified in **TABLE 203-3.6(A)**

TABLE 203-3.6 (A)

| Grade of Emulsified Asphalt | Pug Mill Mixing Temperature<br>(°F (°C)) |          | Application Temperature<br>(°F (°C)) |          |
|-----------------------------|--|----------|--------------------------------------|----------|
|                             | Min.                                     | Max.     | Min.                                 | Max.     |
| CQS-1h                      | 50 (10)                                  | 130 (55) | 77 (25)                              | 130 (55) |
| RS-1, CRS-1                 |  |          | 77 (25)                              | 130 (55) |
| RS-2, CRS-2                 |  |          | 110 (45)                             | 160 (70) |
| SS-1, CSS-1                 | 50 (10)                                  | 130 (55) | 77 (25)                              | 130 (55) |
| SS-1h, CSS-1h               | 50 (10)                                  | 130 (55) | 77 (25)                              | 130 (55) |
| CMS-2, CMS-2S, CMS-2h       | 50 (10)                                  | 140 (60) | 100 (40)                             | 160 (70) |
| RPME                        | 60 (15)                                  | 140 (60) | -----                                | -----    |

Emulsified asphalt shall be heated in such a manner that no steam or hot oils will be introduced. The contractor shall furnish and keep on the work site an accurate thermometer suitable for determining the temperature.

Distribution equipment shall conform to 203-2.5 except that spraying by means of hose or bar through a gear pump or air tank is acceptable for application rates up to 0.10 gal/yd<sup>2</sup> for flat work or tacking of vertical edges. Uniform coverage is required.

For volumetric quantities, the unit of measure shall be the U.S. gallon at a temperature of 60°F (15°C).

In converting weight to volume, computations shall be based on the following, for all grades of emulsified asphalt except RPME

Gallons per ton = 240 (Liters per Tonne = 1,002)

Pounds per gallon = 8.33 (Liters per Tonne = 998)

For RPME:

Gallons per ton = 235 (Liters per Tonne = 962)

Pounds per gallon = 8.5 (Liters per Tonne = 1,018)

Portland cement may be added to modify the viscosity and curing characteristics in conformance with the accepted mix design.

Portland cement shall be type I/II or II/V conforming to 201-1.2.1 and shall not exceed 1.5 percent of the dry weight of the aggregate.

Central plant mixing shall conform to the following requirements:

- A. Component materials conforming to 203-5.5.2 shall be stored separately at the plant.
- B. Aggregate shall not be stored nor transported in such a way that may cause segregation, degradation, or intermingling of different size aggregates.
- C. Materials shall be proportioned by weight into a mix tank equipped with scales. Volumetric proportioning will not be permitted. The zero tolerance for the mix tank scales be 0.5% based on the total batch weight. The scales shall be calibrated and certified on a yearly basis in accordance with 4-1.7 or after any modification or repair.
- D. The mix tank shall be equipped with a full seweeep mixer/ agitator equipped with blades or paddles of sufficient size and number and operated at a sufficient speed to produce a homogenous mix. Should the blades or paddles or other parts of the mixer become worn to such an extent that it adversely affects the quality of the mix, they shall promptly be replaced. Dead areas in the mixer shall be corrected by either a reduction in voume of the material or other adjustment.
- E. Each batch of REAS shall be continuously until all of the component materials are thoroughly blended. The minimum mixing time shall be 3 minutes, beginning with the last component material. If the Engineer determines that the mixture is not thoroughly blended, the mixing time shall be increased.
- F. Mixed REAS shall be stored on the plant site in storage tanks equipped with a agitator of a similar configuration to the mixing plant. The agitator shall be capable of full-time operation.

Central mixed slurry seals (REAS) shall be transported from the central mixing plant to the work site in delivery vehicles specifically designed for this purpose. Delivery vehicles shall be equipped with an agitator. REAS shall be continuously agitated during transport and spreading. The spreader truck shall have provisions for water spraying and quick attachment to the spreader box.

**Payment Reduction for Non-compliance**

Payment to the contractor will be reduced for failure to conform to the Wet Tract Abrasion Test (WTAT) requirements specified in 302-4.12.1.2.

**Reduction in Payment Based on WTAT**

If the average of all WTATs performed per mixer, per day, fails to conform to the requirements specified in 302-4.10.1, the contractor agrees that payment for the work represented by the failed tests shall be reduced as shown in **TABLE 302-4.12.1.2(A) or (B)**.

**TABLE 302-4.12.1.2 (A)**

| WTAT Loss gm/ft <sup>2</sup> (gm/m <sup>2</sup> ) | Payment Reduction (Percent)<br>Type Fine and I Aggregate |
|---|--|
| 0 – 50 (0 – 540)                                  | 0  |
| 50.1 – 60 (540.1 – 650)                           | 5  |
| 60.1 – 70 (650.1 – 750)                           | 15   |
| 70.1 – 80 (750.1 – 860)                           | 30   |
| 80.1 – 99 (860.1 – 1070)                          | 70   |
| 99.1 or greater (1070.1 or greater <sup>1</sup> ) | 100  |

1. Slurry Seal Surfacing with WTAT loss greater than 99.1 gm/m<sup>2</sup> (1070.1 gm/ft<sup>2</sup>) shall be removed to the satisfaction of the Engineer.

**TABLE 302-4.12.1.2 (B)**

| WTAT Loss gm/ft <sup>2</sup> (gm/m <sup>2</sup> ) | Payment Reduction (Percent)<br>Type II and III Aggregate |
|---|--|
| 0 – 50 (0 – 540)                                  | 0  |
| 50.1 – 60 (540.1 – 650)                           | 5  |
| 60.1 – 70 (650.1 – 750)                           | 15   |
| 70.1 – 80 (750.1 – 860)                           | 30   |
| 80.1 – 99 (860.1 – 1070)                          | 70   |
| 99.1 or greater (1070.1 or greater <sup>1</sup> ) | 100  |

1. Slurry Seal Surfacing with WTAT loss greater than 99.1 gm/m<sup>2</sup> (1070.1 gm/ft<sup>2</sup>) shall be removed to the satisfaction of the Engineer.

Before applying slurry, the contractor shall clean the surface to be sealed, and remove all paint and thermoplastic stripings, markings and legends, unless otherwise specified.

The contractor shall protect all existing manhole, valve, survey monument, storm drain inlet and other miscellaneous frames and covers. The Contractor shall cooperate with the owners of any frames and covers and shall cover and completely protect them with heavy roofing paper or other suitable material. Petroleum-based release agents shall not be used for this purpose.

Public Convenience and Traffic Control shall conform to section 302-4.3.3 and to these special provisions.

**1033-3 MEASUREMENT AND PAYMENT**

The price paid for “**Central Plant Mix Type II Rubberized Emulsion Aggregate Slurry (REAS)**” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to apply the REAS as specified in the VCJOS and these Special Provisions, and no additional compensation will be allowed therefore. Any cleanup work due to application of emulsion or tracking caused by any vehicles or equipment shall be at the contractors expense. **Payment reduction for noncompliance shall conform to 302-12.1.1 and 302-4.12.1.2 of the VCJOS.**

## 1034 ASPHALT RUBBER AGGREGATE MEMBRANE (ARAM)

### 1034-1 SCOPE

Asphalt Rubber Aggregate Membrane (ARAM) shall conform to SSPWC 302-10 except as modified herein.

The Contractor shall provide to the project a qualified supervisor, highly experienced and fully knowledgeable in all aspects of asphalt-rubber construction. This supervisor shall be in direct control of all asphalt-rubber work, and shall be available at the project site on a continuous basis for consultation and to respond to directives for the Engineer, during all periods of this work.

Asphalt rubber shall conform to 203-11, Asphalt Rubber Hot Mix (ARHM) Wet Process, of the SSPWC.

At least two weeks prior to construction, the Contractor shall supply the Engineer with mix proportions, a formula for the production of asphalt rubber binder, and the individual raw components of the asphalt rubber binder to verify conformance to the specifications for AR4000, modifier, natural rubber and tire crumb rubber.

