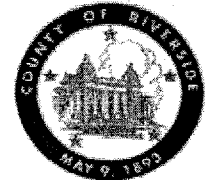


**SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

189A



FROM: TLMA - Transportation Department

SUBMITTAL DATE:
June 16, 2011

SUBJECT: Construction of Rancho California Road and Anza Road roundabout, Rancho California area.

RECOMMENDED MOTION: That the Board of Supervisors:

1. Approve the plans and specifications for the construction of a roundabout at the intersection of Rancho California Road and Anza Road in the Temecula Area of Riverside County.
2. Authorize the Clerk to advertise for bids to be received in the office of the Director of Transportation up to the hour of 2:00 pm, Wednesday, July 20, 2011, at which time bids will be opened.

Juan C. Perez
Director of Transportation

JCP:rrj:rr
(Continued On Attached Page)

FINANCIAL DATA	Current F.Y. Total Cost:	\$ 1,632,472	In Current Year Budget:	Yes
	Current F.Y. Net County Cost:	\$ 0	Budget Adjustment:	No
	Annual Net County Cost:	\$ 0	For Fiscal Year:	2010/2011

SOURCE OF FUNDS: DIF Major Improvement Fund 30525 (70%), Measure A (30%) There are no General Funds used in this project	Positions To Be Deleted Per A-30	<input type="checkbox"/>
	Requires 4/5 Vote	<input type="checkbox"/>

C.E.O. RECOMMENDATION:

APPROVE
BY:
Tina Grant

County Executive Office Signature

FORM APPROVED COUNTY COUNSEL
DATE 6/15/11
BY: MARSHA L. VICTOR
Departmental Concurrence

Dept't Recomm.: Policy Consent
Per Exec. Ofc.: Policy Consent

MINUTES OF THE BOARD OF SUPERVISORS

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

Ayes: Buster, Tavaglione, Stone, Benoit and Ashley
Nays: None
Absent: None
Date: June 28, 2011
xc: Transp., COB

Kecia Harper-Ihem
Clerk of the Board
By:
Deputy

Prev. Agn. Ref. 9/16/08, Item 3.52 | District: 3 | Agenda Number:

3.105

ATTACHMENTS FILED
WITH THE CLERK OF THE BOARD

The Honorable Board of Supervisors

RE: Construction of Rancho California Road and Anza Road roundabout,
Rancho California area.

June 16, 2011

Page 2 of 2

BACKGROUND: The Transportation Improvement Program provides for the construction of a single lane roundabout at the intersection of Rancho California Road and Anza Road in the Temecula Valley (Wine Country) area of Riverside County. Capacity improvements are needed to accommodate current traffic, which often queues at the intersection, and future traffic increases. The construction of a roundabout has been determined to be the appropriate operational improvement at this location, and more suitable than a conventional traffic signal.

The proposed roundabout will improve efficiency and safety through the intersection while retaining the special, rural character of the Wine Country landscape. Studies have shown that construction of similar roundabouts have reduced the number of injuries and fatalities in collisions by 75% on average, and 35% for all types of collisions. The Rancho California Road and Anza Road Roundabout will reduce the approach speeds to between 15-20 mph. This will allow vehicular, equestrian, bicycle and pedestrian traffic to interact through the intersection more efficiently and safely.

Additional improvements include the placement of curb and gutter, landscaping, decomposed granite trails, replacement of existing culverts, a storm drain system, and an infiltration basin for water quality purposes and other associated improvements. Also included as an alternate bid item is a separate equestrian trail crossing on Rancho California Road a distance away from the Anza intersection, which would enhance crossing safety for equestrians.

The bid documents include the following schedules of work:

Base Bid: Primary items of work.

Alternate 1: Relocation of facilities for Rancho California Water District

Alternate 2: Construction of a separate equestrian crossing at Rancho California Road for County Parks District.

If the Rancho California Water District and the County Regional Parks District concur with bid prices, as bid by the apparent low bidder, these alternative bid schedules will be included with the contract award and the costs for the work will be funded by the Water District and Parks District.

Construction of the roundabout at Rancho California Road and Anza Road is expected to start in January 2012, when traffic visiting the wineries is typically at its lowest level.

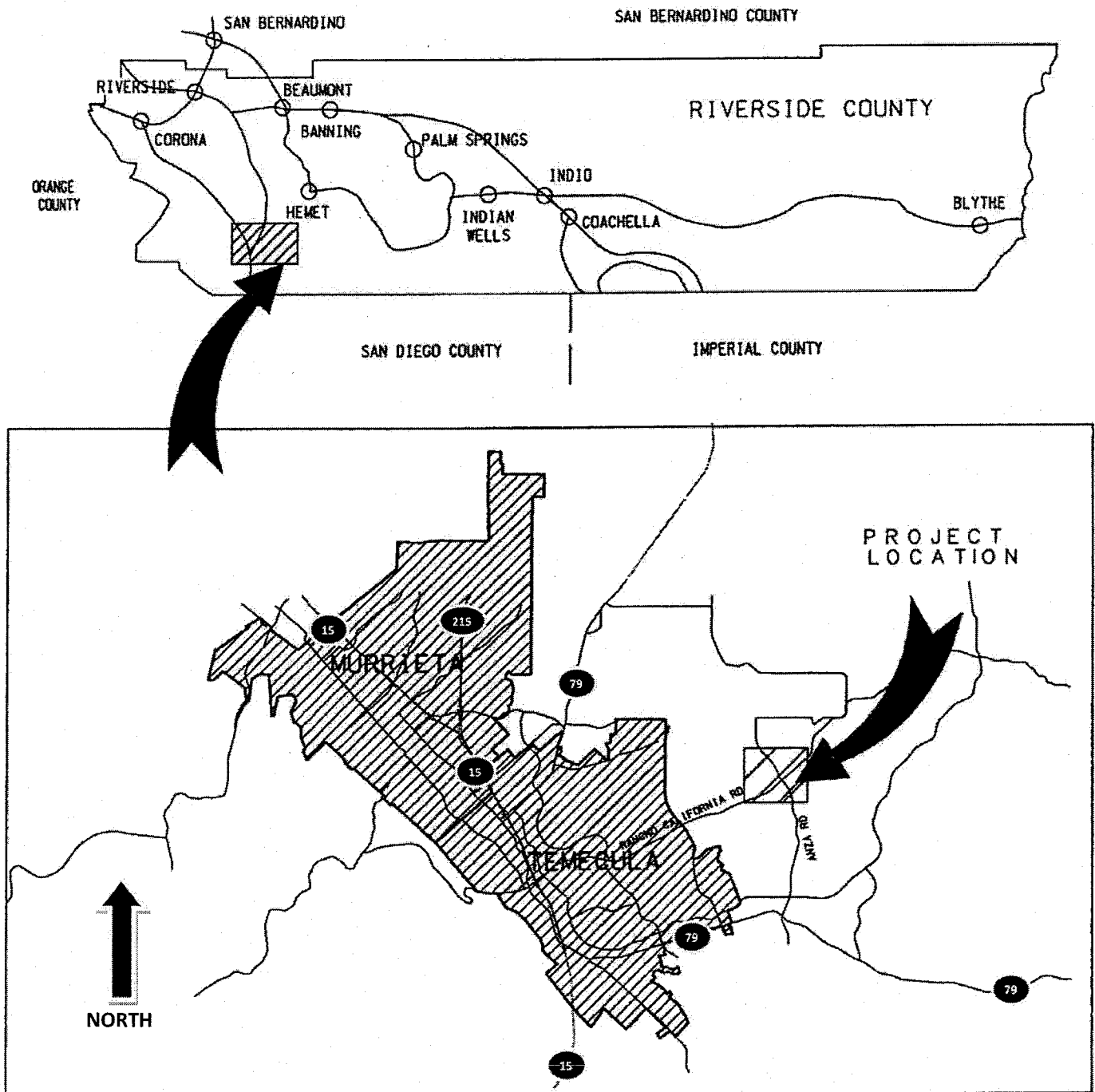
The submitted plans and specifications have been approved as to form by County Counsel.

Environmental clearance is complete.

Project No. B9-0957

COUNTY OF RIVERSIDE DEPARTMENT OF TRANSPORTATION

RANCHO CALIFORNIA ROAD AT ANZA ROAD ROUNDBABOUT

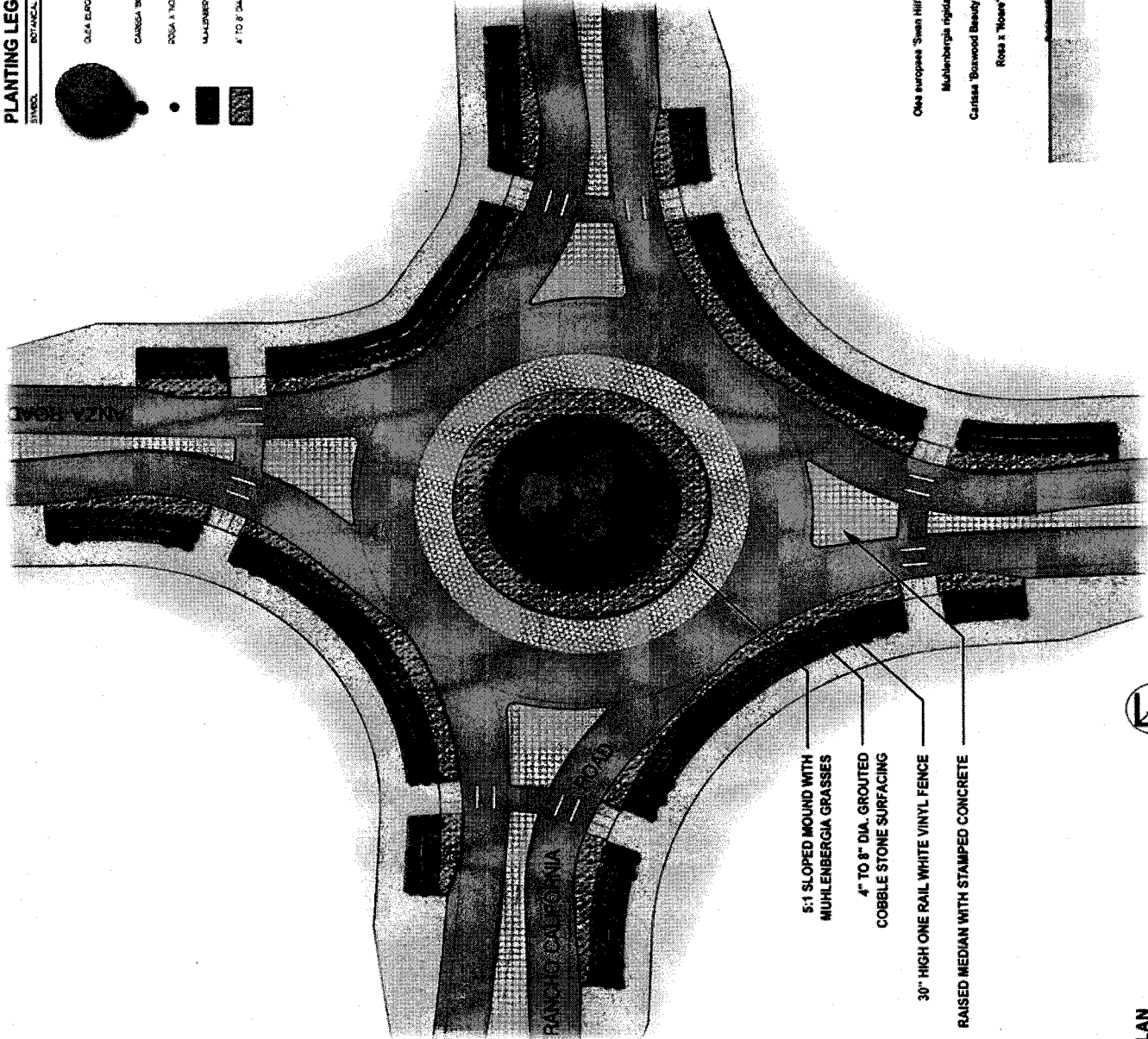
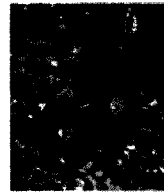
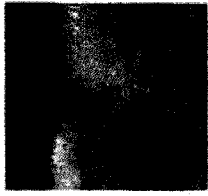


VICINITY MAP

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QUANTITY	MATURE SIZE	WATER USE DETAILS	REMARKS
	OLEA EUROPAEA SWAN HILL	PRUNELLA QUINCY TREE	48 BOX	AS SHOWN	25	50" H X 30" W L		SMALL TRUNK
	CARISSA BOUWOOD BEAUTY	SAUCAL PLUM	5 GAL	AS SHOWN	2	1.3' X 2' W	M	
	ROSA X 'NOVARE'	RED CARPET ROSES	1 GAL	AS SHOWN	2	1.5' X 1.5' W	M	
	MULHBERGIA RIGIDA	PURPLE PALM	5 GAL	5 OC	2	1.4' X 2' W	L	
	4" TO 8" DIA. GROUTED COBBLE STONE							

PROPOSED PLANT MATERIALS



ROUNDABOUT ELEVATION



PLAN

SCALE: 1"=20'-0"

SCALE: 1/8"=1'-0"

SPECIFICATIONS and CONTRACT DOCUMENTS

for the

CONSTRUCTION

of

**RANCHO CALIFORNIA ROAD
AT ANZA ROAD
ROUNDBOUT PROJECT
IN THE COUNTY OF RIVERSIDE**

PROJECT No. B9-0957



TRANSPORTATION DEPARTMENT

FORM APPROVED COUNTY COUNSEL

JUN 28 2011 3.105 pgs BY MR. MARSHAL L. VICTOR 6/15/11 DATE

W.O.# B9-0957

ITEM NO	ITEM CODE	ITEM	UNIT	ESTIMATED QUANTITY	BID	AMOUNT
51	840504	4" THERMOPLASTIC TRAFFIC STRIPE	LF	5,310	\$1.00	\$5,310.00
52	840505	6" THERMOPLASTIC TRAFFIC STRIPE	LF	2,770	\$1.25	\$3,462.50
53	840506	8" THERMOPLASTIC TRAFFIC STRIPE	LF	160	\$2.50	\$400.00
54	000003	6" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 8FT-4FT)	LF	200	\$2.00	\$400.00
55	000003	8" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 4FT-2FT)	LF	110	\$2.50	\$275.00
56	840519	THERMOPLASTIC CROSSWALK AND PAVEMENT MARKING	SQFT	550	\$5.00	\$2,750.00
57	850102	PAVEMENT MARKER (REFLECTIVE)	EA	180	\$5.00	\$900.00
58	000003	TEMPORARY ASPHALT CONCRETE	TON	300	\$70.00	\$21,000.00
59	000003	6" CORRUGATED HIGH DENSITY POLYETHYLENE (CHDPE) PIPE	LF	560	\$25.00	\$14,000.00
60	868032	NO. 3 1/2 (T) PULL BOX	EA	11	\$150.00	\$1,650.00
61	566011	ROADSIDE SIGN - ONE POST	EA	49	\$200.00	\$9,800.00
62	000003	3" PVC LIGHTING CONDUIT	LF	200	\$15.00	\$3,000.00
63	000003	STREET LIGHTING SYSTEM	LS	1	\$17,000.00	\$17,000.00
64	000003	GROUND PREPARATION [INCLUDING: FINE GRADING, SOIL PREPARATION (AMENDMENTS, FERTILIZERS, & WEED PREP), MULCHING (RECYCLED	SQFT	16,787	\$0.80	\$13,429.60
65	000003	48" BOX TREES [INCLUDING: GUYING, 4" PERF. PVC TREE DRAIN TUBES W/DRAIN CAP, ROOT BARRIERS]	EA	3	\$1,950.00	\$5,850.00
66	000003	1 GALLON SHRUBS / GROUND COVER	EA	497	\$10.00	\$4,970.00
67	000003	5 GALLON SHRUBS / GROUND COVER	EA	638	\$24.00	\$15,312.00
68	000003	90 DAY MAINTENANCE PERIOD	LS	1	\$1,500.00	\$1,500.00
69	000003	CONSTRUCT TRAIL (DECOMPOSED GRANITE)	SQFT	9,450	\$2.00	\$18,900.00
70	000003	PVC FENCING	LF	600	\$5.00	\$3,000.00
71	208000	IRRIGATION SYSTEM	LS	1	\$35,000.00	\$35,000.00
72	000003	MISCELLANEOUS DIRECTED WORK	FA	1	\$100,000.00	\$100,000.00

SUBTOTAL Items 1 - 72

\$1,549,682

"Words"

ALTERNATIVE 1- RANCHO CALIFORNIA MUNICIPAL WATER DISTRICT:

73	152351	RELOCATE HYDRANT	EA	4	\$5,000.00	\$20,000.00
74	000003	RELOCATE CP TEST STATION	EA	1	\$300.00	\$300.00
75	000003	RELOCATE WATER METER	EA	1	\$150.00	\$150.00
76	000003	RELOCATE WATER TEST STATION TO GRADE	EA	1	\$2,000.00	\$2,000.00
77	152402	ADJUST WATER VALVE COVER TO GRADE	EA	7	\$600.00	\$4,200.00
78	000003	FURNISH AND INSTALL BOX CULVERT LINER	LF	226	\$150.00	\$33,900.00
79	000003	FURNISH AND INSTALL MANHOLE/ CATCH BASIN LINER	SQFT	722	\$10.00	\$7,220.00

SUBTOTAL Items
73 - 79

\$67,770

"Words"

ALTERNATIVE 2- RCRP and OSD (EQUESTRIAN CROSSWALK PER EXHIBIT A)

80	120100	TRAFFIC CONTROL SYSTEM	LS	1	\$1,000.00	\$1,000
81	000003	SOLAR POWERED PEDESTRIAN CROSSWALK FLASHING BEACON SYSTEM WITH EQUESTRIAN AND PEDESTRIAN PUSH BUTTONS	EA	2	\$3,800.00	\$7,600
82	000003	TYPE 1-A STANDARD (14" ALUMINUM)	EA	2	\$1,800.00	\$3,600
83	566011	ROADSIDE SIGN - ONE POST	EA	10	\$150.00	\$1,500
84	840515	THERMOPLASTIC PAVEMENT MARKING	SQFT	264	\$5.00	\$1,320

SUBTOTAL Items
80 - 84

\$15,020

"Words"

SUBTOTAL Items
1 - 84

\$1,632,472

"Words"

CONTINGENCY

999994	CONTINGENCY	LS	10%	\$163,247	\$1,712,929
--------	-------------	----	-----	-----------	-------------

GRAND TOTAL

\$1,780,699

"Words"

Cesar Tolentino

5/11/2011

Prepared by:

Checked by:

**RANCHO CALIFORNIA ROAD
AT ANZA ROAD
ROUNDBOUT PROJECT
IN THE COUNTY OF RIVERSIDE**

PROJECT No. B9-0957

SPECIFICATIONS AND CONTRACT DOCUMENTS

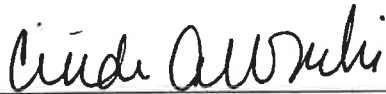
For the construction of

**RANCHO CALIFORNIA ROAD
AT ANZA ROAD
ROUNDBOUT PROJECT
IN THE COUNTY OF RIVERSIDE**

PROJECT No. **B9-0957**

Contract Approvals:

Recommended by:



Cindi Wachi,
County Project Manager

5-24-11

Date

Approved by:



Khalid Nasim,
Engineering Division Manager

5/24/11

Date

Engineering Certification:

These specifications, special provisions, and estimates have been prepared by or under the direction of the following Registered Civil Engineers, Landscape Architect:

ROADWAY

Rachel S. Price 5/23/11
REGISTERED CIVIL ENGINEER DATE



WATER QUALITY BASIN

Michael D. Cairns 5/23/11
REGISTERED CIVIL ENGINEER DATE



LANDSCAPE

Mitchell S. Phillippe 5/23/11
REGISTERED LANDSCAPE ARCHITECT DATE



Water Pollution Control Special Provision:

Reviewed and Recommended by:



Benjie Cho,
County Construction Project Engineer

5/25/11

Date

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NOTICE INVITING BIDS

County of Riverside, herein called Owner, invites sealed proposals for:

**RANCHO CALIFORNIA ROAD
AT ANZA ROAD
ROUNDAABOUT PROJECT
IN THE COUNTY OF RIVERSIDE**

PROJECT No. B9-0957

Proposal shall be delivered to the Riverside County Transportation Department, 14th Street Annex, 3525 14th Street, Riverside, California 92501, telephone (951) 955-6780 not later than 2:00 p.m., on Wednesday, July 20, 2011, to be promptly opened in public at said address. Each proposal shall be in accordance with plans, specifications, and other contract documents, dated May 2011, and prepared by County of Riverside, whose address is same as the above, from whom they may be obtained upon deposit of \$45 per set, plus mailing. No refund. Prospective bidders may preview the plans, specifications and other contract documents, at no charge prior to purchase, at the above noted location.

The Contractor is required to have a Class "A" license or "C-12" at the time of bid submission.

Dated: June 28, 2011

Kecia Harper-Ihem, Clerk of the Board

By: _____
Deputy

INSTRUCTIONS TO BIDDERS

1. **Form of Proposal.** The proposal must be made on the form of Contractor's Proposal which is included in the Contract Documents and must be completely filled in, dated and signed. If provision is made for alternates, they must all be bid, unless otherwise provided in the Special Provisions.
2. **Bid Bond.** The proposal must be accompanied by a 10% Bid Bond, using the form provided in the Contract Documents, or by a certified or cashier's check payable to the order of County in an amount not less than 10% of the amount bid, inclusive of alternates.
3. **Submission of Proposal.** A proposal must be submitted in a sealed opaque envelope which clearly identifies the bidder and the project. Bids must be received by the time and at the place set forth in the Notice Inviting Bids and may be withdrawn only as stated in the proposal. **Bids shall be completed in ink.**
4. **Contract Documents.** The complete Contract Documents are identified in the Agreement. Potential bidders are cautioned that the successful bidder incurs duties and obligations under all of the Contract Documents and that they should not merely examine the Plans and Specifications in making their bid.
5. **License.** To be considered for award of the contract, a potential bidder must have the kind of license required under provisions of the California Business and Professions Code for the work covered in this proposal. This includes joint ventures.

Each item of work will be performed by a Contractor which is qualified and properly licensed for that work.

Pursuant to California Labor Code Section 3099, certification is required for all persons who perform work as electricians for Contractors licensed as Class C-10 Electrical Contractors. Proof of certification shall be provided to the County before the start of construction.

6. **Quantities.** The amount of work to be done or materials to be furnished under the Contract as shown in the Contractor's Proposal are but estimates and are not to be taken as an expressed or an implied statement that the actual amount of work or materials will correspond to the estimate.

County reserves the right to increase or decrease or to entirely eliminate certain items from the work or materials to be furnished if such action is found to be desirable or expedient.

Contractor is cautioned against the unbalancing of his bid by prorating his overhead only into one or two items when there are a number of items listed in the schedule.

7. **Interpretation of Documents.** Discrepancies, omissions, ambiguities, requirements likely to cause disputes between trades and similar matter shall be promptly brought to the attention of the County of Riverside in writing. When appropriate, Addenda will be issued by County.

If the Bidder requires clarification or interpretation of the Bidding Documents, the Bidder shall make a written request to the County by a Request for Information (RFI). All requests for information must be submitted, in writing, between the hours of 8:00 AM and 5:00 PM on any day, Monday through Thursday (except holidays), up to, including and no later than the fifth (5th) day prior to Bid Closing Deadline, by hand delivery, mail, fax or electronic mail. The County of Riverside will not respond to Requests for Information submitted after that time, unless the County determines, at its sole discretion, which it is in the best interest of the public and the County to do so. Requests for Information should be addressed to County of Riverside, Transportation Department, Attn: Joel Jimenez; 3525 14th Street, Riverside, CA 92501, facsimile (951) 955-3164, electronic mail: jjimenez@rctlma.org

No communication by anyone as to such matters except by an Addendum affects the meaning or requirements of the Contract Documents.

8. **ADDENDA.** County reserves the right to issue Addenda to the Contract Documents at any time prior to the time set to open bids. Each potential bidder shall leave with the County Transportation Department his name and address for the purpose of receiving Addenda to be mailed or delivered to such names at such addresses. **To be considered, a Contractor's Proposal must list and take into account all issued Addenda.**
9. **Inspection of Site.** Bidders must examine the site and acquaint themselves with all conditions affecting the work. By making his bid a bidder warrants that he has made such site examination as he deems necessary as to the condition of the site, its accessibility for materials, workmen and utilities and ability to protect existing surface and subsurface improvements. No claim for allowances - time or money - will be allowed as to such matters.

10. **Bonds.** The County requires a 100% Payment Bond and 100% Performance Bond from the successful bidder. All Bonds must be on County's forms contained in the Contract Documents.

The bonds must be underwritten by a Surety Company, which is admitted to transact the business of insurance in the State of California, and which carries a rating in the current issue of Best's Insurance Guide of "A" or better with a financial size of at least "VIII". The bond forms included in the project documents shall be used. All signatures on the bonds shall be notarized. Bonds shall be provided with an executed Power of Attorney issued by the surety.

11. **Bids.** Bids are required for the entire work, including all alternate bid schedules, if applicable, unless otherwise explicitly allowed in the bid documents. The amount of the bid for comparison purposes will be the total of all items. The total of unit basis items will be determined by extension of the item price bid on the basis of the estimated quantity set forth for the item.

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

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

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

The bidder is advised that the items of work may be grouped into bid schedules, and that certain bid items may be listed in more than one bid schedule, and with different bid item numbers, and the following shall apply thereto:

The bidder is directed to submit the same bid amount for all contract bid items that are listed with the same item code and item description. Said bid items are referred to herein as "Like Bid Items".

“Like Bid Items” shall be considered a single bid item for purposes of calculating increased and decreased quantities, and as otherwise applicable in Section 4-1.03, “Changes” of the Standard Specifications.

The following are not subject to this bidding requirement:

1. Bid items with the same item code but different item descriptions.
2. Bid items that are measured as “lump sum” or “force account”.
3. Alternate bid schedules.

In the event that a bidder submits different unit bid amounts for “Like Bid Items”, as described above, the bid will be corrected by applying the lowest of the unit bid amounts to all the respective “Like Bid Items”.

No bidder may withdraw his bid for a period of ninety (90) days after the bid opening.

12. **Award of Contract.** The County reserves the right to reject all bids received. Acceptance by the governing body of the County by resolution or minute order at a meeting regularly called and held of a Contractor's Proposal constitutes an award of the contract and the execution of the Agreement is a written memorial thereof.

The County of Riverside will submit the contract documents to the low responsive and responsible bidder for execution prior to award utilizing the following procedures and requirements:

- a. A bidder whose proposal is accepted shall execute the formal construction agreement with the County of Riverside, similar to the form attached hereto as a sample, and shall return said agreement, together with approved performance and payment bonds and with complete evidence of insurance as required elsewhere herein, including executed additional insured endorsements and waivers of subrogation, within ten (10) working days from the date of the Notice of Acceptance of Proposal and Intent to Award as issued by the Transportation Department. All submittals shall meet the requirements of the bid documents. Corrections, if required, shall be made and the revised documents shall be resubmitted within two (2) working days of Contractor's receipt of review comments.
- b. The contract bonds and insurance documentation shall be submitted in accordance with the contract requirements prior to submission to the County of Riverside Board of Supervisors for award by the Transportation Department, and prior to the performance of any work under the contract.

- c. If a Bidder to whom a Notice of Acceptance of Proposal and Intent to Award has been issued, fails or refuses to sign a construction agreement, or to furnish the bonds or insurance certificates and endorsements as required within the prescribed period of time as described above, the County of Riverside may, at its sole discretion, rescind the Notice of Acceptance, and the bid guarantee submitted by that Contractor shall become the property of the County of Riverside as prescribed in the bid documents and as allowed by law.
 - d. If it is in the best interest of the County of Riverside, the County reserves the right to award the contract prior to execution by the Contractor. Thereafter, County shall mail or deliver to the lowest responsible bidder the agreement for Contractor's execution and return.
- 13. **Return of Guarantee.** Bid bonds will not be returned unless specifically requested by the bidder. Any submitted negotiable securities of unsuccessful bidders will be returned by mail within 30 days of the award of a contract to the successful bidder. Any submitted negotiable security of the successful bidder will be returned by mail within 30 days of receipt by the County of executed contract, certificate of insurance, performance bond and payment Bond.
- 14. **Subletting and Subcontracting.** Bidders are required pursuant to the Subletting and Subcontracting Fair Practices Act (commencing with Section 4100 of the Public Contracts Code) to list in their proposal the name and location of place of business of each subcontractor who will perform work or labor or render services in or about the construction of the work or improvement or a subcontractor who specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans and Specifications in excess of 1/2 of 1% of this prime Contractor's total bid. Failure to list a subcontractor for a portion of the work means that the prime Contractor will do that portion of the work. It is the County's intent for the Subletting and Subcontracting Fair Practice Act to apply to all phases of the work.
- 15. **Qualifications of Bidders.** No award will be made to any bidder who cannot give satisfactory assurance to the Board of Supervisors as to his own ability to carry out the contract, both from his financial standing and by reason of his previous experience as a Contractor on work of the nature contemplated in the contract. The bidder may be required to submit his record of work of similar nature to that proposed under these specifications, and unfamiliarity with the type of work may be sufficient cause for rejection of bid.
- 16. **Contract Participation.** Riverside County's M/W/DVBE Contract Participation Program affirms the utilization and participation of qualified minority, women and disabled veteran firms in its contracting and procurement activities. The County

encourages general and prime Contractors to afford competitive subcontracting opportunities to minority, women and disabled veteran firms where possible, in their contracting and procurement activities with the County of Riverside.

17. **Hours of Work.** Attention is directed to Section 8-1.06, "Time of Completion" and Section 7-1.01A (1), "Hours of Labor" of the Standard Specifications.

Daily working hours shall be between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, except legal holidays, as approved by the Engineer. Exceptions and specific work schedules shall be submitted to the Engineer for consideration.

18. **Labor Code.** Pursuant to the Labor Code, the governing board of the Owner has obtained from the Director of the Department of Industrial Relations, State of California, his determinations of general prevailing rates of per diem wages applicable to the work, and for holiday, and overtime work, including employer payments for health and welfare, pensions, vacation and similar purpose, as set forth on schedule which is on file at the principal office of the Owner, and which will be made available to any interested person upon request.

19. **Alternate Bid Schedules.** If the Proposal includes bid items listed under a Base Bid Schedule and one or more Alternate Bid Schedules, the following shall apply: The County may award only the items of work listed on the Base Bid Schedule, or may choose to award some or all of the Alternate Bid Schedules in addition to the Base Bid Schedule. Unless otherwise specified, the basis of the selection of the lowest bid shall be the lowest responsive and responsible bid for the sum of all Bid Schedules.

If the Proposal includes bid items listed under two or more Alternate Bid Schedules with no Base Bid Schedule, the following shall apply: This project contains Alternate Bid Schedules that may or may not be mutually exclusive, as described elsewhere in the bid documents. The County may award the items of work listed on one or more of the Alternate Bid Schedules. In the case of mutually exclusive Alternate Bid Schedules, only one of the Alternate Bid Schedules will be selected for award. Unless otherwise specified, the basis of the selection of the lowest bid shall be the lowest responsive and responsible bid for the sum of all Bid Schedules.

The County also reserves the right to reject all bids received.

20. **Dust Abatement.** Attention is directed to Section 23, "Dust Abatement" with regard to the dust abatement provisions of the contract.

21. **Submission of Insurance Certificate.** Within ten (10) working days of the date of the Notice of Acceptance of Proposal and Intent to Award issued by the County of Riverside, the successful Contractor shall submit a certificate of insurance, including required endorsements, which provides evidence that the bidding Contractor has insurance coverage that meets the requirements of Section 18 of the General Conditions. Failure to have complete insurance coverage in place and to provide all required certificates and endorsements within the specified ten (10) working days period will be grounds for declaring the bidder to not be in compliance with the bid documents, rescinding the Notice of Acceptance, making a claim against the bid bond, and awarding to the second low bidder, at the sole discretion of the County.

CONTRACTOR'S PROPOSAL

TO: COUNTY OF RIVERSIDE

DATE: _____

hereafter called "County":

BIDDER: _____
(hereafter called "Contractor")

THE UNDERSIGNED, Contractor, having carefully examined the site and the Contract Documents for the construction of **RANCHO CALIFORNIA ROAD AT ANZA ROAD ROUNDABOUT PROJECT IN THE COUNTY OF RIVERSIDE, PROJECT No. B9-0957** hereby proposes to construct the work in accordance with the Contract Documents, including Addenda Nos. _____ for the amount stated in this Proposal.

By submitting this Proposal, Contractor agrees with County:

1. That unless withdrawn in person by Contractor or some person authorized in writing by Contractor not by telephone or telegram before the time specified in the Notice Inviting Bids for the public opening of bids, this Proposal constitutes an irrevocable offer for 90 calendar days after that date.
2. County has the right to reject any or all Proposals and to waive any irregularities or informalities contained in a Proposal.
3. To execute the Agreement and deliver the Faithful Performance Bond, Payment Bond and Insurance Certificate with endorsements, which comply with the requirements set forth in the Instructions to Bidders and General Conditions, within ten (10) working days of the date of the Notice of Acceptance of Proposal and Intent to Award as issued by the County of Riverside.
4. That the contract shall be awarded upon a resolution or minute order to that effect duly adopted by the governing body of County; and that execution of the Contract Documents shall constitute a written memorial thereof.
5. To submit to County such information as County may require to determine whether a particular Proposal is the lowest responsible bid submitted.

6. That the accompanying certified or cashier's check or Bid Bond is in an amount not less than 10% of the total bid submitted and constitutes a guarantee that if awarded the contract, Contractor will execute the Agreement and deliver the required bonds within ten (10) days after notice of award. If Contractor fails to execute and deliver said documents, the check or bond is to be charged with the costs of the resultant damages to County, including but not limited to publication costs, the difference in money between the amount bid and the amount in excess of the bid which it costs County to do or cause to be done the work involved, lease and rental costs, additional salaries and overhead, increased interest and costs of funding the project, attorney expense, additional engineering and architectural expense and cost of maintaining or constructing alternate facilities occasioned by the failure to execute and deliver said documents.
7. By signing this proposal the Contractor certifies that the representations made therein are made under penalty of perjury.

