(c) City of Hemet - The Contractor is required to obtain an encroachment permit from the City of Hemet for work within City right of way. The City of Hemet will not require the Contractor to pay a fee for the encroachment permit. A copy of the encroachment permit shall be provided to the Engineer prior to commencement of work.

6.7 Toxic Material Disposal - Toxic materials including oil, fuel oil, gasoline, coolant, fluid filters and other contaminants shall not be discharged within the project site. All such materials shall be transported offsite and disposed of at a County approved facility.

6.8 Survey Crew - The Contractor shall notify the Engineer in writing at least 48 hours prior to new construction staking.

Survey Crews will be available Monday through Thursday from 7:00 a.m. to 3:30 p.m., with a half-hour off for lunch. If the Contractor requires the Survey Crew to work beyond the specified time mentioned above, it shall be considered as overtime and shall be paid by the Contractor at 1.5 times the Survey Crew's hourly rates.

6.9 Survey Monuments - The Contractor shall salvage and give to the District all survey monuments and wells removed during construction. The District will reset monuments after construction.

6.10 Job Trailer Site - The Contractor is required to provide a site and install an office trailer for District personnel. This trailer shall be in good condition and located in a place acceptable to the District. The trailer shall be for the sole use of the District and shall not be used by the Contractor for any activity, including storage. The Contractor shall make provisions for the privacy and security of the office, and provide air conditioning, drinking water and electrical service. The trailer or office shall be furnished and of sufficient size to accommodate two resident District personnel and have a conference area to accommodate ten (10) people. The Contractor shall pay the monthly billings for these services. The trailer shall be fully operational and available to District personnel on the first day of work. Should the trailer or office not be available and in working condition, it is agreed by both parties at the time of entering this contract that damages in the amount of $3,000 per month shall be assessed. It is agreed that this amount may be prorated and shall be deducted from the first contract payment and any successive payments covering any period that the facilities are unavailable.

6.11 Construction Tolerances - Variation in alignment, grade and dimensions of the structures and structural components from the established alignment, grade and dimensions shown on the drawings shall be within the tolerances specified in the following:

Table A – Tolerances for Grading Unlined Channels, Levees and Access Roads		
Departure from established alignment		2 inches on tangents 4 inches on curves
Departure from established profile grade	Channel bottoms, channel sideslopes in cut and fill, levee and access road sideslopes in cut	Zero above and 3 inches below the specified grade
	Top surfaces of levees and access roads in both cut and fill, levee and access road sideslopes in fill	Zero below and 3 inches above the specified grade

Regardless of the construction tolerances specified, the excavation and grading shall be performed so that the finished surfaces are in uniform planes with no abrupt breaks in the surface.

Table B - Tolerances for Trapezoidal Concrete Lined Channels and Levees		
Departure from established alignment		2 inches on tangents 4 inches on curves
Departure from established profile grade		1 inch
Variation in thickness of lining, sideslopes and invert		5 percent of specified thickness provided average thickness is maintained
Variation from specified width of section at any height		0.0025 times specified width W plus 1 inch. 0.0025W + 1 inch
Variation from specified height of lining		0.005 times specified height H plus 1 inch. 0.005H + 1 inch
Variation in surfaces (gradual)	Invert Sideslopes	¼ inch in 10 feet ½ inch in 10 feet
Variation in surfaces (abrupt)		¼ inch

Gradual Variation tolerance shall be measured by placing a 10-foot straightedge anywhere on the finished concrete structure within 72 hours after concrete placement. The gap at any point between the straightedge and the concrete shall not exceed the specified amount.

Table C - Tolerances for Formed, Cast-in-Place Concrete Structures		
Departure from established alignment		1 inch on tangents 2 inches on curves
Departure from established profile grade		1 inch
Inside dimensions		0.005 times specified dimension
Variation from the plumb or the specified batter in the lines and surfaces of walls, piers and in arises	Exposed, in 10 feet Backfilled, in 10 feet	½ inch 1 inch
Variation in cross-sectional dimensions		Minus ¼ inch Plus ½ inch
Variation in surfaces (gradual)	Invert Soffits, Walls, Sideslopes	¼ inch in 10 feet ½ inch in 10 feet
Variation in surfaces (abrupt)		¼ inch

Table D - Tolerances for Reinforcing Steel Placement		
Variance from indicated position	Spacing between adjacent bars and the distance between layers of bars	one bar diameter nor more than one inch
Concrete cover measured perpendicular to steel in the direction of tolerance		¼ inch

6.12 Surplus Excavated Material - Any stockpiling, grading or disposal of material outside of the project limits is not covered under the District's permits and is the sole responsibility of the Contractor. Regulatory permits that may be required include, but are not limited to, Federal Clean Water Act (Sections 401 and 404), California Fish and Game Code (Section 1602) and Federal/State Endangered Species Acts. All costs to obtain these Regulatory Permits shall be borne by the Contractor.