### 1034-2 ROCK PRODUCT SCREENINGS

The Screenings shall conform to 203-12.2.2, of the SSPWC except modified herein. The screenings shall also meet the following requirements:

| Tests                      | Test Method No. |    | Requirements |
|----------------------------|-----------------|----|--------------|
| Percentage Wear (100 rev.) | ASTM C 131      | 10 | Maximum      |
| Percentage Wear (500 rev.) | ASTM C 131      | 40 | Maximum      |
| Film Stripping             | Calif. 302      | 25 | Maximum      |
| Cleanness Value            | Calif. 227      | 80 | Minimum      |

Aggregate for screenings shall be coarse (1/2-inch) or medium (3/8-inch). Selection of aggregate will be determined by the Engineer predicated upon field and traffic conditions.

Screening shall be spread at a uniform rate over the full width of a traffic lane in one application. The spreader shall be capable of reducing the aggregate spreading width to accommodate variable width.

Screenings shall be applied at a temperature between 260 degrees (F) and 325 degrees (F) and at a rate of 30-40 lbs per square yard.

All joint edges shall be swept clean of excess screenings prior to the adjacent application of asphalt-rubber material. Precautions shall be taken to avoid "skips" and "overlaps" at joints and to protect the surfaces of adjacent structures from being splattered or marred.

All transverse cold joints shall be made by placing building paper over the ends of the previous applications of concrete joints, and the joining applications shall start and end on the building paper. The paper shall be removed and disposed of as required by 7-8.1 of the SSPWC.

Hot joints shall be made utilizing a squeegee man between the boot truck and the aggregate spreader to spread out or rake off overlaps or excess applications of the asphalt-rubber binder. The longitudinal joints between adjacent applications of screening shall coincide with the line between designated traffic lanes.

After completion of rolling, and a primary brooming, traffic will be permitted to travel over the aggregate surface of the ARAM inter layer if necessary. Guide vehicles may be used to limit traffic speeds on the aggregate surface to 15 mph for a period of 1 to 2 hours as determined by the Engineer.

Within 24 hours after placement, the Contractor shall also start removing loose aggregate and shall continue daily until all excess or loose aggregate is removed from the roadway surface and abutting right-of-way. The aggregate shall be disposed of by the Contractor at no cost to the Agency.

The completed surface shall present a uniform appearance and shall be thoroughly compacted, and free from ruts, humps, depressions or irregularities due to an uneven distribution of asphalt-rubber or screenings.

#### 1034-3 ASPHALT-RUBBER APPLICATION

The asphalt-rubber shall conform to 302-10, Application of the SSPWC except modified herein.

Asphalt-Rubber shall be applied at a temperature between 350 degrees (F) to 425 degrees (F). Application shall not take place when rain is predicted within the next 8 hours. Application should be stopped before the distribution tank is empty to assure designated application. Application of asphalt-rubber shall be discontinued sufficiently early in the day to permit the termination of traffic control prior to darkness.

#### 1034-4 PAYMENT

Asphalt Rubber Aggregate Membrane (ARAM) will be paid as per the CTC®. Such payment shall be considered full compensation for furnishing and placing all materials, labor, equipment, tools, incidentals, sweeping, and sanding if necessary and for doing all the work needed to complete the asphalt-rubber aggregate membrane (ARAM).

### 1035 TYPE II SLURRY SEAL STREET RESURFACING

#### 1035-1 SCOPE

Construction shall conform to 203-5 and 302-4 of the SSPWC, except as modified herein. Streets shall be opened by 3:30 pm and contractor shall maintain traffic circulation in neighborhood.

#### 1035-2 PREPARATION

Prior to sealing each street, the Contractor shall verify that each street to be sealed has been "approved for sealing" by the Inspector. In order for the street to be approved for sealing the Contractor shall ensure the following requirements have been performed by the Contractor to the Inspector's satisfaction:

- A. All thermoplastic markings, painted markings and pavement markers have been removed in accordance with the following requirements:
  - 1. All existing painted or thermoplastic traffic stripes and pavement markings within areas to receive slurry seal shall be removed prior to sealing operations, unless indicated otherwise on the Plans.
  - 2. Removal of existing painted or thermoplastic striping/markings shall be performed by grinding. Removal shall be to the satisfaction of the Inspector.
  - 3. Immediately following the removal of existing pavement striping/markings and pavement markers, the Contractor shall clean and sweep roadways and on-site paved areas to eliminate all materials attributed to or involved with removal operations. All materials shall be removed from the roadway prior to the end of each working day or as directed by the Inspector. The Contractor shall not use water to flush down streets in place of street sweeping.

#### 1035-3 MATERIALS

Emulsion - aggregate slurry shall be Type II. The amount and type of accelerator used shall be submitted to and approved in advance by the County Engineer. Emulsified asphalt shall be Polymer modified quick-set type PM-CQS-1h.

Prior to a change of emulsion, Contractor shall thoroughly clean all emulsion tanks and mixing units to prevent any chemical reaction between the two emulsions.

Contractor shall schedule and coordinate the delivery of aggregate to the stockpile(s) such that: (1)

deliveries originate at the plant and arrive at the stockpile site within normal work hours on the same calendar day, (2) delivery site and project name are explicitly stated on each delivery ticket. Polymer Modified Emulsion-aggregate slurry shall conform to Table 1016.

Asphalt emulsions shall be composed of a paving asphalt base uniformly emulsified with water and an emulsifying or stabilizing agent. Polymer modified asphalt emulsions shall also contain a polymer.

The asphalt emulsion shall be homogeneous. Within 30 days after delivery and provided separation has not been caused by freezing, the asphalt emulsion shall be homogeneous after thorough mixing. The polymer used in the manufacture of polymer modified asphaltic emulsion shall be, at the option of the Contractor, either neoprene, ethylene vinyl acetate, or a blend of butadiene and styrene.

The emulsion supplier shall certify that the asphalt residue contains at least 2.5 percent polymer (dry weight) and that the polymer has either been added as a solid polymer to the base asphalt, or has been added in the form of a latex at the time of emulsion manufacture.

Polymer modified emulsified asphalt shall be kept in a suspended state by an agitating mixer operated every 3 days.

TABLE 1017

Requirements for Polymer Modified Cationic Quick Setting Emulsions (PMCQS1h)

| <u>Properties</u>                      | <u>Min.</u> | <u>Max.</u> |
|--|-------------|-------------|
| Tests on Emulsions                     |             |             |
| Viscosity SSF, @ 77°F                  | 15.0        | 90.0        |
| Sieve Test, %                          | ----        | 0.3         |
| Storage Stability, 1 day, %            | ----        | 1.0         |
| Residue by Evaporation                 | 57.0        | ---         |
| Particle Charge                        | Positive    | ---         |
| Tests on Residue from Evaporation Test | 40.0        | 90.0        |
| Penetration, 77° F                     | 40.0        | ----        |
| Ductility, 77° F, cm                   | 2,250.0     | ----        |
| Absolute Viscosity @ 140° F, poise     | 97.0        | ----        |
| Solubility in Trichloroethylene        |             |             |
| Quantitative Test for Polymer Content  |             |             |
| Either;                                | 18.0        | ----        |
| Torsional Recovery, %                  |             |             |
| or                                     | 2.5         | 3.0         |
| Polymer Content in Residue, wt %       |             |             |

A certification of compliance shall be provided at least 48 hours prior to delivery of emulsion to the project.

#### 1035-4 EQUIPMENT

The Contractor shall furnish and continuously operate a minimum of two (2) trucks, with an additional truck available as backup, with approximately fourteen (14) ton capacity, for each scheduled workday.

Prior to the beginning of slurry operations, Contractor shall furnish, at no additional cost to the Agency, a licensed weighmaster's certificate indicating the tare and loaded weight capacity for each truck. The certificate shall be dated no more than 60 days prior to construction.

The Slurry Spreader Box shall be equipped with a steering device and suitable drag to erase ridges. The drag rubber shall be new at the beginning of the contract and shall be maintained in a good state of repair throughout the contract. A minimum 2-foot length of burlap material shall be attached to the entire width of the drag.

Continuous flow mixers shall conform to SSPWC 302-4.2.2. and shall be equipped with a fines feeder for addition of accelerator and a thermometer for indicating emulsion temperature.

Street sweepers for pre-slurry application cleaning shall be air-vacuum type approved in advance by the Agency. Post application cleaning may be performed by broom type sweepers approved in advance by the Agency.