**RANCHO CALIFORNIA ROAD AT ANZA ROAD
ROUNDBOUT PROJECT**

PROJECT No. B9-0957

PROPOSAL

BASE BID

ITEM No.	ITEM CODE	ITEM	UNIT	ESTIMATED QUANTITY	ITEM PRICE (IN FIGURES)	TOTAL (IN FIGURES)
1	120100	TRAFFIC CONTROL SYSTEM	LS	1		
2	066578	PORTABLE CHANGEABLE MESSAGE SIGNS	EA	6		
3	074020	WATER POLLUTION CONTROL	LS	1		
4	170101	DEVELOP WATER SUPPLY	LS	1		
5	066102	DUST ABATEMENT	LS	1		
6	160101	CLEARING AND GRUBBING	LS	1		
7	510126	CLASS 2 CONCRETE (MINOR STRUCTURE)[WARPED WINGWALL][CALTRANS STD D-86B]	EA	1		
8	510126	CLASS 2 CONCRETE (MINOR STRUCTURE)[WINGWALL][CALTRANS STD D-90]	EA	1		
9	510126	CLASS 2 CONCRETE (MINOR STRUCTURE)CONCRETE DROP INLET (RCFC & WCDS CB 110)	EA	1		
10	510126	CLASS 2 CONCRETE (MINOR STRUCTURE)[TRANSITION STRUCTURE NO.3]	EA	1		
11	510126	CLASS 2 CONCRETE (MINOR STRUCTURE)[PCC FOREBAY]	EA	1		
12	510126	CLASS 2 CONCRETE (MINOR STRUCTURE) [CONCRETE COLLAR]	EA	1		
13	000003	CLASS 2 CONCRETE (MINOR STRUCTURE) [JUNCTION STRUCTURE]	EA	1		
14	510126	CLASS 2 CONCRETE (MINOR STRUCTURE) [CATCH BASIN (COMBINATION INLET) (CRS 301)]	EA	1		
15	510126	CLASS 2 CONCRETE (MINOR STRUCTURE) [CATCH BASIN (CURB INLET) (CRS 300)]	EA	7		
16	510126	CLASS 2 CONCRETE (MINOR STRUCTURE) [MANHOLE (RCFC&WCDS MH 251)]	EA	5		
17	510138	CLASS 2 CONCRETE (MINOR STRUCTURE) [WINGWALL (TYPE D)][CALTRANS STD D85]	EA	4		
18	721007	ROCK SLOPE PROTECTION (1/4 TON, METHOD B)	CY	58		
19	729010	ROCK SLOPE PROTECTION FABRIC	SQFT	350		
20	198021	IMPORTED ROCKY MATERIAL	CY	3		
21	394002	PLACE ASPHALT CONCRETE (MISCELLANEOUS AREA)	SQFT	1,900		
22	800300	CHAIN LINK FENCE [INCLUDING 14' DOUBLE DRIVE GATE]	LF	620		
23	641107	18" PLASTIC PIPE [HDPE - TYPE S]	LF	730		

PROPOSAL

BASE BID

ITEM No.	ITEM CODE	ITEM	UNIT	ESTIMATED QUANTITY	ITEM PRICE (IN FIGURES)	TOTAL (IN FIGURES)
24	641113	24" PLASTIC PIPE [HDPE - TYPE S]	LF	867		
25	641119	30" PLASTIC PIPE [HDPE - TYPE S]	LF	4		
26	641125	36" PLASTIC PIPE [HDPE - TYPE S]	LF	17		
27	000003 (F)	BASIN EXCAVATION AND EMBANKMENT (EARTHWORK)	CY	2,075		
28	190101 (F)	ROADWAY EXCAVATION	CY	4,500		
29	000003	PRECAST REINFORCED CONCRETE BOX (3'X2')	LF	116		
30	000003	PRECAST REINFORCED CONCRETE BOX (4'X2')	LF	252		
31	705011	18" STEEL FLARED END SECTION	EA	1		
32	013903	PLACE ASPHALT CONCRETE DIKE (CRS 212) (6")	LF	230		
33	013902	ASPHALT CONCRETE OVERSIDE DRAIN (CRS 306)	EA	6		
34	260201	CLASS 2 AGGREGATE BASE	CY	3,990		
35	390102	ASPHALT CONCRETE (TYPE A)	TON	2,795		
36	000003	COLOR STAMPED PORTLAND CEMENT CONCRETE PAVEMENT FOR TRUCK APRON (HIGH EARLY STRENGTH CONCRETE)	CY	105		
37	000003	MINOR CONCRETE (COLORED STAMPED CONCRETE SPLITTER ISLANDS)	SQFT	10,196		
38	000003	MINOR CONCRETE (COLORED STAMPED CONCRETE MAINTENANCE WALK)	SQFT	1,750		
39	017304	MINOR CONCRETE (CURB AND GUTTER) (CRS 200)	LF	3,550		
40	731501	MINOR CONCRETE (CURB) [TYPE A1-6, CALTRANS STD A87A]	LF	2,530		
41	731501	MINOR CONCRETE (CURB) [TYPE A3-6, CALTRANS STD A87A]	LF	300		
42	017307	MINOR CONCRETE (TYPE C CURB) (CRS 202)	LF	230		
43	000003	MINOR CONCRETE CURB TRANSITION (CRS 212)	LF	140		
44	000003	MINOR CONCRETE (CONCRETE HEADER)	LF	2,000		
45	731623	MINOR CONCRETE (CURB RAMP) [CASE A WITH SIDEWALK APPROACH]	EA	1		
46	731623	MINOR CONCRETE (CURB RAMP) [CASE C WITH SIDEWALK APPROACH]	EA	1		
47	731623	MINOR CONCRETE (CURB RAMP) [CASE F-1a WITH SIDEWALK APPROACH]	EA	6		
48	000003	MINOR CONCRETE (SPLITTER ISLAND RAMP)	EA	4		
49	000003	MINOR CONCRETE (BIKE RAMP INCLUDING SPILL GUTTER)	EA	6		

PROPOSAL

BASE BID

ITEM No.	ITEM CODE	ITEM	UNIT	ESTIMATED QUANTITY	ITEM PRICE (IN FIGURES)	TOTAL (IN FIGURES)
50	000003	MINOR CONCRETE (CONCRETE RAMP INCLUDING SPILL GUTTER)	EA	2		
51	840504	4" THERMOPLASTIC TRAFFIC STRIPE	LF	5,310		
52	840505	6" THERMOPLASTIC TRAFFIC STRIPE	LF	2,770		
53	840506	8" THERMOPLASTIC TRAFFIC STRIPE	LF	160		
54	000003	6" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 8FT-4FT)	LF	200		
55	000003	8" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 4FT-2FT)	LF	110		
56	840519	THERMOPLASTIC CROSSWALK AND PAVEMENT MARKING	SQFT	550		
57	850102	PAVEMENT MARKER (REFLECTIVE)	EA	180		
58	000003	TEMPORARY ASPHALT CONCRETE	TON	300		
59	000003	6" CORRUGATED HIGH DENSITY POLYETHYLENE (CHDPE) PIPE	LF	560		
60	869032	NO. 3 1/2 (T) PULL BOX	EA	11		
61	566011	ROADSIDE SIGN - ONE POST	EA	49		
62	000003	3" PVC LIGHTING CONDUIT	LF	200		
63	000003	STREET LIGHTING SYSTEM	LS	1		
64	000003	GROUND PREPARATION [INCLUDING: FINE GRADING, SOIL PREPARATION (AMENDMENTS, FERTILIZERS, & WEED PREP.), MULCHING (RECYCLED ORGANIC) 3" THICK LAYER, AND TOPSOIL IMPORT- UP TO 2"]	SQFT	16,787		
65	000003	48" BOX TREES [INCLUDING: GUYING, 4" PERF. PVC TREE DRAIN TUBES W/DRAIN CAP, ROOT BARRIERS]	EA	3		
66	000003	1 GALLON SHRUBS / GROUNDCOVER	EA	497		
67	000003	5 GALLON SHRUBS / GROUNDCOVER	EA	638		
68	000003	90 DAY MAINTENANCE PERIOD	LS	1		
69	000003	CONSTRUCT TRAIL (DECOMPOSED GRANITE)	SQFT	9,450		
70	000003	PVC FENCING	LF	600		
71	208000	IRRIGATION SYSTEM	LS	1		
72	000003	MISCELLANEOUS DIRECTED WORK	FA	1		

PROJECT _____ \$ _____

ITEMS 1-72 "WORDS"

PROPOSAL

ALTERNATIVE 1- RANCHO CALIFORNIA MUNICIPAL WATER DISTRICT:

ITEM No.	ITEM CODE	ITEM	UNIT	ESTIMATED QUANTITY	ITEM PRICE (IN FIGURES)	TOTAL (IN FIGURES)
73	152351	RELOCATE HYDRANT	EA	4		
74	000003	RELOCATE CP TEST STATION	EA	1		
75	000003	RELOCATE WATER METER	EA	1		
76	000003	RELOCATE WATER TEST STATION TO GRADE	EA	1		
77	152402	ADJUST WATER VALVE COVER TO GRADE	EA	7		
78	000003	FURNISH AND INSTALL BOX CULVERT LINING	LF	226		
79	000003	FURNISH AND INSTALL MANHOLE/ CATCH BASIN LINING	SQFT	722		

PROJECT _____ \$ _____

ITEMS 73-79 "WORDS"

ALTERNATIVE 2- RCPR&OSD (EQUESTRIAN CROSSWALK PER EXHIBIT A):

ITEM No.	ITEM CODE	ITEM	UNIT	ESTIMATED QUANTITY	ITEM PRICE (IN FIGURES)	TOTAL (IN FIGURES)
80	120100	TRAFFIC CONTROL SYSTEM	LS	1		
81	000003	SOLAR POWERED PEDESTRIAN CROSSWALK FLASHING BEACON SYSTEM WITH EQUESTRIAN AND PEDESTRIAN PUSH BUTTONS	EA	2		
82	000003	TYPE 1-A STANDARD (14" ALUMINUM)	EA	2		
83	566011	ROADSIDE SIGN - ONE POST	EA	10		
84	840515	THERMOPLASTIC PAVEMENT MARKING	SQFT	264		

PROJECT _____ \$ _____

ITEMS 80-84 "WORDS"

PROJECT _____ \$ _____

ITEMS 1-84 "WORDS"

BIDDER DATA:

Name of Bidder _____

Type of Organization _____

Person(s) Authorized to Sign for Bidder _____

Address _____

Phone _____

Contractor's License Type & Number _____

Expiration Date _____

8. **DESIGNATION OF SUBCONTRACTORS:** Contractor submits the following complete list of each subcontractor who will perform work or labor or render service in or about the construction in an amount in excess of 1/2 of 1% of the total bid.

<u>ITEM</u>	<u>SUBCONTRACTOR</u>	<u>ADDRESS</u>	<u>LICENSE NO.</u>
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Percent of work to be performed by sub-contractors: ___%
(Note: 50% of the work required to be performed by general contractor)

IN WITNESS WHEREOF Contractor executed this Proposal as of the date set forth on Page 1 of this proposal.

TITLE _____
"Contractor"

AFFIDAVIT FOR INDIVIDUAL CONTRACTORS

_____ declares as follows:

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

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated this _____ (day) of _____ (month),
_____ (year) at _____, California

Signature of affiant: _____

Note: Notarization of signature required

AFFIDAVIT FOR JOINT VENTURE OR COPARTNERSHIP CONTRACTOR

_____ Declares as follows:

That he or she is a member of the joint venture or copartnership firm designated as _____ which is the party making the foregoing proposal or bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the County of Riverside or 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.

That he has been and is duly vested with authority to make and sign instruments for the joint venture or copartnership by _____ who constitute the other members of the joint venture or copartnership.

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated this _____ (day) of _____ (month);
_____ (year)
at _____, California

Signature of affiant: _____

Note: Notarization of signature required

AFFIDAVIT FOR CORPORATE CONTRACTOR

_____ declares as follows:

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

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated this _____ (day) of _____ (month),
_____ (year)
at _____, California

Signature of affiant: _____

Note: Notarization of signature required

BID BOND

Recitals:

- 1. _____ "Contractor", has submitted his Contractor's Proposal to County of Riverside, "County", for the construction of public work for _____ in accordance with a Notice Inviting Bids of County dated _____.
- 2. _____ a _____ corporation, hereafter called "Surety", is the surety of this Bond.

Agreement:

We, Contractor as principal and Surety as surety, jointly and severally agree and state as follows:

- 1. The amount of the obligation of this bond is 10% of the amount of the Contractor's Proposal, including bid alternates, and inures to the benefit of County.
- 2. This Bond is exonerated by (1) County rejecting said Proposal or, in the alternate, (2) if said Proposal is accepted, Contractor executes the Agreement and furnishes the Bonds as agreed to in its Proposal, otherwise it remains in full force and effect for the recovery of loss, damage and expense of County resulting from failure of Contractor to act as agreed to in its Proposal. Some types of possible loss, damage and expense are specified in the Contractor's Proposal.
- 3. Surety, for value received, stipulates and agrees that its obligations hereunder shall in no way be impaired or affected by any extension of time within which County may accept the Proposal and waives notice of any such extension.
- 4. This Bond is binding on our heirs, executors, administrators, successors and assigns.

Dated: _____

 By _____
 Title: _____ Attorney in Fact
 "Surety"

 By _____
 Title: _____ Contractor
 "Contractor"

STATE OF CALIFORNIA }
 COUNTY OF _____ } ss. SURETY'S ACKNOWLEDGEMENT

On _____ before me, _____ personally appeared, _____ known to me, or proved to me on the basis of satisfactory evidence, to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacities, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary Public

Notary Public (Seal)

Note: All signatures must be notarized

AGREEMENT

THIS AGREEMENT is entered into at Riverside, California as of the date set forth below is between County of Riverside hereafter called "County" and _____ hereafter called "Contractor".

W I T N E S S E T H

RECITALS:

1. Contractor has submitted to County his Contractor's Proposal for the construction of County Project, _____ in strict accordance with the Contract Documents identified below and County has accepted said Proposal.
2. Contractor states that he has reexamined his Contractor's Proposal and found it to be correct, has ascertained that his subcontractors are properly licensed and possess the requisite skill and forces, has reexamined the site and Contract Documents and is of the opinion that he can presently do the work in accordance with the Contract Documents for the money set forth in his Proposal to be paid as provided in the Contract Documents.

AGREEMENT:

IT IS AGREED BY THE PARTIES AS FOLLOWS:

1. Contract Documents. The entire contract consists of the following: (a) The Agreement. (b) The Notice Inviting Bids. (c) The Instruction to Bidders. (d) The Contractor's Proposal. (e) The Bid Bond. (f) The Payment Bond. (g) The Performance Bond. (h) The General Conditions. (i) The Special Provisions. (j) The Standard Specifications of the State of California Department of Transportation edition of May 2006 as modified in other portions of the Contract Documents. (k) The Standard Plans of the Department of Transportation identified on the plans or in the Special Provisions. (l) The Plans. (m) Addenda No. _____. (n) The Determination of Prevailing Wage Rates for Public Work. (o) Any Change Orders issued. (p) Any additional or supplemental specifications, notice, instructions and drawings issued in accordance with the provisions of the Contract Documents. All of said Documents presently in existence are by this reference incorporated herein with like effect as if here set forth in full and upon the proper issuance of other documents they shall likewise be deemed incorporated. The Bid Bond is exonerated upon execution of this Agreement and the Payment Bond and Faithful Performance Bond.
2. The Work. Contractor shall do all things necessary to construct the work generally described in Recital No. 1 in accordance with the Contract Documents.

3. Liquidated Damages and Time of Completion. Attention is directed to the provisions in Section 8-1.06, "Time of Completion", and in Section 8-1.07, "Liquidated Damages", of the Standard Specifications and these Special Provisions.

The Contractor shall begin work within 15 days of the date stated within the written "Notice to Proceed".

The Contractor shall notify the Engineer, in writing, of his intent to begin work at least 72 hours before work is begun. The notice shall be delivered to the Transportation Department's Construction Engineer and shall specify the date the Contractor intends to start. If the project has more than one location of work, a separate notice shall be given for each location.

Should the Contractor begin work in advance of receiving a written "Notice to Proceed", any work performed by him in advance of the date stated in the "Notice to Proceed" shall be considered as having been done by him at his own risk and as a volunteer and subject to the following:

- (1) The Contractor shall, on commencing operations, take all precautions required for public safety and shall observe all the provisions in the Specifications and the Special Provisions.
 - (2) All work done according to the contract prior to the issuance of the "Notice to Proceed", will be considered authorized work and will be paid for as provided in the contract.
 - (3) The Contractor shall not be entitled to any additional compensation or an extension of time for any delay, hindrance or interference caused by or attributable to commencement of work prior to the issuance of the "Notice to Proceed".
4. Compensation. Contractor shall be paid in the manner set forth in the Contract Documents the amount of his Proposal as accepted by County, the above rates, subject to additions and deductions as provided in the Contract Documents. Said Proposal is on file in the Office of the Clerk of the Board of Supervisors of County.

IN WITNESS WHEREOF the parties hereto have executed this agreement as of the date set forth below.

COUNTY OF RIVERSIDE

CONTRACTOR

BY _____
Chairman, Board of Supervisors

BY _____

Dated _____

TITLE: _____
(If Corporation, Affix Seal)

ATTEST:

ATTEST:

Kecia Harper-Ihem, Clerk of the Board

BY _____
Deputy

TITLE: _____

Licensed in accordance with an act providing for the registration of Contractors,

License No. _____

Federal Employer Identification Number:

"County"
(Seal)

"Corporation"
(Seal)

PERFORMANCE BOND

Recitals:

1. _____ (Contractor) intend to enter into an Agreement with COUNTY OF RIVERSIDE (County) for construction of public work known as _____.
2. _____, a _____ corporation (Surety), is the Surety under this Bond.

Agreement:

We, Contractor, as Principal, and Surety, as Surety, jointly and severally agree, state, and are bound unto County, as obligee, as follows:

1. The amount of the obligation of this Bond is 100% of the estimated contract price for the Project of \$ _____ and inures to the benefit of County.
2. This Bond is exonerated by Contractor doing all things to be kept and performed by it in strict conformance with the Contract Documents for the Project, otherwise it remains in full force and effect for the recovery of loss, damage and expense of County resulting from failure of Contractor to so act. All of said Contract Documents are incorporated herein.
3. This obligation is binding on our successors and assigns.
4. For value received, Surety stipulates and agrees that no change, time extension, prepayment to Contractor, alteration or addition to the terms and requirements of the Contract Documents or the work to be performed thereunder shall affect its obligations hereunder and waives notice as to such matters, except the total contract price cannot be increased by more than 10% without approval of Surety.

THIS BOND is executed as of _____.

By _____

By _____

By _____

Type Name _____

Its Attorney in Fact
"Surety"

Title _____

"Contractor"

(Corporate Seal)

(Corporate Seal)

NOTE: This Bond must be executed by both parties with corporate seal affixed. All signatures must be acknowledged. (Attach acknowledgements).

PAYMENT BOND

(Public Work - Civil Code 3247 et seq.)

The makers of this Bond are _____, as Principal and Original Contractor and _____, a corporation, authorized to issue Surety Bonds in California, as Surety, and this Bond is issued in conjunction with that certain public works contract to be executed between Principal and COUNTY OF RIVERSIDE a public entity, as Owner, for \$ _____, the total amount payable. THE AMOUNT OF THIS BOND IS ONE HUNDRED PERCENT OF SAID SUM. Said contract is for public work generally consisting of _____.

The beneficiaries of this Bond are as is stated in 3248 of the Civil Code and requirements and conditions of this Bond are as is set forth in 3248, 3249, 3250 and 3252 of said code. Without notice, Surety consents to extension of time for performance, change in requirements, amount of compensation, or prepayment under said contract.

DATED: _____

Original Contractor - Principal

Surety

By _____

By _____
Its Attorney In Fact

Title _____
(If corporation, affix seal)

(Corporate Seal)

STATE OF CALIFORNIA }
COUNTY OF _____ } ss. SURETY'S ACKNOWLEDGEMENT

On _____ before me, _____ personally appeared, _____, known to me, or proved to me on the basis of satisfactory evidence, to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacities, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary Public

Notary Public (Seal)

Note: This Bond must be executed by both parties with corporate seal affixed. All signatures must be acknowledged. (Attach acknowledgements).

GENERAL CONDITIONS

SS 1. DEFINITIONS:

- a. "County", "Contractor", and "Contract Documents" are identified in the Agreement. "County" and "Contractor" includes their authorized representatives are treated throughout as if each were singular in number. "Contractor" includes its surety.
- b. "Engineer" and "Director of Transportation" means the Director of Transportation for the County of Riverside, and includes his authorized representatives.
- c. "Plans" means the portion of the Contract Documents consisting of all drawings prepared for the direction and characteristics of the work. A schedule of said drawings which constitutes the plans as of the execution of the Agreement is set forth in the Special Provisions and are supplemented by the Standard Plans referred to in the Special Provisions.
- d. "State of California", "Department of Transportation" and "Director of Transportation", means the County of Riverside.

SS 2. STANDARD SPECIFICATIONS:

The Standard Specifications of the State of California Department of Transportation, edition of May 2006 hereafter called "Standard Specifications", are incorporated herein as modified in these General Conditions, the Special Provisions and the Plans.

The following subsections of the Standard Specifications are deleted:

1-1.13, 1-1.15, 1-1.18, 1-1.25, 1-1.37, 1-1.40, 2-1.01, 2-1.05, 2-1.07, 5-1.14, 7-1.165, 8-1.03, 9-1.05, 9-1.065, 9-1.10, 12-2.02.

Section 3 of the Standard Specifications is deleted.

The following deletions and additions are made from the following subsections of the Standard Specifications.

Subsection 5-1.04, add to the second paragraph at its end the following sentence: "The General Conditions govern over

all of the Contract Documents except the Special Provisions, the Agreement and Bonds."

Subsection 7-1.01A (2), strike the last sentence of the second paragraph and in its place read: "These wage rates are on file in the Office of the County Clerk and are a part of the Contract."

Subsection 7-1.15, for "Director" read "Director of Transportation" except for last reference read "County of Riverside".

Subsection 7-1.16, delete references to Subsection 7-1.165.

Subsection 8-1.06, strike the last paragraph.

Subsection 8-1.08, strike "as provided in the State Contract Act".

SS 3. DIRECTOR OF TRANSPORTATION:

All work shall be done under the supervision of the Director of Transportation who shall determine the amount, quality, acceptability and fitness of all parts of the work, and interpret the Contract Documents. No act or omission of the Director of Transportation relieves Contractor of the duty to proceed with the work in strict conformity with the Contract Documents.

Upon request, Director of Transportation shall reduce to writing any oral order, objection, requirement or determination. Whenever Director of Transportation's approval is required it shall be in writing only.

All communications to County by Contractor shall be via Director of Transportation.

No work shall be performed on site other than during normal working hours without the knowledge and consent of Director of Transportation.

When in Director of Transportation's opinion, weather or other conditions are such that attempts to perform a portion of the work will probably result in work not in accordance with the Contract Documents, he shall so advise Contractor. When Contractor advises Director of Transportation that he intends to proceed despite such advise, he does so at his peril. The Director of Transportation may then order Contractor, in writing which specifies the portion of the work involved and the conditions warranting the issuance of the order, not to proceed on such portion of the work if (1) proceeding will in his judgment have an adverse effect on Contractor's

ability to complete the work within the stipulated time period, or (2) proceeding will in his judgment necessitate unusual tests and procedures to ascertain whether said portion of the work is in accordance with the Contract Documents. Contractor shall comply with such orders at its expense.

Nothing herein contained relieves Contractor from the duty to make independent determinations as to weather and other conditions affecting the proper completion of the work.

Failure for any reason of Director of Transportation to advise Contractor as to such matters, or to issue an order as above provided, does not relieve Contractor from the duty to accomplish the work in accordance with the Contract Documents.

As stated elsewhere, amounts shown in the Proposal and Agreement as to quantities are but estimates only. From time to time Director of Transportation shall direct Contractor as to the prosecution of the work in such a manner as to increase or decrease such estimates as to the work actually to be done. Contractor shall comply with such instructions and shall be paid only for work actually done based on the unit price set out in the Agreement.

SS 4. SITE INSPECTION - EFFECT OF OTHER IMPROVEMENTS SHOWN AND CONTRACTOR PROCEDURE:

Elsewhere in the Contract Documents reference may be made, graphically, descriptively or both, to the existence or possible existence of other improvements affecting the site and the prosecution of the work such as surface and subsurface utilities, drainage ditches and courses, buildings, fencing, retaining walls, roadways, curbs, trees, shrubs, and similar matters. Such matters are included to be used by Contractor to the extent he deems appropriate. However, it is expressly understood and agreed:

- a. Showing or describing such items does not mean that it is an exhaustive and complete presentation and that as to matters shown or described that they necessarily exist.
- b. All graphic presentations are schematic only unless the contrary is clearly set out elsewhere as to a particular matter.
- c. Whenever in the plans survey markers are shown, boundaries of the site are shown or contour lines are shown, Contractor may assume that such matters are shown in accordance with acceptable standards.

All improvements of the nature above described, whether elsewhere shown or described or not, shall, unless the contrary is elsewhere specifically directed, remain in place, undisturbed and suitably protected during the course of the work.

Whenever during the course of the work a subsurface improvement is discovered which Contractor believes is unknown to County, he shall immediately so inform Director of Transportation. Except as elsewhere provided, whenever in the course of the work it becomes apparent that the work cannot proceed without the destruction or relocation of any improvement, whether shown or described or not, Contractor shall immediately cease work affecting such improvements and notify Director of Transportation as to such circumstance and await instructions as to how to proceed.

- d. The Contractor shall be required to cooperate fully with all utility forces or forces of other public agencies engaged in relocation, lowering, altering or otherwise rearranging any facilities interfering with the progress of work or installing any facilities thereon.

The Contractor will also be required to cooperate fully with any County or State forces working on or near the project, or requiring access to the work in the performance of their duties.

SS 5. USE OF AND PROTECTION OF PREMISES AND REMOVAL OF DEBRIS:

At his expense Contractor shall:

- a. Take every precaution against injuries to persons or damage to property.
- b. Comply with regulations governing the use of the property.
- c. Store and suitably protect his apparatus, equipment, materials and supplies in an orderly fashion on site.
- d. Place on the work only such loads as are consistent with the safety of the work.
- e. Effect all cutting, fitting, or patching of his work required to make it conform to the Plans and Specifications and interrelate with other improvements or except with the consent of Director of

Transportation, cut or otherwise alter existing improvements.

- f. Protect and preserve established bench marks and monuments, make no changes in the location of such without the prior written approval of County, replace and relocate any of them which may be lost or destroyed or which require shifting because of necessary changes in grades or locations. All replacement and relocation work shall be accomplished only after approval of County and under the direct supervision and instruction of Director of Transportation.
- g. Before final payment remove all surplus materials, false work, temporary structures, debris, and similar matter resulting from his operations from the site and to put the site in an orderly condition.
- h. Construct, operate and maintain all passageways, guard fences, lights, barricades and other facilities required for protection by State or municipal laws and regulations and local conditions during the course of the work.
- i. Guard County's property from injury or loss.
- j. Take all reasonable precautions for dust and noise control and generally conduct operations so as not to constitute a nuisance.
- k. The Contractor shall be responsible for the protection of existing signs, fences, concrete curb and gutter and other highway facilities which may be encountered in the roadway. The replacement or repair of any facilities which the County deems necessary as a result of the Contractor's operations shall be done by the Contractor at his own expense and to the satisfaction of the County Transportation Department.

SS 6. CHANGE ORDERS - DETAIL DRAWINGS AND INSTRUCTIONS:

Reference is made to 4-1.03 and 4-1.03A of the Standard Specifications regarding change orders. Wherever in these subsections the word "Engineer" appears read "County".

Each approved change order shall be considered as an amendment to the Contract Documents and will not be considered approved until executed by the Board of Supervisors, except Director of Transportation can approve certain change orders without the necessity of approval by

the Board as provided in a Resolution of the Board adopted March 30, 1993, Resolution Number 93-047.

The above does not limit the ability of Director of Transportation to issue further detail drawings, explanations and instructions which are customarily given by an Engineer during the course of similar work. Director of Transportation will furnish Contractor with reasonable promptness such further detailed explanations, instructions and drawings as may be necessary for the proper execution of the work, and Contractor shall conform to same provided they are consistent with the intent of the Contract Documents. In giving such additional instructions, explanations and drawings Director of Transportation has authority to make minor changes in the work which do not involve extra cost and are not inconsistent with the Contract Documents.

Contractor's acting on such instructions, explanations and drawings of Director of Transportation means that Contractor agrees that such explanations, instructions and drawings are within the scope of the work in accordance with the intent of the Contract Documents and do not constitute a basis for modification of the Contract Documents as to price or time.

SS 7. BRAND OR TRADE NAME - SUBSTITUTE OF EQUALS:

Reference is made to Section 3400 of the Public Contracts Code, which is by this reference incorporated herein with like effect as if here set forth in full.

If a potential bidder believes he knows of an equal to a specified brand or trade name which is not mentioned in the Contract Documents, then such potential bidder may so advise Director of Transportation of such fact, giving all relevant information. If appropriate, an addendum will be issued as to the alleged equal provided that such issuance may be accomplished at least 5 days before the time fixed for opening bids.

Unless the subject article or product is expressly designated for matching others in use in a particular public improvement either completed or in the course of completion, any bidder may, as part of its bid proposal, include a request for substitution of an item equal to any specified by brand or trade name.

Within 35 calendar days after award of the contract, Contractor may submit to Director of Transportation data substantiating such a request, and the difference, if any, in cost. Director of Transportation shall promptly investigate the request and make a recommendation to County as to equality. The governing body of County shall promptly determine whether the substitute is equal in every respect

to the item specified, and approve or deny the request accordingly, and shall notify Director of Transportation of the determination made, who shall advise Contractor in writing of the decision. Unless the request is granted, substitution will not be permitted.

Nothing herein shall authorize a change in the contract price or prevent the use of change orders in the manner provided elsewhere in the Contract Documents.

SS 8. FINAL INSPECTION - NOTICE OF COMPLETION:

When the work is ready for final inspection County shall cause the work to be inspected and subjected to such tests as seem to it to be required for the purpose of determining if the work is complete in every respect.

At a meeting of the governing body of County held within 10 days after final inspection, the governing body shall consider the facts developed at the inspection. If it is found that the work is apparently complete in every respect, County will accept the work and a notice of completion will be recorded.

As between the parties, the recordation of the Notice of Completion, unless recorded because of a cessation of labor, means only that the time for final payment and the commencement of the guarantee period commences to run.

SS 9. COUNTY'S RIGHT TO STOP WORK OR TERMINATE THE CONTRACT:

(1) Contractor shall be adjudged bankrupt or make an assignment for the benefit of creditors, or (2) a receiver or liquidator is appointed for Contractor or any of his property, or (3) Contractor shall refuse or fail after Notice of Warning from County by Director of Transportation to supply sufficient properly skilled workmen or suitable materials, or (4) Contractor fails to prosecute the work with such diligence as will insure its completion within the stipulated time period, or (5) Contractor shall fail to make payments to persons supplying labor or materials for the work, or (6) Contractor does not comply with applicable law or instructions of Director of Transportation, or (7) Contractor is otherwise guilty of a substantial violation of any provision of the Contract Documents, then County without prejudice to such other and further right, remedy or relief it may be entitled to, may by 10 days notice to Contractor, terminate the employment of Contractor and his right to proceed, either as to the entire work, or at County's option, as to any portion thereof as to which delay shall have occurred or breach or miscompliance relates, and may thereupon take possession of the affected work and complete

the work by contract or otherwise, as County deems expedient. In such case Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance shall exceed the expense of completion, and other damage, expense or loss of County occasioned by Contractor's failure to properly perform, such excess shall be paid by Contractor. If such expense and damage exceeds the unpaid balance, Contractor is liable to County for the excess. If County elects to proceed under this Section, it may take possession of and utilize in completing the work such materials, supplies, plant and equipment on site which may be necessary or convenient for the purpose of completing the work, County is expressly granted the right - acting via Director of Transportation, an Engineer or otherwise - to operate equipment and machinery on site for the purpose of determining whether it has a basis for proceeding under this section.

If the construction of the project herein is damaged, which damage is determined to have been proximately caused by an act of God, in excess of 5% of the contract amount, provided that the work damaged is built in accordance with applicable building standards and the plans and specifications, then the Owner, upon certification by the Engineer, may, without prejudice to any other right of remedy, terminate the contract.

Decision by County not to proceed under this Section does not constitute a waiver by County of any right it might from time to time have against Contractor under the Contract Documents.

SS 10. PAYMENT AND MONTHLY ESTIMATES:

Director of Transportation, once each month, after said work is commenced and until after the completion and acceptance thereof, shall make and deliver to Contractor duplicate certificates stating the value of work then completed according to the contract, estimated according to the standard of the unit contract price, and thereupon Contractor shall be paid an amount sufficient with all previous payments to make the aggregate ninety percent (90%) of the amount earned as certified.

The partial payments made as the work progresses will be payment on account on work performed as of the 25th of the month and shall in no way be considered as an acceptance of any part of the work or material of the contract, nor shall they in any way govern the final estimate. No such estimate or payment shall be made when in the judgement of the Director of Transportation the total value of the work done since the last estimate amounts to less than \$300.

For the purpose of timely payment, the "receipt of payment request" date, as described in Public Contract Code 20104.50 and as referred to herein, shall be considered to be the fifth working day following the 25th day of each month.

Within 5 working days of the 25th day of each month the County shall:

- a. Calculate and prepare the certificate ("progress pay estimate") stating the value of the work completed for the billing month, for the purpose of determining the proper progress payment amount.
- b. If a progress pay estimate has been prepared by the County but has been contested by the Contractor as of the "receipt of payment request" date, as defined above, the County shall submit to the Contractor a document setting forth in writing a description of the dispute pertaining to the progress billing, and the County's reason for it's position. Said document shall be submitted to the Contractor as soon as practicable, but not later than 7 calendar days after the "receipt of payment request" date.

Any progress pay estimate which is undisputed and remains unpaid for thirty (30) calendar days, after the "receipt of payment request date" shall accrue interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the California Code of Civil Procedure. The number of days available to the County to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the County exceeds the seven-day submittal requirement set forth in the paragraph above.

Pursuant to Public Contract Code Section 20104.50, subsection (e), the progress payment date is the date that funds are encumbered and the payment warrant is issued.

SS 11. PAYMENT FOR EXTRA WORK (FORCE ACCOUNT BASIS):

Extra work to be paid for on a force account basis as directed by the Engineer will be paid for as set forth in Section 9-1.03 of the Standard Specifications. The labor surcharge, equipment rental rates and the right of way delay factors for each classification of equipment are listed in the Department of Transportation publication entitled Labor Surcharge and Equipment Rental Rates. A copy of which is on file at the Office of the Director of Transportation and is hereby incorporated herein in its entirety.

SS 12. FINAL PAYMENT:

Within thirty (30) days after the completion of the work and its acceptance by the Board of Supervisors, Director of Transportation will make a proposed final estimate in writing of the quantities of work done under the contract and the value of such work and will submit such estimate to Contractor. Within thirty (30) days thereafter Contractor shall submit to Director of Transportation his written approval of said proposed final estimate or a written statement of all claims which he has for additional compensation claimed to be due under the contract.

On Contractor's approval or if he files no claims within said period of thirty (30) days, Director of Transportation will issue a final written estimate as submitted to Contractor and County shall pay the entire sum so found to be due after deducting there from all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the contract.

If Contractor within said period of thirty (30) days files claims, Director of Transportation will issue as a semi-final estimate the proposed estimate submitted to Contractor and the County will within thirty (30) days pay the sum found due thereon after deducting all prior payments and all amounts to be kept and retained under the provisions of the contract, Director of Transportation shall then consider and investigate Contractor's claims and shall make such revisions in the said estimate as he may find to be due, and shall then make and issue his final written estimate. County will pay the amount so found due after deducting all previous payments and amount to be retained under the contract.

All prior or partial estimates and payments shall be subjected to correction in the final estimate and payment.

The final estimate shall be conclusive and binding against both parties to the contract on all questions relating to the performance of the contract and the amount of work done there under and compensation therefore, except in the case of gross error. Acceptance of final payment constitutes a release of County by Contractor of all claims relating to the work.

SS 13. DAMAGES:

Contractor acknowledges that failure to perform in strict accordance with the Contract Documents will cause County to suffer special damages in addition to cost of completion of the work in accordance with the provisions of the Contract

Documents. Such special damage could include, but is not limited to, lease and rental cost, additional salaries and overhead, interest during construction, attorney expense, additional engineering, and inspection expense and cost of maintaining or constructing alternate facilities.

SS 14. DOCUMENTS OF CONTRACTOR:

Upon demand, Contractor shall make available to County all documents in its possession relevant to the work accomplished or to be accomplished or any demand or claim of Contractor as to County. This includes copies of documents sent by Contractor or others in its possession. Contractor shall further make available to County conformed copies of all documents submitted to the sureties who executed the Bid Bond, Faithful Performance Bond or Payment Bond for the purpose of obtaining the sureties' signature, including any guarantee or indemnification made to such surety by others for such purpose. Contractor shall maintain in his possession all documents relative to the work for three years after Notice of Completion.

SS 15. RESPONSIBILITY OF CONTRACTOR TO ACT IN AN EMERGENCY:

In case of an emergency which threatens loss or injury to property or life, Contractor shall act without previous instructions as the situation may warrant. Contractor shall notify Director of Transportation immediately thereafter. Any compensation claimed by Contractor, together with substantiating documentation shall be submitted to County via Director of Transportation.