6.13 Sewer Line Inspection - Prior to the commencement of construction, the Contractor is required to video record all sewer mains (8" diameter and larger) within the project limits. Additionally, the Contractor shall video record the sewer mains after the backfilling of the storm drain has been completed. All costs associated with this requirement shall be included in the contract price bid for Clearing and Miscellaneous Work. The Contractor is required to replace and/or repair at his own expense, any sewers damaged or misaligned as a result of his construction activities.

6.14 Pipe Order Notification - The Contractor shall submit to the District the invoice from the pipe company stating, (1) pipe order date, (2) pipe quantity, and (3) estimated date of pipe delivery within five (5) calendar days of the award of the contract.

6.15 Project Signs - Supplementing Section 8.07 of the General Provisions, the Contractor shall be required to provide two new project signs. The Contractor shall install and maintain the project signs at locations specified by the Engineer, with painting and lettering as shown in Appendix "B" of these Special Provisions. The signs shall be installed as directed by the Engineer within five (5) days after District issuance of the Notice to Proceed. Upon completion of construction, the signs shall be removed.

6.16 Liability Insurance - The Contractor's attention is directed to Section 8.02, Insurance Hold Harmless, of the General Provisions. The District, City of Hemet and City of San Jacinto shall also be named as additional insureds with the liability insurance coverage required to be maintained by the Contractor.

6.17 Accidental Cultural/Paleontological Resource/Human Remains and Hazardous Materials Discovery - In the event that any hazardous materials, cultural/paleontological resources, or human remains are uncovered, the Contractor shall immediately cease all construction or ground disturbance activity in the vicinity of find and notify the Engineer. The District will provide the appropriate professional to assess the significance of the discovery, notify the necessary agencies and, if necessary, develop appropriate management and treatment measures. **The Contractor**

shall not resume construction in the affected area until directed to do so by the District Engineer.

Should a discovery result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract, and shall not be entitled to damages due to downtime and idle equipment or additional payments over and above the agreed upon contract prices.

6.18 Nesting Bird and Burrowing Owl Pre-Construction Survey - The District shall conduct a nesting bird and burrowing owl survey between 14 and 30 days prior to construction/ground disturbance. **The Contractor shall not commence construction until receiving clearance from the District Engineer.**

If nesting birds or burrowing owl(s) are found within the project site, the Contractor shall not conduct any construction activities until the District identifies the appropriate species protection buffer zone. The buffer zone will be established by the District according to applicable California Department of Fish and Wildlife guidelines. Buffer zones may be as large as 500 feet for nesting raptors and 200 feet for non-raptors. **Construction activities shall not occur within the identified buffer zones until nests are no longer active, and the offspring are independent from the nest, as verified by a qualified biologist selected by the District.**

Should nesting birds or burrowing owl discoveries result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract, and shall not be entitled to damages due to downtime and idle equipment or additional payments over and above the agreed upon contract prices.

6.19 Air Quality - The Contractor shall comply with all Clean Air Act regulations and South Coast Air Quality Management District Rules.

The District shall alert the Contractor of any air quality complaints. The District will work with the Contractor as needed to develop and implement feasible corrective measures to minimize the air quality impacts on adjacent land uses.

6.20 Noise - Contractor must be diligent in minimizing noise impacts. Each residence, business, and institutional or public use adjacent to the Project alignment shall be notified in writing at least three (3) days prior to the operation of heavy construction equipment. The notice shall include the expected work schedule and the District's contact information.
The District shall alert the Contractor of any noise complaints. The District will work with the Contractor as needed to develop and implement feasible corrective measures to minimize the noise impacts on adjacent land uses.

6.21 Traffic - At all times during construction, the Contractor shall maintain access for emergency fire or medical vehicles to affected residences and businesses.

SECTION 7 - SOILS REPORT

In conjunction with the soils investigation report prepared by Inland Foundation Engineering, Inc., dated August 31, 2012, the Contractor's attention is directed to Article 8.08 of the General Provisions. The logs of the soil borings for this report are included for the convenience of the bidders, in conformance with Section 8.08 of the General Provisions, as Appendix "C" of these specifications. The soils report is on file in the District office, 1995 Market Street, Riverside and is available for review upon request.

SECTION 8 - NOT USED

SECTION 9 - PAYMENT

The contract prices shall include full compensation for all costs incurred under these Special Provisions and Detailed Specifications.