Support equipment such as front-end loaders and emulsion storage tank shall be in good working order and sized adequately to maintain the slurry seal work without interruption. Emulsion storage tank shall have a thermometer for indicating emulsion temperature.

#### 1035-5 APPLICATION

Except where otherwise indicated herein slurry seal application shall be in accordance with SSPWC 302-4.3. The contractor shall arrange for appropriate areas for stockpiling and batching. The stockpile site shall be approved by the County Engineer.

Any damage done to these areas as determined by the Agency shall be corrected by the Contractor to the satisfaction of the Agency prior to final payment.

Slurry seal shall be placed only when the ambient temperature is above 50 degrees and rising. No slurry will be placed during inclement weather or the threat thereof. Contractor shall bear the responsibility of cancellation of work on these days and shall be responsible for any damages which may arise from non-cancellation.

Each slurry crew shall be composed of a coordinator at the project site at all times, a competent quick-set mixing man, a competent driver, sufficient traffic control personnel and sufficient laborers for any handwork and cleanup.

In areas with existing asphalt curbs, the slurry application shall include the entire curb.

When necessary to provide vehicular or pedestrian crossing over the fresh slurry, the Agency will direct the Contractor to spread sufficient sand or rock dust on the affected area to eliminate tracking or damage to the slurry. Sand or rock dust used for this purpose shall be at the Contractor's expense. Slurry aggregate is not acceptable for this application. The texture and appearance of the sanded areas shall sufficiently match adjacent work or the area shall be repaired as required by the Agency at the Contractor's expense.

Contractor shall provide barricades and other traffic control devices as necessary to eliminate traffic on areas of fresh slurry that might sustain damage from such traffic. Any tracking of slurry seal on private property will be the responsibility of the Contractor to correct.

The cost of cleanup and/or damage caused by vehicles tracking through the slurry seal shall be borne solely by the Contractor.

Slurry shall be applied with an overlap of the concrete gutter of 2" (two inches). Any slurry material exceeding the 2" shall be removed by the contractor prior to completion of the project. The overlap dimension of the longitudinal lap joint shall not exceed 6" (six inches) unless directed otherwise by the Agency. Where the completed slurry is not uniform in color, the street shall be treated to eliminate the color variation at the Contractor's expense.

The Contractor shall sweep all streets including gutters after slurry application.

At least five (5) working days prior to commencement of work and prior to issuing notifications to property owners, Contractor shall perform test sections for review and approval by the Agency for each type of slurry to be used in the contract. The area of the test sections shall be at least 5,000 square feet. The test section locations shall be in the area of the work. The test section locations shall be in the area of the work and shall be completed prior to 11:00 a.m. to allow for minimum delay of test results. Test section locations shall be approved by the Engineer prior to placing slurry.

The Contractor shall not begin slurry application until the test sections have received written approval by the Agency. The approved mix design and test section results shall determine the mixing parameters for this project.

Payment will be as per the CTC®. The price shall include full compensation for furnishing, mixing and spreading dry aggregate, emulsion, polymer as specified, accelerator and water, and all preparation, traffic control, and other incidentals described in the work and no additional compensation will be made. If the Contractor has excessive waste, the Agency will deduct the amount of excess slurry from the total contract amount.

## 1036 POLYMER-MODIFIED EMULSIFIED ASPHALT PAVING SYSTEM (MICRO SURFACING)

### 1036.1 DESCRIPTION—

This work is the construction of a polymer-modified emulsified asphalt paving system, commonly known as micro-surfacing, to fill ruts and/or resurface existing pavements. Micro-surfacing material is classified into three mix types as follows:

(a) **Type A.** Used to seal cracks, fill voids and shallow (less than 13 mm (1/2 inch)) ruts, and provide a scratch course or surface seal. Use a double application, when specified, to meet total design kg/m<sup>2</sup> (pounds per square yard) for surface courses.

(b) **Type B.** Used to fill moderate (13 mm to 32 mm (1/2 inch to 1 1/4 inch)) ruts; and provide a scratch course, a leveling course, a seal coat, or a surface treatment. Use a double application, when specified, to meet total design kg/m<sup>2</sup> (pounds per square yard) for surface courses.

(c) **Type Rut Fill (RF).** Used to fill deep (up to 50 mm (2 inch)) ruts in a single pass.

### 1036.2 MATERIAL—

(a) **Bituminous Material.** Class CSS-1hPM (E-8CPM) as specified in Bulletin 25. Obtain material from an approved producer and source listed in Bulletin 15 and provide quality control testing and certification as specified in Sections 106.03(b) and 702.1(b)1.

1. Polymer Modifier. Provide a latex based modifier capable of making a micro-surfacing mix which cures fast enough to allow traffic to be placed on the pavement within 1 hour, without damaging the surface.

(b) **Aggregate.** Provide coarse or fine aggregates from sources listed in Bulletin 14. Provide fine aggregate Type B or better meeting the quality requirements of Table A, Section 703.1(c) and coarse aggregates meeting the quality requirements of Table B, Section 703.2(a). The final gradation must meet the final gradation specified in Table A of this specification. For wearing courses, provide aggregate with at least the SRL designation specified. To achieve the specified SRL, the Contractor may provide a blend of two aggregates if the blend has an SRL designation equal to or better than that specified. Blends are 50% by mass (weight) of each aggregate. Blend the aggregates using an approved method.

(c) **Filler.** Supply filler, when required to maintain the percent by mass (weight) passing the 75 µm (No. 200) sieve, as specified in Section 703.1(c)1 consisting of any approved, non-air entrained, Type 1, Portland cement free of lumps.

(d) **Water.** Section 720.2 and free of harmful soluble salts.

(e) **Other Additives.** Supplied by the manufacturer to control mix set time in the field due to varying ambient environmental conditions.

(f) **Mixture Composition.** Size, uniformly grade, and combine aggregate fractions in such proportions that the total aggregate and filler in the JMF conform to the composition by mass (weight) percentages specified in Table

A. Perform the tests identified in Table B for each mix design and provide the test results to document each mix design's characteristics.

Submit a certified mix design(s) using a Micro-Surfacing Mix Design and Materials Analysis form TR-483 to the District Materials Engineer/District Materials Manager (DME/DMM) at least 2 weeks before its use in the work. Clearly show for each mix design the proportions of aggregate, filler, percent polymer-modified emulsified asphalt and asphalt residue, based on the dry mass (weight) of the aggregate, and the design cure time. Ensure that all of the materials used in the mix design represent the materials



proposed for use on the project. If minor adjustments are required during construction, based on field conditions, provide the changes in writing to the Representative.

QC Plan. Prepare a QC plan, as specified in section 106, and submit it for review at the start of the project and at least annually thereafter. Include the number of applications and the mix design used with each application in the QC Plan. Do not start work until the QC Plan has been submitted. When unsatisfactory results or other conditions make it necessary, a new JMF may be required. If a change in sources of material is made, submit a revised JMF to the DME/DMM before using any new material. Uniformity. Produce each mix type within the ranges specified in Table C.

**Table A**

| SIEVE SIZE         | COMPOSITION, TOTAL PERCENT BY MASS (WEIGHT PASSING) |          |          |
|--------------------|---|----------|----------|
|                    | TYPE A  | TYPE B   | TYPE RF  |
| 12.5 mm (1/2 inch) | 100   | 100      | 100      |
| 9.5 mm (3/8 inch)  | 100   | 95 – 100 | 90 – 100 |
| 4.75 mm (No. 4)    | 85 – 100  | 65 – 85  | 55 – 75  |
| 2.36 mm (No. 8)    | 50 – 75   | 46 – 65  | 40 – 55  |
| 1.18 mm (No. 16)   | 40 – 65   | 28 – 45  | 24 – 40  |
| 600 µm (No. 30)    | 25 – 45   | 19 – 34  | 19 – 34  |
| 300 µm (No. 50)    | 13 – 25   | 10 – 23  | 10 – 20  |
| 75 µm (No. 200)    | 5 – 15  | 5 – 15   | 5 – 15   |

Note: Material finer than the 75 µm (No. 200) sieve will be determined as per PTM No. 100.