SS 16. LABOR CODE:

Reference is made to Chapter 1, Part 7, Division 2 of the California Labor Code (commencing with Section 1720). By this reference said Chapter 1 is incorporated herein with like effect as if it were here set forth in full. The parties recognize that said Chapter 1 deals, among other things with discrimination, penalties and forfeitures, their disposition and enforcement, wages, working hours, and securing worker's compensation insurance and directly effect the method of prosecution of the work by Contractor and subject it under certain conditions to penalties and forfeitures. Execution of the Agreement by the parties constitutes their agreement to abide by said Chapter 1, their stipulation as to all matters which they are required to stipulate as to by the provisions of said Chapter 1, constitutes Contractor's certification that he is aware of the provisions of said Chapter 1 and will comply with them and further constitutes Contractor's certification as

follows: "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract." Contractor and his subcontractors shall comply with the provisions of SS 1777.5 of the Labor Code regarding apprentices.

Contractor shall post at each job site during the course of the work a copy of County's "Determination of Prevailing Wage Rates", copies of said Determination are available from County for this purpose.

SS 17. OBSTRUCTIONS:

Attention is directed to Sections 8-1.10, "Utility and Non-Highway Facilities" and 15, "Existing Highway Facilities" of the Standard Specifications and these Special Provisions.

Add the following to the fourth paragraph of Section 8-1.10, "Utility and Non-Highway Facilities", of the Standard Specifications is amended to read:

In the event that the utility facilities mentioned above are not removed or relocated by the times specified and, if in the opinion of the Engineer, the Contractor's operations are delayed or interfered with by reason of the utility facilities not being removed or relocated by said times, the State will compensate the Contractor for such delays to the extent provided in Section 8-1.09, "Right of Way Delays" of the Standard Specifications, and not otherwise, except as provided in Section 8-1.10, "Utility and Non-Highway Facilities" of the Standard Specifications.

SS 18. INSURANCE - HOLD HARMLESS:

In lieu of the provisions of Section 7-1.12 the following shall apply:

Contractor shall not commence work under this contract until he has obtained the insurance required hereunder and satisfactory proof of said insurance has been submitted to and approved by the County of Riverside.

Contractor shall submit to the County of Riverside a Certificate of Insurance, signed by an authorized representative of the Contractor's insurance provider or agency, which certifies to the County that insurance

coverage is provided in accordance with the requirements of this section. The Certificate of Insurance shall include as attachments the required "Waiver of Subrogation" and "Additional Insured" policy endorsements.

I. Workers Compensation Insurance:

Contractor shall procure and maintain during the life of the contract Worker's Compensation Insurance coverage as prescribed by the laws of the State of California. Policy shall include Employers' Liability including Occupational Disease with limits not less than \$1,000,000 per occurrence. Policy shall be endorsed to provide a Borrowed Servant Endorsement, Alternate Employer Endorsement, or Additional Insured Endorsement naming the County of Riverside, its Director's Officers, Special Districts, Board of Supervisors, employees, agents or representatives as Additional Insureds. Policy shall contain a Waiver of Subrogation in favor of the County of Riverside.

Contractor shall further require each of its subcontractors to procure Worker's Compensation Insurance as required by the State while working on the project and the Contractor shall require the subcontractors to endorse the policy to provide a Borrowed Servant Endorsement, Alternate Employer Endorsement, or Additional Insured Endorsement naming the County of Riverside, its Director's Officers, Special Districts, Board of Supervisors, employees, agents or representatives as Additional Insureds. Policy shall contain a Wavier of Subrogation in favor of the County of Riverside.

II. Comprehensive General Liability Insurance:

Contractor shall take out and maintain during the course of the work General Liability Insurance covering bodily injury and property damage insurance and blanket contractual coverage as to the work and obligations covered hereunder. The amount of the insurance shall be in an amount **not less than \$2,000,000**. The policy may be a combined single limit or split limits, but the amount must be no less than \$2,000,000 per occurrence. The insurance carrier must have a current rating of "A" or better by the A.M. Best Company, a financial size of at least "VIII", and be an admitted carrier in the State of California. Any exceptions must be approved in advance by the County of Riverside Risk Management. Said insurance must contain an endorsement the County of Riverside is named as an additional insured as respects the work covered hereunder and **said insurance must not**

contain, as respects the work covered hereunder, any exclusions as to bodily injury or death or property damage arising out of blasting, explosion, or underground damage to wire, pipes, conduits, mains, sewers, tank tunnels or any similar property - i.e. the so-called "x c u" exclusions. The insurance certificate evidencing such insurance must affirmatively state that the insurance carrier (s) will give Owner 30 days written notice prior to cancellation of the insurance or a reduction in coverage, and that "County of Riverside - its Director's Officers, Special Districts, Board of Supervisors, employees, agents and representatives" are named as Additional Insureds.

In the alternate to naming County of Riverside as additional insured, Contractor may take out and maintain during the course of the work and until acceptance by County, Owner's Protective Liability Insurance in an amount not less-than \$2,000,000 covering Riverside County.

III. Auto Liability:

If Lessee's vehicles or licensed mobile equipment will be on the premises or used in any manner on behalf of the County, then Lessee shall maintain auto liability insurance for all owned, non-owned or hired automobiles in an amount not less than \$1,000,000 per occurrence combined single limit. Policy shall name the "County of Riverside, its Director's Officers, Special Districts, Board of Supervisors, employees, agents, or representatives" as Additional Insureds.

IV. Hold Harmless:

Contractor shall hold County of Riverside its officers, agent, and employees free and harmless from any liability whatsoever, including wrongful death, based or asserted upon any act or omission of Contractor, its officers, agents, employees or subcontractors relating to or in anywise connected with or arising from the accomplishment of the work, whether or not such acts or omissions were in furtherance of the work required by the Contract Documents and agrees to defend at his expense, including attorney fees, Owner, County of Riverside its officers, agents and employees in any legal action based upon any such alleged acts or omissions.

SS 19. EQUAL EMPLOYMENT OPPORTUNITY:

General:

Contractor shall not discriminate in its recruiting, hiring, promotion, demotion or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age or physical handicap in the performance of this Contract shall comply with the provisions of the California Fair Employment Practice Act (commencing with SS 1410 of the Labor Code), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), as amended, and all administrative rules and regulations issued pursuant to said Acts and Order. See particularly 41 Code of Federal Regulation (CFR) Chapter 60.

Contractor shall require each of its subcontractors to comply with the preceding paragraph and shall include in each subcontract language similar to the preceding paragraph.

Contractor shall permit access to its records of employment, employment advertisement, application forms and other pertinent data and records by Owner and any State or Federal agency having jurisdiction for the purpose of investigation to ascertain compliance with this Section.

Owner may assign an affirmative action representative to monitor Contractor and its subcontractor (s) conduct required by this Section, including the right of entry to the construction site for the purpose of obtaining information from persons performing work on the project providing such inspection does not interfere with the progress of the work.

Elsewhere in the Contract Documents specific requirements may be contained covering the same subject matter of this Section. If so, such specific requirements prevail over this Section in case of conflict.

Transactions of \$10,000 or Under:

Contracts and subcontracts not exceeding \$10,000 are exempt from the requirements of this Section. No Contractor or subcontractor shall procure supplies and/or services in less than usual quantities to avoid applicability of this Section. With respect to contracts and subcontractors for indefinite quantities, this Section applies unless the amount required in any one year under such contract will reasonably be expected not to exceed \$10,000.

Transactions in Excess of \$10,000, but Less Than \$50,000:

At Owner's request, Contractor shall certify that it has in effect an affirmative action plan and agrees to comply with all State and Federal laws and regulations regarding Fair Employment Practices. Contractor shall maintain a written copy of its affirmative action plan and furnish Owner a copy of the plan upon request. Owner may require Contractor to complete an Affirmative Action Compliance Report, on a form furnished by Owner, setting forth definite goals during the term of the Contract.

Transactions of \$50,000 or More:

If Contractor has fifty or more employees and a Contract for \$50,000 or more, it shall develop and submit to Owner, within thirty days after award, a written affirmative action compliance program providing in detail specific steps to guarantee equal employment opportunity. Contractor shall include in its affirmative action program a table of job classifications, which table shall include but need not be limited to job titles, duties, and rates of pay.

Contractor shall in each subcontract let to do a portion of the work covered hereunder, where the subcontractor involved has fifty or more employees and the subcontract is for \$50,000 or more, impose in the subcontract the above requirements.

For the purpose of determining the number of employees, the average of the Contractor's or its subcontractor's employees for the twelve month period immediately prior to award, or the total number of employees the Contractor or its subcontractor will have when performing this contract, whichever is higher, shall be used.

Federal Assisted Construction:

If this project is a Federally assisted construction project, then the contract provisions contained in 41 CFR SS 60-1.04 (b) are incorporated herein and the Contractor shall likewise incorporate said provisions in each subcontract entered by Contractor to perform the work. Federally assisted construction is identified as such in the Notice Inviting Bids.

SS 20. DEPOSIT OF SECURITIES:

In accordance with Public Contract Code Section 22300 and other applicable law, the Contractor may substitute securities for any moneys withheld to ensure performance under the contract.

SS 21. ASSIGNMENT OF CLAIMS:

In submitting a bid on this public works project, or any subcontractor agreeing to supply goods, services, or materials, and entering a contract pursuant thereto, the Contractor and/or subcontractor do offer and agree to assign to the Owner all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the 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.

SS 22. CLAIMS RESOLUTION:

In accordance with Public Contract Code Section 20104 - 20104.8 and other applicable law, public works claims of \$375,000 or less which arise between the Contractor and the Owner shall be resolved following the statutory procedure unless the Owner has elected to resolve the dispute pursuant to Public Contract Code SS 10240 et seq.

1. All claims shall be submitted in writing and accompanied by substantiating documentation. Claims must be filed on or before the date of final payment unless other notice requirements are provide in the contract. "Claim" means a separate demand by the claimant for (1) a time extension, (2) payment of money or damages arising from work done by or on behalf of the claimant and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled, or (3) an amount the payment of which is disputed by the Owner.

(a) Claims Under or equal to \$50,000. The Owner shall respond in writing to the claim within 45 days of receipt of the claim, or, the Owner may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the Owner may have. If additional information is needed thereafter, it shall be provided upon mutual agreement of the Owner and the claimant. The Owner's written response shall be submitted 15 days after receiving the additional documentation, or within the same period of time taken by the

claimant to produce the additional information, whichever is greater.

(b) Claims over \$50,000 but less than or equal to \$375,000. The Owner shall respond in writing within 60 days of receipt, or, may request in writing within 30 days of receipt of the claim, any additional documents supporting the claim or relating to defenses or claims the Owner may have against the claimant. If additional information is needed thereafter, it shall be provided pursuant to mutual agreement between the Owner and the claimant. The Owner's response shall be submitted within 30 days after receipt of the further documents, or within the same period of time taken by the claimant to produce the additional information or documents, whichever is greater.

2. If the claimant disputes the Owner's response, or if the Owner fails to respond within the statutory time period, the claimant may so notify the Owner within 15 days of the receipt of the response or the failure to respond, and demand an informal conference to meet and confer for settlement. Upon such demand, the Owner shall schedule a meet and confer conference within 30 days.
3. If following the meet and confer conference, the claim or any portion thereof remains in dispute, the claimant may file a claim pursuant to Government Code SS 900 et seq. and Government Code SS 910 et seq. For purposes of those provisions, the time within which a claim must be filed shall be tolled from the time the claimant submits the written claim until the time the claim is denied, including any time utilized for the meet and confer conference.
4. If a civil action is filed to resolve any claim, the provisions of Public Contract Code SS 20104.4 shall be followed, providing for non-binding mediation and judicial arbitration.

SS 23. DUST ABATEMENT:

Dust control shall conform to Section 10, "Dust Control", Section 7-1.01F, "Air Pollution Control", Section 17, "Watering", and Section 18, "Dust Palliative" of the Standard Specifications, Rules no. 401, 402, 403 and 403.1 of the South Coast Air Quality Management District (AQMD), Riverside County Code, Chapter 8.52, "Fugitive Dust Reduction Program For Coachella Valley", all other applicable Federal and State laws, and the requirements set forth herein.

The Contractor is cautioned that failure to control fugitive dust may result in fines being levied by the South Coast Air Quality Management District to both the Contractor and the County of Riverside, as owner. The Contractor shall be fully responsible for payment of all fines pertaining to air pollution control violations, resulting from Contractor's operations related to the construction contract, which may be levied against both the Contractor and the County of Riverside by the AQMD or other regulatory agencies. The Contractor's attention is directed to Section 7-1.01, "Laws to be Observed" of the Standard Specifications. The cost of all fines levied against the County of Riverside will be deducted from any moneys due or which may become due to the Contractor, unless other payment arrangements are made by the Contractor.

Dust control of all of the Contractor's operations is required 24 hours per day, 7 days a week for the duration of the contract, and until the disturbed soil is permanently stabilized. The Contractor shall take every precaution to prevent emissions of fugitive dust from the project site, from locations of stockpiled materials, from unpaved driving surfaces, from haul vehicles, from inactive construction areas, and from all other operations of the Contractor. The Contractor shall plan for and carry out proper and efficient measures to prevent his operations from producing dust in amounts damaging to property or which constitute a public nuisance, or which cause harm to persons living or working in the vicinity of the work. Of particular concern are emissions of PM10 particles, which are fine particulate matter of 10 microns or less and which are associated with sickness and death from respiratory disease.

The Contractor shall furnish and post dust mitigation signs, which shall be, at a minimum, in accordance with the "AQMD Signage Recommendations", attached hereto. Additional copies are available upon request from the Engineer. The sign shall include the Contractor's phone number which shall be maintained on a 24 hour basis. The sign message, size and design, including any deviations from the signage recommendations, shall be approved by the Engineer prior to fabrication.

The Contractor shall respond to complaints by mobilizing equipment and personnel at the construction site within 2 hours of each complaint to control fugitive dust.

Attention is directed to AQMD Rule 403.1, which applies to all contracts within the Coachella Valley Area of Riverside County. That AQMD Rule requires the Contractor to take specified dust control actions when prevailing wind speeds exceed 25 miles per hour. Wind forecasts, AQMD Rules and

other related information are provided by AQMD at 1-800-CUT-SMOG and at www.aqmd.gov.

Any days on which the Contractor is prevented from working, due to the requirements of AQMD Rules, will be considered as non-working days, in accordance with Section 8-1.06, "Time of Completion" of the Standard Specifications.

The Contractor shall utilize the "Best Available Control Measures" of controlling fugitive dust, as prepared by the AQMD. For projects within the Coachella Valley, the "Reasonably Available Control Measures" may be employed, if effective within the context of the AQMD rules. However, if fugitive dust crosses the project boundary, more effective control measures, including the "Best Available Control Measures" shall be implemented.

A site-specific fugitive dust control plan shall be submitted to the Engineer for review and approval at least 10 days prior to the start of construction. Additionally, for projects outside of the Coachella Valley which meet the criteria for AQMD plan approval, the Contractor shall submit the dust control plan to AQMD for approval. AQMD plan submittal criteria is defined in AQMD Rule 403 as being for projects that will have disturbed surface area in excess of 100 acres, or for projects with a scope of work which requires the movement of more than 10,000 cubic yards of soil on each of any three working days.

A sample plan and other pertinent information is attached, and additional copies are available from the Engineer upon request. The fugitive dust control plan shall include the "Reasonably Available Control Measures" and "Best Available Control Measures" of controlling fugitive dust, as may be appropriate and necessary, including but not limited to watering, application of chemical dust suppressants, wind fencing, covering of haul vehicles, haul vehicle bed-liners, covering or chemically stabilizing stored materials, phased grading, planting of vegetation, the use of a 24 hour environmental observer, and track-out controls at locations where unpaved construction accesses intersect with paved roads. The use of chemical stabilizers, which are approved by all environmental regulatory agencies, and the use of reclaimed water is encouraged. If water is intended as a primary dust control tool, the dust control plan shall provide for at least one 2,000 gallon water truck for every 4 acres of disturbed soil, unless otherwise approved by the Engineer.

If the Construction Engineer determines that the project scope and the forecasted weather conditions are such that the Contractor's work is unlikely to be a source of dust emissions, the Construction Engineer has the authority to waive the requirements for submittal of a dust control plan

and for placement of the dust control signs described herein. However, the Contractors responsibilities for the control of fugitive dust and the other requirements of this section may not be waived.

A completion notice will not be filed, and the final payment will not be made to the Contractor until the areas of disturbed soil on the construction site, including roadway shoulders, are suitably stabilized for long term control of fugitive dust.

The successful Contractor shall attend an AQMD PM10 Dust Control Program training session, and furnish evidence of attendance to the Engineer. Attendance at AQMD training seminars can be scheduled through AQMD at 1-866-861-DUST (1-866-861-3878) or by email to dustcontrol@aqmd.gov. Current AQMD certification of previous attendance will be accepted.

At that training session, the successful Contractor will be furnished with the AQMD prepared Rule 403 and Rule 403.1 implementation handbooks, which include the "Best Available Control Measures" and "Reasonably Available Control Measures", and other associated information, including a listing of suggested dust control related devices, materials and chemicals.

The signature of the Contractor on the Proposal constitutes acknowledgement by the Contractor of the dust control requirements established by law and described herein, and the enforceability of those requirements.

When the contract includes a bid item for Dust Abatement, full compensation for conformance with these dust abatement requirements, including labor, equipment, materials, developing water supply and incidentals, shall be paid at the lump sum price for Dust Abatement, and no additional compensation will be allowed therefor.

When the contract does not include a bid item for Dust Abatement, full compensation for conformance with these dust abatement requirements, including labor, equipment, materials, developing water supply and incidentals, shall be considered as included in the various items of work, and no additional compensation will be allowed therefor.

AQMD RECOMMENDATIONS

November, 2001

Plan holder shall post signage at specified locations on the subject property in accordance with the standards specified below. The exception to the standards is that all letters shall be 4 inches high, with the names and telephone numbers of appropriate contacts and services in bold print, as indicated in the standards. These signs shall also include the SCAQMD toll free complaint line 1-800-CUT-SMOG (1-800-288-7664) and the telephone number for the Environmental Observer. These signs shall be posted within 50 feet of the curb on all four (4) corners of the subject property.

For each Dust Control Plan aggregating less than, or equal to, ten (10) acres:

1. The applicant shall install a sign on such property which is visible to the public that meets the following requirements:
 - (a) Such sign shall measure at least four (4) feet wide by four (4) feet high and conform to the specifications in 1 (a) below.

For each Dust Control Plan aggregating over ten (10) acres:

2. The applicant shall install a sign on such property which is visible to the public that meets the following requirements:
 - (a) Such sign shall measure at least eight (8) feet wide by four (4) feet high and conform to the specifications in 1 (b) below.

THE SIGN SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. The sign boards shall be constructed with materials capable of withstanding the environment in which they are placed.
 - (a) For 4' x 4' signs, the District recommends the following:
 - I. 3/4" A/C laminated plywood board
 - II. Two 4" x 4" posts
 - III. The posts should be attached to the edges of the plywood board with at least 2 carriage bolts on each post.
 - IV. The front surface of the sign board should be painted in the contrasting color of a white background with black lettering.
 - (b) For 4' x 8' signs, the District recommends the following:
 - I. 1" A/C laminated plywood board
 - II. Two 5" x 6" posts
 - III. The posts should be attached to the 4' edges of the plywood board with at least 2 carriage bolts on each post.
 - IV. The front surface of the sign board should be painted in the contrasting color of a white background with black lettering.

2. The sign board shall be installed and maintained in a condition such that members of the public can easily view, access, and read the sign at all times until the expiration date of the Dust Control plan.

(a) For 4' x 4' signs, the District recommends the following:

- I. The lower edge of the sign board should be mounted at least 2' above the existing ground surface to facilitate ease of viewing.
- II. The posts should be set in a hole at least 3' deep with concrete footings to preclude downing by high winds.
- III. On the construction site, the sign should be positioned such that nothing obstructs the public's view from the primary street access point.
- IV. For construction projects that are developed in phases, the sign should be moved to the area that is under active construction.
- V. In situations where all phases of the construction project are completed on a property prior to expiration of the Dust Control Plan, a written request for cancellation of the Dust Control Plan must be submitted to the Engineer.

(b) For 4' x 8' signs, the District recommends the following:

- I. The lower edge of the sign board should be mounted at least 2' above the existing ground surface to facilitate ease of viewing.
- II. The posts should be set in a hole at least 4' deep with concrete footings to preclude downing by high winds.
- III. On the construction site, the sign should be positioned such that nothing obstructs the public's view from the primary street access point.
- IV. For construction projects that are developed in phases, the sign should be moved to the area that is under active construction.
- V. In situations where all phases of the construction project are completed on a property prior to expiration of the Dust Control Plan, a written request for cancellation of the Dust Control Plan must be submitted to the Engineer.

3. The sign board shall contain the following information:

- (a) Project Name
- (b) Name of Prime Contractor
- (c) Phone Number of Contractor's Employee Responsible for Dust Control Matters
- (d) County designated phone number (to be provided by the Engineer)
- (e) South Coast Air Quality Management District Phone Number

4. The sign board shall be designed to the following alpha and numeric text dimensions (sign boards written in longhand are unacceptable).

(a) For a permittee subject to the 4' x 4' sign requirement, the District provides the following example: (as modified by the County of Riverside for use on County Public Works projects)

1" UPPERCASE Letters →	PROJECT NAME:		← 3 ½ " Title Case Bold Letters
1" UPPERCASE Letters →	CONTRACTOR		← 3 ½ " Title Case Bold Letters
1" Title Case Letters →	Contractor's Dust Control Phone #		← 3" Bold Numbers
1" Title Case Letters →	County of Riverside Phone #		← 3" Bold Numbers
1" Title Case Letters →	Phone Number:	SCAQMD 1-800-CUT-SMOG	← 3 ½ " Bold Numbers

"Title Case" means the first letter of a word is capitalized and subsequent letters are lower case.

(b) For a permittee subject to the 4' x 8' sign requirement, the District provides the following example: (as modified by the County of Riverside)

2" UPPERCASE Letters	PROJECT NAME:	4" Title Case Bold Letters
2" UPPERCASE Letters	CONTRACTOR	4" Title Case Bold Letters
2" Title Case Letters	Contractor's Dust Control Phone #	4" Bold Numbers
2" Title Case Letters	County of Riverside Phone #	4" Bold Numbers
2" Title Case Letters	Phone Number:	4 1/2" Bold Numbers
2" Title Case Letters	<p style="text-align: center;">SCAQMD 1-800-CUT-SMOG</p> <p style="text-align: center;">COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT</p>	

Plan Review Checklist Clearing/Grubbing/Mass Grading Phase

If feasible, use grading permit conditions to break the project into phases so that only a portion of the site is disturbed at any given time to ensure control of fugitive dust. This technique is critical for project sites with greater than 100 acres.

Prior to initiating activity, pre-water site through use of portable irrigation lines. At least 72 hours of pre-watering is recommended for each area prior to initiating earth-movement. Require the Applicant to specify water source and available flow rate (g/m).

Water applied continuously to all disturbed portions of the site by means of water truck/water pull as necessary to maintain sufficient visible moisture on the soil surface. For reference, one 2,000 gallon water truck can treat approximately 4 acres of active construction per hour. Also, for cut and fill activities, one 10,000 gallon water pull is estimated to be necessary for each 7,000 cubic yards of daily earth-movement. Multiple 4,000-gallon water trucks may be used in place of one 10,000-gallon water pull. Touch and visual contrast are reasonably good indicators of soil moisture. Surface areas that are dry to the touch and appear lighter-colored require the application of additional water to prevent visible or fugitive dust. Require the Applicant to specify the number of watering vehicles available for dust control during mass grading and during off-hours as well as availability of back-up water trucks if the site experiences dust control problems.

Water towers are necessary for projects with more than 10 acres of active construction. Without a water tower, it can take up to 30 minutes to fill a 2,000 gallon water truck. Also, multiple water towers are necessary for projects that use water pulls as filling one 10,000 gallon water pull can drain a water tower which takes up to 40 minutes to refill.

Wind fencing is necessary between the site and nearby residences or businesses. Off-site upwind fencing and on-site wind fencing for larger projects can also keep blow sand from being deposited onto the site or traveling through the site.

A perimeter watering system consisting of portable irrigation equipment may be an effective mitigation system to protect surrounding residences and businesses. The portable watering system may be used in place of or in conjunction with watering trucks. The local jurisdiction may also be provided access to this equipment.

Remember...
**DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK,
REGARDLESS OF CONSTRUCTION STATUS**

Section 1

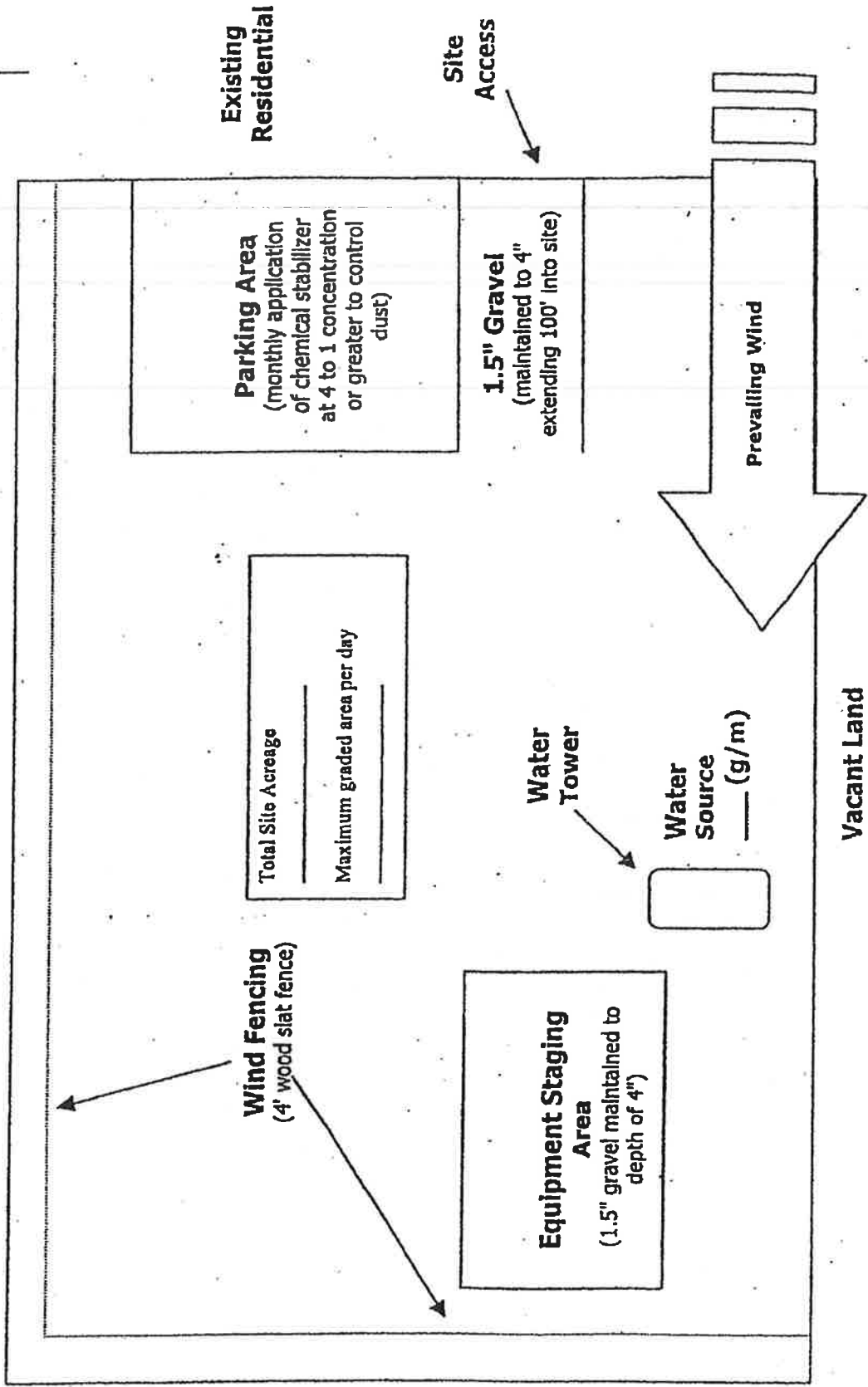
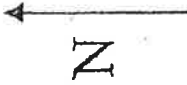
Simplified Sample Site Plan

Existing Residential

Distance and location of nearest:

Residence _____

Business _____



Existing Residential

Site Access

Total Site Acreage _____

Maximum graded area per day _____

Vacant Land

Existing Residential

Remember...
**DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK,
 REGARDLESS OF CONSTRUCTION STATUS**

Construction site accesses are to be improved with 1.5" gravel maintained to a depth of 4", at least 20' wide, and extending 100 feet into the site. If the project site is not balanced, a wheel washing system and/or ribbed steel plates should be placed in the roadway before the vehicle enters the graveled area to clean the tires and prevent trackout.

Equipment staging areas are to be treated with 1.5" gravel maintained to a depth of 4".

Employee parking areas are to be covered with 1.5" gravel maintained to a depth of 4" or treated with chemical dust suppressants at a 4 to 1 ratio on at least a monthly basis to prevent fugitive dust.

Chemical dust suppressants are to be mixed at a ratio of 20 to 1 and applied to all disturbed surfaces that are proposed to remain inactive for a period of at least 10 consecutive days. These products are effective in preventing and controlling dust. Recordkeeping is necessary to demonstrate compliance.

All project sites greater than 100 acres shall monitor daily wind speeds and AQMD forecasted wind events (call 1.800.CUT.SMOG; press one for air quality information, and then press five for Coachella Valley wind forecasts). Operators shall maintain these records for review by any local code enforcement officer or AQMD inspector.

An environmental observer whose primary duty is to oversee dust control at the site is to be used for construction projects greater than 100 acres and/or sites with more than 50 acres of active construction. The environmental observer is tasked with monitoring dust abatement measures and authorized to deploy additional water trucks and other dust control actions (i.e., wind fencing, street sweepers, chemical dust suppressants, etc.) as necessary to prevent or control fugitive dust.

Other (specify): _____

Remember...
DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK,
REGARDLESS OF CONSTRUCTION STATUS

Plan Review Checklist Finish Grading Phase

- Water applied continuously to all disturbed portions of the site by means of water truck/water pull as necessary to maintain sufficient visible moisture on the soil surface. For reference, one 2,000 gallon water truck can treat approximately 4 acres of active construction per hour. Also, for cut and fill activities, one 10,000 gallon water pull is estimated to be necessary for each 7,000 cubic yards of daily earth movement. Multiple 4,000-gallon water trucks may be used in place of a 10,000-gallon water pull. Touch and visual contrast are reasonably good indicators of soil moisture. Surface areas that are dry to the touch and appear lighter-colored require the application of additional water to prevent visible or fugitive dust. Require the Applicant to specify the number of watering vehicles available for dust control during finish grading and during off-hours as well as availability of back-up water trucks if the site experiences dust control problems.

- Water towers are necessary for projects with more than 10 acres of active construction. Without a water tower, it can take up to 30 minutes to fill a 2,000 gallon water truck. Also, multiple water towers are necessary for projects that use water pulls as filling one 10,000 gallon water pull can drain a water tower which takes up to 40 minutes to refill.

- Wind fencing is necessary between the site and nearby residences or businesses to reduce fugitive dust. Off-site upwind fencing and on-site wind fencing for larger projects can also keep blow sand from being deposited onto the site or traveling through a site.

- Chemical dust suppressants are to be applied at a concentration of at least 10 to 1 to finish graded areas once final elevations have been reached. For areas that will remain inactive for longer periods, vegetation can be a cost-effective alternative to chemical stabilization. Wind fencing or other obstructions can keep the stabilized area free from future disturbances.

- Construction site access(es) are to be improved with 1.5" gravel maintained to a depth of at least 4" with a minimum width of at least 20', extending 100 feet into the project site.

- Equipment staging areas are to be treated with 1.5" gravel maintained to a depth of 4".

- Internal roadway networks are to be treated with chemical dust suppressants at a minimum rate of at least 4 to 1 and retreated on a monthly basis once final roadway elevations have been reached.

- Employee parking areas are to be treated with chemical dust suppressants at a mix ratio of at least 4 to 1 and retreated on at least a monthly basis or covered with 1.5" gravel maintained to a depth of 4" to prevent fugitive dust.

- Other (specify): _____

Remember...
DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK,
REGARDLESS OF CONSTRUCTION STATUS

Plan Review Checklist Construction Phase

- Water applied continuously to all disturbed portions of the site by means of water truck/water pull is necessary to maintain sufficient visible moisture on the soil surface. For reference, one 2,000 gallon water truck can treat approximately 4 acres of active moisture per hour. Touch and visual contrast are reasonably good indicators of soil moisture. Surface areas that are dry to the touch and appear lighter-colored require the application of additional water to prevent visible or fugitive dust. Require the Applicant to specify the number of watering vehicles available for dust control during the construction phase and during off-hours as well as availability of back-up water trucks if the site experiences dust control problems.

- Wind fencing is necessary between the site and nearby residences or businesses. Off-site upwind fencing and on-site wind fencing for larger projects can also keep blowsand from being deposited onto the site or traveling through the site. Block walls, if part of the final project, can replace wind fencing during the construction phase.

- Chemical dust suppressants are to be applied at a concentration of at least 20 to 1 to finish graded areas once final elevations have been reached. For areas that will remain inactive for longer periods, vegetation can be a cost-effective alternative to chemical stabilization. Wind fencing or other obstructions can keep the stabilized area free from future disturbances.

- Construction site accesses are to be improved with 1.5" gravel, maintained to a depth of 4", with a width of at least 20', extending 100' into the project site. Paving internal roadways can substitute for gravel.

- Internal roadway networks are to be paved as early as feasible in the construction phase. Street sweeping of internal and/or external access roads will likely be required to control entrained road dust.

- Employee parking areas are to be treated with chemical dust suppressants at a mix ratio of no less than 4 to 1 and retreated on a monthly basis, or more frequently if fugitive dust is observed. If internal roadway is complete, employees are to be instructed to park on paved roads.

- Other (specify): _____

Remember...
DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK,
REGARDLESS OF CONSTRUCTION STATUS

RULE 403 IMPLEMENTATION HANDBOOK

REASONABLY AVAILABLE CONTROL MEASURES

Paragraph (d)(3) of Rule 403 allows activities outside the South Coast Air Basin (see Figure 2-1) to implement reasonably available control measures in lieu of best available control measures. Additionally, as specified by subparagraph (f)(3)(D) of Rule 403, any person seeking approval of a fugitive dust emissions control plan for projects outside the South Coast Air Basin must demonstrate to the satisfaction of the District that the given activity is employing all reasonably available fugitive dust control measures.

The District has prepared the attached listing of reasonably available fugitive dust control measures for a variety of source categories. This list is based on the U.S. Environmental Protection Agency's reference document entitled, "Control of Open Fugitive Dust Sources," Midwest Research Institute, September 1988.

The District encourages the use of those dust control measures that minimize the use of potable water. When water is needed, reclaimed water should be utilized to the greatest extent feasible.

RULE 403 IMPLEMENTATION HANDBOOK

REASONABLY AVAILABLE CONTROL MEASURES

The left column contains a listing of the sources of fugitive dust which are intended for emission control under District Rule 403 and a listing of control measures and high-wind measures. The right column contains a description of the reasonably available fugitive dust control measures for each of the sources.

Source: (1) Land Clearing/Earth-Moving

CONTROL MEASURES

(A) Watering

DESCRIPTION

- (1) Application of water by means of trucks, hoses and/or sprinklers prior to conducting any land clearing. This will increase the moisture content of the soils; thereby increasing its stability.
- (2) Pre-application of water to depths of proposed cuts.
- (3) Once the land clearing/earth moving activities are complete, a second application of water can generate a thin crust that stabilizes the disturbed surface area provided that it is not disturbed. (Security fencing can be used to prevent unwanted future disturbances of sites where a surface crust has been created).

(B) Chemical stabilizers

- (1) Only effective in areas which are not subject to daily disturbances.
- (2) Vendors can supply information on product application and required concentrations to meet the specifications established by the Rule.

(C) Wind fencing

- (1) Three- to five-foot barriers with 50% or less porosity located adjacent to roadways or urban areas can be effective in reducing the amount of windblown material leaving a site.
- (2) Would likely be used in conjunction with other measures (e.g., watering, chemical stabilization, etc.) to ensure that visible emissions do not cross a property line.

(D) Cover haul vehicles

- (1) Entire surface area of hauled earth should be covered once vehicle is full.

(E) Bedliners in haul vehicles

- (1) When feasible, use in bottom-dumping haul vehicles.