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DETAILED SPECIFICATIONS

SECTION 10 - MOBILIZATION

10.1 Description - The contract item Mobilization shall consist of expenditures for all preparatory work and operations, including but not limited to, those costs necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings, construction yards and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site as well as the related demobilization costs anticipated at the completion of the project.

10.2 Payment - The amount credited for Mobilization on each monthly progress payment shall be equal to the total of the amounts credited for work on all the other contract items for that monthly progress payment, up to a cumulative limit of eighty percent (80%) of the lump sum price bid for Mobilization. The remaining twenty percent (20%) of the lump sum price bid for Mobilization will be paid with the final payment.

Payment of the lump sum contract price for Mobilization shall constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to completion of this item of work.

The deletion of work or the addition of extra work as provided for herein shall not affect the price paid for Mobilization.

SECTION 11 - WATER CONTROL

11.1 Description - This section covers the contract item Water Control. Watersheds and/or urban runoff areas are tributary to the project site at various locations, but do not necessarily follow the alignment of the project under current conditions. Surface water in varying quantities can be expected at any time of the year, and substantial runoff can be expected during periods of rainfall. Groundwater was not indicated at the time of the soils investigation for this project. All bidders shall make their own determination regarding what the surface and/or groundwater conditions will be at the time of construction, and their impact on the bidder's operations and construction phasing.

11.2 Water Control - The contract item Water Control includes the control and/or diversion of surface runoff as well as groundwater within the work area as required to complete the work. All work shall be carried on in areas free of water. Care should be exercised so that runoff or diversion flows do not erode, undermine or otherwise damage either facilities which have been constructed or adjacent private properties. The responsibility for the protection of all existing and proposed improvements lies with the Contractor.

11.3 Measurement and Payment - The methods of controlling both surface and groundwater will be the responsibility of the Contractor. The contract lump sum price paid for Water Control shall include full compensation for all direct and indirect costs incurred under this section, and

for doing all the work involved in controlling surface runoff and groundwater within the construction area, as specified in these Detailed Specifications, and as directed by the Engineer.

Payment will be made on a basis of the percentage of the work completed on the entire project.

SECTION 12 - TRAFFIC CONTROL

12.1 Description - The contract item Traffic Control shall include labor, flagmen, lights, barricades, signs, materials, temporary bridges and equipment necessary to ensure that the vehicular and pedestrian traffic conforms to requirements as set forth in this section and as shown on the drawings.

Concurrent detours and/or road closures at street intersections shall not be permitted.

12.2 Notification of Agencies - The Contractor shall notify the following agencies a minimum of 48 hours in advance of start of any street work and inform them of the proposed construction schedule and provide any additional pertinent information they may request:

City of Hemet Fire Department		951.765.2450
City of Hemet Integrated Waste Management	Charles Russell	951.765.3712
City of Hemet Police Department		951.765.2400
City of Hemet Public Works		951.765.3712
City of San Jacinto Engineering	Sean Motlagh	951.654.3592
City of San Jacinto Fire Department	Charlie DeHart	951.925.7060
City of San Jacinto Police Department		951.654.2702
City of San Jacinto Public Works	Dan Mudrovich	951.654.4041
CR&R Waste & Recycling Services		800.826.9677
Eastern Municipal Water District	John Dotinga	951.928.3777 x7301
Eastern Municipal Water District	Aurora Fong	951.928.3777 x4437
Eastern Municipal Water District	Becky Rathbone	951.928.3777 x6242
Eastern Municipal Water District	Cameron Webb	951.928.3777 x7302
The Gas Company	Peter Quintana	909.335.3909
Hemet Unified School District	Anthony Pipkins	951.765.5100 x5200
Lake Hemet Municipal Water District	Mike Gow	951.658.3241 x238
Riverside County Sheriff Office, Hemet	Scot Collins	951.791.3400
Riverside Transit Agency		951.656.5000
San Jacinto Unified School District	Michael Collins	951.929.7700 x4600
Southern California Edison	Jason Head	951.928.8242
Sunesys, Inc.	Robert Santos	951.278.0400
Time Warner Cable	Pablo Romero	951.830.8172
Time Warner Cable	Steven Waters	951.547.3830
Underground Service Alert		800.227.2600
United States Postal Service		800.275.8777
Verizon	Phil Brillinger	951.658.7305

The Contractor is not relieved of his responsibility of notifying the various departments and agencies mentioned above, even if their telephone numbers may have changed without notice.

The above agencies shall also be advised by the Contractor of any major change in the construction schedule that could restrict pedestrian or vehicular traffic.