**Table B**

| MICRO-SURFACING MIX DESIGN PROPERTIES |   |   |
|---------------------------------------|---|---|
| Property                              | Test Method                                       | Test Requirements   |
| Wet Cohesion:                         | ISSA TB 139 30 Minutes<br>ISSA TB 139 60 Minutes  | 12 kg-cm min 20 kg-cm min or near spin  |
| Wet Track Abrasion Loss:              | ISSA TB 100 1 Hour Soak<br>ISSA TB 100 6 Day Soak | 538 g/m <sup>2</sup> (50 g/ft <sup>2</sup> ) max 807 g/m <sup>2</sup> (75 g/ft <sup>2</sup> ) max |
| Mix Time:                             | ISSA TB 113                                       | 120 seconds min   |
| Classification of Compatibility:      | ISSA TB 144                                       | 11 grade points min   |
| Wet Stripping:                        | ISSA TB 114                                       | Pass (90% min)  |
| Loaded Wheel Test:                    | ISSA TB 147                                       | Vertical 10% max, Lateral 5% max  |

**Note:** Provide aggregate with a minimum sand equivalency of 65 as determined by AASHTO T 176. If the sand equivalency is  $\geq 65$ , the aggregate may be approved as long as the Plasticity Index (PI) is zero. Test the PI as per AASHTO T 90 and meets the methyl blue test.

**Table C**

| MIX TYPE | MINIMUM SURFACING APPLICATION THICKNESS (mm (inch)) | ASPHALT RESIDUE (% by Mass (Weight) of Aggregate) | SINGLE APPLICATION RATE (kg/m <sup>2</sup> (Pounds per Square Yard)) | DOUBLE APPLICATION RATE (kg/m <sup>2</sup> (Pounds per Square Yard)) |
|----------|---|---|--|--|
| A        | 6 (1/4)   | 6.0 - 8.5   | 14-16 (25-30)  | 19-22 (35-40)  |
| B        | 9.5 (3/8)   | 5.5 - 7.5   | 19 - 22 (35- 40)   | 22 - 30 (40- 55)   |
| RF       | N/A   | 5.5-7.5   | 12-21 (22-38)  |  |

Note A: Provide mix set additive for each mix type as required.

Note B: Filler for each mix type to be from 1% to 2%± 0.5% by mass (weight) of dry aggregate depending on weather conditions.

Note C: It is permissible to increase asphalt content for slag and other absorptive aggregates at the discretion of the DME/DMM.

**(g) Mixture Acceptance.** Provide a certified calibration sheet for the mixing equipment for each mix design to be used within 60 days before its use on the project. Record mixing equipment meter readings of material control devices on a Run Sheet, daily, for mix design. Calculate the percent cement, total emulsion, asphalt residue based on the dry mass (weight) of the aggregate, and the yield per square

meter (square yard).

Certify the mixture composition and application rate based on quality control testing. Certify mixtures and each shipment of material delivered to the job site as specified.

**(h) Bituminous Tack Coat.** Section 302-5.4

**(i) Certification.** Section 4-1.5 Certify each shipment of material delivered to the job site.

### 1036.3 CONSTRUCTION-

**(a) Pre-placement Meeting.** Hold a pre-placement meeting on site or at a location that is acceptable to the Representative with both Contractor and Ventura County personnel present before placing any material on the project. Identify any areas of concern in the pavement that may show any signs of fatigue or excessive rutting at the pre-placement meeting. Also review the Specification, QC Plan, source of supply list, and the Aggregate Delivery Plan. It may be necessary to hold more than one pre-placement meeting on larger projects with multiple State Routes.

**(b) Weather Limitations.** Apply when entire surface is in a condition to allow satisfactory penetration and adhesion and the atmospheric temperature is 10° C (50F) minimum during the entire placement. Under no circumstances will the 10° C (50F) minimum temperature requirement to be waived even for night work. Do not apply mixture if rain is imminent or if freezing temperatures are expected within 24 hours after application. Remove and replace rained on mixture before it sets. Do not apply from September 16 to April 30 in Districts 1-0, 2-0, 3-0, 4-0, 9-0, 10-0, 11-0, 12-0, and 5-0 (Monroe, Carbon, and Schuylkill Counties only) and from October 1 to April 30 in Districts 6-0, 8-0, and 5-0 (Berks, Lehigh, and Northampton Counties only).

**(c) Aggregate Delivery Plan.** Before the start of work, submit an Aggregate Delivery Plan to the DME/DMM for approval. Include in the plan the number of trucks that will be used to haul aggregates to the micro-surfacing machine in order to keep it moving continuously to limit starting and stopping.

All aggregates being delivered to the micro-surfacing machine must be screened directly into the truck.

All screening plants must be equipped with a scalping screen with a 9.5mm (3/8 inch) maximum square opening for Type A and with a 12.5 mm (1/2 inch) maximum square opening for Type B and Type RF.

**(d) Mixing Equipment.** Produce mixture in a self-propelled, front feed, continuous-loading mixing machine equipped with a chain-dragged conveyor belt aggregate delivery system interconnected with a positive displacement, water-jacketed gear pump to accurately proportion ingredients. Truck mounted units may be allowed on projects less than 16,725 m<sup>2</sup> (20,000 square yards) except for limited access highways and for all municipal projects. Locate filler feed so that the proper amount of cement is coating the aggregate before charging into the mixer. Provide a spray bar to completely wet the aggregate dropping down into the pug mill with additive and water. Provide a continuous-flow, twin shafted, multi-bladed pug mill at least 1.27 m (50 inches) long. Introduce polymer-modified emulsified asphalt beyond the first quarter point of the mixer to ensure thorough mixing of aggregate, cement, additive, and water before polymer-modified emulsified asphalt is added. Meet manufacturer's recommendations for blade size and side clearance. Provide readily accessible material control devices, placed so that the Inspector is able to determine the amount of each material being used at any time. Calibrate each material control device before production of each mix type. Equip the machine with a water pressure system and nozzle spray bar to provide a water spray ahead of and outside the spreader box, when required.

**(e) Spreading Equipment.** Spread the mixture uniformly by means of a mechanical type squeegee box attached to the mixer and equipped with paddles mounted on adjustable shafts to continually agitate and distribute the material throughout the box. Provide sufficient turbulence to prevent the mix from setting up in the box, forming excessive side build-up, or forming lumps. Attach flexible front and rear seals, in contact with the road, to prevent loss of mixture from the box. Furnish rut filling equipment with movable steel strike-off bar. Operate spreading equipment to prevent loss of the mixture on super elevated curves and to leave a uniform, skid-resistant application of aggregate and asphalt on the surface. Operate spreading equipment to achieve a uniform consistency without skips, lumps, or tears in the finished surface.

**(f) Conditioning of Existing Surface.** Immediately before placing mixture, clean the surface of vegetation, loose materials, dirt, mud, and other objectionable items. Ensure epoxy pavement markings and legends are completely removed before placing any mixture. Before placing mixture on existing concrete surfaces, apply tack coat over the entire area as specified in VCJOS. Do not apply tack coat on existing asphalt surfaces. Apply water to dampen entire surface immediately before placing mixture.

**(g) Spreading and Finishing.** : Spread the mixture to seal cracks, fill voids and to leave a uniform surface. When filling ruts, take care to restore the designed profile of the pavement cross section. Avoid excess crowning (over filling) of rutted areas. Use squeegees and lutes in areas inaccessible to the spreader box.

Carry a sufficient amount of material at all times, in all parts of the spreader box, to obtain complete coverage. Water may be sprayed into the spreader box, to facilitate spreading, without harming the mix. Lumps, balls, or unmixed aggregate in the finished surface is not allowed.

Adjustments to the additive may be required to slow mixture set time where hand spreading is needed. When hand spreading; pour mixture in a small windrow along one edge of the surface to be covered and spread uniformly by hand, squeegee, or lute.

Make a neat seam where two passes join. Immediately remove excess material from the ends of each run.

**General Requirements.** Ensure mixture properly sets within one hour of placement. If mixture takes longer than one hour to properly set, the Representative will give the Contractor a warning and an opportunity to immediately correct mixture application and set time. If the mixture takes longer than one hour and twenty minutes to properly set, stop placement operations immediately.

**Mixture Set Time.** Remove and replace mixture if mixture set time takes longer than one hour and twenty minutes. Mixture is considered to be set when any excess bleed water is clear.