HIGH WIND MEASURE

- (a) Cease all active operations; or
- (b) Apply water within 15 minutes to any soil surface which is being moved or otherwise disturbed.

Source: (2) Unpaved Roads

CONTROL MEASURES

DESCRIPTION

- | | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (F) Paving | (1) Requires street sweeping/cleaning if subject to material accumulation. |
| (G) Chemical stabilization | (1) Vendors can supply information as to application methods and concentrations to meet the specifications established by the Rule
(2) Not recommended for high volume or heavy equipment traffic use. |
| (H) Watering | (1) In sufficient quantities to keep surface moist.
(2) Required application frequency will vary according to soil type, weather conditions, and vehicular use. |
| (I) Reduce speed limits | (1) 15 mile per hour maximum. May need to be used in conjunction with watering or chemical stabilization to prevent visible emissions from crossing the property line. |
| (J) Reduce vehicular trips | (1) Access restriction or redirecting traffic to reduce vehicle trips by a minimum of 60 percent. |
| (K) Gravel | (1) Gravel maintained to a depth of four inches can be an effective measure.
(2) Should only be used in areas where paving, chemical stabilization or frequent watering is not feasible. |

HIGH WIND MEASURE

- (c) Apply a chemical stabilizer (to meet the specifications established by the Rule) prior to wind events; or
- (d) Apply water once each hour; or
- (e) Stop all vehicular traffic.

RULE 403 IMPLEMENTATION HANDBOOK

Source: (3) Storage Piles

CONTROL MEASURES

DESCRIPTION

- (L) Wind sheltering
 - (1) Enclose in silos.
 - (2) Install three-sided barriers equal to height of material, with no more than 50 percent porosity.
- (M) Watering
 - (1) Application methods include: spray bars, hoses and water trucks.
 - (2) Frequency of application will vary on site-specific conditions.
- (N) Chemical stabilizers
 - (1) Best for use on storage piles subject to infrequent disturbances.
- (O) Altering load-in/load-out procedures
 - (1) Confine load-in/load-out procedures to leeward (downwind) side of the material.
 - (2) May need to be used in conjunction with wind sheltering to prevent visible emissions from crossing the property line.
- (P) Coverings
 - (1) Tarps, plastic, or other material can be used as a temporary covering.
 - (2) When used, these should be anchored to prevent wind from removing coverings.

HIGH WIND MEASURE

- (f) Apply chemical stabilizers (to meet the specifications established by the Rule) prior to wind events; or
- (g) Apply water once per hour; or
- (h) Install temporary covers.

Source: (4) Paved Road Track-Out

CONTROL MEASURES

DESCRIPTION

- | | |
|--------------------------------|--------------------------------------------------------------------------------------------|
| (Q) Chemical stabilization | (1) Most effective when used on areas where active operations have ceased. |
| (R) Sweep/clean roadways | (2) Vendors can supply information on methods for application and required concentrations. |
| (S) Cover haul vehicles | (1) Either sweeping or water flushing may be used. |
| (T) Bedliners in haul vehicles | (1) Entire surface area should be covered once vehicle is full. |
| (U) Site access improvement | (1) When feasible, use in bottom dumping vehicles. |
| | (1) Pave internal roadway system. |
| | (2) Most important segment, last 100 yards from the connection with paved public roads |

HIGH WIND MEASURE

- (i) Cover all haul vehicles; and
- (j) Clean streets with water flushing, unless prohibited by the Regional Water Quality Control Board.

RULE 403 IMPLEMENTATION HANDBOOK

Source: (5) Disturbed Surface Areas/ Inactive Construction Sites

CONTROL MEASURES

DESCRIPTION

- (Q) Chemical stabilization
 - (1) Most effective when used on areas where active operations have ceased.
 - (2) Vendors can supply information on methods for application and required concentrations.
- (R) Watering
 - (1) Requires frequent applications unless a surface crust can be developed.
- (S) Wind fencing
 - (1) Three- to five-foot barriers with 50% or less porosity adjacent to roadways or urban areas can be effective in reducing the amount of wind blown material leaving a site.
- (T) Vegetation
 - (1) Establish as quickly as possible when active operations have ceased.
 - (2) Use of drought tolerant, native vegetation is encouraged.

HIGH WIND MEASURES

- (k) Apply chemical stabilizers (to meet the specifications established by the Rule); or
- (l) Apply water to all disturbed surface areas 3 times per day.

BEST AVAILABLE CONTROL MEASURES

Rule 403, paragraph (d)(2) requires active operations [defined in Rule 403, paragraph (c)(1)] within the South Coast Air Basin (see Figure 2-1) to implement at least one best available control measure for each fugitive dust source type on site. Additionally, as specified by subparagraph (f)(3)(D) of Rule 403, any person seeking approval of a fugitive dust emissions control plan for projects within the South Coast Air Basin must demonstrate to the satisfaction of the AQMD that the given activity is employing all best available fugitive dust control measures.

The AQMD has prepared the attached listing of best available fugitive dust control measures for a variety of source categories. This list is based on the U.S. Environmental Protection Agency's reference document entitled, "Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures," Office of Air and Radiation, September 1992.

The AQMD encourages the use of those dust control measures that minimize the use of potable water. When water is needed, reclaimed water should be utilized to the greatest extent feasible.

RULE 403 IMPLEMENTATION HANDBOOK

BEST AVAILABLE CONTROL MEASURES

The left column contains a listing of the sources of fugitive dust which are intended for emission control under District Rule 403 and a listing of control measures and high-wind measures. The right column contains a description of the best available fugitive dust control measures for each of the sources.

Source: (1) Land Clearing/Earth-Moving

CONTROL MEASURES

DESCRIPTION

- | | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A) Watering (pre-grading) | (1) Application of water by means of trucks, hoses and/or sprinklers prior to conducting any land clearing. This will increase the moisture content of the soils; thereby increasing its stability.
(2) Pre-application of water to depths of proposed cuts. |
| (A-1) Watering (post-grading) | (1) In active earth-moving areas water should be applied at sufficient frequency and quantity to prevent visible emissions from extending more than 100 feet from the point of origin. |
| (A-2) Pre-grading planning | (1) Grade each phase separately, timed to coincide with construction phase; or
(2) Grade entire project, but apply chemical stabilizers or ground cover to graded areas where construction phase begins more than 60 days after grading phase ends. |
| (B) Chemical stabilizers | (1) Only effective in areas which are not subject to daily disturbances.
(2) Vendors can supply information on product application and required concentrations to meet the specifications established by the Rule. |
| (C) Wind fencing | (1) Three- to five-foot barriers with 50% or less porosity located adjacent to roadways or urban areas can be effective in reducing the amount of windblown material leaving a site. Must be implemented in conjunction with either measure (A-1) or (B). |
| (D) Cover haul vehicles | (1) Entire surface area of hauled earth should be covered once vehicle is full. |
| (E) Bedliners in haul vehicles | (1) When feasible, use in bottom-dumping haul vehicles. |

HIGH WIND MEASURE

- (a) Cease all active operations; or
- (b) Apply water within 15 minutes to any soil surface which is being moved or otherwise disturbed.

RULE 403 IMPLEMENTATION HANDBOOK

Source: (2) Unpaved Roads

CONTROL MEASURES

DESCRIPTION

- (F) Paving (1) Requires street sweeping/cleaning if subject to material accumulation.
- (G) Chemical stabilization (1) Vendors can supply information as to application methods and concentrations to meet the specifications established by the Rule
(2) Not recommended for high volume or heavy equipment traffic use.
- (H) Watering (1) In sufficient quantities to keep surface moist.
(2) Required application frequency will vary according to soil type, weather conditions, and vehicular use.
- (I) Reduce speed limits (1) 15 mile per hour maximum. May need to be used in conjunction with watering or chemical stabilization to prevent visible emissions from crossing the property line.
- (J) Reduce vehicular trips (1) Access restriction or redirecting traffic to reduce vehicle trips by a minimum of 60 percent.
- (K) Gravel (1) Gravel maintained to a depth of four inches can be an effective measure.
(2) Should only be used in areas where paving, chemical stabilization or frequent watering is not feasible.

HIGH WIND MEASURE

- (a) Apply a chemical stabilizer (to meet the specifications established by the Rule) prior to wind events; or
(b) Apply water once each hour; or
(c) Stop all vehicular traffic.

RULE 403 IMPLEMENTATION HANDBOOK

Source: (3) Storage Piles

CONTROL MEASURES

DESCRIPTION

- | | |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (L) Wind sheltering | (1) Enclose in silos.
(2) Install three-sided barriers equal to height of material, with no more than 50 percent porosity. |
| (M) Watering | (1) Application methods include: spray bars, hoses and water trucks.
(2) Frequency of application will vary on site-specific conditions. |
| (N) Chemical stabilizers | (1) Best for use on storage piles subject to infrequent disturbances. |
| (O) Altering load-in/load-out procedures | (1) Confine load-in/load-out procedures to leeward (downwind) side of the material.
Must be used in conjunction with either measure (L), (M), (N), or (P). |
| (P) Coverings | (1) Tarps, plastic, or other material can be used as a temporary covering.
(2) When used, these should be anchored to prevent wind from removing coverings. |

HIGH WIND MEASURE

- (a) Apply chemical stabilizers (to meet the specifications established by the Rule) prior to wind events; or
- (b) Apply water once per hour; or
- (c) Install temporary covers.

RULE 403 IMPLEMENTATION HANDBOOK

Source: (4) Paved Road Track-Out

CONTROL MEASURES

DESCRIPTION

Compliance with District Rule 403.

Paragraph (d)(5).

RULE 403 IMPLEMENTATION HANDBOOK

Source: (S) Disturbed Surface Areas/ Inactive Construction Sites

CONTROL MEASURES

DESCRIPTION

- (Q) Chemical stabilization
- (1) Most effective when used on areas where active operations have ceased.
 - (2) Vendors can supply information on methods for application and required concentrations.
- (R) Watering
- (1) Requires frequent applications unless a surface crust can be developed.
- (S) Wind fencing
- (1) Three- to five-foot barriers with 50% or less porosity adjacent to roadways or urban areas can be effective in reducing the amount of wind blown material leaving a site. Must be used in conjunction with either measure (Q), (R), or (T).
- (T) Vegetation
- (1) Establish as quickly as possible when active operations have ceased.*

HIGH WIND MEASURES

- (a) Apply chemical stabilizers (to meet the specifications established by the Rule); or
- (b) Apply water to all disturbed surface areas 3 times per day.

* Use of drought tolerant, native vegetation is encouraged.

TABLE 1
BEST [REASONABLY]* AVAILABLE CONTROL MEASURES FOR HIGH WIND CONDITIONS

FUGITIVE DUST SOURCE CATEGORY	<u>CONTROL MEASURES</u>
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice [once] per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice [once] per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 1 may be used.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

January 1999

TABLE 2
DUST CONTROL ACTIONS FOR EXEMPTION FROM PARAGRAPH (d)(4)*

<u>FUGITIVE DUST SOURCE CATEGORY</u>	<u>CONTROL ACTIONS</u>
Earth-moving (except construction cutting and filling areas, and mining operations)	<p>(1a) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR</p> <p>(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.</p>
Earth-moving: Construction fill areas:	<p>(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.</p>

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2 (Continued)

<u>FUGITIVE DUST SOURCE CATEGORY</u>	<u>CONTROL ACTIONS</u>
Earth-moving: Construction cut areas and mining operations:	(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 [70] percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c) Apply chemical stabilizers within five working days of grading completion; OR (2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a). Apply water to at least 80 [70] percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR (3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (3c) Establish a vegetative ground cover within 21 [30] days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR (3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2 (Continued)

<u>FUGITIVE DUST SOURCE CATEGORY</u>	<u>CONTROL ACTIONS</u>
Unpaved Roads	(4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR (4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR (4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a) Apply chemical stabilizers; OR (5b) Apply water to at least 80 [70] percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR (5c) Install temporary coverings; OR (5d) Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile.
<u>All Categories</u>	(6a) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 3
TRACK-OUT CONTROL OPTIONS
PARAGRAPH (d)(5)(B)

CONTROL OPTIONS

(1)	Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
(2)	Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.
(3)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

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**RANCHO CALIFORNIA ROAD AND ANZA ROAD
ROUNDBOUT
RANCHO CALIFORNIA ROAD FROM 415 FEET SOUTHWEST OF ANZA ROAD
TO 611 FEET NORTHEAST OF ANZA ROAD
ANZA ROAD FROM 550 FEET SOUTHEAST OF RANCHO CALIFORNIA ROAD
TO 603 FEET NORTHEAST OF RANCHO CALIFORNIA ROAD**

PROJECT No. B9-0957

SPECIAL PROVISIONS

DESCRIPTION:

In general, this project consists of the construction of a single lane roundabout at the intersection of Rancho California Road and Anza Road in the Temecula Area of Riverside County. Included in the construction of the Rancho California Road and Anza Road roundabout will be the placement of curb and gutter, splitter islands, landscaping, center island, decomposed granite trails, replacement of existing culverts, relocation of fire hydrants, relocation of CP test stations, storm drain system with placement of liner and an infiltration basin for water quality purposes. In addition, this project will reconstruct approximately 1,026 feet of Rancho California Road from 415 feet southwesterly from the intersection of Rancho California Road and Anza Road to 611 feet northeasterly and approximately 1,126 feet of Anza Road from 554 feet southeasterly of the intersection of Rancho California Road and Anza Road to 603 feet northwesterly.

SPECIFICATIONS:

This project shall conform to the requirements of the May 2006 edition of the Standard Specifications and Standard Plans as issued by the State of California Department of Transportation and sections of the 2009 edition of the Standard Specifications and Standard Plans for Public Works Construction.

Requirements on the construction plans for Portland Cement Concrete are modified to the PCC Class designations, as described in Section 90-1.01 of the Standard Specifications, as follows:

- Class "A" shall mean Class "2"
- Class "B" shall mean Class "3"
- Class "C" shall mean Class "4"
- Class "D" shall mean Class "1"

BEGINNING OF WORK:

A written "Notice to Proceed" for construction will be issued by the County on or after **January 3, 2012**.

LIQUIDATED DAMAGES:

The Contractor shall diligently prosecute the work to completion before the expiration of **63** calendar days from the date stated in the "Notice to Proceed". The Contractor shall pay to the County of Riverside the sum of **\$10,000.00** per day, for each and every calendar days delay in finishing the work in excess of the number of working days prescribed above.

PROJECT APPEARANCE:

The contractor shall maintain a neat appearance to the work.

In areas visible to the public, the following shall apply:

- A. When practicable, broken concrete and debris developed during clearing and grubbing shall be disposed of concurrently with its removal. If stockpiling is necessary, the material shall be removed or disposed of weekly.
- B. Trash bins shall be furnished for debris from structure construction. Debris shall be placed in trash bins daily. Forms or falsework that are to be re-used shall be staked neatly concurrently with their removal. Forms and falsework that are not to be re-used shall be disposed of concurrently with their removal.

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefore.

DISPOSAL OF EXCESS EXCAVATION OR MATERIALS:

Excess earth excavation, pavement grindings and other excess materials resulting from construction operations shall be disposed of by the Contractor outside of the highway right of way, as provided in Section 7-1.13 of the Standard Specifications.

The second paragraph of Section 7-1.13 of the Standard Specifications is modified to read as follows:

When any material is to be disposed of outside the highway right of way, and the County of Riverside has not made arrangements for the disposal of such material, the Contractor shall first obtain written authorization from the property owner on whose property the disposal is to be made and he shall file with the Engineer said authorization or a certified copy thereof together with a written release from the property owner absolving the County

of Riverside from any and all responsibility in connection with the disposal of material on said property. If the disposal of materials is to be made at an established disposal facility that is available for public use, the Contractor shall retain all authorizations and receipts from said disposal facility and shall provide copies to the Engineer upon request.

RECORD DRAWINGS:

The Contractor shall keep one clean set of bond originals to note any changes which take place during construction. These changes to the original plans and/or specifications shall be noted at the appropriate locations with the appropriate changes indicated in red pencil or ink. The Contractor shall note in large letters "RECORD DRAWINGS" on the Title Sheet of the plans. The job will not be finalized by the Engineer until these record drawings have been completed to the satisfaction of the Engineer. The changes shall be noted on the plans as the changes occur. The record drawings shall be submitted to the Resident Engineer, and become the property of the County at conclusion of the project.

Full compensation for maintaining and compiling the record drawings shall be considered to be included in other items of work and no additional compensation will be allowed therefor.

INSURANCE:

In addition to the requirements of Section 18, "Insurance – Hold Harmless" of these contract documents, the Contractor's Certificate of Insurance and endorsements for the project shall name the following listed entities as additional insured under the Contractor's general liability, excess liability, and auto liability insurance policies, and each listed entity shall be named on the Waiver of Subrogation for the Contractor's Workers Compensation policy.

1. "Rancho California Water District, its officers, directors, agents and employees".
2. "The Southern California Edison Company, its officers, directors, agents and employees."
3. "Verizon Communication, its officers, directors, agents and employees."
4. "The Gas Company, its officers, directors, agents and employees."
5. "Metropolitan Water District, its officers, directors, agents and employees"

Each of the above listed entities shall also be held harmless, in accordance with the requirements of Section 18, "Insurance – Hold Harmless" of these contract documents.

METHOD OF PAYMENT

Full compensation for compliance with the requirements of this Section shall be considered as included in the various items of work, and no additional compensation will be allowed therefor.

ITEMS OF WORK:

ORDER OF WORK:

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work" of the Standard Specifications and these Special Provisions.

Attention is directed to "Beginning of Work" of these Special Provisions regarding the start of construction. Construction is anticipated to begin on January 03, 2012.

Attention is directed to "Precast Reinforced Concrete Box" of these Special Provisions. The Contractor shall order and deliver to the job site the Precast Reinforced Concrete Box and the HDPE Pipe prior to the anticipated start of construction date. The Contractor is responsible for placement of the Precast Reinforced Concrete Box, HDPE Pipe and the associated installation work contained in the Special Provisions.

Attention is directed to "Solar Powered Equestrian Crosswalk, Flashing Beacon System with Equestrian and Pedestrian Push Buttons" of these Special Provisions and Exhibit "A" attached to these Special Provisions for requirements of equestrian crossing construction. The equestrian crossing shall be constructed prior to the start of the roundabout construction.

Attention is directed to "Closure Schedule" of these Special Provisions regarding closure days and hours.

Prior to initiating excavation activities, the Contractor shall pothole all utilities shown or not shown on the plans. Full compensation for potholing utilities, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

The County has prepared a construction staging plan as guidelines for the Contractor. The Contractor will need to develop their own construction staging plans, detour and traffic control plans that will meet the general requirements the County has in the staging plan sheets and these special provisions. Any changes recommend by the Contractor to the staging plans proposed by the County will need be approved by the Riverside County Director of Transportation prior to the start of construction.

Below is the proposed staging and schedule prepared by the County.

Stage 1A:

The initial order of work shall be the construction of a temporary two lane road on the southwest and southeast sides of Rancho California Road within the existing right of way. Contractor shall stripe and maintain two lanes of traffic (one lane in each direction on Rancho California Road). Traffic on Rancho California Road shall be shifted to the southeast and southwest to construct the northwest and the northeast sides of Rancho California Road.

Contractor shall maintain one lane of traffic for local access on the northwest leg of Anza Road with flaggers on each end at all times as construction is in progress for this segment. Two lanes of traffic shall be maintained when no construction is being performed on the northwest leg of Anza Road.

Construction activities anticipated under this stage for the northwest and the northeast sides of Rancho California Road and northwest leg of Anza Road shall include but not limited to clearing and grubbing (removal of conflicting vegetation, trees, bushes, groundcover, monument, guard post, sign post, PVC fencing, partial removal of culverts, and rip rap), construction of concrete curb and gutter, construction of storm, partial construction of reinforced concrete box (including the placement of liner as shown in the plans) with headwalls, construction of catch basins and manholes (including the placement of liner as shown in the plans), construction of decomposed granite trails with concrete headers, construction of concrete ramps, construction of splitter islands (including ramps, signs and stamped concrete on Rancho California Road), construction of slopes, irrigation modifications and placement of new irrigation (including accessories), construction of the structural section for the road to the hot mix asphalt (Type A), construction of maintenance walk, partial construction of center island (truck apron, all the curbs, irrigation and maintenance walk), reconstruction of dirt driveway, street lights (including placement of conduit and accessories), partial construction of splitter island on the northwest leg of Anza road (including signs and stamp concrete), construction of water quality basin with storm drain, storm drain outlet structure, headwall, rip rap, chain link fencing and AC driveway.

Contractor shall maintain two lanes of traffic (one lane in each direction) for the southeast leg of Anza Road during this stage for the first twenty-one (21) calendar days.

Working hours shall be between 6:00 am and 6:00 pm Sunday through Saturday, except legal holidays, as approved by the Engineer. Exceptions and specific work schedules shall be submitted to the Engineer for consideration.

No water ponding will be allowed during this stage of construction. Contractor shall maintain positive drainage at all times during construction.

Stage 1B:

Contractor shall close the southeast leg of Anza Road and detour traffic. Begin the partial construction of the southeast leg of Anza Road.

Contractor shall only be allowed to close the southeast leg of Anza Road for (21) calendar days. The closure for the southeast leg of Anza Road will start twenty-two (22) calendar days after the start of construction for Stage 1A. Working hours shall be between 6:00 am and 6:00 pm Sunday through Saturday, except legal holidays, as approved by the Engineer. Exceptions and specific work schedules shall be submitted to the Engineer for consideration.

Construction anticipated for the southeast leg of Anza Road under this stage shall include but not limited to clearing and grubbing (removal of conflicting vegetation, trees, bushes, groundcover, monument, guard post, sign post, partial removal of culverts, and rip rap), construction of concrete curb and gutter, construction of storm drain, partial construction of reinforced concrete box

(including the placement of liner as shown in the plans) with headwalls, construction of catch basins and manholes (including the placement of liner as shown in the plans), construction of DG trails with concrete headers, construction of concrete ramps, construction of splitter islands (including ramps, signs and stamp concrete on Anza Road), construction of slopes, irrigation modifications and placement of new irrigation (including accessories), construction of the structural section for the road to the hot mix asphalt (Type A), construction of maintenance walk, street lights (including placement of conduit and accessories).

No water ponding will be allowed during this stage of construction. Contractor shall maintain positive drainage at all times during construction.

Stage 2

Attention is directed to “Portable Changeable Message Signs” of these Special Provisions regarding displayed message on portable message signs. Messages shall be approved by the Director of Transportation prior to be displayed on portable changeable message signs.

Contractor shall move traffic to the northwest and northeast half on Rancho California Road. Contractor shall maintain one lane of 2-way traffic with three flaggers (one on each end of Rancho California Road and one at the intersection of Rancho California Road and Anza Road. Turning movements on Anza Road southerly are to be detoured. Contractor will have nine (9) calendar days starting Sunday at 6:00 pm to Wednesday at 5:00 am to complete Stage 2 of construction of the southwest and the southeast sides of Rancho California Road including the intersection. The nine (9) calendar days will be part of the 21 calendar days given to the Contractor to complete the southeast leg of Anza Road in Stage 1B and no additional calendar days will be given. Rancho California Road traffic shall be fully operational for thru traffic after the ninth (9) calendar day.

Contractor shall maintain two lanes of traffic (one lane in each direction) for the northwest leg of Anza Road during construction of this phase.

Construction activities anticipated under this stage for the southwest and the southeast of Rancho California Road shall be included but not limited to clearing and grubbing (removal of conflicting vegetation, trees, bushes, groundcover, guard post, sign post, partial removal of culverts and rip rap) construction of concrete curb and gutter, construction of storm drain, construction of reinforced concrete box (including the placement of liner as shown in the plans) with headwalls, construction of catch basins and manholes (including the placement of liner as shown in the plans), construction of decomposed granite trails with concrete headers, construction of concrete ramps, construction of slopes, irrigation modifications and placement of new irrigation (including accessories), construction of the structural section for the road to the hot mix asphalt (Type A), construction of maintenance walk, completion of construction of center island (truck apron, all the curbs, irrigation and maintenance walk), and removal of temporary road. In addition, Contractor is required to complete the construction of the splitter island for northwest leg of Anza Road at the completion of Stage 2.

Contractor will be permitted to work longer than twelve (12) working hours from Sunday through Saturday for nine calendar days for Stage 2 of construction.

No water ponding will be allowed during this stage of construction. Contractor shall maintain positive drainage at all times during construction.

Stage 3

Lane closures will only be allowed for the placement of final lift of asphalt concrete (ARHM) and for the placement of the pavement marking and striping during this stage of construction. Contractor will not be allowed to park any construction equipment on Rancho California Road and Anza Road during this stage.

Construction activities anticipated under this stage shall be included but not limited to the placement of final lift of asphalt, placement of AC dikes with overside drains, placement of landscaping, completion of irrigation, completion of the placement of roadside signs, and placement of striping and markings.

Contractor will have twenty-one (21) calendar days to complete Stage 3. Working hours shall be between 6:00 am and 6:00 pm Sunday through Saturday, except legal holidays, as approved by the Engineer. Exceptions and specific work schedules shall be submitted to the Engineer for consideration.

No water ponding will be allowed during this stage of construction. Contractor shall maintain positive drainage at all times during construction.

Below is a construction schedule table for each of the stages of construction that the Contractor is required to follow:

Construction Schedule for the Rancho California Road Roundabout

Week (7 Working Calendar Days Per Week)											
Phase	Calendar Days	1	2	3	4	5	6	7	8	9	
1A	28										
1B	21										
2	9										
3	21										

Attention is directed to “Public Convenience” of these Special Provisions regarding access to the businesses with driveways on Rancho California Road and Anza Road. The Contractor shall coordinate with these businesses to make accommodations to provide continual access available.

Attention is directed to “Public Convenience” of these Special Provisions regarding the Public Awareness Program and responding to communications with the public. The Contractor shall coordinate with the Public Affairs Officer appointed by the County on project signage, responding to comments and complaints from the public and other public awareness requests as needed.

Attention is directed to "Liquidated Damages" of these Special Provisions regarding specific duration times for completion of work. Rancho California Road and Anza Road is a vital commuter route and there are significant liquidated damages for delays.

TRAFFIC CONTROL SYSTEM/ PUBLIC CONVENIENCE/ PUBLIC SAFETY:

The County has prepared a construction staging plan as guidelines to the contractor only. Contractor shall prepare their own construction staging, detour and traffic control plans that will meet the requirements the County has in the staging plan sheets and these special provisions for review and approval by the Director of Transportation thirty (30) days following the award of the construction contract.

The construction staging, detour plans and traffic control plans shall be prepared, signed and stamped by a Civil Engineer or Traffic Engineer who is registered as such in the State of California, unless otherwise specifically allowed by the Engineer. The Contractor shall revise and implement the plans as directed by the Construction Engineer. Construction shall not begin until the Engineer provides Contractor with County approval of the plans.

Construction staging, detour and traffic control plans shall be in accordance with the appropriate standards and specifications for construction staging, detour roads, traffic control, including the State of California Highway Design Manual, the Manual on Uniform Traffic Control Devices 2006 Edition, the corresponding California Supplement, and subsequent modifications as adopted by the State of California Department of Transportation, Standard Plans and Standard Specifications, and the Work Area Traffic Control Handbook (WATCH), as published by Building News, Inc. Any requests for deviation from the established design standards or specifications are to be submitted to the Construction Engineer for review and approval prior to submission of the required plans.

With regard to the preparation and implementation of the plans, attention is especially directed to Sections 7-1.06, 7-1.08, 7-1.09, 7-1.11, 7-1.12 and Section 12 of the State of California Standard Specifications. Section 12-2.02 of the Standard Specifications is deleted.

Maintaining traffic shall conform to the provisions in 7-1.02 "Load Limitations", 7-1.06 "Safety and Health Provisions", 7-1.08 "Public Convenience", 7-1.09 "Public Safety", and 12-3.04 "Portable Delineators" of the Standard Specifications, the Manual on Uniform Traffic Control Devices 2006 Edition, the corresponding California Supplement, and subsequent modifications as adopted by the State of California Department of Transportation, the Section of these contract documents entitled "Insurance - Hold Harmless", and these Special Provisions.

All existing traffic control signs and street name signs shall be maintained in visible locations as directed by the Engineer.

Portable changeable message signs shall be furnished, placed, operated and maintained at those locations shown on the approved Traffic Control Plans or where designated by the Engineer in conformance with the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications and these Special Provisions.

Contractor shall provide a week advanced notice to the public prior to the start of construction and prior to implementing any lane closures on Portable Changeable Message Signs, the message displayed shall be approved by the Director of Transportation.

All warning lights, signs, flares, k-rail, barricades and other facilities for the sole convenience and direction of public traffic shall be furnished and maintained by the Contractor. All traffic control devices shall conform to and be placed in accordance with the Manual on Uniform Traffic Control Devices 2006 Edition, the corresponding California Supplement, and subsequent modifications as adopted by the State of California Department of Transportation.

All construction signs shall be either covered or removed when not required by the nature of the work or if no present hazard to the motorist exists.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to commencing excavation for construction area sign posts. The regional notification centers include, but not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert-Southern California (USA)	1-800-422-4133 1-800-227-2600 or 811

Excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

No payment for extra work will be allowed for work performed as specified in Section 12-2.02 (Flagging Costs) of the Standard Specifications. Flagging costs will be borne entirely by the Contractor.

No additional compensation will be given to the contractor for furnishing, installing and maintaining the k-rail required as part of the traffic control systems and construction staging plans.

Dust control shall conform to the provision of Section 10 of the Standard Specifications except that no extra work will be allowed when the Engineer orders the application of water for the purpose of controlling dust caused by public traffic as provided for in the last paragraph of Section 10.

The Contractor shall be responsible to distribute an information letter pertaining to the planned work to all affected residences and businesses, at least one week prior to commencing work adjacent to those residences and businesses. It shall be the responsibility of the Contractor to coordinate with the Public Affairs Officer to obtain, print sufficient copies, and distribute the letter. The Transportation Department logo shall be included on the letter. A computer file of the logo may be obtained from the Engineer in .WPG, .DXF, .DGN or .DWG format. The letter shall

be similar to the sample provided by the Engineer, and shall include a project description, the scope of work, the anticipated construction schedule, and other information as appropriate.

The Contractor shall post temporary no parking signs on affected streets 24 hours prior to work on those streets. The temporary no parking signs shall state the anticipated dates and hours of work on those streets.

METHOD OF PAYMENT

Full compensation, except as otherwise provided herein, for conforming to the requirements of this article, including furnishing, installing and maintaining all traffic control devices, k-rail, temporary sign, removal and placement of temporary striping and pavement markings shown on the construction staging developed by the contractor, detour and traffic control plans, shall be paid for on a lump sum basis under Traffic Control Systems, and no additional compensation will be allowed therefor.

CLOSURE REQUIREMENTS AND CONDITIONS:

Closure shall conform to the provisions in "Maintaining Traffic" of these Special Provisions.

CLOSURE SCHEDULE (ONLY FOR THE NINE CALENDAR DAY CLOSURE)

By noon Monday, the Contractor shall submit a written schedule of planned closures for the following week period, defined as Sunday noon through the following Sunday noon.

The Closure Schedule shall show the locations and times of the proposed closures. The Closure Schedule request forms furnished by the Engineer shall be used. Closure Schedules submitted to the Engineer with incomplete or inaccurate information will be rejected and returned for correction and re-submittal. The Contractor will be notified of disapproved closures or closures that require coordination with other parties as a condition of approval.

Closure Schedule amendments, including adding additional closures, shall be submitted by noon to the Engineer, in writing, at least three (3) business days in advance of a planned closure. Approval of Closure Schedule amendments will be at the discretion of the Engineer.

The Engineer shall be notified of cancelled closures two (2) business days before the date of closure.

Closures that are cancelled due to unsuitable weather may be rescheduled at the discretion of the Engineer.

LATE REOPENING OF CLOSURES

If a closure is not reopened to public traffic by the specified time, work shall be suspended in conformance with the provisions in Section 8-1.05, "Temporary Suspension of Work" of the Standard Specifications. No further closures are to be made until the Engineer has accepted a work plan, submitted by the Contractor that will insure that future closures will be reopened to public

traffic at the specified time. The Engineer will have two (2) business days to accept or reject the Contractor's proposed work plan. The Contractor will not be entitled to compensation for the suspension of work resulting from the late reopening of closures.

For each 15 minute interval, or fraction thereof past the time specified to reopen the closure, the Department will deduct \$5,000 per interval from moneys due or that may become due the Contractor under the contract.

COMPENSATION

The Engineer shall be notified of delays in the Contractor's operations due to the following conditions, and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of those conditions, and the Contractor's loss due to that delay could not have been avoided by rescheduling the affected closure or by judicious handling of forces, equipment and plant, the delay will be considered a right of way delay and will be compensated in conformance with the provisions in Section 8-1.09, "Right of Way Delays" of the Standard Specifications:

1. The Contractor's proposed Closure Schedule is denied and his planned closures are within the time frame allowed for closures in "Maintaining Traffic" of these Special Provisions, except that the Contractor will not be entitled to compensation for amendments to the Closure Schedule that are not approved.
2. The Contractor is denied a confirmed closure.

Should the Engineer direct the Contractor to remove a closure before the time designated in the approved Closure Schedule, delay to the Contractor's schedule due to removal of the closure will be considered a right of way delay and compensation for the delay will be determined in conformance with the provisions in Section 8-1.09, "Right of Way Delays" of the Standard Specifications.

Chart																									
Conventional Highway Lane Requirements																									
Location: Riverside County												Route/Direction: Rancho California													
Road and Only for the nine (9)																									
Calendar Day Stage 2.																									
Closure Limits: Rancho California Road on the southwest and southeast sides.																									
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Fridays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Legend:																									
1	Provide at least one through traffic lane open in direction of travel																								
N	No lane closures																								
Work is permitted within project right of way during normal working hours where shoulder or lane closure is not required.																									

MAINTAINING TRAFFIC:

Maintaining traffic shall conform to the provisions in Section 7-1.08, "Public Convenience", Section 7-1.09, "Public Safety" and Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications and "Public Safety" of these Special Provisions.

Daily working hours shall be between the hours of 6:00 a.m. and 6:00 p.m., Sunday through Saturday, except legal holidays, as approved by the Engineer. Exceptions and specific work schedules shall be submitted to the Engineer for consideration.

Closure is defined as the closure of a traffic lane or lanes, including shoulder, ramp or connector lanes, within a single traffic control system.

Closure shall conform to the provisions in "Traffic Control System" of these Special Provisions.

No full closures will be allowed on Rancho California Road and on Northwest leg of Anza Road

Local authorities shall be notified at least five (5) business days before work begins. The Contractor shall cooperate with local authorities to handle traffic through the work area and shall make arrangements to keep the work area clear of parked vehicles.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders including sections closed to public traffic.

When work vehicles or equipment are parked on the shoulder within six (6) feet of a traffic lane, the shoulder area shall be closed.

When work vehicles or equipment are parked on the shoulder within six (6) feet of a traffic lane, the shoulder area shall be closed with fluorescent orange traffic cones or portable delineators

placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. A minimum of 9 traffic cones or portable delineators shall be used for the taper. A W20-1 (ROAD WORK AHEAD) or W21-5b (RIGHT/LEFT SHOULDER CLOSED AHEAD) or C24 (CA) (SHOULDER WORK AHEAD) sign shall be mounted on a crashworthy portable sign support with flags. The sign shall be placed where designated by the Engineer. The sign shall be a minimum of 48" x 48" in size. The Contractor shall immediately restore to the original position and location a traffic cone or delineator that is displaced or overturned, during the progress of work.

If minor deviations from the lane requirement chart are required, a written request shall be submitted to the Engineer at least 15 days before the proposed date of the closure. The Engineer may approve the deviations if there is no significant increase in the cost to the County and if the work can be expedited and better serve the public traffic.

Designated legal holidays are January 1st, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, November 11th, Thanksgiving Day, and December 25th. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday.

Full compensation for furnishing, erecting, maintaining, removing and disposing of the C43 (CA), W20-1, W21-5b and C24 (CA) signs shall be considered as included in the contract lump sum price paid for Traffic Control System and no additional compensation will be allowed therefor.