The Contractor shall notify the public a minimum of ten (10) working days prior to start of road closure. The Contractor is also required to notify, in writing, the following as applicable: Fire Department, Sheriff, CHP, local newspaper, trash pickup, school districts, RTA, Post Master, UPS, colleges, local businesses, local residents, State and local agencies involved, if affected.

The Contractor shall notify the California Highway Patrol Area Commander and schedule a pre-job meeting with the Caltrans' representative, Martin Morris, Telephone: 909.383.4207, at least SEVEN (7) WORKING DAYS prior to installing any of the traffic control signs within Caltrans right-of-way on San Jacinto Street/Highway 79.

12.3 Public Convenience and Access - The Contractor shall comply with the requirements of Section X of the General Provisions and shall provide continuous access to all private property. Additional provisions shall be made as necessary to protect the public and accommodate traffic with a minimum of inconvenience.

Closures or partial closures of the traveled way implemented by the Contractor shall be related to actual work being performed at the time. Closures shall not be maintained if work is not being performed. If the existing closure is not essential to the type of work being performed at the time, the traveled way shall immediately be restored to a safe condition for public use.

The Contractor shall provide temporary bridge crossings for all driveway entrances to be closed to vehicular access for any period exceeding 4 hours.

Temporary bridges shall have a minimum width of 12 feet for residential driveways and 24 feet for business driveways, and shall be designed for an AASHTO H20 truck loading. Steel plates placed over the trench shall have a minimum thickness of 1.25" and the surface shall be roughened or coated to provide a non-skid surface. For spans greater than 4 feet, a structural design shall be prepared by a Registered Civil Engineer and submitted to the District for review and approval.

The Contractor shall notify each resident in writing 3 days in advance of excavating past the affected driveway entrance. Such notice shall contain the expected day and period of time (not to exceed 4 hours) that the driveway is to be out of service. A copy of each letter shall be submitted to the Engineer.

12.4 Construction Signs and Traffic Control Plans - All construction signs, barricades, delineators, etc., shall conform with the U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices for Streets and Highways

(MUTCD), Part 6, latest edition", and the MUTCD California Supplement, Part 6 along with the Uniform Sign Chart as shown on the drawing.

12.5 Flaggers - All personnel utilized as flaggers must be trained in the proper fundamentals of flagging and signaling.

12.6 Striping and Pavement Marking - Temporary and permanent striping shall be performed by the Contractor at his expense as directed by the Engineer. The Contractor shall restore the permanent striping immediately after resurfacing of the streets is completed. The Contractor shall notify the City of Hemet, telephone 951.765.3712 and the City of San Jacinto, telephone 951.954.4041 at least 48 hours prior to restriping.

All temporary traffic striping and pavement markings shall conform to Section 84 of the State Standard Specifications and shall be acceptable to the City of Hemet and City of San Jacinto.

All pavement markings such as arrows, "STOP", "ONLY", reflectors, etc., shall be replaced by the Contractor using thermoplastic. Thermoplastic crosswalk, traffic stripes and pavement markings shall conform to the provisions in Section 84-1, "General" and 84-2, "Thermoplastic Traffic Stripes and Pavement Markings" of the State Standard Specifications and these Detailed Specifications.

12.7 Payment - The contract prices paid for Traffic Control shall include full compensation for all material and labor costs incurred under this section. Contractor is advised that traffic plans as shown on the drawings may be modified as field conditions require. No additional payment shall be made for modifications to the traffic plan.

This payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 13 - CLEARING AND MISCELLANEOUS WORK

13.1 Description - This section covers the contract item Clearing and Miscellaneous Work as required for construction of the work. All objectionable materials shall be removed and disposed of outside of the limits of the construction easements and permanent rights of way.

13.2 Clearing and Miscellaneous Work - The contract item Clearing and Miscellaneous Work includes the removal and disposal of all vegetation, trees, roots, stumps, fences, pipes, all abandoned facilities, culverts, rocks, structures, concrete and asphalt excluding those items defined specifically as excavation in the appropriate section.

Included in this item are the following:

1. The Contractor shall leave all improved parkways undisturbed where possible. When this is impractical he shall returf in kind, areas disturbed in the parkways including removing and replacing interfering portions of sprinkler systems. Sod

shall be used to restore disturbed grass. All work is to be done to the satisfaction of the Engineer.

2. The temporary relocation of signs and mailboxes, and their reinstallation. Work involving mailboxes shall be coordinated with the Postal Service.

3. The stenciling and signage on top of all catch basins and drop inlets. Stenciling and signage will be provided by the District.