**(h) Compaction.** Before opening to traffic, compact as specified in the VCJOS. Roll the entire surface area of the placed mixture. On a double application, roll the entire surface area of the placed mixture for each application.

**(i) Sampling and Testing.** At least 2 weeks before the start of work, perform acceptance testing of the aggregates. Sample the aggregates from stockpiles designated and constructed for each mixture type and each project. Obtain a minimum sample size of 1.5 kg (3 pounds) using guidelines for stockpile sampling specified in PTM No. 607. Passing aggregate acceptance test results are required before placement of the mixture. All acceptance samples will be obtained and all acceptance tests will be performed by a PENNDOT certified aggregate technician in accordance with PTM No. 616 and PTM No. 100 using the following frequency:

**When the projected quantity of aggregate for the specified mixture type is less than 450 tonne (500 tons).** The entire quantity will be designated as one lot and divided into three equal sub-lots for sampling. Obtain a sample from each sub-lot. One of the three sub-lot samples will be randomly selected by the Representative and tested for compliance with Table A. If the sample tested meets the specification, the entire lot will be considered acceptable for delivery to the designed project. If the sample fails, the remaining two samples will be tested and the Representative will determine the percent within limits (PWL) according to the VCJOS. If results indicate a PWL for the material less than 90, the Representative will reject the stockpile. After the entire rejected lot has been blended, screened, or replaced, retesting for acceptance of the aggregate will be performed. When retesting is performed, all sub-lot samples will be tested in accordance to the VCJOS. All acceptance testing will be performed by a certified aggregate technician. All test results will be recorded on a TR-4126A aggregate report form.

**When the projected quantity of aggregate for the specified mixture type is 450 tonne (500 tons) or greater.** The aggregates will be divided into equal lots at the discretion of the aggregate supplier, but in no case will the lot exceed 907 tonne (1000 tons). Each lot will be divided into three equal sub-lots. Obtain a sample for each sub-lot. All three samples for each lot will be tested and the Representative will determine the percent within limits (PWL) according to the VCJOS. If results indicate a PWL for the material less than 90, the Representative will reject the stockpile. If the test results for each lot meets the specification and are in compliance with Table A, the entire lot is acceptable for shipment to the project. If the test results fail to meet the specifications, the lot will be rejected. Retesting for lot acceptance will be performed as described above. All acceptance testing will be performed by a certified aggregate technician. All test results will be recorded on a TR-4126A aggregate report form.

**(j) Blending Aggregates on the Project.** Requests to blend aggregates on the project to meet gradation requirements from Table A and the method of blending must be approved in writing by the DME/DMM before the start of work. Include on the QC Plan a detailed description of equipment used to blend aggregates, a list of supplier codes for aggregates being blended, and the percentages of each aggregate being blended. Set up a portable laboratory at the blending site equipped to perform PTM No. 616 and PTM No. 100 tests for acceptance of aggregates on the project. The Contractor's aggregate technician must be a certified aggregate technician before performing any aggregate testing at the

staging area. Aggregates will be accepted as specified in the VCJOS. Provide aggregate for use in all mixture Types including each application of a double application of a mixture Type having the SRL designation indicated in the bid proposal. An aggregate designation or blends, equal to or better than that specified, may be supplied.

**(k) Test Strip.** On the first day of work the Representative will identify a location to perform the test strip. The test strip will be prohibited on a limited access highway. Construct a test strip to demonstrate the mixture's ability to be laid in multiple stone thicknesses and to be opened to traffic within one hour after placement. Construct the test strip in the same manner and condition as required on the project. Construct the test strip over one-full lane width and between 30 m (100 feet) and 150 m (550 feet) long. Apply the mixture at an application rate representative of the application rate for the project. Test the mixture in accordance with ISSA Test Method TB 102 in the presence of the Representative. The Representative will evaluate and approve the test strip based on its ability to be opened to traffic within one hour and on its ability to have a clear water set time of 10 minutes, maximum, as determined by ISSA Test Method TB 102.

Do not continue with the work until the representative has approved the test strip. The Representative does not have the authority to waive or eliminate the test strip requirement. If this work is to be performed a test strip is mandatory. The test strip will be payable as per the CTC®.

**(l) Defective Work.** As specified in Section 105.12 and as follows:

Unless otherwise directed in writing by the District Executive, satisfactorily correct pavement not meeting the following criteria:

**1. Application Rate.** Calculate yield at the end of each day's application. Areas where application rates deviate from the acceptable ranges in Table C will be considered defective work. Failure to meet the acceptable ranges in Table C will require an additional minimum  $8.14 \text{ kg/m}^2$  (15 pounds per square yard) application or the Inspector, with the concurrence of the Chief Engineer, may allow the Contractor to leave the defective lot in place. The Department will pay for the defective lot at 50% of the contract unit price.

**2. Finished Surface.** Provide a finished, uniform surface texture meeting the following requirements:

No areas of excess asphalt (flushing) greater than 5% of the finished surface area. Areas of excess asphalt are characterized by a smooth, shiny surface that may be tacky to the touch. Bleeding at joints is not allowed.

No tear and/or drag marks greater than 25 mm (1 inch) wide and 75 mm (3 inches) long.

No more than 12 tear and/or drag marks greater than 13 mm (1/2 inch) wide and 100 mm (4 inches) long per 3 m (10 feet) of a lane.

No clumps and/or other foreign objects greater than 35 mm (1 1/2 inch) in diameter.

No Completed sections of micro-surfacing which exhibit washboard or ripple patterns exceeding 30,000 mm (100 linear feet). If these areas exist they will be considered defective work, as determined by the Representative, and will require surface correction.

No longitudinal streaks with greater than a 6 mm (1/4 inch) ridge, bump or depression, as measured with a 3 m (10 foot) long straightedge.

**3. Longitudinal Joints.** Make a neat seam where two longitudinal passes join with no greater than a 6 mm (1/4 inch) bump, ridge, or depression as measured with a 3 m (10 foot) straightedge. Do not overlap longitudinal joints more than 100 mm (4 inches), except on irregular roadway widths when approved by the Representative.

**4. Longitudinal Edges.** Place material to the final widths specified. Make a neat longitudinal edge along the roadway lane, shoulder, and/or curb lines. Place edges flush with curbs. Place edges with no more than  $\pm 75 \text{ mm}$  ( $\pm 3 \text{ inches}$ ) horizontal variance in any 30 m (100 feet) of roadway.

**5. Transverse Profile.** Fill ruts to have no depressions as measured with a 3 m (10 foot) long straightedge.

**(m) Opening to Traffic.** Do not allow traffic on newly completed surface course until mix has set sufficiently to prevent pick-up and until directed by the Representative.

#### **1036.4 MEASUREMENT AND PAYMENT-**

Measurement will be based on the combined tonnages of aggregate, filler, and polymer-modified emulsified asphalt actually used; computed as per the price in the CTC®.

#### **1037 COMPENSATION ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS**

The provisions of this Section shall apply only to paving asphalt used for AC Leveling Course, Asphalt Concrete Hot Mix, Asphalt Concrete Warm Mix, Asphalt Rubber Hot Mix, and Asphalt Rubber Warm Mix.

The compensation payable for said paving asphalt will be subject to being increased or decreased in accordance with the provisions of this section for material price fluctuations exceeding 5% ( $I_u/I_b$  is greater than 1.05 or less than 0.95), which occur during performance of the work. The adjustment in compensation will be determined in accordance with the following formula for each month such material is included in a monthly estimate.

Total monthly adjustment = QA

For an increase in paving asphalt price index exceeding 5%:

$$A = 0.90 (I_u/I_b - 1.05) I_b$$

For a decrease in paving asphalt price index exceeding 5%:

$$A = 0.90 (I_u/I_b - 0.95) I_b$$

Where A = Adjustment in dollars per ton of paving asphalt used in materials placed during the adjustment and rounded to the nearest \$0.01.

$I_u$  = The California Statewide Paving Asphalt Price Index - for the month in which materials containing paving asphalt were used in the work.

$I_b$  = The California Statewide Paving Asphalt Price Index - for the month in which the bid opening for the project occurred.

Q = Total quantity in tons of paving asphalt used during the applicable work.