PORTABLE CHANGEABLE MESSAGE SIGNS:

Messages shall be approved by the Director of Transportation prior to be displayed on portable changeable message signs.

GENERAL

Summary

Work includes furnishing, placing, operating, maintaining, and removing portable changeable message signs.

Comply with Section 12-3.12 "Portable Changeable Message Signs" of the Standard Specifications.

Definition

Useable Shoulder Area: Paved or unpaved contiguous surface adjacent to the traveled way with:

1. Sufficient weight bearing capacity to support portable changeable message sign.
2. Slope not greater than 6:1 (horizontal:vertical).

Submittals

Upon request, submit a Certificate of Compliance for each portable changeable message sign under Section 6-1.07, "Certificates of Compliance" of the Standard Specifications.

Quality Control and Assurance

Comply with the manufacturer's operating instructions for portable changeable message sign.

Approaching drivers must be able to read the entire message for all phases at least twice at the posted speed limit before passing portable changeable message sign. The Contractor may use more than 1 portable changeable message sign to meet this requirement.

Only display the message shown on the plans or ordered by the Engineer or specified in these Special Provisions.

MATERIALS

Portable changeable message sign must have 24-hour timer control or remote control capability.

The text of the message displayed on portable changeable message sign must not scroll, or travel horizontally or vertically across the face of the message panel.

CONSTRUCTION

Continuously repeat the entire message in no more than 2 phases of at least 3 seconds per phase.

If useable shoulder area is at least 15 feet wide, the displayed message on portable changeable message sign must be minimum 18-inch character height. If useable shoulder area is less than 15 feet wide, you may use a smaller message panel with minimum 12-inch character height to prevent encroachment in the traveled way.

The Contractor shall provide the cell phone number to the Engineer and must be available by cell phone for operations that require portable changeable message signs or to modify the displayed message.

Before closing the lane, the Contractor shall start displaying the message on portable changeable message sign as directed by the Engineer.

Place portable changeable message sign in advance of the first warning sign for:

1. Each stationary lane closure.
2. Each off-ramp closure.
3. Each connector closure.
4. Each shoulder closure.
5. Each speed reduction zone.

Place portable changeable message sign as far from the traveled way as practicable where it is legible to traffic and does not encroach on the traveled way. Place portable changeable sign before or at the crest of vertical roadway curvature where it is visible to approaching traffic. Avoid placing portable changeable message sign within or immediately after horizontal roadway curvature. Where possible, place portable changeable message sign behind guardrail or temporary railing (Type K).

Except where placed behind guardrail or temporary railing (Type K) use traffic control for shoulder closure to delineate portable changeable message sign.

Remove portable changeable message sign when not in use.

METHOD OF PAYMENT

Full compensation for portable changeable message signs, including furnishing, placing, operating, modifying messages, maintaining, transporting from location to location, removing, and repairing or replacing defective or damaged portable changeable message signs is included in the contract price paid per each Portable Changeable Message Sign and no separate payment will be made therefor.

Portable changeable message signs ordered by the Engineer in excess of the number shown on the plans or specified in these Special Provisions will be paid for as extra work under Section 4-1.03D, "Extra Work" of the Standard Specifications.

COOPERATION:

Attention is directed to Section 7-1.14, "Cooperation" of the Standard Specifications and these Special Provisions.

The Contractor is hereby advised to cooperate with utility companies (Rancho Water District and/or others) for adjusting water valves, manholes and other facilities to grade.

The Contractor shall coordinate with Southern California Edison personnel throughout the duration of the project, for the inspection of the proposed conduits and accessories being placed by the Contractor for the Street Lighting System, and for all other matters pertaining to the Edison Company.

The Contractor shall block an area surrounding the proposed street lighting poles and hand holes to accommodate for the construction of pole foundations and hand holes by Southern California Edison forces. Dimensions and final locations of the blocked areas needed for the street lighting poles and hand holes will be establish by Southern California Edison during construction. Contractor shall coordinate with Southern California Edison and the Resident Engineer with respect to the street lighting installation. It is anticipated that the stamped concrete will be constructed prior to the construction of the street lighting foundations. Additional costs, including a second moving, involved by conforming to this article shall be considered as included in the price paid for the contract item of work 'Stamped, Colored Concrete (Splitter Islands)' and no additional compensation will be allowed therefor.

Should construction be under way by other forces or by other Contractors within or adjacent to those limits, the Contractor shall cooperate with all the other Contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces.

CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS:

The Contractor shall furnish and install **two (2)** Construction Project Funding Identification Signs (4' X 8'); the signs shall be installed at locations to be determined by the Engineer, within or near the project limits, in accordance with the relevant requirements of Section 56-2 of the Standard Specifications and the appropriate details of Standard Plans RS1 through RS4 for two post installation of signs, and as directed by the Engineer.

A reference exhibit displaying the text and colors of the sign will be provided to the Contractor prior to construction (A preliminary exhibit is attached to these Special Provisions). The Contractor shall submit a copy of the final sign design for approval by the resident Engineer prior to fabrication.

The Contractor shall submit to the Engineer the final sign design in the form of an editable picture file in .eps format – Encapsulated PostScript file.

At the completion of the project, the signs will become property of the County. When directed by the Engineer, the Contractor shall remove all hardware from the signs. Posts and hardware shall become the property of the Contractor. The Contractor shall deliver and off-load the signs to the address listed below or as directed by the Engineer:

Traffic Signal Shop
Riverside County Transportation Department
McKenzie Highway Operations Center
2950 Washington Street
Riverside, California 92504
Telephone (951) 955-6894

METHOD OF PAYMENT

Full compensation for the installation of Construction Project Funding Identification Signs, including transportation, furnishing all labor, materials, tools, equipment, and incidentals and for doing all the required work, including all necessary excavation and backfill, and sign maintenance shall be considered to be included in the various items of work, and no additional compensation will be allowed therefor.

OBSTRUCTIONS:

Attention is directed to Sections 8-1.10, "Utility and Non-Highway Facilities", and 15, "Existing Highway Facilities" of the Standard Specifications and these Special Provisions.

Existing utility and privately owned facilities shall be protected in accordance with Section 7-1.11, "Preservation of Property" and these Special Provisions. The Contractor is also responsible to protect those facilities that are to be relocated by others prior to or during construction, and shall protect those facilities in both their existing and their ultimate locations. The Contractor shall cooperate with owners and their Contractors of utility and privately owned facilities, for the relocation of said facilities, in accordance with Section 7-1.14, "Cooperation" of the Standard Specifications.

All water valves and covers, gas valves and covers, sewer manholes, survey monuments, survey markers and any other utility appurtenances shall be protected in place.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the Contractor to protect the health, safety and welfare of workmen and the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipe lines greater than 6 inches in diameter or pipe lines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables either directly buried or in duct or conduit which do not have concentric neutral conductors or other effectively grounded metal shields or sheaths; and underground electrical conductors with potential to ground of more than 300 volts. The Contractor shall notify the Engineer at least twenty-four hours prior to performing any work in the vicinity of such facilities.

Attention is directed to the requirements of Government Code Sections 4216-4216.9 pertaining to existing utility facilities.

The Contractor shall assume that every house, building and lot within the project limits has utility service pipes and conductors (laterals), and that utility main and trunk facilities exist within the project limits. The Contractor shall determine if it is warranted to determine the exact location of these utility service laterals and existing main lines, unless directed by the Engineer to pot-hole at specific locations, or as otherwise required herein. The Contractor will not be directly reimbursed for determining the exact location of the utility main lines or services laterals but shall include any compensation for this work in the contract price paid for the various items of work. Any damage to existing main lines or service laterals for which pot-holing was not performed shall be considered damage due to not using reasonable care and the damage shall be repaired at the Contractor's expense.

The Contractor shall conduct his operations with the assumption that underground utility facilities exist within the project limits. The Contractor shall exercise caution and best construction practices for safety and for protection of underground facilities. The approximate locations of underground utility facilities, as shown on the plans, are based on information provided by the respective owners, listed below. The Contractor shall also utilize the markings of the regional notification center (Underground Service Alert), and above-ground utility appurtenances to determine the existence and approximate location of underground utilities.

No excavation shall be made within 4 feet of any underground utilities, as shown on the plans and/or marked by Underground Service Alert, unless and until such utilities have been positively located as to horizontal and vertical position. This requirement applies to all underground electric, natural gas, toxic or flammable gas, chlorine, oxygen or petroleum facilities.

Forty-eight hours prior to beginning construction, the Contractor shall notify the following agencies:

Underground Service Alert	800-227-2600
Southern California Edison Company	714-796-9932
Southern California Gas Company	818-701-4546
Verizon Communications	951-929-9436
Rancho California Water District	951-296-6900
Metropolitan Water District (MWD)	213-217-6961

METHOD OF PAYMENT

Full compensation for all costs, including labor, equipment, materials and incidentals, required to comply with the requirements of this section above, including protection of water valves and covers, gas valves and covers, sewer manholes, survey monuments, survey markers and any other utility appurtenances, shall be considered as included in the various items of work, and no additional compensation will be allowed therefor.

Adjustments to Grade for Obstructions

The Contractor shall adjust to finish grade any valve covers encountered within the project limits, as required, for those utility valves that are provided with slip cans and are adjustable without the replacement of parts or the removal of concrete collars. In cases where the owning utility company insists upon upgrades in the standards, or when additional parts or the removal of concrete collars are required for the adjustment, said adjustment will be the responsibility of the owning utility company.

Adjustment to final grade of the manhole owned by the Metropolitan Water District will be performed by the owner. Contractor shall contact MWD at least 2 weeks prior to the need for adjustment to grade, or for any other matters requiring work to be performed by MWD

Communication and coordination with the owning utility company shall be the responsibility of the contractor.

For public safety, traffic shall not be allowed on temporary or permanent pavement until all manholes are either adjusted to grade or otherwise protected, as approved by the Engineer. The Contractor shall adjust to grade manholes and valves when and as necessary for the protection of the traveling public during construction, and shall coordinate all work on said facilities with the owning utility companies. This requirement is intended for traffic that is to be allowed on temporary surfaces during the course of construction. Final adjustment to grade will be the responsibility of the owning utility company, except as provided herein.

Said work shall be performed in accordance with Section 15-2.05A, "Frames, Covers, Grates, and Manholes" of the Standard Specifications. Full compensation for adjustment of valve covers shall be considered as included in the contract price paid for asphalt concrete or applicable items of work in the event that there is no asphalt concrete bid item, and no additional compensation will be allowed therefor.

All existing utility facilities shall be protected from damage by the Contractor's operations.

Unless otherwise provided herein, the owning utility companies will not be obligated to lower their surface utilities (manholes and valve covers) for Contractor's grading, grinding and/or paving operations. The contractor shall lower surface facilities, including manholes and valve covers, to facilitate construction, and the following shall apply:

1. Contractor shall coordinate all work with the utility owner.
2. Contractor shall be responsible for all costs and shall be responsible for any damage caused to the owner's facilities. If the Contractor observes any pre-existing damage to the utility facilities, the Contractor shall notify the Engineer and the utility owner of that damage prior to performing additional work on the facility.
3. Contractor shall, after removing grade rings and covers, arrange for pickup by, or delivery to, the owner's yard. Any and all concrete collars removed by the Contractor shall become the property of the Contractor, and shall be disposed of as specified elsewhere in these special provisions.
4. The Contractor is advised that he is responsible for ensuring that construction materials do not enter the utility owner's facilities. The Contractor shall install traffic bearing steel plates for this purpose, and provide all coordination and transportation necessary. It is recommended that the Contractor request the utility owner to provide such steel plates. If the Contractor provides steel plates, it shall be the Contractor's responsibility to coordinate with the utility owner for the return of the steel plates to the Contractor after final adjustment to grade. If the Contractor utilizes utility owner's steel plates, and if the Contract items of work include adjustment to final grade, the Contractor shall return the steel plates to the Utility owner's yard, or as otherwise arranged with the Utility owner.
5. Prior to paving or covering the plated utility facility, the Contractor shall tie-out the facility utilizing a method acceptable to the utility owner and provide notes and data of all covered facilities to both the utility owner and the Engineer.
6. The Contractor shall notify the utility owner, upon completion of the Contractor's work, when the utility owner may move in to make the final adjustments to grade.
7. The requirements for lowering of surface facilities shall not apply to vaults. The Contractor shall notify the utility owner of the need to make adjustments to such major facilities.

8. The Contractor is reminded that the utility facilities are owned by public and private utility companies that operate their facilities within public rights of way. The utility owner's preferences with regards to the handling of its facilities shall be complied with to the greatest extent feasible.

METHOD OF PAYMENT

Full compensation for initial lowering of surface utilities facilities shall be considered as included in the contract price paid for asphalt concrete, or applicable items of work in the event that there is no asphalt concrete bid item, and no additional compensation will be allowed therefor.

WATER POLLUTION CONTROL (SAN DIEGO - RISK LEVEL 1):

Throughout the term of this contract, the total land disturbance area of the project site is more than 1 acre. After receipt of an approved SWPPP, the County will submit a Notice of Intent (NOI) to the State California Regional Water Quality Board – San Diego Region for compliance with the General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (hereafter referred to as the Construction General Permit), which is available at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml).

The Area-Wide Municipal Stormwater Permit NPDES No. CAS0108766 or updated to CAS0108740, hereafter referred to in this section as the "Municipal Permit", issued by the California Regional Water Quality Control Board (CRWQCB) – San Diego Region. This permit regulates both stormwater and non-stormwater discharges associated with Contractor's construction activities. A copy of the Permit may be obtained at the office of the County of Riverside Transportation Department, 14th Street Transportation Annex, 3525 14th Street, Riverside, California. (951) 955-6780, or may be obtained on the internet at:

<http://www.waterboards.ca.gov/sandiego/>

The Contractor shall comply with the requirements of Construction General Permit, the Municipal Permit, and the San Diego CRWQCB's Conditional Waiver No. 2 – "Low Threat" Discharges to Land" (De Minimus Permit).

Contractor's Stormwater Pollution Prevention Plan and Monitoring Program (SWPPP/MP) shall be prepared by a Qualified SWPPP Developer in accordance with the latest version prior to construction of Section 2, "Preparing a Stormwater Pollution Prevention Plan (SWPPP)", of the *Caltrans Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual*, which is available as a free download from:

<http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>

This project is a Risk Level 1 project under the Construction General Permit. Therefore, Contractor's SWPPP/MP shall also conform to Attachment C, Risk Level 1 Requirements of the Construction General Permit.

WATER POLLUTION CONTROL MEASURES

- A. Work having the potential to cause water pollution shall not commence until the Contractor's SWPPP/MP has been reviewed and approved by the Engineer. The Engineer's review and approval of the Contractor's SWPPP/MP shall not waive any contractual requirements and shall not relieve the Contractor from achieving and maintaining compliance with all federal, state, and local laws, ordinances, statutes, rules, and regulations. A copy of Contractor's SWPPP/MP shall be maintained onsite. When the SWPPP/MP or access to the construction site is requested by a representative of a federal, state, or local regulatory agency, Contractor shall make the SWPPP/MP available and Contractor shall immediately contact the Engineer. Requests from the public for the Contractor's SWPPP/MP shall be directed to the Engineer.
- B. Contractor's SWPPP/MP shall describe the Contractor's plan for managing runoff during each construction phase. Contractor's SWPPP/MP shall describe the Best Management Practices (BMPs) that will be implemented to control erosion, sediment, tracking, construction materials, construction wastes, and non-stormwater flows. BMP details shall be based upon California Stormwater Quality Association's 2009 California Stormwater Quality BMP Handbook Portal or the Caltrans Construction Site BMP Manual (<http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>). Contractor's SWPPP/MP shall describe installation, operation, inspection, maintenance, and monitoring activities that will be implemented for compliance with the Construction General Permit and all applicable federal, state, and local laws, ordinances, statutes, rules, and regulations related to the protection of water quality.
- C. Preparer of Contractor's SWPPP/MP shall have one of the following certifications:
1. A California registered professional civil engineer;
 2. A California registered professional geologist or engineering geologist;
 3. A California registered landscape architect;
 4. A professional hydrologist registered through the American Institute of Hydrology;
 5. A Certified Professional in Erosion and Sediment Control™ (CPESC®) registered through EnviroCert International, Inc.; or
 6. A Certified Professional in Storm Water Quality™ (CPSWQ®) registered through EnviroCert International, Inc.;
- D. Contractor shall designate a Water Pollution Control Manager that shall have one of the certifications in the immediately preceding subsection D or one of the following certifications:
1. A certified erosion, sediment and storm water inspector registered through EnviroCert International, Inc.; or
 2. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.
- E. Contractor's Water Pollution Control Manager shall:
1. Be responsible for all water pollution control work.
 2. Be the Engineer's primary contact for all water pollution control work.
 3. Have the authority to mobilize resources (crews, supplies, equipment, etc.) to make immediate repairs of water pollution control measures or to supplement water pollution control measures to maintain compliance with all federal, state, and local laws, ordinances, and regulations related to the protection of water quality, including the

General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities.

- F. Water Pollution Control Training: Contractor shall provide water pollution control training to Contractor's employees and subcontractors prior to their performing work on the work site. The water pollution control training shall be appropriate to the employee or subcontractor function and area of responsibility and shall address (as applicable):
1. Erosion Control (water and wind)
 2. Sediment Control
 3. Tracking Control
 4. Materials & Waste Management
 5. Non-Stormwater Discharge Management

G. Monitoring and Reporting: Observations and inspections conducted by the Contractor's Water Pollution Control Manager shall be documented on the Construction Site Inspection Checklist included in Contractor's SWPPP/MP. A copy of each completed Construction Site Inspection Checklist shall be submitted to the Engineer within 24 hours of conducting the inspection.

General Requirements:

In the event the County incurs any Administrative Civil Liability (fine) imposed by the Cal Regional Water Quality Control Board –San Diego Basin Region, the State Water Quality Control Board, or EPA, as a result of Contractor's failure to fully implement the provisions of "Stormwater and Non-Stormwater Pollution Control", the Engineer, may, in the exercise of his sole judgment and discretion, withhold from payments otherwise due Contractor a sufficient amount to cover the Administrative Civil Liability including County staff time, legal counsel, consultant support costs and all other associated cost.

The Contractor shall be responsible for all costs and for any liability imposed by law as a result of the Contractor's failure to comply with the requirements set forth in "Water Pollution Control", including but not limited to, compliance with the applicable provisions of the Caltrans Handbooks, Construction General Permit, Federal, State, and local regulations. For the purpose of this paragraph, costs and liabilities include, but not limited to, fines, penalties, damages, and costs associated with defending against enforcement actions whether taken against the County or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Quality Act.

Within fifteen (15) working days after the award of the contract, the Contractor shall submit two (2) copies of the SWPPP/MP to the Engineer for review and approval. The Contractor shall allow ten (10) working days for the Engineer to review the SWPPP/MP. If revisions are required as determined by the Engineer, the Contractor shall revise and resubmit the SWPPP/MP within three (3) working days of receipt of the Engineer's comments and shall allow ten (10) working days for the Engineer to review the revisions. The Contractor shall submit four (4) copies of the approved SWPPP/MP to the Engineer prior to notice to proceed. The Contractor must have an approved SWPPP/MP prior to the notice to proceed. The Engineer may provide a letter of conditional approval of the Contractor's SWPPP/MP while minor revisions are made and may allow the Contractor to begin only those certain construction activities identified in the letter of conditional approval. In no case will the conditional approval extend beyond twenty-one (21) calendar days.

The Engineer may suspend construction operations until the Contractor submits a revised SWPPP/MP that is reviewed and approved by the Engineer.

The SWPPP shall contain all required and applicable certifications and evidence of training for the Water Pollution Control Manager, SWPPP Developer, and all other employees working on the project receiving formal training or certification.

Unless otherwise directed by the Engineer or specified in these Special Provisions, the Contractor's responsibility for SWPPP/MP implementation shall continue throughout any temporary suspension of work ordered in accordance with Section 8-1.05, "Temporary Suspension of the Work", of the Standard Specifications.

The Engineer may withhold progress payments or order the suspension of construction operations without an extension of the contract time, if the Contractor fails to comply with the requirements of "Water Pollution Control" as determined by the Engineer.

All BMP repairs shall be implemented by the Contractor within 72 hrs. All BMP repairs shall also be implemented by the Contractor prior to a qualifying storm event, as defined in the Construction General Permit.

The Contractor shall be responsible for all the "Risk Level 1 Monitoring and Reporting Requirements" described in the General Construction Permit, which includes (but not limited to):

- a. Risk Level 1 - Visual Monitoring (Inspection) Requirements for Qualifying Rain Events
- b. Risk Level 1 – Monitoring Methods
- c. Risk Level 1 – Non-Storm Water Discharge Monitoring Requirements
- d. Risk Level 1 – Non-Visible Pollutant Monitoring Requirements
- e. Risk Level 1 – Records

The Contractor shall be responsible for all of the inspection required by the General Construction Permit (weekly, pre and post storm, quarterly non-stormwater, etc). At the direction, the Contractor shall be responsible for providing any information for annual reporting purposes in electronic format, including inspection reports, photos, NOI, sampling and analysis reports, etc.

The Contractor shall be responsible for obtaining coverage under latest adopted version of the De Minimus Permit for non-stormwater discharges that do not qualify for the Regional Board's Condition Waiver No.2, and provide notification prior to a regulated discharge. Compliance with the De Minimus Permit is required by the Municipal Permit. This permit regulates non-stormwater discharges to surface waters of various types of wastes that pose an insignificant threat to water quality and includes monitoring and reporting requirements. At least 60 days before the start of a new (De Minimus) discharge, the contractor shall submit an application and obtain the authorization letter from the (the Regional Board's) Executive Officer to discharge wastewater to surface waters. The types of wastewater discharges regulated under this Permit include the following discharges:

- a) Discharges from the construction and test pumping of water wells to land
- b) Discharges of air conditioner condensate or non-contact cooling water to land
- c) Swimming pool discharges to land
- d) Discharges from short-term construction dewatering operations to land

- e) "Low Threat" discharges to land and/or groundwater, which may including the following:
- Groundwater pumped from drinking water wells
 - Groundwater from foundation drains, crawl space pumps, and footing drains
 - Discharges from flushing water lines
 - Discharges from washing vehicles, pavement, buildings, etc.
 - Infiltration from residential/commercial/industrial/recreational facility landscape and lawn irrigation using groundwater or municipal supply water
 - Infiltration from structural infiltration-based best management practices (BMPs)

At the direction of the Engineer the Contractor shall conduct monitoring, sampling and analysis, and report preparation for conformance with Construction Permit, Municipal Permit, and De Minimus Permit. The Contractor will not be compensated for sampling and analysis work due to the Contractor's failure to properly implement, inspect, maintain, and repair BMPs in conformance with the approved SWPPP/MP and any amendments thereto, or for failing to store construction materials or wastes in watertight conditions.

Each proposal shall have listed therein the name and address of a local certified laboratory within 50 miles of the project site to whom the bidder proposes to subcontract all laboratory sampling and analysis, monitoring and report preparation necessary to comply with the Construction General Permit, De Minimus and the Municipal Permit, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The bidder's attention is invited to other provisions of the Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions. The certified laboratory shall have experience with monitoring, sampling and analysis, and report preparation for the Construction General Permit and/or the De Minimus Permit and shall be certified by the State. A list of certified laboratories by the State can be found at:

<http://www.cdph.ca.gov/certlic/labs/Documents/ELAPLablist.xls>

Payment for Water Pollution Control shall be on a lump sum basis and shall include full compensation for the work performed, including obtaining Permit coverage, developing, preparing, revising, obtaining approval of, and amending the SWPPP/MP, implementing, installing, constructing, operating, maintaining, and removing and disposing of temporary BMPs, performing the observations, inspections, sampling, analysis, reporting, and street sweeping, and as specified in the Caltrans Handbooks, Construction General Permit, De Minimus Permit, Municipal Permit and these Special Provisions, and as directed by the Engineer.

When requested by the Contractor in writing and approved by the Engineer in writing or at the direction of the Engineer, payment for following items may be made on the basis of force account as provided in Section 9-1.03 "Force Account Payment" of the Standard Specifications.

- 1.) De Minimus Permit coverage and compliance

Street Sweeping.

The following special provision regarding "Street Sweeping" is being added to the contract document.

GENERAL

Summary

This work includes street sweeping.

The SWPPP/MP shall describe and include the use of street sweeping as a Water Pollution Control practice for sediment control and tracking control. Street sweeping shall also conform to all applicable AQMD requirements.

Submittals

At least 5 working days before starting clearing and grubbing, earthwork, or other activities with the potential for tracking sediment or debris, submit:

- A. The number of street sweepers that will be used as described in the SWPPP/MP.
- B. Type of sweeper technology (or technologies).

Quality Control and Assurance

Retain the following records related to street sweeping and submit weekly to Engineer:

- A. Tracking Inspection Log
- B. Sweeping times and locations.
- C. Quantity of sweeping waste disposal.

CONSTRUCTION

Street Sweepers

Sweepers must use one of these technologies:

- A. Mechanical sweeper followed by a vacuum-assisted sweeper.
- B. Vacuum-assisted dry (waterless) sweeper.
- C. Regenerative-air sweeper.
- or
- D. Sweeping by hand is acceptable in lieu of A, B, and C above.

Operation

Street sweeping shall be conducted at:

- A. Paved roads at job site entrance and exit locations.
- B. Paved areas within the job site that flow to storm drains or water bodies.

Street sweeping shall be conducted, and sweeper(s) shall be available on site or within four hours at any given time, for the following:

- A. During clearing and grubbing activities.
- B. During earthwork activities.
- C. During trenching activities.
- D. During roadway structural section activities.
- E. When vehicles are entering and leaving the job site.
- F. After soil disturbing activities.
- G. After observing offsite tracking of material.

Contractor's Water Pollution Control Manager shall inspect adjacent paved areas at job site entrances and exits and paved roadways within the job site on a minimum daily basis, and more frequently when activities that require street sweeping are being performed. Contractor's Water Pollution Control Manager shall maintain a "Tracking Inspection Log." Street sweeping shall be conducted:

- A. Within 4 hours, if sediment or debris is observed on paved areas or paved roadways.

At least one sweeper, in good working order, must be available for the job at all times when sweeping work may be required.

Perform street sweeping to minimize dust. If dust generation is excessive or sediment pickup is ineffective, water may be used but shall be contained, collected (e.g. vacuum), and properly disposed.

Except for the basin, No water ponding will be allowed in the existing, and temporary roadway during the construction of this project. Contractor shall maintain positive drainage at all times during construction.

Material collected during street sweeping must be removed and disposed of under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

METHOD OF PAYMENT

Full compensation to conform with the requirements of this section shall be considered as included the contract lump sum price paid for Water Pollution Control including furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in street sweeping, including disposal of collected material, as shown on the plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer. Therefore, no additional compensation will be allowed for street sweeping.

EROSION CONTROL (TYPE D):

Erosion control (Type D) includes applying erosion control materials to embankment and excavation slopes and other areas disturbed by construction activities including the water quality basin. Erosion control (Type D) must comply with Section 20-3, "Erosion Control" of the Standard Specifications and these Special Provisions.

Before applying erosion control materials, prepare soil surface under Section 19-2.05, "Slopes" of the Standard Specifications, except that rills and gullies exceeding 2 inches in depth or width must be leveled. Remove vegetative growth, temporary erosion control materials, and other debris from areas to receive erosion control.

Before applying erosion control materials, the Engineer designates the ground location of erosion control (Type D) in increments of one acre or smaller for smaller areas. Place stakes or other suitable markers at the locations designated by the Engineer. Furnish all tools, labor and materials required to adequately indicate the various locations.

MATERIALS

Materials must comply with Section 20-2, "Materials" of the Standard Specifications and these Special Provisions.

Seed

Seed must comply with Section 20-2.10, "Seed" of the Standard Specifications. Seed not required to be labeled under the California Food and Agricultural Code shall be tested for purity and germination by a seed laboratory certified by the Association of Official Seed Analysts or by a seed technologist certified by the Society of Commercial Seed Technologists. Measure and mix individual seed species in the presence of the Engineer.

Seed must contain at most 1.0 percent total weed seed by weight.

Deliver seed to the job site in unopened separate containers with the seed tag attached. Containers without a seed tag attached are not accepted. The Engineer takes a sample of approximately 1 ounce or 0.25 cup of seed for each seed lot greater than 2 pounds.

Seed must comply with the following:

Non-Irrigated Seed Mix

Botanical Name (Common Name)	Percent Germination (Minimum)	Pounds Pure Live Seed Per Acre (Slope Measurement)
Bromus Carinatus (Cucamonga Brome)	85	20.0
Trifolium Tridentatum (Tomcat Clover)	85	4.0
Vulpia Microstachys (Small Fescue)	85	8.0

Seed Sampling Supplies

At the time of seed sampling, provide the Engineer a glassine lined bag and custody seal tag for each seed lot sample.

Commercial Fertilizer

Commercial fertilizer must comply with Section 20-2.02, "Commercial Fertilizer" of the Standard Specifications and have a guaranteed chemical analysis within 2 percent of 16-21 percent nitrogen, 6-8 percent phosphoric acid and 4-12 percent water soluble potash.

Stabilizing Emulsion

Stabilizing emulsion must comply with Section 20-2.11, "Stabilizing Emulsion" of the Standard Specifications and these Special Provisions.

Stabilizing emulsion:

1. Must be in a dry powder form.
2. Must be a processed organic adhesive used as a soil tackifier.
3. May be reemulsifiable.

APPLICATION

Apply erosion control materials in separate applications in the following sequence:

1. Apply the following mixture with hydroseeding equipment at the rates indicated within 60 minutes after the seed has been added to the mixture:

Non-Irrigated Seed Mix

Material	Pounds Per Acre (Slope Measurement)
Seed	35
Fiber	714
Commercial Fertilizer	10

2. Apply the following mixture with hydro-seeding equipment at the corresponding rates:

Non-Irrigated Seed Mix

Material	Pounds Per Acre (Slope Measurement)
Fiber	714
Commercial Fertilizer	10
Stabilizing Emulsion (Solids)	225

The ratio of total water to total stabilizing emulsion in the mixture must be as recommended by the manufacturer.

Once work is started in an area, complete stabilizing emulsion applications in that area on the same working day.

The Engineer may change the rates of erosion control materials to meet field conditions.

METHOD OF PAYMENT

The payment for Erosion Control (Type D) shall be included under the lump sum contract price paid for Water Pollution Control and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the specified in the Standard Specifications and these Special Provisions and no additional compensation will be allowed therefor.

TEMPORARY GRAVEL BAG BERM:

GENERAL

Summary

This work includes constructing, maintaining, and removing temporary gravel bag berm. The SWPPP must describe and include the use of temporary gravel bag berm as a water pollution control practice for sediment control.

Submittals

Submit a Certificate of Compliance as specified in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications for gravel-filled bag fabric.

MATERIALS

Gravel-filled Bag Fabric

Geosynthetic fabric for temporary gravel bag berm must consist of one of the following:

- A. Polyester
- B. Polypropylene
- C. Combined polyester and polypropylene

Sample under ASTM D 4354, Procedure C.

Test under ASTM D 4759. All properties must be based on Minimum Average Roll Value (MARV).

Identify, store, and handle under ASTM D 4873.

Protect geosynthetics from moisture, sunlight, and damage during shipping and storage.

Label each unit with the manufacturer's name, identifying information, and product identification.

Gravel-filled bag fabric must comply with:

Specification	Requirements
Grab breaking load 1-inch grip, lb, min. in each direction	205
Apparent elongation percent, min., in each direction	50
Water Flow Rate max. average roll value, gallons per minute/square foot	80-150
Permittivity 1/sec., min	1.2
Apparent opening size max. average roll value, U.S. Standard sieve size	40-80
Ultraviolet Degradation percent of original unexposed grab breaking load 500 hr, minimum	70

Gravel

Gravel for gravel-filled bags must be:

- A. From 3/8 to 3/4 inch in diameter
- B. Clean and free from clay balls, organic matter, and other deleterious materials

Gravel-filled Bags

Gravel-filled bags must:

- A. Be made from gravel-filled bag fabric.
- B. Have inside dimensions from 24 to 32 inches in length, and from 16 to 20 inches in width.
- C. Have the opening bound to retain the gravel. The opening must be sewn with yarn, bound with wire, or secured with a closure device.
- D. Weigh from 30 to 50 pounds when filled with gravel.

CONSTRUCTION

Before constructing temporary gravel bag berm, remove obstructions including rocks, clods, and debris greater than 1 inch in diameter from the ground.

Temporary gravel bag berm must:

- A. Be placed as a single layer of gravel bags to create a linear sediment barrier
- B. Be placed end-to-end to eliminate gaps
- C. Be placed approximately parallel to the slope contour
- D. Have the last 6 feet of the gravel bag berm angled up-slope

If you need to increase the height of the temporary gravel bag berm:

- A. Increase height by adding rows of gravel-filled bags
- B. Stack bags in a way that the bags in the top row overlap the joints in the lower row
- C. Stabilize berm by adding rows at the bottom

If used within shoulder area, gravel-filled bags must be placed behind temporary railing (Type K).

MAINTENANCE

Maintain temporary gravel bag berm to provide sediment holding capacity and to reduce runoff velocities.

Remove sediment deposits, trash, and debris from temporary gravel bag berm as needed or when directed by the Engineer. If removed sediment is deposited within project limits, it must be stabilized and not subject to erosion by wind or water. Trash and debris must be removed and disposed of as specified in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Maintain temporary gravel bag berm by:

- A. Removing sediment from behind the gravel bag berm when sediment is 1/3 the height of the gravel bag berm above ground
- B. Repairing or adjusting the gravel-filled bags when rills and other evidence of concentrated runoff occur beneath the gravel-filled bags
- C. Repairing or replacing the gravel-filled bags when they become split, torn, or unraveled

Repair temporary gravel bag berm within 24 hours of discovering damage unless the Engineer approves a longer period.

If your vehicles, equipment, or activities disturb or displace temporary gravel bag berm, repair temporary gravel bag berm at your expense.

The County of Riverside does not pay maintenance costs for cleanup, repair, removal, disposal, or replacement due to improper installation or your negligence.

REMOVAL

When the Engineer determines that temporary gravel bag berm is not required, they must be removed and disposed of under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary gravel bag berm must be backfilled and repaired under Section 15-1.02, "Preservation of Property," of the Standard Specifications.

MEASUREMENT AND PAYMENT

The contract price for Temporary Gravel Bag Berm shall be included in the lump sum price for Water Pollution Control and includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the temporary gravel bag berm, complete in place, including removal of materials, cleanup and disposal of retained sediment and debris, and backfilling and repairing holes, depressions and other ground disturbance, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

TEMPORARY FIBER ROLL/STRAW WADDLE :

GENERAL

Summary

This work includes constructing, maintaining, and removing temporary fiber roll.

Replace "SWPPP" with "WPCP" if SSP 07-340 is used. The SWPPP must describe and include the use of temporary fiber roll as a water pollution control practice for sediment control.

Submittals

Submit a Certificate of Compliance as specified in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications for fiber roll.

MATERIALS

Fiber Roll

Fiber roll must:

- A. Last for at least one year after installation.
- B. Be Type 1 or Type 2.

If specified, Type 1 fiber roll must be:

- A. Made from an erosion control blanket:
 - 1. Classified by the Erosion Control Technology Council (ECTC) as ECTC 2D.
 - 2. With a Universal Soil Loss Equation (USLE) C-Factor of not more than 0.20 at a 2:1 (horizontal:vertical) slope.
 - 3. Capable to withstand a maximum shear stress of 1.75 pounds per square foot under ASTM D 6460.
 - 4. With a minimum tensile strength of 75 pounds per foot under ASTM D 5035.
 - 5. With top and bottom surfaces covered with extruded photodegradable plastic netting or lightweight non-synthetic netting.
 - 6. That complies with one of the following:
 - 6.1. Double net straw and coconut blanket with 70 percent straw and 30 percent coconut fiber.
 - 6.2. Double net excelsior blanket with 80 percent of the wood excelsior fibers being 6 inches or longer.
- B. Rolled along the width.
- C. Secured with natural fiber twine every 6 feet and 6 inches from each end.
- D. Finished to be either:
 - 1. From 8 to 10 inches in diameter, from 10 to 20 feet long, and at least 0.5 pounds per linear foot.
 - 2. From 10 to 12 inches in diameter, at least 10 feet long, and at least 2 pounds per linear foot.