The quantity of paving asphalt to be used in making the compensation adjustment will be based on an assumed asphalt content of 112 pounds per ton of asphalt concrete regardless of actual asphalt content.

The adjustment in compensation will also be subject to the following:

The compensation adjustment provided herein will be shown separately on payment estimates. The Contractor shall be liable to the Agency for decreased compensation adjustments and the Agency may deduct the amount thereof from any moneys due or that may become due to the Contractor.

Compensation adjustments made under this section will be considered in making adjustments in accordance with 3-2.2.1 for increased or decreased quantities.

3. In the event of an overrun of contract time, adjustment in compensation for paving asphalt used in materials placed during the overrun period will be determined using the California Statewide Paving Asphalt Price Index in effect the month in which the overrun began.

4. If the indexes described above are discontinued or otherwise become unavailable, the Engineer will select another index or establish another method of price adjustments.

5. Adjustments in compensation may be based on indexes or corrected indexes published after the final payment has been made. Such adjustments due to the Contractor will be made on receipt of a properly signed Agency claim form except that no claim for adjustment for less than \$100 will be paid after final payment has been made. Such adjustments due to the Agency shall be made promptly by the Contractor after notification by the Agency, except that the Agency will make no claim for less than \$100 after final payment has been made.



## **Appendix H**

### **Utility Company Directory**

The Utility Directory is now online at

[http://portal.countyofventura.org/portal/page/portal/PUBLIC\\_WORKS/engineeringservices/county\\_publications/UtilityDir.pdf](http://portal.countyofventura.org/portal/page/portal/PUBLIC_WORKS/engineeringservices/county_publications/UtilityDir.pdf)

Because in a Job Order Contract the specific road locations are not defined until each Job Order is created, Contractor shall consult the Utility Directory at that time.





## **Appendix I**

### **Notice to Resident/ Business/ Institution**



**NOTICE TO RESIDENT/BUSINESS/INSTITUTION**

Date \_\_\_\_\_

In approximately \_\_\_\_\_, the Transportation Department of the Public Works Agency, County of Ventura, will resurface the existing pavement of your street with asphalt concrete. The work will be done by \_\_\_\_\_.

The resurfacing consists of street repairs, concrete repairs, street resurfacing, and restriping of the streets. The new surfacing will provide smoother driving and will extend the service life of the road. Generally, existing driveways and the surface drainage should not be affected; however, if there are changes, we will contact you.

It will be necessary to close, or partially close, your street on the days the work is done. We will post temporary "No Parking" signs at least 48 hours in advance of the scheduled work. This will prohibit parking on the pavement between 7:00 AM and 6:00 PM. In case of inclement weather, it may be necessary to reschedule the contractor's operations.

We ask your cooperation by not parking your automobile in the street during the short construction period. You can drive in and out of your garage or driveway anytime during construction operations as one lane will be kept open to traffic.

In order for the resurfacing to be effective, it is absolutely necessary that the pavement be kept dry prior to its application. If water is allowed to run onto the pavement the treatment will be less effective.

We ask that during the time we are working that you DO NOT:

1. Park on the street.
2. Allow water to run onto the street.
3. Allow children to play in the street.

If some asphalt accidentally gets on your skin clean the area with oil-dissolving skin cleaner. Do not use solvents or thinners to remove material from skin.

We regret any inconvenience that this work may cause you. We thank you for your cooperation in assisting us to maintain your street in the most efficient way possible.

If you have any questions regarding the project, please call:

General Contractor

Tel. \_\_\_\_\_

County of Ventura, Public Works Agency

Tel. (805) 654-3987



## **Appendix J**

### **Survey Monuments**

The standard detail for Survey Monuments (following page) shall be followed to adjust the box to finished grade. Because in a Job Order Contract the specific road locations are not defined until each Job Order is created, the Engineer will provide Survey Monument locations to the Contractor for each Job Order.



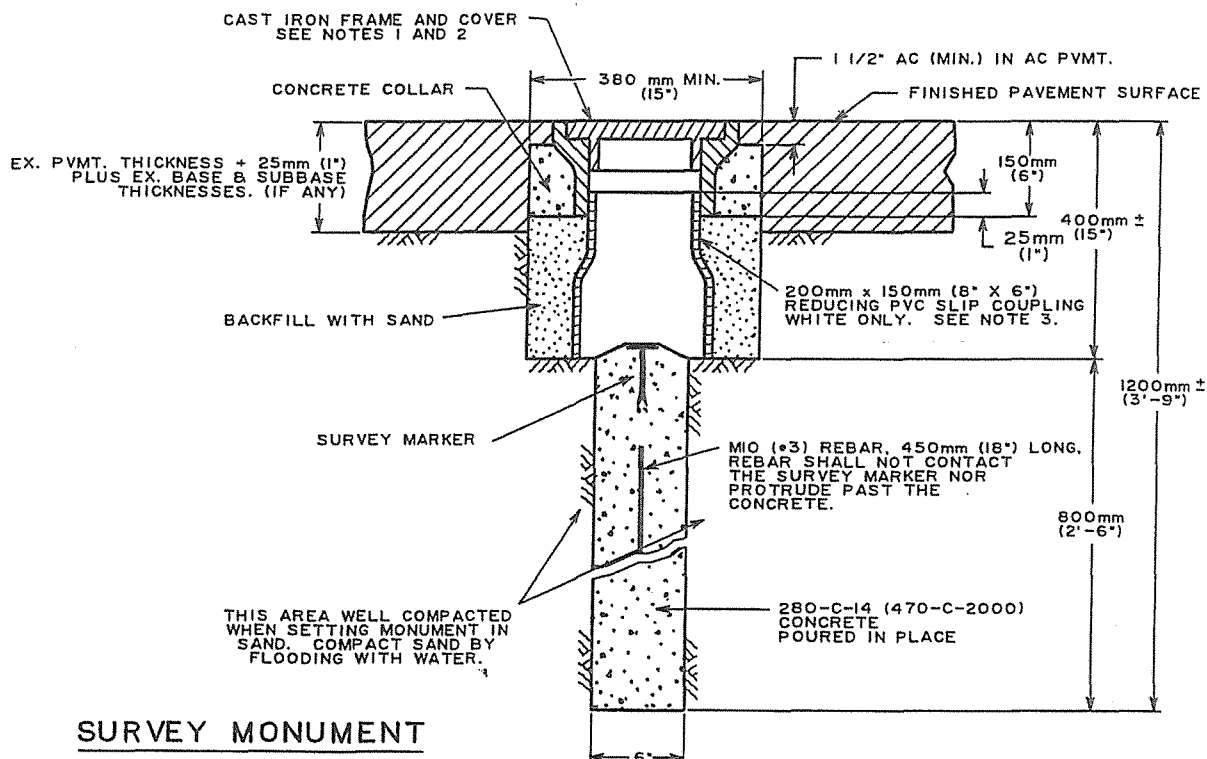
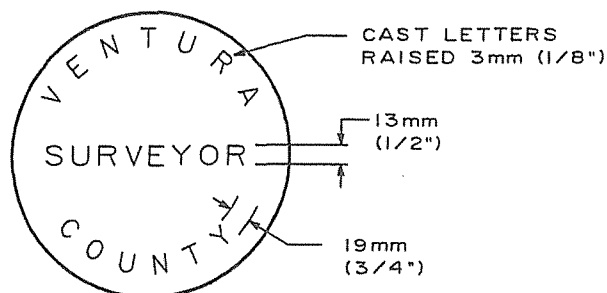
S.I. &amp; (US) UNITS

REVISION: E

PLATE E-4

TOP OF COVER DETAIL

COVER TO BE EMBOSSED  
WITH SPECIAL LETTERING  
AS SHOWN

SURVEY MONUMENT

NOTE 1 : Frame is Alhambra Foundry cast iron monument  
handhole frame with bituminous paint;  
Plate No. A-2925-F.

NOTE 2 : Cover is Alhambra Foundry cast iron monument  
handhole cover with bituminous paint;  
Plate No. A-2925-A; marked "VENTURA  
COUNTY SURVEYOR". See top of cover  
detail above.

NOTE 3 : 200mm X 150mm (8" X 6") IPS class 1000kPa (125) PVC fabricated  
reducing slip coupling; 7mm (9/32") wall thickness; colored white.