If specified, Type 2 fiber roll must:

- A. Be filled with rice or wheat straw, wood excelsior, or coconut fiber.
- B. Be covered with a biodegradable jute, sisal, or coir fiber netting.
- C. Have the netting secured tightly at each end.
- D. Be finished to be either:
 - 1. From 8 to 10 inches in diameter, from 10 to 20 feet long, and at least 1.1 pounds per linear foot.
 - 2. From 10 to 12 inches in diameter, at least 10 feet long, and at least 3 pounds per linear foot.

Wood Stakes

Wood stakes must be:

- A. Untreated fir, redwood, cedar, or pine and cut from sound timber.
- B. Straight and free of loose or unsound knots and other defects which would render the stakes unfit for use.
- C. Pointed on the end to be driven into the ground.

For fiber roll, wood stakes must be at least:

- A. 1" x 1" x 24" in size for Type 1 installation.
- B. 1" x 2" x 24" in size for Type 2 installation.

Rope

For Type 2 installation, rope must:

- A. Be biodegradable, such as sisal or manila.
- B. Have a minimum diameter of 1/4 inch.

CONSTRUCTION

Before placing fiber roll, remove obstructions including rocks, clods, and debris greater than one inch in diameter from the ground.

If fiber roll is to be placed in the same area as erosion control blanket, install the blanket before placing the fiber roll. For other soil stabilization practices such as hydraulic mulch or compost, place the fiber roll and then apply the soil stabilization practice.

Place fiber roll on slopes at the following spacing unless the plans show a different spacing:

- A. 10 feet apart for slopes steeper than 2:1 (horizontal:vertical)
- B. 15 feet apart for slopes from 2:1 to 4:1 (horizontal:vertical)
- C. 20 feet apart for slopes from 4:1 to 10:1 (horizontal:vertical)
- D. 50 feet apart for slopes flatter than 10:1 (horizontal:vertical)

Place fiber roll approximately parallel to the slope contour. For any 20 foot section of fiber roll, do not allow the fiber roll to vary more than 5 percent from level.

Type 1 and Type 2 fiber roll may be installed using installation method Type 1, Type 2, or a combination:

For installation method Type 1, install fiber roll by:

- A. Placing in a furrow that is from 2 to 4 inches deep
- B. Securing with wood stakes every 4 feet along the length of the fiber roll
- C. Securing the ends of the fiber roll by placing a stake 6 inches from the end of the roll
- D. Driving the stakes into the soil so that the top of the stake is less than 2 inches above the top of the fiber roll

For installation method Type 2, install fiber roll by:

- A. Securing with rope and notched wood stakes.

- B. Driving stakes into the soil until the notch is even with the top of the fiber roll.
- C. Lacing the rope between stakes and over the fiber roll. Knot the rope at each stake.
- D. Tightening the fiber roll to the surface of the slope by driving the stakes further into the soil.

MAINTENANCE

Maintain temporary fiber roll to provide sediment holding capacity and to reduce runoff velocities.

Remove sediment deposits, trash, and debris from temporary fiber roll as needed or when directed by the Engineer. If removed sediment is deposited within project limits, it must be stabilized and not subject to erosion by wind or water. Trash and debris must be removed and disposed of as specified in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Maintain temporary fiber roll by:

- A. Removing sediment from behind the fiber roll when sediment is 1/3 the height of the fiber roll above ground
- B. Repairing or adjusting the fiber roll when rills and other evidence of concentrated runoff occur beneath the fiber roll.
- C. Repairing or replacing the fiber roll when they become split, torn, or unraveled
- D. Adding stakes when the fiber roll slump or sag
- E. Replacing broken or split wood stakes

Repair temporary fiber roll within 24 hours of discovering damage unless the Engineer approves a longer period.

If your vehicles, equipment, or activities disturb or displace temporary fiber roll, repair temporary fiber roll at your expense.

The County of Riverside does not pay maintenance costs for cleanup, repair, removal, disposal, or replacement due to improper installation or your negligence.

REMOVAL

When the Engineer determines that temporary fiber roll is not required, they must be removed and disposed of under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary fiber roll must be backfilled and repaired under Section 15-1.02, "Preservation of Property," of the Standard Specifications.

METHOD OF PAYMENT

The contract price paid for temporary fiber roll shall be included in the lump sum prices for Water Pollution Control and includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the temporary fiber roll, complete in place, including removal of materials, cleanup and disposal of retained sediment and debris, and backfilling and repairing holes, depressions and other ground disturbance, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer

DEVELOP WATER SUPPLY:

Develop water supply shall conform to the provisions of Section 17 of the Standard Specifications and these Special Provisions.

Attention is directed to the requirements of Section 10, "Dust Control".

METHOD OF PAYMENT

Full compensation for developing water supply and furnishing watering equipment shall be considered as included in the contract lump sum bid price paid for Develop Water Supply, and no additional compensation will be allowed therefor.

CLEARING AND GRUBBING:

Clearing and grubbing including but not limited to removal of vegetation (trees, shrubs, bushes, and groundcover) within the proposed slopes, trails and water quality basin, removal and replacement of vegetation (trees, shrubs, bushes, and groundcover) not in the slopes and the trails, modification of existing irrigation, removal of CMP and PVC culvert, removal and salvaging of road sign, removal and salvaging of post with flashing beacon, removal of guard post, removal and salvaging of PVC fencing, removal of winery monument with foundation, removal of a portion of the retaining wall including foundation and excess soil material, removal of rip rap, and removal and replacement of rip rap shall conform to the provisions in Section 16 of the Standard Specifications.

Contractor shall remove vegetation (trees, shrubs, bushes and groundcover) within the proposed slopes and trail as shown on the plans and/or as directed by the Resident Engineer. Removed vegetation shall be the property of the Contractor and shall be disposed of by the Contractor, as provided in Section 7-1.13 of the Standard Specification.

Contractor shall remove and replace vegetation (trees, shrubs, bushes and groundcover) not in the proposed slopes and the trails as necessary for the construction of this project. Remove and replace vegetation (trees, shrubs, bushes and groundcover) shall include but not limited to the vegetation removed as part of the construction staging of this project. Vegetation shall be replaced

with the same size and species removed. Prior to removal of existing vegetation (trees, shrubs, bushes, and groundcover), the Contractor shall inventory all the existing vegetation (trees, shrubs, bushes, and ground cover) to be replaced. The inventory shall be conducted with the Resident Engineer. Contractor will be responsible for the reestablishment and maintenance of the replaced vegetation (trees, shrubs, bushes, and ground cover) for ninety (90) days. Attention is directed to 'Landscape Maintenance' of these Special Provisions for the ninety (90) days maintenance requirements for the replaced vegetation.

Replacement of vegetation (trees, shrubs, and bushes) should be at the locations where existing vegetation was removed from and/or as directed by Resident Engineer, the County Service Area (CSA) 143 maintenance district, and the details and standards in the landscaping plans.

Contractor shall relocate, modify and repair all the existing irrigation lines affected by the construction of this project. Included in the relocation, modification and repair of the existing irrigation is the furnishing of materials and accessories needed to make the existing irrigation system work properly with the replaced vegetation (trees, shrubs, bushes, and ground cover). Existing irrigation system may need to be relocated and modified more than once depending on the staging of this project and will be paid under Clearing and Grubbing. The modifications in the existing irrigation line shall be performed to the satisfaction of the County Resident Engineer, the County Services Area (CSA) 143 maintenance district, and per the detail and standards in the irrigation plans.

If any of the irrigation hand holes are damaged, Contractor shall replace the damage hand holes. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved for replacing damaged hand holes shall be paid under the lump sum price of Clearing and Grubbing.

Contractor shall remove, salvage, deliver and off-load the PVC fencing, roadside sign post and flashing beacon to the address listed below or as directed by the Engineer:

Riverside County Transportation Department
Road Maintenance Yard
25315 Jefferson Avenue
Murrieta, CA 92562
Telephone (951) 677-5889

Contractor shall remove and dispose of existing CMP and PVC culverts, rip rap, guard posts, winery monument including footing, and retaining wall including footing and excess soil material as provided in Section 7-1.13 of the Standard Specifications.

Contractor shall remove and replace existing rip rap within the project limits as shown on the plans and as directed by Resident Engineer.

Contractor shall relocate roadside sign and post as many times as necessary to conform to the traffic control plans during construction.

Regulatory Requirements

Attention is directed to the Federal Migratory Bird Treaty Act (15 USC 703-711) 50 CFR Part 21 and 50 CFR Part 10, and the California Department of Fish and Game Code Sections 3503, 3513 and 3800, that protect migratory birds, their occupied nests, and their eggs from disturbance or destruction.

Construction

Ground disturbance, tree, shrub and/or vegetation removal that occurs between March 1st and September 15th will not commence until a preconstruction survey for nesting birds has verified that no active nests have been located or the Engineer has approved the beginning of work. If an active nest is located, construction within 500 feet of the nest must be avoided until the nest has been vacated and the young are independent of their parents.

Between March 1st and September 15th, the Contractor shall notify the Engineer 15 working days prior to beginning work disturbing structures, the ground or vegetation. The Engineer will approve the beginning of work disturbing the ground or vegetation between March 1st and September 15th.

The Contractor shall use exclusion techniques directed by the Engineer to prevent migratory birds from nesting in trees within the project limits.

If evidence of bird nesting is discovered, the Contractor shall not disturb the nesting birds or nests until the birds have naturally left the nests. If evidence of migratory bird nesting is discovered after beginning work, the Contractor shall immediately stop work within 500 feet of the nests and notify the Engineer. Work shall not resume until the Engineer provides a written notification that work may begin at or adjacent areas of the discovered bird nest locations.

Attention is directed to Section 8-1.05, "Temporary Suspension of Work" of the Standard Specifications.

Nothing in this section shall relieve the Contractor from providing for public safety in conformance with the provisions in Section 7-1.09, "Public Safety" of the Standard Specifications.

For the purpose of making partial payments pursuant to Section 9-1.06, "Partial Payments" of the Standard Specifications, the amount set forth for the contract item of work hereinafter listed shall be deemed to be maximum total value of said contract item of work which will be recognized for progress payment purposes:

Clearing and Grubbing - \$ 80,000.00

After acceptance of the contract pursuant to Section 7-1.17, "Acceptance of Contract" of the Standard Specifications, the amount, if any, payable for a contract item of work in excess of the maximum value for progress payment purposes herein above listed for said item, will be included for payment in the first estimate made after acceptance of the contract.

Abandoned Water Pipeline

In the event that an existing abandoned water pipeline is found to be in conflict with the project improvements, the Contractor shall:

1. Obtain verification from the Rancho California Water District that the pipeline is abandoned, and coordinate his work with the Water District's representative.
2. Remove and haul off the conflicting sections of pipeline. Removals shall be made to the nearest joint, or as directed by the Engineer.
3. Install 2 sack concrete slurry five (5) feet into the undisturbed pipe section and provide a bulkhead on the exposed pipe end.
4. All work shall be as described herein, and as directed by the Engineer.
5. Full compensation shall be considered as included in the lump sum price paid for Clearing and Grubbing, including all labor, equipment, personnel and incidentals, and no additional compensation will be allowed therefor.

METHOD OF PAYMENT

Full compensation, except as otherwise provided herein, for conforming to the requirements of this article including but not limited to:

- removing vegetation (trees, shrubs, bushes, and groundcover) within the proposed slopes and trail,
- removal and replacement of vegetation (trees, shrubs, bushes, and groundcover) necessary for construction staging and detour,
- the reestablishment and maintenance of the replaced vegetation (trees, shrubs, bushes, and ground cover) for ninety (90) days,
- modification repairs of the existing irrigation system, replacement of damaged hand hole,
- removal of existing Corrugated Metal Pipe and, PVC culvert,
- removal, salvaging, and delivery of road sign, post with flashing beacon, and PVC fencing,
- removal of guard post, winery monument with footing, rip rap,
- removal and replacement of rip rap,
- removal of CP station,
- partial removal of retaining wall, and
- relocation of roadside sign and post, shall be paid for on a lump sum basis including furnishing of all labor, materials, tools, equipment, furnishing replacement vegetation (trees, shrubs, bushes, and groundcover), incidentals and for doing all the work involved including coordination with the County Services Area (CSA) 143 Maintenance District for placement of the landscape and the modification and placement of the irrigation includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in and no additional compensation will be allowed therefor.

ROADSIDE SIGN (RELOCATE/ SALVAGE):

Existing roadside signs, shall be removed, relocated and/or salvaged as shown on the plans.

Roadside Signs to be removed and relocated shall be installed per the Roadside signs (install) special provisions.

Existing roadside signs at locations shown on the plans to be removed shall not be removed until replacement signs have been installed or until the existing signs are no longer required for direction of public traffic, unless otherwise directed by the Engineer.

County owned removed and salvaged signs shall be delivered to the nearest County Maintenance Yard or as directed by the Engineer. The County Maintenance Yard is located at the following address:

Riverside County Transportation Department
Road Maintenance Yard
25315 Jefferson Avenue
Murrieta, CA 92562
Telephone (951) 677-5889

METHOD OF PAYMENT

Full compensation for Relocate and Salvage roadside signs including furnishing all labor, materials, tools, equipment, incidentals and for doing all the work including sign removal, sign storage, sign protection, excavation and backfill, and installation as specified in the Standard Specifications and these Special Provisions shall be considered as included in the lump sum contract price paid for Clearing and Grubbing and no additional compensation will be allowed therefor.

CLASS 2 CONCRETE (MINOR CONCRETE STRUCTURES):

Class 2 Concrete (Minor Concrete Structures) shall conform to the applicable portions of Section 51, 52, 75 and 90 of the Standard Specifications.

Class 2 Concrete (Minor Concrete Structures) for this project shall consist of: Catch Basins (Curb Inlet), Manholes, Junction Structures, Warped Wingwalls, Wingwall, Wingwall Type D, Catch Basin (Combination Inlet), Concrete Drop Inlet, Transition Structure No. 3, PCC Forebay, and Concrete Collar.

Concrete to be used in the construction of Class 2 Concrete (Minor Concrete Structures) shall be Class "2" concrete.

All exposed metal shall be galvanized in conformance with Section 75-1.05 of the Standard Specifications.

METHOD OF PAYMENT

The contract unit price for Class 2 Concrete (Minor Structures) will be paid by each and shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in the complete structure, including the construction of gutter local depression for the Catch Basin (Curb Inlet) and Catch Basins (Combination Inlet) , structure excavation and

backfill, furnishing and placing reinforcement, and metal frames, covers and grates and no further allowances shall be allowed.

The contract unit price for each Class 2 Concrete (Minor Concrete Structures) will not be adjusted if the constructed height of said minor structure, including revisions by Engineer, is within + 0.5 foot of the vertical dimension shown on the plans.

ROCK SLOPE PROTECTION:

Rock slope protection shall conform to the provisions of Section 72 of the Standard Specifications and these Special Provisions.

Rock Slope Protection shall be placed in conformance with Method "B" as designated in the Engingeer's Estimate.

METHOD OF PAYMENT

The unit price paid per cubic yard for Rock Slope Protection (1/4 Ton - rock method "B" placement) shall include full compensations for furnishing all labor, materials (including concrete rock), tools, equipment and incidentals, and for doing all work involved in constructing the rock slope protection, complete in place, including any excavation and backfill necessary for placing rock slope protection.

ROCK SLOPE PROTECTION FABRIC:

Rock slope protection fabric shall conform to the applicable portions of Section 72 and 88 of the Standard Specifications.

METHOD OF PAYMENT

Payment for all work involved in the installation of Rock Slope Protection Fabric shall be paid per square foot and shall include full compensation for furnishing all labor, materials, tools and equipment, incidentals, and doing all work involved in the complete placement of the rock slope protection fabric.

IMPORTED ROCKY MATERIAL:

All aggregate materials to conform to ASTM D 448-08. 3" crushed rock shall meet the gradation requirements for number 1 stone per ASTM D 448-08. This material shall be crusher run and washed.

METHOD OF PAYMENT

The contract unit prices paid per cubic yard for Imported Rocky Material shall include full compensation for furnishing all labor and materials, and doing all work involved in the import and placement of the material and no further allowances shall be allowed.

PLACE ASPHALT CONCRETE – MISCELLANEOUS AREAS:

Asphalt concrete miscellaneous areas shall conform to the County Road Improvement Standards and Specifications, Caltrans Standard Plans, the plans, and as directed by the Engineer.

The paid quantity of Asphalt Concrete (Miscellaneous Areas) shall include placement, and shall be paid for as a separate item of work in addition to the price paid for the asphalt concrete material.

Payment for the asphalt concrete material used in miscellaneous areas shall be included in the contract unit price paid per ton for Hot Mix Asphalt (Type A), and the material shall meet the requirements provided in the special provisions for Hot Asphalt Mix (Type A).

The asphalt binder shall be PG 70-10.

METHOD OF PAYMENT

The contract unit prices paid per square foot for Place Hot Mix Asphalt (Miscellaneous Area) shall include full compensation for furnishing all labor, materials other than asphalt concrete, tools, and equipment and for doing all the work involved in placing and compacting the miscellaneous areas and no additional compensation will be allowed therefore.

CHAIN LINK FENCE AND DOUBLE GATE:

Chain link fence shall conform to the provisions of Section 80-4 of the Standard Specifications, RCFCWCD Standard Plan No. M801, these Special Provisions and as directed by the Engineer.

Chain link fencing material shall conform to the provisions of Section 80-4 of the Standard Specification.

METHOD OF PAYMENT

The contract unit bid price paid per linear foot for Chain Link Fence shall include full compensation for furnishing all labor, equipment, materials and tools, and incidentals, and for doing all the work involved including the furnishing and installation of the 14' Double Drive Gate, any excavation and backfill with concrete and no additional compensation will be allowed therefor.

HIGH DENSITY POLYETHYLENE (HDPE) PIPE:

Plastic Pipe shall conform to the provisions in Section 64, "Plastic Pipe", of the Standard Specifications, except as otherwise specified in these specifications.

Plastic Pipe shall be Type S corrugated polyethylene pipe with smooth interior wall manufactured from high density polyethylene (HDPE) virgin compounds:

Installation shall be in accordance with the plans, Standard Specifications, these specifications, and as recommended by the pipe manufacturer.

Pavement shall be cut to a depth of 3" with an abrasive type saw or with a rock cutting excavator specifically designed for this purpose. Cuts shall be neat and true with no shatter outside the removal area.

The HDPE pipe shall be encased in Class 4 concrete per the detail shown on the plans.

No HDPE pipe joints will be allowed 10-feet in each direction of any crossing water line facility.

All HDPE pipe joints shall be fusion-welded joints per the specifications of the pipe manufacturer. At all pipe joint locations, the inside of the pipe shall be smooth and free of obstructions.

Except as otherwise designated by classification on the plans or in the specifications, joints for culvert and drainage pipes shall conform to the plans or specifications for standard joints.

Metallic core or metallic-faced polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines shall be installed on the top of the concrete encasement continuously and unbroken. The metallic warning tape shall be at a minimum of 3 inch in width, color coded for the intended use with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Provide permanent color and printing, unaffected by moisture or soil.

METHOD OF PAYMENT

The contract price paid per linear foot for the different sizes of HDPE Pipe includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all of the work involved in installing HDPE Pipe, complete in place, including structure excavation and backfill, Class 4 concrete encasement, and connecting HDPE Pipe to new or existing facilities, including concrete collars, reinforcement, or other connecting devices, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

BASIN EXCAVATION AND EMBANKMENT (EARTHWORK):

Basin Excavation and Embankment shall conform to the provisions of Section 19 of the Standard Specifications and these Special Provisions, and the plans. This item includes all excavation and embankment required to construct the water quality basin to the lines and grades per plans.

No mass diagram or overhaul computations will be provided for this project. The Contractor will be required to provide his/her own disposal area for any surplus material as provided in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

Compaction of the water quality basin side slopes shall be to 90% relative compaction. No compaction of the water quality basin bottom shall be permitted. **The contractor shall not drive within the water quality basin with rubber tires at any time within 2 feet of the finished grade elevation of the basin bottom.**

Whenever relative compaction is specified to be determined by Test Method No. Calif. 216, the in-place density may be determined by Test Method No. Calif. 231. The in-place density required by Test Method No. Calif. 312 may be determined by Test Method No. 231. The wet weight or dry weight basis and English Units of Measurement may be used as an option of the Materials Engineer.

METHOD OF PAYMENT

The unit bid price paid per cubic yard is for the excavation only for Basin Excavation and Embankment, which shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the excavation, embankment and compaction work involved for construction of the water quality basin side slopes, bottom, and access ramp subgrade grading and 95% relative compaction as directed by the Engineer and no additional compensation will be allowed therefor.

ROADWAY EXCAVATION:

Roadway excavation shall conform to the provisions of Section 19 of the Standard Specifications and these Special Provisions. All large rocks and boulders larger than 1 foot in greatest dimension encountered during roadway excavation shall be considered unsuitable material and shall conform to Section 19-2.02 of the Standard Specifications.

At road connections and at limits of asphalt paving, existing pavement shall be grind 2" as shown on the plans or as directed by the Engineer. Full compensation for furnishing all labor, tools and doing all the work necessary including grinding, and sawcutting shall be considered as included in the contract prices paid per cubic yard for Roadway Excavation and no additional compensation will be allowed therefor.

Existing pavement including dikes and overside drains, any base material shall be cut back to neat lines and removed as shown on the plans or as directed by the Engineer. Excess material will become the property of the Contractor and will be disposed of as provided in Section 7-1.13 of the Standard Specifications.

Reconstruction of dirt driveway with class 3 aggregate base shall be performed as shown on the plans and payment shall be included in the contract bid price paid per cubic yard for roadway excavation and no additional compensation will be allowed therefor.

Grading existing shoulders to drain as directed by Resident Engineer will be included in the unit bid price per cubic yard for roadway excavation and no additional compensation will be allowed therefor.

METHOD OF PAYMENT

The contract unit bid price paid per cubic yard for Roadway Excavation shall include full compensation for furnishing all labor, materials, tools, equipment, including grinding 2 inches where the project matches the exiting asphalt, and incidentals, and for doing all work involved including the compaction of the subgrade, the grading of the shoulder to drain to an existing drainage facility as directed by the Engineer and per plan, reconstruction of exiting dirt driveway, and no additional compensation will be allowed therefor.

RELATIVE COMPACTION

Whenever relative compaction is specified to be determined by Test Method No. Calif. 216, the in-place density may be determined by Test Method No. Calif. 231. The in-place density required by Test Method No. Calif. 312 may be determined by Test Method No. 231. The wet weight or dry weight basis and English Units of Measurement may be used at the option of the Materials Engineer.

PRECAST REINFORCED CONCRETE BOX (RCB):

Precast reinforced concrete box installation shall conform to the Standard Plans for Public Works Construction No. 390-0, the plans and as directed by the Engineer. Contractor shall order precast reinforced concrete box for earth cover less than 24 inches. Contractor shall use Method 2 for the excavation and backfill in the Standard Plans for Public Works Construction No. 390-0.

Slurry shall be two sack slurry. The Contractor shall allow slurry to cure a minimum of two days prior to placing backfill.

Slurry cement backfill shall conform to Section 19-3.062 of the Standard.

In areas where utility vertical clearances are less than 12" between the RCB and the crossing utility, two sack slurry concrete shall be used for backfill.

Contractor shall accommodate an opening and the reinforcing steel in Precast Reinforce Concrete Box for the construction of a Junction Structure per the details shown on the plans.

METHOD OF PAYMENT

The contract unit bid price paid per linear foot for the different sizes of Precast Reinforced Concrete Box shall include full compensation for all labor, materials, tools, equipment, and incidentals, and for doing all the work involved including structural excavation and backfill, slurry cement backfill, placement of an opening and reinforcement steel for a Junction Structure, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer and as shown on the plans an no additional compensation will be allowed therefor.

MISCELLANEOUS FACILITIES-FLARED END SECTIONS:

Flared end sections shall conform to the provisions in Section 70, "Miscellaneous Facilities" of the Standard Specifications and these Special Provisions.

METHOD OF PAYMENT

The contract unit bid prices paid per each for Flared End Sections of the types specified in the estimate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved including structures excavation and backing as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

ASPHALT CONCRETE DIKES AND OVERSIDE DRAIN:

Asphalt concrete dikes and overside drains shall conform to the County Road Improvement Standards and Specifications, Caltrans Standard Plans as specified and as directed by the Engineer.

The pay quantity of asphalt concrete dikes and overside drains shall be for placement, and shall be paid for as a separate item of work in addition to the price paid for the asphalt concrete material.

Asphalt binder to be mixed with the aggregate shall be PG 70-10 in accordance with the Special Provision for Asphalt, or as directed by the Engineer.

METHOD OF PAYMENT

The contract unit prices paid per linear foot for Asphalt Concrete Dike and per each for Asphalt Concrete Overside Drain shall include full compensation for furnishing all labor, materials other than asphalt concrete, tools, and equipment and for doing all the work involved in placing and compacting the dikes and overside drains and no additional compensation will be allowed therefore.

AGGREGATE BASE:

Aggregate base shall be Class 2 and shall conform to the provisions in Section 26, "Aggregate Bases" of the Standard Specifications and these Special Provisions and shall meet the gradation requirements for ¾ inch maximum.

The first paragraph of Section 26-1.02A, "Class 2 Aggregate Base" shall be modified to read:

Aggregate for Class 2 aggregate base shall be free from organic matter and other deleterious matter, and shall be of such nature that it can be compacted readily under watering and rolling to form a firm and stable base. Aggregate may consist of broken and crushed asphalt concrete or Portland cement concrete and may contain crushed aggregate base or other rock materials. The material may contain no more than 3 percent brick by weight as determined by California Test

Method 202 as modified: Brick material retained on a No.4 sieve shall be identified visually and separated manually. Brick quantification shall be based on total weight of dry sample. Also, material retained on the 4.75 mm (No.4) sieve shall contain no more than 15 percent of particles (gravel) that have no more than one fractured face.

The Quality Requirements contained in Section 26-1.02A shall be modified to read:

QUALITY REQUIREMENTS

Test	Contract Compliance
Resistance (R-Value)	
Virgin Rock	78 Minimum
Crushed Miscellaneous	80 Minimum
Sand Equivalent	35 Minimum
Durability Index	35 Minimum
Percentage Wear	
100 Revolutions	15 Maximum
500 Revolutions	52 Maximum

METHOD OF PAYMENT

Quantities of Aggregate Base will be paid for at the contract unit price per cubic yard and in accordance with the provisions of Sections 26-1.06 and 26-1.07 of the Standard Specifications.

HOT MIX ASPHALT:

Asphalt concrete shall be Type "A" and shall conform to the requirements of Section 39 of the Standard Specifications and the following:

Aggregate grading shall be three-quarter inch (3/4") maximum, medium.

The asphalt lift thickness table, as shown in Section 39-6.01, "General Requirements" of the Standard Specifications, is revised as follows:

Total Thickness Shown on Plans	Minimum No. of Layers	Top Layer Thickness (foot)		Next Lower Layer Thickness (foot)		All Other Lower Layer Thickness (foot)	
		Min.	Max.	Min.	Max.	Min.	Max.
0.24-foot or less ^a	1	-	-	-	-	-	-
0.25-foot	2 ^b	0.12	0.13	0.12	0.13	-	-
0.26 - 0.46 foot	2	0.12	0.21	0.14	0.25	-	-
0.47-foot or more	3 or more	0.15	0.21	0.15	0.25	0.17	0.25

Footnotes to asphalt thickness table are revised as follows:

- a. No Change.
- b. One layer of 0.25 foot thick may be placed as approved by the Engineer. When the Traffic Index specified is 5.5 or below, two layers shall be placed.

ASPHALTS

Asphalt shall conform to the provisions in this Section, "Asphalts". Section 92, "Asphalts" of the Standard Specifications shall not apply.

Asphalt shall consist of refined petroleum or a mixture of refined liquid asphalt and refined solid asphalt, prepared from crude petroleum. Asphalt shall be:

1. Free from residues caused by the artificial distillation of coal, coal tar, or paraffin;
2. Free from water;
3. Homogeneous.

GENERAL

The Contractor shall furnish asphalt in conformance with the State of California Department of Transportation's "Certification Program for Suppliers of Asphalt". The Department maintains the program requirements, procedures, and a list of approved suppliers at <http://www.dot.ca.gov/hq/esc/Translab/fpmcoc.htm>.

The Contractor shall ensure the safe transportation, storage, use, and disposal of asphalt.

The Contractor shall prevent the formation of carbonized particles caused by overheating asphalt during manufacturing or construction.

GRADE

Performance graded (PG) asphalt binder shall conform to the following:

Property	AASHTO Test Method	Specification Grade		
		PG 64-10	PG 64-16	PG 70-10
Original Binder				
Flash Point, Minimum °C	T48	230	230	230
Solubility, Minimum % ^b	T44	99	99	99
Viscosity at 135 °C, Maximum, Pa·s	T316	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum $G^*/\sin(\delta)$, kPa	T315	64 1.00	64 1.00	70 1.00
RTFO Test ^e , Mass Loss, Maximum, %	T240	1.00	1.00	1.00
RTFO Test Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum $G^*/\sin(\delta)$, kPa	T315	64 2.20	64 2.20	70 2.20
Ductility at 25 °C Minimum, cm	T51	75	75	75
PAV ^f Aging, Temperature, °C	R28	100	100	110
RTFO Test and PAV Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum $G^*/\sin(\delta)$, kPa	T315	31 ^d 5000	28 ^d 5000	34 ^d 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, Mpa Minimum M-value	T313	0 300 0.300	-6 300 0.300	0 300 0.300

Notes:

- a. Note used.
- b. The Engineer will waive this specification if the supplier is a Quality Supplier as defined by Department's "Certification Program for Suppliers of Asphalt".
- c. The Engineer will waive this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- d. Test the sample at 3 °C higher if it fails at the specified test temperature. $G^*\sin(\delta)$ shall remain 5000 kPa maximum.
- e. "RTFO Test" means the asphaltic residue obtained using the Rolling Thin Film Oven Test, AASHTO Test Method T240 or ASTM Designation: D2827.
- f. "PAV" means Pressurized Aging Vessel.

Performance graded polymer modified asphalt binder (PG Polymer Modified) is:

Performance Graded Polymer Modified Asphalt Binder ^a

Property	AASHTO Test Method	Specification Grade		
		PG 58-34 PM	PG 64-28 PM	PG 76-22 PM
Original Binder				
Flash Point, Minimum °C	T 48	230	230	230
Solubility, Minimum % ^b	T 44 ^c	98.5	98.5	98.5
Viscosity at 135°C, ^d Maximum, Pa·s	T 316	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 1.00	64 1.00	76 1.00
RTFO Test, Mass Loss, Maximum, %	T 240	1.00	1.00	1.00
RTFO Test Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 2.20	64 2.20	76 2.20
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum (delta), %	T 315	Note e 80	Note e 80	Note e 80
Elastic Recovery ^f , Test Temp., °C Minimum recovery, %	T 301	25 75	25 75	25 65
PAV ^g Aging, Temperature, °C	R 28	100	100	110
RTFO Test and PAV Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum G*/sin(delta), kPa	T 315	16 5000	22 5000	31 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, MPa Minimum M-value	T 313	-24 300 0.300	-18 300 0.300	-12 300 0.300

Notes:

- a. Do not modify PG Polymer Modifier using acid modification.
- b. The Engineer waives this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt".
- c. The Department allows ASTM D5546 instead of AASHTO T44.
- d. The Engineer waives this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- e. Test temperature is the temperature at which G*/sin(delta) is 2.2 kPa. A graph of log G*/sin(delta) plotted against temperature may be used to determine the test temperature when G*/sin(delta) is 2.2 Kpa. A graph of (delta) versus temperature may be used to determine delta at the temperature when G*/sin(delta) is 2.2 kPa. The Engineer also accepts direct measurement of (delta) at the temperature when G*/sin(delta) is 2.2 kPa.
- f. Test without a force ductility clamp may be performed.
- g. "PAV" means Pressurized Aging Vessel.

SAMPLING

Provide a sampling device in the asphalt feed line connecting the plant storage tanks to the asphalt weighing system or spray bar. Make the sampling device accessible between 24 and 30 inches above the platform. Provide a receptacle for flushing the sampling device.

Include with the sampling device a valve:

1. Between 1/2 and 3/4 inch in diameter;
2. Manufactured in a manner that a one-quart sample may be taken slowly at any time during plant operations;
3. Maintained in good condition.

The Contractor shall replace failed valves.

In the Engineer's presence, take 2 one-quart samples per operating day. Provide round, friction top, one-quart containers for storing samples.

APPLYING ASPHALT

Unless otherwise specified, the Contractor shall heat and apply asphalt in conformance with the provisions in Section 93, "Liquid Asphalts" of the Standard Specifications.

Section 39-2.01, "Asphalts" is replaced in its entirety with the following:

Asphalt binder to be mixed with aggregate shall conform to the provisions in "Asphalts" of these Special Provisions.

The grade of asphalt binder shall be 70-10.

Liquid asphalt for prime coat shall conform to the provisions in Section 93, "Liquid Asphalts" of the Standard Specifications and shall be Grade 64-10 unless otherwise designated by the contract item or otherwise specified in the Special Provisions.

Asphaltic emulsion for paint binder (tack coat) shall conform to the provisions in Section 94, "Asphaltic Emulsion" of the Standard Specifications for the rapid-setting or slow-setting type and grade approved by the Engineer. Grade 64-10 shall be used if not otherwise specified.

Section 39-3.01B (1) shall be amended to include:

Aggregate of the 3/4 inch or 1/2 inch maximum size and aggregate for asphalt concrete base shall be separated into 3 or more sizes and each size shall be stored in separate bins. If 3 sizes are used, one bin shall contain that portion of the material which will pass the maximum size specified and be retained on a 3/8 inch sieve; one bin shall contain that

portion of the material which will pass a 3/8 inch sieve and be retained on a No. 8 sieve; and one bin shall contain that portion of the material which will pass a No. 8 sieve.

Aggregate of 3/8 inch maximum size shall be separated into 2 sizes and each size shall be stored in separate bins. One bin shall contain that portion of the material which will pass the maximum size specified and be retained on a No. 8 sieve and one bin shall contain that portion of the material which will pass a No. 8 sieve.

The bin containing the fine material shall not contain more than 15 percent of material retained on the No. 8 sieve. The material in any of the other bins shall not contain more than 15 percent of material passing a No. 8 sieve. Failure to comply with this requirement shall be corrected immediately, and the material in the bins not meeting these requirements shall be re-screened or wasted.

All asphalt concrete for this project shall be supplied from one source unless approved by the Engineer. Said source shall be listed on the Contractors Source of Materials List as required in Section 6 of the Standard Specifications.

Asphalt concrete placed on driveway shall be paid for at the same unit price as for material placed on the roadbed in addition to the price paid per square foot for Place Asphalt Concrete (Miscellaneous Area).

The thickness for the asphalt concrete driveway shall be 0.25' in thickness.

Asphaltic emulsion shall be furnished and applied as provided in Section 39-4.02.

In addition to the provisions in Section 39-5.01, "Spreading Equipment" of the Standard Specifications, asphalt paving equipment shall be equipped with automatic screed controls and a sensing device or devices.

When placing asphalt concrete to the lines and grades established by the Engineer, the automatic controls shall control the longitudinal grade and transverse slope of the screed. Grade and slope references shall be furnished, installed, and maintained by the Contractor. Should the Contractor elect to use a ski device, the minimum length of the ski device shall be 30 feet. The ski device shall be a rigid one piece unit and the entire length shall be utilized in activating the sensor.

When placing the initial mat of asphalt concrete on existing pavement, the end of the screed nearest the centerline shall be controlled by a sensor activated by a ski device not less than 30 feet. The end of the screed farthest from centerline shall be controlled by an automatic transverse slope device set to reproduce the cross slope designated by the Engineer, by a sensor activated by a similar ski device or as directed by the Engineer.

When paving contiguously with previously placed mats, the end of the screed adjacent to the previously placed mat shall be controlled by a sensor that responds to the grade of the previously placed mat and will reproduce the grade in the new mat within a 0.12 inch tolerance. The end of the screed farthest from the previously placed mat shall be controlled in the same way it was controlled when placing the initial mat.

Should the methods and equipment furnished by the Contractor fail to produce a layer of asphalt concrete conforming to the provisions, including straightedge tolerance, of Section 39-6.03, "Compacting" of the Standard Specifications or elsewhere in these Special Provisions, the paving operations shall be discontinued and the Contractor shall modify the equipment or methods, or furnish substitute equipment.

Should the automatic screed controls fail to operate properly during a day's work, the Contractor may manually control the spreading equipment for the remainder of that day. However, the equipment shall be corrected or replaced with alternative automatically controlled equipment conforming to the provisions in this section before starting another day's work.

GENERAL CRITERIA FOR PROFILING

In addition to the straightedge provisions in Section 39-6.03, "Compacting" of the Standard Specifications, asphalt concrete pavement shall conform to the surface tolerances specified herein.

The uppermost layer of asphalt concrete surfacing shall be profiled in the presence of the Engineer using a California Profilograph or equivalent in conformance with California Test 526 and as specified in these Special Provisions.

The California Profilograph or equivalent will not be required for the following areas of the pavement surface but shall conform to the straightedge requirements in Section 39-6.03, "Compacting" of the Standard Specifications:

1. Pavement with a total thickness less than 0.24 foot;
2. Pavement on horizontal curves with a centerline curve radius of less than 1,000 feet and the pavement within the superelevation transition on those curves;
3. Pavement placed in a single lift when required by the Special Provisions;
4. Pavement with extensive grade or cross slope correction which does not receive advance leveling operations in conformance with the provisions in Section 39-6.02, "Spreading" of the Standard Specifications;
5. Pavement for ramps and connectors with steep grades and high rates of superelevation, as determined by the Engineer;
6. Shoulders and miscellaneous areas.

The Contractor shall conform to California Test 526, except a zero (null) blanking band shall be used for determining the Profile Index. Prior to beginning profiles, the profilograph shall be calibrated in the presence of the Engineer. Two profiles shall be obtained within each traffic lane, 3 feet from and parallel with the edges of the lane.

Pavements profiled shall conform to the following Profile Index requirements:

1. Pavement on tangent alignment and pavement on horizontal curves having a centerline curve radius of 2,000 feet or more shall have a Profile Index of 0.16 foot or less for each 330 feet section profiled;
2. Pavement on horizontal curves having a centerline curve radius of 1,000 feet or more but less than 2,000 feet, including the pavement within the superelevation transition of these curves, shall have a Profile Index of 0.32 foot or less for each 330 feet section profile;
3. Pavement within any 330 feet section, containing high point areas with deviations in excess of 0.025 foot in a length of 25 feet or less, when tested in conformance with the requirements in California Test 526, shall be corrected by the Contractor regardless of the Profile Index.

The Contractor shall complete initial runs of the profilograph prior to opening the pavement to public traffic. If initial profiles can not be made prior to opening the pavement to public traffic, the initial runs of the profilograph shall be made the next day that traffic control is permitted for the area to be profiled.

Areas of the top surface of the uppermost layer of asphalt concrete pavement that do not meet the specified surface tolerances shall be brought within tolerance by abrasive grinding.

Abrasive grinding shall be performed to reduce individual deviations in excess of 0.025 foot, and to reduce the Profile Index of the pavement to be within the specified tolerance. Areas which have been subjected to abrasive grinding shall receive a seal coat. Deviations in excess of 0.025 foot which cannot be brought into specified tolerance by abrasive grinding shall be corrected by either (1) removal and replacement or (2) placing an overlay of asphalt concrete. The corrective method for each area shall be selected by the Contractor and shall be approved by the Engineer prior to beginning the corrective work. Replacement or overlay pavement not meeting the specified tolerances shall be corrected by the methods specified above. Corrective work shall be at the Contractor's expense. The Contractor shall run profilograms on the areas that have received abrasive grinding or corrective work until the final profilograms indicate the Profile Index of the area is within the specified tolerance.

When abrasive grinding is used to bring the top surface of the uppermost layer of asphalt concrete surfacing within the specified surface tolerances, additional abrasive grinding shall be performed as necessary to extend the area ground in each lateral direction so that the lateral limits of grinding are at a constant offset from, and parallel with, the nearest lane line or pavement edge, and in each longitudinal direction so that the grinding begins and ends at lines normal to the pavement centerline, within a ground area. Ground areas shall be neat rectangular areas of uniform surface appearance.

The original of the final profilograms that indicate the pavement surface is within the Profile Index specified shall become the property of the County and shall be delivered to the Engineer prior to acceptance of the contract.

METHOD OF PAYMENT

Asphalt concrete will be paid for at a unit price per ton as a combined item, including mineral aggregate and asphalt binder in place on the roadbed.

Full compensation for furnishing and applying asphaltic emulsion (paint binder) shall be considered as included in the contract price paid for Asphalt Concrete.

COMPENSATION ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS:

The provisions of this section shall apply only to the following contract items:

ITEM CODE	ITEM
390102	Hot Mix Asphalt (Type A)

The compensation payable for asphalt binder used in hot mix asphalt and tack coat will be increased or decreased in conformance with the provisions of this section for paving asphalt price fluctuations exceeding 10 percent (I_u/I_b is greater than 1.10 or less than 0.90) which occur during performance of the work.

The quantity of asphalt binder used in tack coat will be determined by multiplying the item quantity for tack coat included in a monthly estimate by the minimum percent residue specified in Section 94, "Asphaltic Emulsions" of the Standard Specifications. The asphaltic emulsion minimum percent residue will be based on the type of emulsion used by the Contractor.

At the Contractor's option, the Contractor may provide actual daily test results for asphalt binder residue for the tack coat used. Test results provided by the Contractor shall be from an independent testing laboratory that participates in the AASHTO Proficiency Sample Program. The Contractor shall take samples of asphaltic emulsion from the distributor truck at mid-load from a sampling tap or thief. Two separate one-half ($\frac{1}{2}$) gallon samples shall be taken in the presence of the Engineer. The Contractor shall provide one sample to the Contractor's independent testing laboratory within 24 hours of sampling. The second sample shall be given to the Engineer. The test results from the Contractor independent testing laboratory shall be delivered to the Engineer within 10 days from sample date.

The adjustment in compensation will be determined in conformance with the following formulae when the item of hot mix asphalt or tack coat or both are included in a monthly estimate:

A. Total monthly adjustment = AQ

B. For an increase in paving asphalt price index exceeding 10 percent:

$$A = 0.90 (I_u/I_b - 1.10) I_b$$

C. For a decrease in paving asphalt price index exceeding 10 percent:

$$A = 0.90 (I_u/I_b - 0.90) I_b$$

D. Where:

A = Adjustment in dollars per ton of paving asphalt used to produce hot mix asphalt and asphaltic emulsion residue used as tack coat rounded to the nearest \$0.01.

I_u = The California Statewide Paving Asphalt Price Index which is in effect on the first business day of the month within the pay period in which the quantity subject to adjustment was included in the estimate.

I_b = The California Statewide Paving Asphalt Price Index for the month in which the bid opening for the project occurred.

Q = Quantity in tons of asphalt binder that was used in producing the quantity of hot mix asphalt shown under "This Estimate" on the monthly estimate using the amount of asphalt binder determined by the Engineer plus the quantity in tons of asphalt binder that would have been used as residue in the tack coat shown under "This Estimate" on the monthly estimate.

The adjustment in compensation will also be subject to the following:

- A. The compensation adjustments provided herein will be shown separately on payment estimates. The Contractor shall be liable to the County for decreased compensation adjustments and the Department may deduct the amount thereof from moneys due or that may become due the Contractor.
- B. Compensation adjustments made under this section will be taken into account in making adjustments in conformance with the provisions in Section 4-1.03B, "Increased or Decreased Quantities" of the Standard Specifications.
- C. In the event of an overrun of contract time, adjustment in compensation for paving asphalt included in estimates during the overrun period will be determined using the California Statewide Paving Asphalt Price Index in effect on the first business day of the month within the pay period in which the overrun began.

The California Statewide Paving Asphalt Price Index is determined each month on the first business day of the month by the Department using the median of posted prices in effect as posted by Chevron, Mobil, and Unocal for the Buena Vista, Huntington Beach, Kern River, Long Beach, Midway Sunset, and Wilmington fields.

In the event that the companies discontinue posting their prices for a field, the Department will determine an index from the remaining posted prices. The Department reserves the right to include in the index determination the posted prices of additional fields.

The California Statewide Paving Asphalt Price Index is available on the Division of Engineering Services website at: http://www.dot.ca.gov/hq/esc/oc/asphalt_index/astable.html.

REMOVE TRAFFIC STRIPE AND PAVEMENT MARKING:

Where blast cleaning/grinding is used for the removal of painted/thermoplastic traffic stripes and pavement markings or for removal of objectionable material, and such removal operation is being performed within 10 feet of a lane occupied by public traffic; the residue including dust shall be removed immediately after contact between the sand and the surface being treated. Such removal shall be by wet abrasive blasting, hydro-blasting or vacuum blasting, and shall comply with AQMD regulations.

Blast cleaning/grinding for removal of traffic stripes shall be feathered out to irregular and varying widths.

Pavement markings shall be removed by blast cleaning/grinding a rectangular area, rather than just lettering or markings, so the old message cannot be identified.

After removal of traffic stripes and pavement markings, a fog seal coat shall be applied in conformance with the provisions in Section 37, "Bituminous Seals" of the Standard Specifications and the following:

If removal of existing striping is performed more than 24 hours prior to final striping, the Contractor shall place reflective temporary striping tape throughout the limits of sandblasting, to provide channelization of traffic, for all lanes of travel.

Temporary striping tape shall be removed subsequent to final striping.

Nothing in these Special Provisions shall relieve the Contractor from his responsibilities as provided in Section 7-1.09, "Public Safety" of the Standard Specifications.

METHOD OF PAYMENT

Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in removing traffic stripes and pavement markings as shown on the plans, as specified herein, and as directed by the Engineer shall be considered as included in the contract prices paid for the various items of work and no additional compensation will be allowed therefor.

COLOR STAMPED PORTLAND CEMENT COLOR STAMPED PORTLAND CEMENT CONCRETE PAVEMENT FOR TRUCK APRON (HIGH EARLY STRENGTH CONCRETE)

Concrete pavement for truck apron shall consist of constructing high early strength (HES) colored concrete pavement as shown on the plans and in conformance with Section 40, "Portland Cement Concrete Pavement," and Section 90, "Portland Cement Concrete" of the Standard Specifications and these Special Provisions.

DEFINITIONS

The following definitions shall apply to this section:

1. EARLY AGE – A time less than 10 times the final set time of the concrete.
2. FINAL SET TIME – The elapsed time after initial contact of cement and water, or accelerator, if used, at which a specific penetration resistance of 4,000 pounds per square inch is achieved in conformance with the requirements in ASTM Designation: C 403.
3. OPENING AGE – The age at which the concrete will achieve the specified strength for opening to public or Contractor traffic.

JUST-IN-TIME TRAINING

Just-In-Time Training (JITT) shall be mandatory, and consist of a formal joint training class on high early strength colored concrete. Construction operations for high early strength concrete shall not begin until the Contractor's and the Engineer's personnel have completed the mandatory JITT.

The JITT session will be conducted for not less than 4 hours on high early strength concrete. The training class shall be conducted at the project field location convenient for both the Contractor's and the Engineer's project staffs. Scheduling and completion of the JITT session shall be completed at least 5 business days prior to the start of construction of high early strength concrete. The class shall be held during normal working hours.

The JITT instructor shall be experienced in the construction methods, materials, and test methods associated with high early strength colored concrete and decorative concrete including colored and stamped concrete. The instructor shall not be an employee of the Contractor or a member of the Engineer's field staff. A copy of the syllabus, handouts, and presentation material shall be submitted to the Engineer at least 7 days before the day of the training. Selection of the course instructor, the course content and training site shall be as mutually agreed to by the Contractor and the Engineer. The instructor shall issue a certificate of completion to the participants upon the completion of the class. The certificate shall include the course title, date and location of the class, the name of the participant, instructor's name, location and phone number.

The Contractor's or Engineer's personnel involved with high early strength concrete operations will not be required to attend JITT if they have completed similar training within the previous 12 months of the date of the JITT for this project. The Contractor shall provide a certificate of class completion as described above for each staff member to be excluded from the JITT session. The final determination for exclusion of any staff member's participation will be as determined by the Engineer. All attendees of the JITT shall complete, and submit to the Engineer, an evaluation of the training. The course evaluation form will be provided by the Engineer.

It is expressly understood that Just-In-Time Training shall not relieve the Contractor of any responsibility under the contract for the successful completion of the work in conformity with the requirements of the plans and specifications.

TRIAL SLAB

Prior to construction of HES colored concrete pavement, the Contractor shall construct one or more trial slabs under conditions similar to those that will exist during concrete pavement placement, for each mix design, to show that personnel, equipment, and mixing, placing, texturing/imprinting, curing, and sawing techniques will produce a concrete pavement conforming to these Special Provisions in the anticipated time period under similar atmospheric and temperature conditions as pavement construction and to establish the correlation described below. During production and placement, the Contractor shall conform to the requirements of these Special Provisions and to the procedure outlined in the Quality Control Plan (QCP) herein to ensure that mixing, transporting, placing, finishing, curing and sawing techniques and that personnel and equipment to be used will produce HES colored concrete pavement conforming to these Special Provisions.

A trial slab shall be constructed using the approved mix design, admixtures and conditions for batching. During construction of trial slab, the Contractor shall demonstrate placement at the minimum and maximum times allowed from batching to placement. HES colored concrete pavement within the roadway shall not proceed until a trial slab meeting the requirements of these Special Provisions has been constructed.

The minimum trial slab dimensions shall be 10' x 20' and shall be 9 inches thick where planned HES colored concrete pavement nominal thickness is less than 9 inches. The trial slab thickness shall be 10 inches where planned HES colored concrete pavement nominal thickness is 10 inches or greater. Where there are planned HES colored concrete pavement with greater and less than 10 inches thickness then two trial slabs shall be required one at 9 inches thick and one at 10 inches thick. Trial slabs shall be placed near the project site at a location mutually acceptable to the Engineer and the Contractor except slabs shall not be placed on the roadway or within the project limits.

During trial slab construction, the Contractor shall sample and split the aggregate for gradings, cleanness value, and sand equivalent testing with the Engineer, at the Contractor's cost. Both sets of test results of these samples shall conform to the provisions in Section 90-2.02, "Aggregates" of the Standard Specifications. If test results do not conform to the requirements, the trial slab will be rejected.

During trial slab construction and within 20 minutes of HES colored concrete delivery, beams shall be fabricated in conformance with the requirements in California Test 524. Beams shall be used to determine early age and 7-day modulus of rupture values. Beams fabricated for early age testing shall be cured so that the monitored temperature in the beams and the trial slab are within 5° F at all times. Internal temperatures of the trial slab and early age beams shall be monitored and recorded at minimum time intervals of 5 minutes by installing thermocouples and or thermistors connected to strip-chart recorders or digital data loggers. Temperature recording devices shall be accurate to within $\pm 2^{\circ}$ F. Internal temperature readings shall be measured at one inch from the top and one inch from the bottom, no closer than 3 inches from any edge of the concrete elements, until the early age testing is completed. Beams fabricated for 7-day testing shall be cured in conformance with the requirements in California Test 524, except beams shall be placed into sand at between 5 and 10 times the final set time or 24 hours, whichever is earlier. Testing shall be performed by the Contractor and witnessed by the Engineer. At the Engineer's request, the

Contractor shall produce samples for the Engineer to test. Strength results from beams shall be the basis for determining whether HES concrete pavement operations may proceed. Trial slabs 9 inches thick shall have an early age modulus of rupture of not less than 400 pounds per square inch and a 7-day modulus of rupture of not less than 600 pounds per square inch. Trial slabs 10 inches thick shall have an early age modulus of rupture of not less than 333 pounds per square inch and a 7-day modulus of rupture of not less than 600 pounds per square inch. Beams failing early age or 7-day modulus of rupture requirements shall be cause for the rejection of the trial slab.

When proposed by the Contractor, in writing, and approved by the Engineer, ASTM Designation: C 805 or C 900 shall be used to estimate the modulus of rupture of the pavement at early ages. The selected test method shall be used to determine modulus of rupture until 7 days after the Contractor notifies the Engineer of withdrawal of the proposal or 7 days after the Engineer notifies the Contractor of withdrawal of approval, in writing. During trial slab curing, correlation testing shall be performed to determine the relation between the modulus of rupture and ASTM Designation: C 805 or C 900 performed on the trial slab. The correlation shall be established by testing at 4 or more time intervals. At a minimum, tests shall be performed one hour before and one hour after the opening age and two others within 15 minutes of the opening age. Modulus of rupture estimates shall be calculated with either a linear, exponential or logarithmic, least squares best-fit equation, whichever provides the best correlation coefficient.

The Contractor shall state in detail the intended location and time; procedure for production, placement and finishing of HES colored concrete pavement; sampling, sample imprinting, curing and sample transportation; testing and reporting of test results for the trial slab in the QCP.

Materials resulting from construction of trial slabs and test specimens shall become the property of the Contractor and shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

HIGH EARLY STRENGTH CONCRETE

High Early Strength (HES) Colored Concrete shall be a concrete made with hydraulic cement that develops opening age and 7-day specified modulus of rupture strengths.

Requirements of Sections 40-1.05, "Proportioning" and 90-1.01, "Description" of the Standard Specifications shall not apply.

Primary aggregate gradings shall conform to the gradation requirements of Section 90-3, "Aggregate Gradings" of the Standard Specifications. Combined aggregate grading used in HES colored concrete shall be one-inch maximum grading. When combined in the proportions determined by the Contractor, the percent passing the 3/8-inch sieve and retained on the No. 8 sieve shall not be less than 16 percent of the total aggregate.

The cementitious material content shall not be less than 675 pounds per cubic yard and no fly ash will be allowed.

Cement for HES colored concrete shall be hydraulic cement as defined in ASTM Designation: C 219 and shall conform to the following requirements:

Test Description	Test Method	Requirement
Contraction in Air	California Test 527, W/C Ratio = 0.39 ±0.010	0.053 %, max.
Mortar Expansion in Water	ASTM Designation: C 1038	0.04 %, max.
Soluble Chloride*	California Test 422	0.05 %, max.
Soluble Sulfates*	California Test 417	0.30 %, max.
Thermal Stability	California Test 553	60 %, min.
Compressive Strength @ 3 days	ASTM Designation: C 109	2,500 psi

* Test is to be done on a cube specimen, fabricated in conformance with the requirements in ASTM Designation: C 109, cured at least 14 days and then pulverized to 100% passing the No. 50 sieve.

The Contractor shall submit uniformity reports for cement used in HES colored concrete to the Transportation Materials Laboratory. Uniformity reports shall conform to the requirements in ASTM Designation: C 917, except that testing age and water content may be modified to suit the particular material.

Type C accelerating chemical admixtures conforming to the provisions in Section 90-4, "Admixtures" of the Standard Specifications may be used. In addition to the admixtures listed on the Department's current list of approved admixtures, citric acid or borax may be used if requested in writing by the cement manufacturer and a sample is submitted to the Engineer. Chemical or liquid admixtures including coloring agent shall be included in the testing for requirements listed in the table above. When preparing concrete mixes that will contain integral coloring agent admixtures, the type of water-reducing and accelerating admixtures to be added shall be as recommended by the color agent manufacturer.

Integral color shall be "C-21 Adobe Tan" by L.M. Schofield Co" or close approximation as approved by the Engineer. The listed product is intended as a guideline, and products from alternate manufacturers will be accepted provided that the product and color are close approximations as determined by the Engineer.

The decorative concrete pattern shall be "Old Granite", or close approximation as approved by the Engineer. The listed product is intended as a guideline, and products from alternate manufacturers will be accepted provided that the product provides a pattern of the size and texture that is a close approximation to the guideline product. The pattern shall be implanted, indented, imprinted into the surface by means of forms, molds, or other approved devices.

At least 10 days prior to use in the trial slab, the Contractor shall submit a mix design for HES concrete that shall include the following:

1. Opening age.
2. Aggregate gradings.
3. Mix proportions of hydraulic cement and aggregate.
4. Types and amounts of chemical admixtures including coloring agent.
5. Maximum time allowed between batching HES colored concrete and placing roadway pavement.
6. Range of ambient temperatures over which the mix design is effective (18° F maximum range).
7. Final set time of the concrete.

8. Any special instructions or conditions, including but not limited to, water temperature requirements when appropriate.

The Contractor shall submit more than one mix design to plan for ambient temperature variations anticipated during placement of the roadway pavement. Each mix shall be designed for a maximum ambient temperature range of 18° F. The Contractor shall develop and furnish modulus of rupture development data for each proposed mix design. Modulus of rupture development data for up to 7 days shall be provided to the Engineer prior to beginning paving operations. Modulus of rupture development data may be developed from laboratory prepared samples. The testing ages for modulus of rupture development data shall include one hour before opening age, opening age, one hour after opening age, 24 hours, 7 days and 28 days. The Contractor shall also provide the Engineer with Certificates of Compliance for all materials used in the imprinting, texturing, coloring, curing, and sealing of HES colored concrete including: Product Name, Supplier, and Product Type.

Concrete pavement penetration requirements in Section 90-6.06, "Amount of Water and Penetration" of the Standard Specifications shall not apply to HES colored concrete.

HES colored concrete pavement shall develop a minimum modulus of rupture of as specified in "Pay Factor Adjustment for Low Modulus of Rupture" of these Special Provisions before opening to public or Contractor traffic. In addition, HES colored concrete pavement shall develop a minimum modulus of rupture of 600 pounds per square inch in 7 days after placement. HES colored concrete pavement that attains a modulus of rupture of less than specified may be accepted in conformance with "Pay Factor Adjustment for Low Modulus of Rupture" specified herein. Modulus of rupture shall be determined by averaging results from 3 beam specimens tested in conformance with the requirements in California Test 524. Beam specimens may be fabricated using an internal vibrator in conformance with the requirements in ASTM Designation: C 31. No single test shall represent more than the production of that day or 100 cubic yards, whichever is less.

Modulus of rupture at early age may be estimated using the correlation established during trial slab placement. When modulus of rupture at early age is determined using beam specimens, beam specimens shall be cured under atmospheric conditions and at a temperature within 5° F of the pavement. Modulus of rupture at other ages will be determined using beams cured and tested in conformance with California Test 524 except beams will be placed into sand between 5 times and 10 times final set time or 24 hours, whichever is earlier. The Engineer will perform the testing to determine modulus of rupture values of the HES colored concrete pavement. The modulus of rupture, as determined above, will be the basis for accepting or rejecting the HES colored concrete pavement for modulus of rupture requirements.

PAY FACTOR ADJUSTMENT FOR LOW MODULUS OF RUPTURE

Where planned concrete pavement nominal thickness is less than 10 inches, payment for HES colored concrete pavement will be adjusted for low modulus of rupture tests as follows:

1. HES Colored Concrete Pavement with modulus of rupture of 400 pounds per square inch or greater before the lane is opened to the traffic and 7-day modulus of

rupture of 600 pounds per square inch or greater will be paid for at the contract price per cubic yard for HES Colored Concrete Pavement.

2. HES Colored Concrete Pavement with a 7-day modulus of rupture of less than 500 pounds per square inch will not be paid for, and shall be removed and replaced, at the Contractor's expense with HES Colored Concrete Pavement conforming to the requirements of these Special Provisions.
3. HES Colored Concrete Pavement with modulus of rupture of 300 pounds per square inch or greater before the lane is opened to traffic and a 7-day modulus of rupture of equal to or greater than 500 pounds per square inch will be paid for at a percentage of the contract price per cubic yard for HES Colored Concrete Pavement in conformance with the percentages in the pay table below.
4. HES Colored Concrete Pavement with modulus of rupture of less than 300 pounds per square inch when the lane is opened to traffic will be rejected and shall be removed and replaced at the Contractor's expense with HES Colored Concrete Pavement conforming to the requirements of these Special Provisions.

Percentage Pay Table

Modulus of Rupture (psi) at opening to traffic	7-Day Modulus of Rupture (psi)		
	Greater than or equal to 600	Less than 600 and greater than or equal to 550	Less than 550 and greater than or equal to 500
Greater than or equal to 400	100%	95%	90%
Less than 400 and greater than or equal to 350	95%	95%	90%
Less than 350 and greater than or equal to 300	80%*	80%*	80%*

* Any replacement panels that develops one or more transverse cracks within 21 days after placement shall be removed and replaced at the Contractor's expense with HES Colored Concrete Pavement conforming to the requirements of these Special Provisions. A transverse crack is defined as a crack running from one longitudinal edge of the panel to the other.

Where planned concrete pavement nominal thickness is 10 inches or greater, payment for HES Colored Concrete Pavement will be adjusted for low modulus of rupture tests as follows:

1. HES Colored Concrete Pavement with modulus of rupture of 333 pounds per square inch or greater before the lane is opened to the traffic and 7-day modulus of rupture of 600 pounds per square inch or greater will be paid for at the contract price per cubic yard for HES Colored Concrete Pavement.
2. HES Colored Concrete Pavement with a 7-day modulus of rupture of less than 500 pounds per square inch will not be paid for, and shall be removed and replaced, at the Contractor's expense with HES Colored Concrete Pavement conforming to the requirements of these Special Provisions.
3. Replace HES Colored Concrete Pavement with modulus of rupture of 260 pounds per square inch or greater before the lane is opened to traffic and a 7-day modulus of rupture of equal to or greater than 500 pounds per square inch will be paid for at

a percentage of the contract price per cubic yard for HES Colored Concrete Pavement in conformance with the percentages in the pay table below.

4. HES Colored Concrete Pavement with modulus of rupture of less than 260 pounds per square inch when the lane is opened to traffic will be rejected and shall be removed and replaced at the Contractor's expense with HES Colored Concrete Pavement conforming to the requirements of these Special Provisions.

Percentage Pay Table

Modulus of Rupture (psi) at opening to traffic	7-Day Modulus of Rupture (psi)		
	Greater than or equal to 600	Less than 600 and greater than or equal to 550	Less than 550 and greater than or equal to 500
Greater than or equal to 333	100%	95%	90%
Less than 333 and greater than or equal to 290	95%	95%	90%
Less than 290 and greater than or equal to 260	80%*	80%*	80%*

* Any replacement panels that develops one or more transverse cracks within 21 days after placement shall be removed and replaced at the Contractor's expense with HES Colored Concrete Pavement conforming to the requirements of these Special Provisions. A transverse crack is defined as a crack running from one longitudinal edge of the panel to the other.

The Contractor shall pay to the County adjustments in payment for low modulus of rupture tests in conformance with the requirements specified in the tables in this section. The County will deduct the amount of the adjustments from moneys due or that may become due, the Contractor under the contract.

PROPORTIONING

Weighing, measuring and metering devices used for proportioning materials shall conform to the provisions in Section 9-1.01, "Measurement of Quantities" of the Standard Specifications and these Special Provisions.

Over and under dials, and other indicators for weighing and measuring systems used in proportioning materials shall be grouped so that the smallest increment for each indicator can be accurately read from the point at which the proportioning operation is controlled for ingredients batched at a central batch plant. In addition, indicators for weighing and measuring cement batched from a remote weighing system shall also be placed so that each indicator can be accurately read from the point at which the proportioning operation is controlled.

Aggregates shall be handled and stored in conformance with the provisions in Section 90-5.01, "Storage of Aggregates" of the Standard Specifications. Liquid admixtures shall be proportioned in conformance with the provisions in Section 90-4.10, "Proportioning and Dispensing Liquid Admixtures" of the Standard Specifications.

Weighing equipment shall be insulated against vibration or movement of other operating equipment. When the plant is in operation, the weight of each draft of material shall not vary from the designated weight by more than the tolerances specified herein. Each scale graduation shall be 0.001 of the usable scale capacity.

Aggregate shall be weighed cumulatively and equipment for the weighing of aggregate shall have a zero tolerance of ± 0.5 percent of the designated total batch weight of the aggregate. Equipment for the separate weighing of the cement shall have a zero tolerance of ± 0.5 percent of its designated individual batch draft. Equipment for measuring water shall have a zero tolerance of ± 0.5 percent of its designated weight or volume.

The weight indicated for any individual batch of material shall not vary from the preselected scale setting by more than the following:

Material	Tolerance
Aggregate	± 1.0 percent of designated batch weight
Cement	± 0.5 percent of designated batch weight
Water	± 1.5 percent of designated batch weight or volume

Proportioning shall consist of dividing the aggregates into the specified sizes, each stored in a separate bin, and combining them with cement and water as provided in these Special Provisions. Dry ingredients shall be proportioned by weight. Liquid ingredients shall be proportioned by weight or volume.

At the time of batching, aggregates shall have been dried or drained sufficiently to result in stable moisture content, so that no visible separation of water from aggregate will take place during the proportioning process. In no event shall the free moisture content of the fine aggregate at the time of batching exceed 8 percent of its saturated, surface-dry weight.

If separate supplies of aggregate material of the same size group with different moisture content or specific gravity or surface characteristics affecting workability are available at the proportioning plant, withdrawals shall be made from one supply exclusively and the materials therein completely exhausted before starting upon another supply.

Cement shall be kept separate from the aggregates until released for discharge into the mixer. Cement shall be free of lumps and clods when discharged into the mixer. Fabric containers used for transportation or proportioning of cement shall be clean and free of residue before reuse.

Weigh systems for proportioning aggregate and cement shall be individual and distinct from all other weigh systems. Each weigh system shall be equipped with a hopper, a lever system, and an indicator to constitute an individual and distinct material-weighing device.

For batches with a volume of one cubic yard or more, proportioning equipment shall conform to one of the following methods:

1. All ingredients shall be batched at a central batch plant and charged into a mixer truck for transportation to the pour site. Ingredient proportioning shall meet the requirements of Section 90-5, "Proportioning" of the Standard Specifications.
2. All ingredients except the cement shall be batched at a central batch plant and charged into a mixer truck for transportation to a remote located silo and weigh system for the

proportioning of the cement. The remote system shall proportion cement for charging the mixer truck.

3. All ingredients except the cement shall be batched at a central batch plant and charged into a mixer truck for transportation to a remote location where pre-weighed, containerized cement shall be added to the mixer truck. The cement pre-weighing operation shall utilize a platform scale. The platform scale shall have a maximum capacity of 2.75 tons with a maximum graduation size of one pound. Cement shall be pre-weighed into a fabric container. The minimum amount of cement to be proportioned into any single container shall be one half of the total amount required for the load of HES Colored Concrete being produced.
4. Cement, water, and aggregate shall be proportioned volumetrically in conformance with these Special Provisions.

In order to check the accuracy of batch weights, the gross weight and tare weight of truck mixers shall be determined when ordered by the Engineer. The equipment shall be weighed on scales designated by the Engineer.

The Contractor shall install and maintain in operating condition an electrically actuated moisture meter. The meter shall indicate, on a readily visible scale, changes in the moisture content of the fine aggregate as it is batched. The meter shall have a sensitivity of 0.5 percent by weight of the fine aggregate.

No additional mixing water shall be incorporated into the concrete during hauling or after arrival at the delivery point, unless authorized by the Engineer. If the Engineer authorizes additional water to be incorporated into the concrete, the drum shall be revolved not less than 30 revolutions at mixing speed after the water is added and before discharge is commenced. Water added to the truck mixer at the job site shall be measured through a meter that conforms to the provisions in Section 9-1.01, "Measurement of Quantities" of the Standard Specifications.

Aggregate discharged from several bins shall be controlled by gates or by mechanical conveyors. The means of discharge from the bins and from the weigh hopper shall be interlocked so that no more than one bin can discharge at a time, and so that the weigh hopper cannot be discharged until the required quantity from each of the bins has been deposited in the weigh hopper.

WEIGHMASTER CERTIFICATES

Weighmaster certificates for HES Colored Concrete, regardless of the proportioning method used, shall include all information necessary to trace the manufacturer, and manufacturer's lot number for the cement being used. When proportioned into fabric containers the weighmaster certificates for the cement shall contain date of proportioning, location of proportioning and actual net draft weight of the cement. When proportioned at the pour site from a storage silo the weighmaster certificates shall contain date of proportioning, location of proportioning and the net draft weight of the cement used in the load.

VOLUMETRIC PROPORTIONING

When HES Colored Concrete is proportioned by volume, the method shall conform to requirements specified herein.

Aggregates shall be handled and stored in conformance with the provisions in Section 90-5.01, "Storage of Aggregates" of the Standard Specifications. Liquid admixtures shall be proportioned in conformance with the provisions in Section 90-4.10, "Proportioning and Dispensing Liquid Admixtures" of the Standard Specifications.

Batch-mixer trucks shall be equipped to proportion cement, water, aggregate and additives by volume. Aggregate feeders shall be connected directly to the drive on the cement vane feeder. The cement feed rate shall be tied directly to the feed rate for the aggregate and other ingredients. Any change in the ratio of cement to aggregate shall be accomplished by changing the gate opening for the aggregate feed. The drive shaft of the aggregate feeder shall be equipped with a revolution counter reading to the nearest full or partial revolution of the aggregate delivery belt.

Aggregate shall be proportioned using a belt feeder operated with an adjustable cutoff gate delineated to the nearest quarter increment. Height of the gate opening shall be readily determinable. Cement shall be proportioned by a method that conforms to the accuracy requirements of these special provisions. Water shall be proportioned by a meter conforming to the provisions in Section 9-1.01, "Measurement and Payment" of the Standard Specifications and these Special Provisions.

Delivery rate of aggregate and cement per revolution of the aggregate feeder shall be calibrated at appropriate gate settings for each batch-mixer truck used on the project and for each aggregate source. Batch-mixer trucks shall be calibrated at 3 different aggregate gate settings that are commensurate with production needs. Two or more calibration runs shall be required at each of the different aggregate gate openings. The actual weight of material delivered for aggregate proportioning device calibrations shall be determined by a platform scale as specified in these Special Provisions.

Aggregate belt feeder shall deliver aggregate to the mixer with volumetric consistency so that deviation for any individual aggregate delivery rate check-run shall not exceed 1.0 percent of the mathematical average of all runs for the same gate opening and aggregate type. Each test run shall be at least 1,000 pounds. Fine aggregate used for calibration shall not be reused for device calibration.

At the time of batching, aggregates shall be dried or drained sufficiently to result in stable moisture content, so that no visible separation of water from aggregate takes place during the proportioning process. In no event shall the free moisture content of the fine aggregate at the time of batching exceed 8 percent of its saturated, surface-dry weight.

If separate supplies of aggregate material of the same size group with different moisture content or specific gravity or surface characteristics affecting workability are available at the proportioning plant, withdrawals shall be made from one supply exclusively and the materials therein completely exhausted before starting another supply.

Rotating and reciprocating equipment on batch-mixer trucks shall be covered with metal guards.

The cement proportioning system shall deliver cement to the mixer with a volumetric consistency so that the deviation for any individual delivery rate check-run shall not exceed 1.0 percent of the mathematical average of 3 runs of at least 1,000 pounds each. Cement used for calibration shall not be reused for device calibration.

Water meter accuracy shall be such that, when operating between 50 percent and 100 percent of production capacity, the difference between the indicated weight of water delivered and the actual weight delivered shall not exceed 1.5 percent of the actual weight for each of two individual runs of 300 gallons. The water meter shall be calibrated in conformance with the requirements of California Test 109 and shall be equipped with a resettable totalizer and display the operating rate.

Calibration tests for aggregate, cement and water proportioning devices shall be conducted with a platform scale located at the calibration site. Weighing of test run calibration material shall be performed on a platform scale having a maximum capacity not exceeding 2.75 tons with maximum graduations of one pound. The platform scale shall be error tested within 8 hours of calibration of batch-mixer truck proportioning devices. Error testing shall be performed with test weights conforming to California Test 109 and shall produce a witness scale that is within 2 graduations of the test weight load. The scale shall be available for use at the production site throughout the production period. Equipment needed for the calibration of proportioning systems shall remain available at the production site throughout the production period. A Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance" shall be furnished with each delivery of aggregate, cement, and admixtures used for calibration tests and shall be submitted to the Engineer with certified copies of the weight of each delivery. The Certificate of Compliance shall state that the source of materials used for the calibration tests is from the same source as to be used for the planned work. The Certificate of Compliance shall state that the material supplied conforms to the Standard Specifications and these Special Provisions and shall be signed by an authorized representative who shall have the authority to represent and act for the Contractor.