ADOPTED BY BOARD OF SUPERVISORS: 03-14-00

APPROVED:

RECOMMENDED:

*Antonio E. Lopez*  
DIRECTOR OF PUBLIC WORKS

*Alhambra*  
RCE 50408  
EXPIRES 06-30-01

COUNTY OF VENTURA  
PUBLIC WORKS AGENCY

ROAD STANDARDS

SURVEY MONUMENT



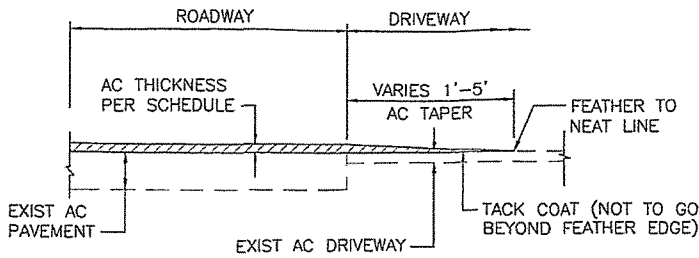


**Appendix K**

**Standard Details**

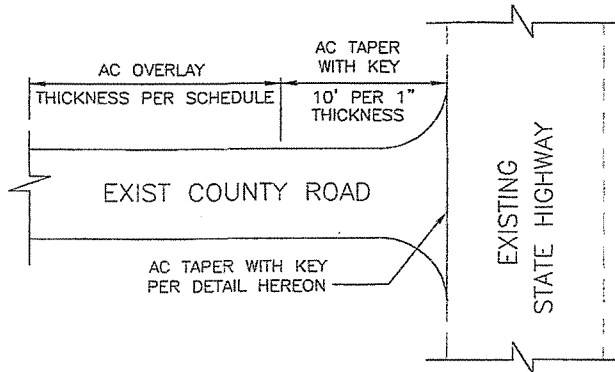
**3 pages**





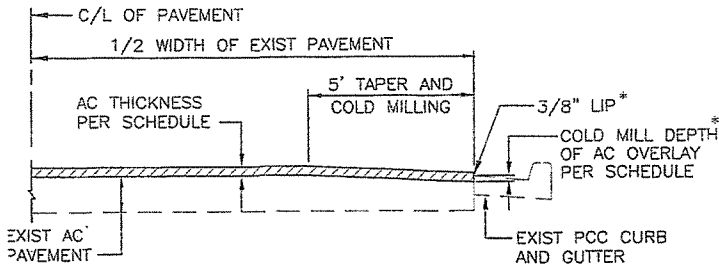
**TYPICAL AC DRIVEWAY DETAIL**

NTS



**TYPICAL AC TAPER WITH KEY AT STATE HIGHWAY**

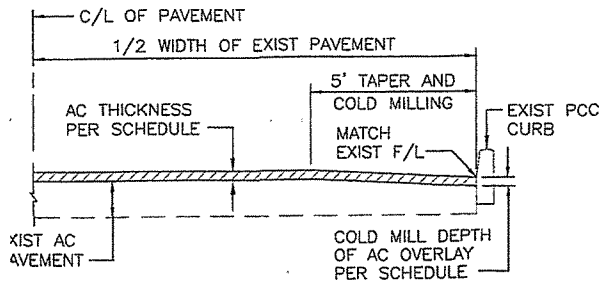
NTS



\* TYPICAL AT CURB AND GUTTER, SPANDREL AND CROSS GUTTER

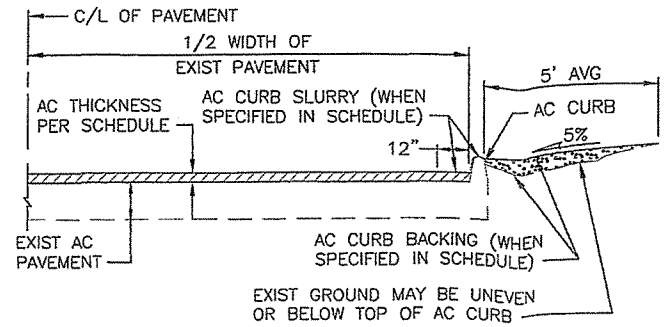
**"A" - AT CURB AND GUTTER**

NTS



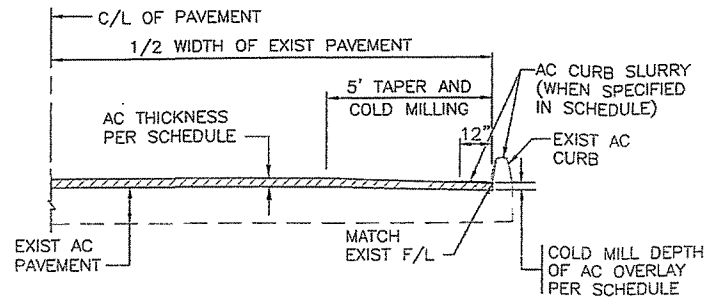
**"B" - AT PCC CURB**

NTS



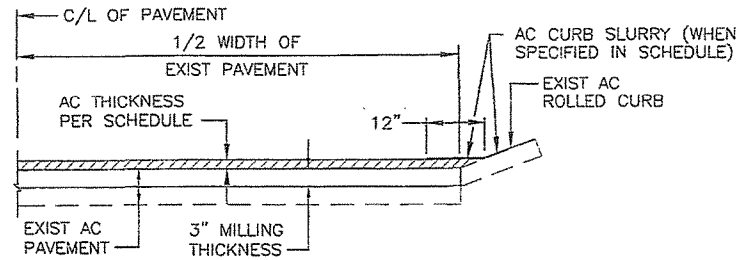
**"C" - AT AC CURB**

NTS



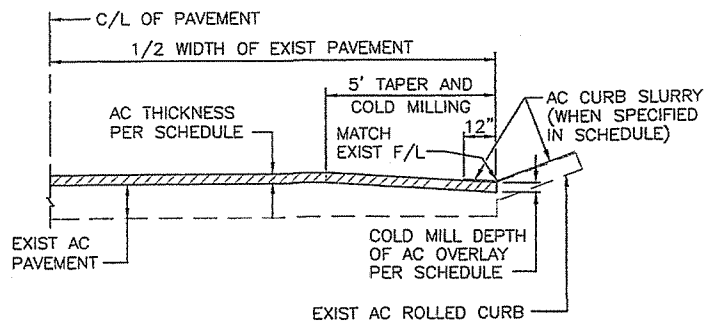
**"D" - AT AC CURB WITH COLD MILLING**

NTS



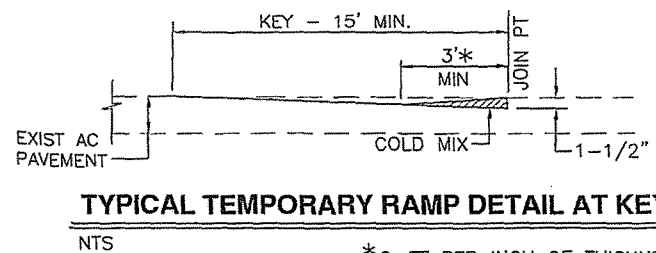
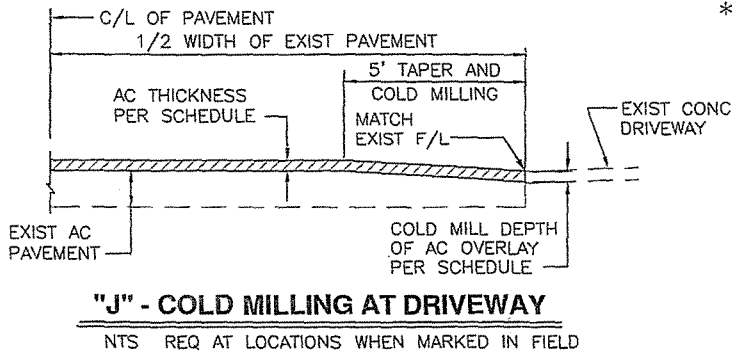
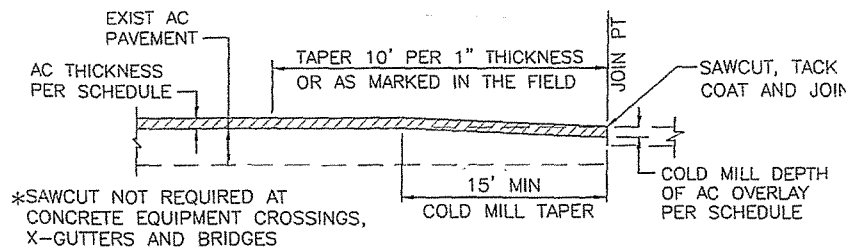
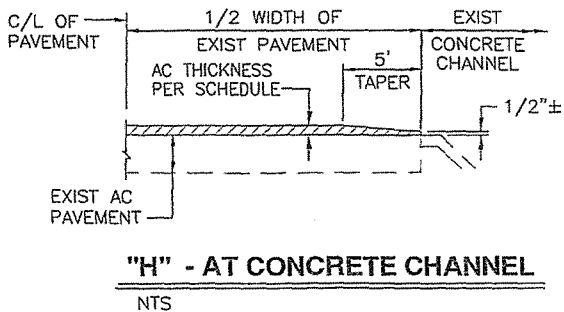
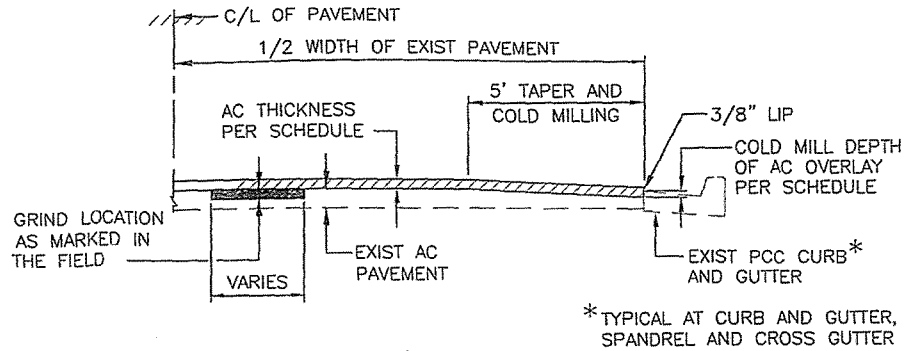
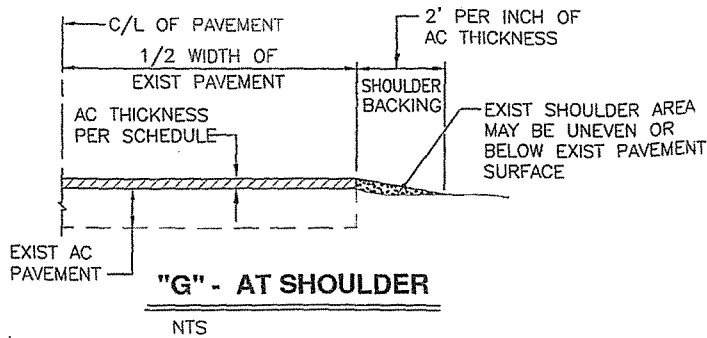
**"E" - AT "ROLLED" AC CURB**

NTS



**"F" - AT "ROLLED" AC CURB WITH COLD MILLING**

NTS