The batch-mixer truck shall be equipped so that an accuracy check can be made prior to the first operation for the project and at any other time as directed by the Engineer. Further calibration of proportioning devices shall be required every 30 days after production begins or when the source or type of any ingredient is changed. A spot calibration shall consist of calibration of the cement proportioning system only. A two run spot re-calibration of the cement proportioning system shall be performed each time 55 tons of cement has passed through the batch-mixer truck. Should the spot re-calibration of the cement proportioning system fall outside the limitations specified herein, a full calibration of the cement proportioning system shall be completed before the resumption of production.

Liquid admixtures shall be proportioned by a meter.

Cement storage shall be located immediately before the cement feeder and shall be equipped with a device that will automatically shut down the power to the cement feeder and aggregate belt feeder when the cement storage level is lowered to a point where less than 20 percent of the total volume is left in storage.

The Contractor shall furnish aggregate moisture determinations, made in conformance with the requirements of California Test 223, at least every 2 hours during proportioning and mixing operations. Moisture determinations shall be recorded and presented to the Engineer at the end of the production shift.

Each aggregate bin shall be equipped with a device that will automatically shut down the power to the cement feeder and the aggregate belt feeder when the aggregate discharge rate is less than 95 percent of the scheduled discharge rate of any bin.

Indicators specified herein shall be in working order prior to commencing proportioning and mixing operations and shall be visible when standing near the batch-mixer truck.

Identifying numbers of batch-mixer trucks shall be at least 3 inches in height, and be located on the front and rear of the vehicles.

Volumetric proportioned HES Colored Concrete shall be mixed in a mechanically operated mixer of adequate size and power for the type of HES Colored Concrete to be placed. Mixers may be of the auger type and shall be operated uniformly at the mixing speed recommended by the manufacturer. Mixers that have an accumulation of hard concrete or mortar shall be removed from service until cleaned. Other types of mixers may be used provided mixing quality will meet the requirements of these Special Provisions.

Charge or rate of feed to the mixer shall not exceed that which will permit complete mixing of the materials. Dead areas in the mixer, where material does not move or is not sufficiently agitated, shall be corrected by a reduction in the volume of material or by other adjustments. The mixer shall be designed to provide sufficient mixing action and movement to produce properly mixed HES Colored Concrete. Mixing shall continue until a homogeneous mixture is produced at discharge from the mixer. There shall be no lumps or evidence of non-dispersed cement at discharge from the mixer. No water shall be added to the HES Colored Concrete after discharge from the mixer.

Equipment having components made of aluminum or magnesium alloys, which may have contact with plastic concrete during mixing or transporting of HES Colored Concrete, shall not be used.

Uniformity of concrete mixtures will be determined by differences in penetration measurement made in conformance with the requirements in California Test 533. Difference in penetration, determined by comparing penetration tests on 2 samples of mixed concrete from the same batch or truck mixer load, shall not exceed 5/8 inch. The Contractor shall furnish samples of freshly mixed concrete and provide facilities for obtaining the samples. Sampling facilities shall be safe, accessible, clean and produce a sample which is representative of production. Sample devices and sampling methods shall also conform to the requirements of California Test 125.

Ice shall not be used to cool HES Colored Concrete directly. When ice is used to cool water used in the mix, all of the ice shall be melted before entering the mixer.

Cement shall be proportioned and charged into the mixer by means that will result in no losses of cement due to wind, or due to accumulation on equipment, or other conditions which will vary the required quantity of cement.

Each mixer shall have a metal plate or plates, prominently attached, on which the following information is provided:

1. Uses for which the equipment is designed.
2. Manufacturer's guaranteed capacity of the mixer in terms of the volume of mixed concrete.
3. Speed of rotation of the mixer.

Consistency and workability of mixed concrete when discharged at the delivery point shall be suitable for placement and consolidation.

Information generated by volumetric devices will not be used for payment calculations.

The device that controls the proportioning of cement, aggregate and water shall produce a log of production data. The log of production data shall consist of a series of snapshots captured at 15-minute intervals throughout the period of daily production. Each snapshot of production data shall be a register of production activity at that time and not a summation of the data over the preceding 15 minutes. The amount of material represented by each snapshot shall be the amount produced in the period of time from 7.5 minutes before to 7.5 minutes after the capture time. The daily log shall be submitted to the Engineer, in electronic or printed media, at the end of each production shift or as requested by the Engineer, and shall include the following:

1. Weight of cement per revolution count.
2. Weight of each aggregate size per revolution count.
3. Gate openings for each aggregate size being used.
4. Weight of water added to the concrete per revolution count.
5. Moisture content of each aggregate size being used.
6. Individual volume of all other admixtures per revolution count.
7. Time of day.
8. Day of week.
9. Production start and stop times.
10. Batch-mixer truck identification.
11. Name of supplier.
12. Specific type, size, or designation of concrete being produced.
13. Source of the individual aggregate sizes being used.
14. Source, brand and type of cement being used.
15. Source, brand and type of individual admixtures being used.
16. Name and signature of operator.

Required report items may be input by hand into a pre-printed form or captured and printed by the proportioning device. Electronic media containing recorded production data shall be presented in a tab delimited format on a CD-ROM or a USB flash drive. Each snapshot of the continuous production shall be followed by a line-feed carriage-return with allowances for sufficient fields to satisfy the amount of data required by these specifications. The reported data shall be in the above order and shall include data titles at least once per report.

BOND BREAKER

Bond breaker shall be placed between HES Colored Concrete pavement and the new base concrete layer. Bond breaker shall be one of the following:

1. Curing paper conforming to the requirements in ASTM Designation: C 171, white.
2. Polyethylene film conforming to the requirements in ASTM Designation: C 171, except that the minimum thickness shall be 6 mils, white opaque.
3. Paving asphalt, Grade PG 64-10, conforming to the provisions in Section 92, "Asphalts" of the Standard Specifications.
4. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class A, containing a minimum of 22 percent nonvolatile vehicles consisting of at least 50 percent paraffin wax.

When curing paper or polyethylene film is used, material shall be placed in a wrinkle free manner. Adjacent sheets shall be overlapped a minimum of 6 inches.

When curing compound or paving asphalt is used, all foreign and loose materials remaining from slab removal shall be removed prior to application.

When paving asphalt is used, no water shall be added before applying asphalt to the surface of the base. The paving asphalt shall be applied in one even application at a rate of 0.02-gallon to 0.10-gallon per square yard over the entire base surface area. HES Colored Concrete pavement shall not be placed until the paving asphalt has cured.

When curing compound is used, the curing compound shall be applied in two separate applications. Each application shall be applied evenly at a rate of 0.07-gallon to 0.11-gallon per square yard over the entire base surface area.

SPREADING, COMPACTING AND SHAPING

Metal or wood side forms may be used. Wood side forms shall not be less than 1-1/2 inches thick. Side forms shall be of sufficient rigidity, both in the form and in the connection with adjoining forms, that movement will not occur under the force from subgrading and paving equipment or from the pressure of concrete.

Side forms shall remain in place until the pavement edge no longer requires the protection of forms. Side forms shall be thoroughly cleaned and oiled prior to each use.

Consolidation of HES Colored Concrete shall be by means of high-frequency internal vibrators after the HES Colored Concrete is deposited on the subgrade. Vibrating shall be done in a manner to assure uniform consolidation adjacent to forms and across the full paving width. HES Colored Concrete shall be placed as nearly as possible in its final position and use of vibrators for extensive shifting of the weight of HES Colored Concrete will not be permitted.

HES Colored Concrete shall be spread and shaped by suitable powered finishing machines and supplemented by hand finishing as necessary. Methods of spreading, shaping and consolidating

that result in segregation, voids or rock pockets shall be discontinued. The Contractor shall use methods that will produce dense homogeneous pavement conforming to the required cross section.

After the HES Colored Concrete has been mixed and placed, no additional water shall be added to the surface to facilitate finishing. Surface finishing additives, when used, shall be as recommended by the manufacturer of the cement and shall be approved by the Engineer prior to use.

JOINTS

Contractor shall prepare and submit a "Joint Layout" plan depicting the proposed transverse joint locations for Engineer's review and approval. The proposed joints shall be placed from center curb to edge of concrete pavement at a minimum of 6 feet and maximum 10 feet measured at inner circle and as shown on the plans. The transverse joints shall be placed at equal spacing radially with 1-foot plus or minus tolerance. Contractor shall allow Engineer at least 7 working days to review the Joint Layout plan and to provide comments or approve plans.

A transverse contact (construction) joint shall be constructed, including dowel bars, at the end of each day's work or where concrete placement is interrupted for more than 30 minutes, to coincide with the next transverse weakened plane joint location. If sufficient concrete has not been mixed to form a slab to match the next transverse weakened plane joint, when an interruption occurs, the excess concrete shall be removed and disposed of back to the last preceding joint. The cost of removing and disposing of excess concrete shall be at the Contractor's expense. Excess material shall become the property of the Contractor and shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications. A metal or wooden bulkhead (header) shall be used to form the joint. The bulkhead shall be designed to accommodate the installation of dowel bars.

Transverse weakened plane joints shall be constructed by the sawing method as described in Section 40-1.8B(1) of the Standard Specifications. Sawing of weakened plane joints shall be completed within 2 hours of completion of final surface or when cutting action will not tear, ravel, abrade, or otherwise damage surface and before developing random cracks. Strictly follow manufacturer's instructions for saw-cutting joints when working with integral color concrete to prevent discoloration or unwanted staining effects. Joints that develop random cracking shall be removed to the nearest controlled joint and replaced with colored concrete pavement containing dowel bars in conformance with these Special Provisions and as shown on the plans. The removal and replacement work shall be at the Contractor's expense.

Sawed grooves shall be cut to a maximum of 0.12-inch in width and the minimum depth of cut shall be calculated utilizing the formula in Section 40-1.08B(1), "Sawing Method" of the Standard Specifications.

Isolation joints, when required by the Engineer, shall conform to this provision for materials and installation as specified herein. Final alignment of perpendicular transverse weakened plane joints in pavement shall not be made to match the spacing or skew of the weakened plane joints in the existing parallel concrete pavement. Tie bars shall not be placed across longitudinal isolation joints. The edge of the existing pavement shall be saw cut a width 1/8 inch and to the full depth of the existing concrete pavement to produce a flat vertical face. Prior to placing concrete, joint filler material shall be placed as shown on the joint layout plans. The joint filler shall be secured to the

face of the existing pavement joint face by a method that will hold the joint filler in place and prevent the new concrete from adhering to the existing concrete, during placement of concrete.

Sealant for longitudinal isolation joints shall be silicone and placed in conformance with the requirements for liquid joint sealant installation as specified herein, except references to backer rods shall not apply.

DOWEL BAR AND PLACEMENT

Epoxy (Drill and Bond)

Epoxy for bonding dowel bars to Portland cement concrete or HES concrete shall be a two-component, epoxy-resin, conforming to the requirements of ASTM Designation: C 881, Type V, Grade 3 (Non-Sagging), Class A, B or C. The class used shall be dependent on the internal temperature of the hardened concrete at the time the epoxy is to be applied. Class A shall be used when the internal temperature is below 40°F, but not lower than recommended by the manufacturer. Class B shall be used when the internal temperature is from 40°F to 60°F. Class C shall be used when the internal temperature is above 60°F, but not higher than recommended by the manufacturer. A Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications shall be furnished with the epoxy. A copy of the manufacturer's recommended installation procedure shall be provided to the Engineer at least 7 days prior to the start of work. Epoxy shall be applied in conformance with the manufacturer's recommendations.

Dowel Bars

Dowel bars shall be plain round smooth, epoxy-coated steel conforming to the requirements in ASTM Designation: A 615/A 615M, Grade 40 or 60, the details shown on the plans and the provisions in Section 52-1.02B, "Epoxy-coated Reinforcement" of the Standard Specifications, except that the two samples required in ASTM Designation: D 3963/D 3963M shall be 18 inches long. Epoxy coating of dowel bars shall conform to the provisions in ASTM Designation: A 884/A 884M, Class A, Type 1 or Type 2, except that the bend test shall not apply.

Dowel bars shall be free from burrs or other deformations detrimental to free movement of the bars in the concrete.

Bond Breaker

Dowel bars shall be lubricated with a bond breaker over the entire bar. A bond breaker application of petroleum paraffin based lubricant or white-pigmented curing compound shall be used to coat the dowel bars completely prior to placement. Oil and asphalt based bond breakers shall not be used. Paraffin based lubricant shall be Dayton Superior DSC BB-Coat or Valvoline Tectyl 506 or an approved equal. Paraffin based lubricant shall be factory applied. White pigmented curing compound shall conform to the requirements of ASTM Designation: C 309, Type 2, Class A, and shall contain 22 percent minimum nonvolatile vehicles consisting of at least 50 percent paraffin wax. Curing compound shall be applied in 2 separate applications, the last application not more than 8 hours prior to placement of the dowel bars. Each application of curing compound shall be applied at the approximate rate of one gallon per 15 square yards.

Dowel Bar Baskets

Dowel bar baskets shall be manufactured with a minimum welded wire gage number of MW 65. Baskets shall be either U-frame or A-frame shape. J-frame shapes shall not be used. Baskets shall be fabricated in conformance with the requirements in ASTM Designation: A 82. Welding of baskets shall conform to the requirements in AASHTO Designation: M 254. A broken weld will be a cause for rejection of the basket. Baskets shall be Class A, Type 1 or Type 2 epoxy-coated in conformance with the requirements in ASTM Designation: A 884/A 884M. Fabrication and job-site handling shall conform to the requirements in ASTM Designation: D 3963 and the provisions in Section 52-1.02B, "Epoxy-coated Reinforcement" of the Standard Specifications, except that sampling of epoxy-coated wire reinforcement will not be required. A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance" shall be furnished for each shipment of epoxy-coated wire reinforcement certifying that the coated bars conform to the requirements in ASTM Designation: A 884/A 884M and the provisions in Section 52-1.02B, "Epoxy-coated Bar Reinforcement" of the Standard Specifications. The Certificate of Compliance shall include the certifications specified in ASTM Designation: A 884/A 884M and a statement that the coating material has been pre-qualified by acceptance testing performed by the Valley Forge Laboratories, Inc., Devon, Pennsylvania.

Dowel Placement

Dowel bars shall be centered on the joint within a tolerance of ± 2 inches in the longitudinal direction directly over the contact joint or sawcut for the transverse weakened plane joints, as shown on the plans. Prior to placement of dowel bars, the Contractor shall submit to the Engineer a written procedure to identify the transverse weakened plane joint locations relative to the middle of the dowel bars and the procedure for consolidating concrete around the dowel bars.

Dowel bars shall be placed at transverse weakened plane joints within shoulder areas except at drainage inlets.

Dowel bars shall be placed as shown on the plans by using dowel bar baskets.

When dowel bar baskets are used, they shall be anchored to the base to hold the dowel bars at the specified depth and alignment during concrete placement without displacement. A minimum of 8 alternating, equally spaced, concrete fasteners with clips shall be used to anchor each 12-foot dowel bar basket (4 per lower runner wire). At least 10 concrete fasteners shall be used for basket sections greater than 12 feet and less than or equal to 16 feet. Temporary spacer wires connecting dowel bar baskets shall be cut or removed after the dowel bar baskets are anchored into position prior to concrete placement. Paving shall be suspended when dowel bar baskets are not in place at least 200 feet in advance of the concrete placement operation. The Engineer may waive this requirement upon written request by the Contractor, in areas, where access is restricted, or other construction limitations are encountered. The Contractor shall demonstrate to the Engineer's satisfaction that dowel bar baskets are adequately anchored and not shift during concrete placement. The Contractor shall provide longer concrete nails than the minimum lengths for the varying bases beneath the Portland cement concrete when anchored dowel bar baskets demonstrate movement.

Full compensation for providing longer concrete nails shall be considered as included in the contract unit price paid per cubic yard for Color Stamped Portland Cement Concrete Pavement For Truck Apron (High Early Strength Concrete) and no additional compensation will be allowed therefor.

Dowel bar placement at transverse and longitudinal weakened plane joints	
Horizontal offset	±1 inch
Longitudinal translation	±2 inches
Horizontal skew	3/8 inch
Vertical skew	3/8 inch
Vertical depth	(d/3 +1/2 inch) from pavement surface to top of dowel bar or 5/8 inch below planned placement

Note: d = pavement thickness in inches

JOINT SEALANT MATERIAL

Silicone Joint Sealant

Low modulus silicone joint sealant shall be furnished in a one-part silicone formulation. Acid cure sealant shall not be used. The compound shall be compatible with the surface to which it is applied and shall conform to the following requirements:

Property	Test Method	Requirement
Tensile stress, 150% elongation, 7-day cure at 77° F ^{±2°} F and 45% to 55% R.H. ^e	ASTM D 412 (Die C)	45 psi max.
Flow at 77° F ^{±2°} F	ASTM C 639 ^a	Shall not flow from channel
Extrusion Rate at 77° F ^{±2°} F	ASTM C 603 ^b	3 to 9 ounces/minute
Specific Gravity	ASTM D 792 Method A	1.01 to 1.51
Durometer Hardness, at 0° F, Shore A, cured 7 days at 77° F ^{±2°} F	ASTM C 661	10 to 25
Ozone and Ultraviolet Resistance, after 5,000 hours	ASTM C 793	No chalking, cracking or bond loss
Tack free at 77° F ^{±2°} F and 45% to 55% R.H. ^e	ASTM C 679	Less than 75 minutes
Elongation, 7 day cure at 77° F ^{±2°} F and 45% to 55% R.H. ^e	ASTM D 412 (Die C)	500 percent min.
Set to Touch, at 77° F ^{±2°} F and 45% to 55% R.H. ^e	ASTM D 1640	Less than 75 minutes
Shelf Life, from date of shipment	—	6 months min.
Bond, to concrete mortar-concrete briquettes, air cured 7 days at 77° F ^{±2°} F	AASHTO T 132 ^c	50 psi min.
Movement Capability and Adhesion, 100% extension at 0° F after, air cured 7 days at 77° F ^{±2°} F, and followed by 7 days in water at 77° F ^{±2°} F	ASTM C 719 ^d	No adhesive or cohesive failure after 5 cycles

Notes:

- a. ASTM Designation: C 639 Modified (15 percent slope channel A).
- b. ASTM Designation: C 603, through 1/8 inch opening at 50 psi.
- c. Mold briquettes in conformance with AASHTO Designation: T 132, sawed in half and bonded with a 1/16 inch maximum thickness of sealant and tested in conformance with AASHTO Designation: T 132. Briquettes shall be dried to constant mass at 212 ±10° F.
- d. Movement Capability and Adhesion: Prepare 12" x 1" x 3" concrete blocks in conformance with ASTM Designation: C 719. A sawed face shall be used for bond surface. Seal 2 inches of block leaving 1/2 inch on each end of specimen unsealed. The depth of sealant shall be 3/8 inch and the width 1/2 inch.
- e. R.H. equals relative humidity.

The silicone joint sealant shall be formulated to cure rapidly enough to prevent flow after application on grades of up to 15 percent.

A Certificate of Compliance for the silicone sealant shall be furnished to the Engineer in conformance with the provisions in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications. The Certificate shall also be accompanied with a certified test report of the results of the required tests performed on the sealant material within the previous 12 months prior to proposed use. The Certificate and accompanying test report shall be provided for each lot of silicone joint sealant prior to use on the project.

Preformed Compression Joint Sealant

Preformed compression seals shall conform to the requirements of ASTM Designation: D 2628. Preformed compression seals shall have 5 or 6 cells. Preformed compression seals for Types A2 and B joints shall have 4 or more cells. Lubricant adhesive used with preformed compression seals shall conform to the requirements of ASTM Designation: D 2835. Compression seals and lubricant adhesive shall be installed in conformance with the manufacturer's recommendations and these Special Provisions. The manufacturer's recommendations shall be submitted to the Engineer at the pre-paving conference.

Each lot of compression seal and lubricant adhesive shall be accompanied by a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications, and shall be accompanied with storage instructions and precautionary instructions for use. The Certificate shall also be accompanied with a certified test report of the results of the required tests performed on the preformed compression joint sealant material within the previous 12 months prior to proposed use. The Certificate and accompanying test report shall be provided for each lot of joint seal prior to use on the project. The Contractor shall submit the manufacturer's data sheet with installation instructions and recommended type of preformed compression seal for the joint size and depth as shown on the plans. The manufacturer's selected compression seal shall show evidence that the seal is being compressed at level between 40 percent and 50 percent for the joint width and depth shown on the plans.

Foam Backer Rods

Foam backer rods shall be Type 1, conforming to the requirements of ASTM Designation: D 5249. Foam backer rods shall have a diameter prior to placement at least 25 percent greater than the width of the sawcut and shall be expanded, crosslinked, closed-cell polyethylene foam that is compatible with the joint sealant so that no bond or adverse reaction occurs between the rod and sealant. Hot applied sealant that will melt the foam backer rod shall not be used. The Contractor shall submit a manufacturer's data sheet verifying that the foam backer rod is compatible with the sealant to be used.

Joint Filler Material

Joint filler material shall be preformed expansion joint filler for concrete (bituminous type), conforming to the requirements of ASTM Designation: D 994.

Joint filler material shall be Type 1 preformed expansion joint filler for concrete conforming to the requirements of ASTM Designation: D 1752.

Joint filler material shall be Type 2 preformed expansion joint filler for concrete conforming to the requirements of ASTM Designation: D 1752.

A Certificate of Compliance for the joint filler material shall be furnished to the Engineer in conformance with the provisions in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications. The certificate shall be accompanied with a certified test report of the results of the required tests performed on the joint filler material within the previous 12 months prior to proposed use. The certificate and accompanying test report shall be provided for each lot of joint filler material prior to use on the project.

Hydraulic Cement Grout (Non-Shrink)

Hydraulic cement grout (non-shrink) shall conform to the requirements in ASTM Designation: C 1107. At the Contractor's option, clean, uniformly rounded aggregate filler may be used to extend the grout. The extension of grout shall not exceed 60 percent of the weight of the grout or the maximum amount of grout extension recommended by the manufacturer, whichever is less. The moisture content of the aggregate filler shall not exceed 0.5-percent. Grading of the aggregate filler shall conform to the following:

Sieve Size	Percentage Passing
1/2 inch	100
3/8 inch	85 - 100
No. 4	10 - 30
No. 8	0 - 10
No. 16	0 - 5

JOINT SEALANT INSTALLATION

Liquid Joint Sealant

The joint sealant detail for transverse joints, as shown on the plans, shall apply only to weakened plane joints. Weakened plane joints shall be constructed by the sawing method. Should grinding or grooving be required over or adjacent to joints after sealant has been placed, the joint materials shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications, and replaced at the Contractor's expense. Immediately after sawing, a water wash using less than 100 pounds per square inch of pressure shall be used to remove the slurry from the sawing operation.

Transverse weakened plane joints shall be Type A1 or B as shown on the plans.

After the concrete pavement placement and not more than 4 hours before placing backer rods and joint sealant materials, the joint walls shall be cleaned by the dry sand blast method and other means as necessary to remove from the joint objectionable material such as soil, asphalt, curing compound, paint and rust. Sand blasting shall be performed in at least 2 passes, one for each side of the joint, with the nozzle held at an angle to the joint within one inch to 2 inches of the pavement. After cleaning the joint, traces of sand, dust and loose material shall be removed from and near the joint for a distance along the pavement surfaces of at least 2 inches on each side of the joint by the use of a vacuum device. Surface moisture or dampness shall be removed at the joints by means of compressed air or moderate hot compressed air or other means approved by the Engineer. Drying procedures that leave a residue or film on the joint wall shall not be used. Sandblasting equipment shall have a maximum nozzle diameter size of 1/4 inch \pm 1/32 inch and a minimum pressure of 90 pounds per square inch.

Backer rods shall be installed when the temperature of the Portland cement concrete pavement is above the dew point of the air and when the air temperature is 40°F or above. Backer rod shall be installed when the joints to be sealed have been properly patched, cleaned and dried, as determined by the Engineer. Methods of placing backer rod that leave a residue or film on joint walls shall not be used.

Immediately after placement of the backer rod, joint sealant shall be placed in the clean, dry, prepared joints as shown on the plans. The joint sealant shall be applied using a mechanical device with a nozzle shaped to fit inside the joint to introduce the sealant from inside the joint. Adequate pressure shall be applied to the sealant to ensure that the sealant material is extruded evenly and that full continuous contact is made with the joint walls. After application of the sealant, the surface of the sealant shall be recessed as shown on the plans.

Failure of the joint material in either adhesion or cohesion will be cause for rejection of the joint. The finished surface of joint sealant shall conform to the dimensions and allowable tolerances shown on the plans. Rejected joint materials or joint material whose finished surface does not conform to the dimensions shown on the plans, as determined by the Engineer, shall be repaired or replaced, at the Contractor's expense, with joint material that conforms to the requirements.

After each joint is sealed, surplus joint sealer on the pavement surface shall be removed. Traffic shall not be permitted over the sealed joints until the sealant is tack free and set sufficiently to prevent embedment of roadway debris into the sealant.

Preformed Compression Joint Seal

The compression seal alternative joint detail for transverse joints, as shown on the plans, shall apply only to weakened plane joints. Weakened plane joints shall be constructed by the sawing method. Should grinding or grooving be required over or adjacent to any joint after the compression seal has been placed, the joint materials shall be removed and disposed of, and replaced at the Contractor's expense. Compression seals shall be recessed below the final finished surface as shown on the plans.

Transverse weakened plane joints shall be Type A1 or B as shown on the plans.

Seven days after the concrete pavement placement and not more than 4 hours before placing preformed compression joint seals, the joint walls shall be cleaned by the dry sand blast method and other means as necessary to remove from the joint objectionable material such as soil, asphalt, curing compound, paint and rust. After cleaning the joint, traces of sand, dust and loose material shall be removed from and near the joint for a distance along the pavement surfaces of at least 2 inches on each side of the joint by the use of a vacuum device. Surface moisture or dampness shall be removed at the joints by means of compressed air or moderate hot compressed air or other means approved by the Engineer. Drying procedures that leave a residue or film on the joint wall shall not be used. Sandblasting equipment shall have a maximum nozzle diameter size of 1/4 inch \pm 1/32 inch and a minimum pressure of 90 pounds per square inch.

Longitudinal seals shall be installed before installing transverse seals. Longitudinal seals shall be continuous except at intersections with transverse seals. Transverse seals shall be installed in one continuous piece throughout each transverse joint. After the longitudinal seal is completed and the transverse seal is ready to be installed, a single cut with a sharp instrument or saw shall be made across the longitudinal seal at the middle of the intersection with the transverse seal. After the initial cut of the longitudinal seal, if the longitudinal joint material does not relax enough to allow proper installation of the transverse seal, the longitudinal joint material shall be trimmed precisely to accommodate the transverse seal and form a tight seal between the 2 joints.

An installation machine specifically designed for the installation of preformed compression joint seals shall be used to install the seal at the specified depth without cutting, nicking, or twisting the seal. The installation machine shall install the seal with no more than 4 percent stretch in the installed seal. Hand installation methods of installing seals will not be permitted.

The percentage of stretch shall be determined by laying a length of the preformed compression joint seal material cut to the exact length of the pavement joint to be sealed. The length shall then be measured. The cut length of preformed compression joint seal material shall then be installed in the joint. Excess amount of seal material remaining at the end of the joint shall be measured as the amount of stretch. The measured amount of stretch shall be divided by the original measured length to determine the percentage of stretch.

The completed seal shall not be twisted or have deformities that prevent the seal from making complete continuous contact with the joint walls. Seals installed that are twisted or deformed, or do not make continuous contact with joint walls or with greater than 4 percent stretch of the joint material will be rejected and removed.

CONCRETE BASE LAYER

Concrete base layer shall be considered as the first layer of HES Concrete (0.3 ft) poured over the aggregate base.

Concrete base layer does not require dowels, joint seal, etc. The surface shall not be textured nor colored and shall be finished to a smooth surface, free of mortar ridges and other projections. The finished surface shall be free from voids and porous areas.

FINAL SURFACE

The final textured surface of the HES colored concrete pavement shall be of the pattern specified herein. The pattern shall be implanted, indented, imprinted or stamped into the surface by means of forms, molds, or other approved devices.

PROTECTION AND CURING

The HES concrete shall be cured as described in Section 90-7, Curing Concrete, and protected with the provisions of Section 90-8.03, Protecting Concrete Pavement, and these Special Provisions. Protection and curing of the HES colored concrete pavement shall be in accordance with the manufacturer's specific instructions to prevent mottling, discoloration, unwanted staining effects of the concrete surface.

CONCRETE SEALER

A clear concrete sealer shall be applied between 14 days and 28 days after concrete placement, per manufacturer's written instructions and specifications. The sealed surface shall be finished using a fine brush, which removes residual dust from the surface.

QUALITY CONTROL PROGRAM

General

The Contractor shall establish, provide and maintain a quality control program that will provide assurance to the Engineer that all materials and completed construction conform to the contract requirements specified herein.

At least 20 days prior to the placement of the trial slab the Contractor shall submit to the Engineer for approval a written Quality Control Plan (QCP) that shall be used to ensure the quality of the product and the work. At the request of the Engineer or Contractor, the Contractor and Quality Control Managers (QCMs) shall meet with the Engineer to discuss the QCP. The Engineer will have 15 days to approve the QCP. Should the Engineer fail to complete the review of the QCP within the time allowance and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of the delay in reviewing the QCP, the delay will be considered a right of way delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays" of the Standard Specifications.

If in the judgement of the Engineer, the Contractor has not implemented or is not complying with the approved QCP, production and placement shall be suspended. Production and placement shall not resume until approved by the Engineer.

Quality Control Plan

The Contractor shall provide a QCP that describes the procedures that the Contractor will use to control the production process, to determine when changes to the production process are needed, and to propose procedures for implementing changes for replacement pavement operations. The QCP shall also include an outline for the placement and testing of the trial slab.

Placement shall not begin until the QCP has been approved by the Engineer. Approval of the QCP will be based on the inclusion of all required information. Approval of the QCP does not imply any warranty by the Engineer that adherence to the QCP will result in replacement pavement that complies with these specifications. It shall remain the responsibility of the Contractor to demonstrate this compliance.

The QCP shall include the names and qualifications of the lead QCM and the assistant QCM. The lead QCM shall be responsible for the administration of the QCP. The lead QCM shall have current American Concrete Institute (ACI) certification as "Concrete Field Testing Technician-Grade I" and "Concrete Laboratory Testing Technician-Grade II". The assistant QCM shall have current ACI certification as "Concrete Field Testing Technician-Grade I" and either "Concrete Laboratory Testing Technician-Grade I" or "Concrete Laboratory Testing Technician-Grade II". All sampling, inspection and test reports shall be reviewed and signed by the QCM responsible for the production period involved prior to submittal to the Engineer. At least one QCM shall be present for each stage of mix design, trial slab construction, during production and construction of replacement pavement and for all meetings between the Contractor and Engineer relating to production, placement or testing of replacement pavement. The QCMs shall not be members of production or paving crews, inspectors or testers on the project during production or placement of replacement pavement. QCMs shall have no duties other than those referenced in these Special Provisions during the production and placement of replacement pavement.

All decorative colored concrete construction shall be performed by qualified personnel. The Contractor shall provide written evidence demonstrating to the satisfaction of the Engineer that the

installer has successfully performed concrete placement and finishing work similar to that specified herein. Such evidence shall include past project documentation and references and shall be included in the QCP.

The QCP shall include an outline of the production, transportation and placement of the HES colored concrete pavement. The QCP shall include a contingency plan for correcting situations if there is a problem in production, transportation or placement. The Contractor shall have equipment and personnel present to meet the requirements of the contingency plan. The QCP shall contain provisions for determining when placement of the HES concrete pavement will be suspended and temporary roadway will be substituted.

The QCP shall include the names of quality control personnel to be used and an outline of sampling, testing to be performed during and after construction of replacement pavement. At the time of submission of the QCP, quality control samplers and testers must be Caltrans qualified by the Department through the Independent Assurance Program (IAP) for the sampling and testing for which they will be responsible.

Before production and placement begins, the Contractor, QCMs and Engineer shall have a meeting with all production, transportation, placement, inspection, sampling and testing personnel to familiarize them with the requirements of the project. Items to be discussed include the production, transportation and placement processes for HES concrete pavement; contingency plan; and sampling and testing. The Contractor shall provide the facility for this meeting. The meeting date and location will be approved by the Engineer. Attendance at this meeting is mandatory for key personnel including the project manager, QCMs, production plant manager, plant inspector, all concrete delivery truck drivers, paving superintendent, paving foreman, paving machine operator, and all inspectors, samplers and testers. All meeting attendees shall sign in at the meeting. Production and placement operations shall not begin unless the above key personnel have attended the mandatory meeting.

Quality Control Inspection, Sampling and Testing

The Contractor shall perform quality control inspection, sampling and testing to ensure that replacement pavement production and placement conform to the provisions specified herein.

The Contractor shall be responsible for the Quality Control Program as described in these Special Provisions and the costs associated with the Quality Control Program.

The Contractor shall provide the required sampling, testing and inspection during all phases of HES concrete pavement production and placement. The Contractor shall provide a minimum of two business days notice to the Engineer, so the Engineer can witness all sampling and testing. The Engineer shall be given unrestricted access to the Contractor's quality control inspectors, samplers, testers and laboratories. During the production and placement period, the Contractor shall provide results of all testing to the Engineer within 15 minutes of completion of testing. The Contractor shall record all inspection, sampling and testing on forms approved by the Engineer. The Contractor shall provide written results of all inspection and testing to the Engineer within 48 hours of completion of each shift of paving and within 24 hours for all 7-day strength tests.

The Contractor shall provide a testing laboratory with adequate equipment and personnel for the performance of the quality control tests. This laboratory shall be located at a location approved by the Engineer and so that prompt testing requirements will be achieved. All sampling and testing equipment shall be maintained in proper working condition. Sampling shall be performed in conformance with the requirements of California Test 125. The QCP shall include a list of the equipment to be used including date of last calibration, the names and certifications of sampling and testing personnel, and the location of the laboratory and testing equipment during and after paving operations.

Testing laboratories, testing equipment, and sampling and testing personnel shall conform to the requirements of the Department's IAP.

Process Control and Quality Control Testing

The Contractor shall provide continuous process control and quality control sampling and testing throughout production and placement of colored concrete pavement.

During production of HES concrete, the Contractor shall sample and test aggregates at least once per placement shift. Aggregates shall be tested for conformance with gradations, cleanness value and sand equivalent requirements.

During placement of HES concrete, the Contractor shall fabricate specimens and test for modulus of rupture within the first 30 cubic yards, within the final truckload and at least twice during a production shift.

During placement of HES concrete, the Contractor shall sample and test for yield, penetration, air content and unit weight at least twice per placement shift.

At the Engineer's request, the Contractor shall provide split samples and fabricate beams for the Engineer to test. The cost of sampling, fabricating and transporting extra samples will be paid for as extra work in conformance with the provisions in Section 4-1.03D, "Extra Work" of the Standard Specifications. When, in the opinion of the Engineer, HES concrete fails to conform to the mix design requirements or the requirements of these Special Provisions, the Contractor shall provide samples and testing at the direction of the Engineer. If the material fails to meet requirements of these Special Provisions, cost of sampling and testing shall be at the Contractor's expense. If the material meets the requirements of these Special Provisions, the cost of sampling and testing will be paid for as extra work in conformance with the provisions in Section 4-1.03D, "Extra Work" of the Standard Specifications.

Beams used for determining early age modulus of rupture shall be cured under the same conditions as the pavement until one hour prior to testing. Beams fabricated for the 7-day test shall be cured in conformance with California Test 524 as modified in these Special Provisions. Modulus of rupture test results will be used for accepting or rejecting the HES concrete pavement and pay factor adjustment for low modulus of rupture.

Materials resulting from the construction of the trial slab, test specimens, temporary roadway structural section, and all rejected replacement pavement shall become the property of the Contractor and shall be removed and disposed of in conformance with the provisions in