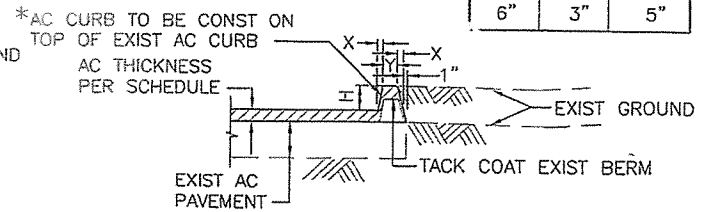
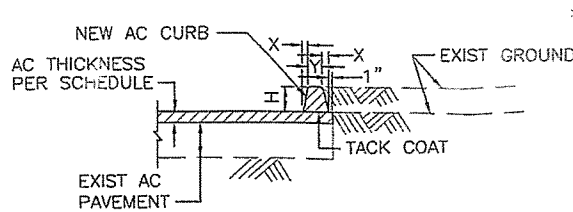
\*2-FEET PER INCH OF THICKNESS ON FULL WIDTH OF THE ROAD

COUNTY OF VENTURA  
PUBLIC WORKS AGENCY

JOB ORDER CONTRACT  
FOR ROAD  
MAINTENANCE WORK

STANDARD DETAILS  
APPENDIX K  
SHEET 2 OF 3

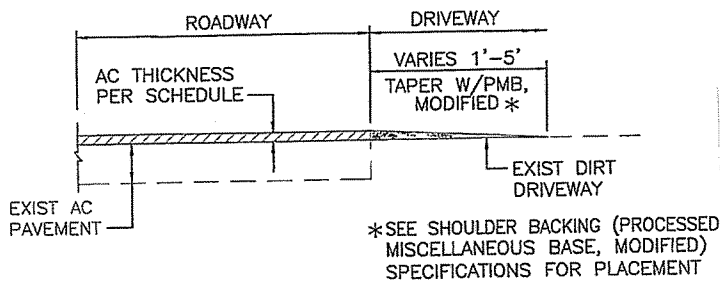
| AC CURB DATA TABLE |    |    |
|--------------------|----|----|
| H                  | X  | Y  |
| 6"                 | 3" | 5" |



\*EXIST AC CURB SHALL BE REMOVED PRIOR TO CONSTRUCTION AT THE DISCRETION OF THE ENGINEER. SEE SPECIAL PROVISIONS

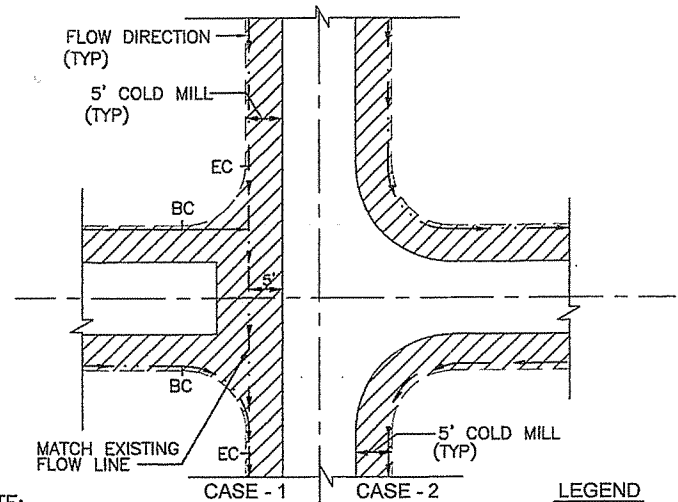
### AC CURB DETAILS

NTS



### TYPICAL DIRT DRIVEWAY DETAIL

NTS

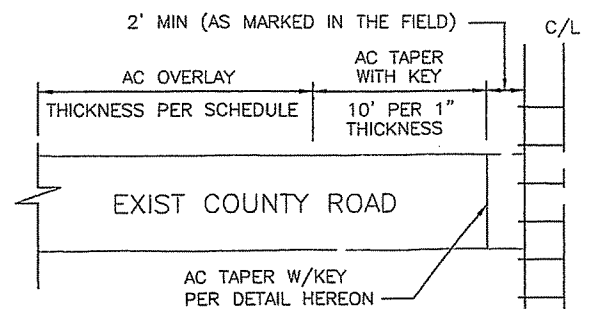


#### NOTE:

PRIOR TO ANY COLD MILL OPERATION, CONTRACTOR SHALL FIELD SURVEY AND VERIFY THE DIRECTION OF SLOPE AT FLOW LINE OF EACH STREET'S INTERSECTION, AND IDENTIFY FLOW DIRECTION TO DETERMINE WHAT METHOD OF GRINDING IS APPLICABLE FOR EACH INTERSECTION TO PROVIDE POSITIVE DRAINAGE

### TYPICAL COLD MILL AREA @ INTERSECTIONS

NTS



### TYPICAL AC TAPER AT RR CROSSING

NTS

COUNTY OF VENTURA  
PUBLIC WORKS AGENCY

JOB ORDER CONTRACT  
FOR ROAD  
MAINTENANCE WORK

STANDARD DETAILS  
APPENDIX K  
SHEET 3 OF 3