4. The backfill of Controlled Density Fill (CDF) around utilities extending one foot (1') from the outside diameter on both sides of the utility, from the top or bottom of the utility to the top or bottom of the system within trench backfill payline, as shown on the drawings. CDF shall conform to Section 02252 of EMWD Standard Specifications (Sheet Nos. 15, 24, 27 and 28).

5. The removal and disposal of interfering portion of 36" storm drain (Sheet No. 2).

6. The removal and disposal of two (2) existing concrete bulkheads (Sheet No. 2).

7. The removal and disposal of existing concrete parapet wall (Sheet No. 2).

8. The temporary removal and reinstallation of interfering portion of existing wrought iron fence (Sheet Nos. 2 and 3).

9. The removal and disposal of interfering vegetation (Sheet Nos. 2 and 3).

10. The temporary removal and reinstallation of interfering portion of existing fence (Sheet No. 3).

11. The removal and disposal of interfering tree north of wrought iron fence at approximate Station 7+50 (Sheet No. 3).

12. The temporary removal and reinstallation of interfering concrete barriers and guardrail (Sheet No. 5).

13. The removal and disposal of existing trees and bushes at the end of Oakwood Street (Sheet No. 5).

14. The removal and disposal of interfering portion of abandoned 24" waterline (Sheet No. 10).

15. The removal and disposal of interfering portion of abandoned 12" waterline (Sheet No. 11).

16. The removal and disposal of interfering portion of abandoned 20" waterline (Sheet No. 11).

17. The removal and disposal of interfering portion of existing HMA berm on the north side of Midway Street between approximate Station 37+69 and Station 38+02 (Sheet Nos. 11, 12 and 42).

18. The removal and disposal of interfering portion of existing HMA berm on the south side of Midway Street between approximate Station 38+10 and Station 46+52 (Sheet Nos. 11 to 14).

19. The removal and disposal of existing fence and delineators on the south side of Midway Street between approximate Station 37+60 and Station 45+75 (Sheet Nos. 11 to 13).

20. The removal, disposal, and backfill of the existing culvert underneath a private driveway at approximate Station 47+00 (Sheet No. 14).

21. The removal and disposal of existing HMA driveway, within paylines, on Midway Street between approximate Station 47+00 and Station 47+18 (Sheet No. 14).

22. The removal and reinstallation of existing mailbox on Midway Street, as directed by Engineer (Sheet No. 14).

23. The removal and disposal of interfering portion of 24" RCP (Sheet Nos. 14 and 15).

24. The removal and disposal of interfering portion of RCP at approximate Station 51+70 (Sheet No. 15).

25. The removal and disposal of the existing drop inlets located on the east side of San Jacinto Street at approximate Station 51+70 (Sheet No. 15).

26. The removal and disposal of existing cross-gutter on Menlo Avenue (Sheet 20).

27. The removal and disposal of two (2) trees on the south side of Menlo Avenue at approximate Station 72+35 and Station 72+83 (Sheet No. 20).

28. The trimming of vegetation as needed, as directed by Engineer, along the northern easement for Line C-5, between approximate Station 1+35 and Station 7+69 (Sheet Nos. 21 and 22).

29. The removal and disposal of interfering portions of abandoned 8" and 20" waterline (Sheet No. 22).

30. The removal and disposal of existing rock at approximate Station 1+88 (Sheet No. 23).

31. The removal and disposal of interfering portions of 12" and 20" waterline (Sheet No. 23).

32. The removal and reinstallation of existing stop sign on the northeast corner of the Santa Fe Street-Midway Street intersection (Sheet 42).

Finally, included in this item are those types of work as shown on the drawings not specified for pay under any other individual contract item.

13.3 Payment - The contract price paid for Clearing and Miscellaneous Work shall be full compensation for all costs incurred under this section.

This payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 14 - EARTHWORK

14.1 Description - This section covers the contract items Excavation; Hot Mix Asphalt Excavation; Backfill Preparation; Backfill; and Controlled Low Strength Material (CLSM).

14.2 General Excavation Requirements - Pipe Excavation shall be in conformance with Section 306 of the Standard Specifications. Channel Excavation shall be in conformance with Section 300-7. Structure Excavation shall be in conformance with Section 300-3 of the Standard Specifications. Access to trenches shall be in conformance with Section 306-1.1.4 and the manner of bracing excavations shall be in conformance with Section 306-1.1.6 of the Standard Specifications.

Excavation shall be kept to the minimum widths required for efficient placing of the pipe or structure and the construction of the various other concrete structures. However, for pipe placement the minimum width of trench shall be 12 inches greater than the outside diameter of the pipe. The maximum length of open trench shall be in conformance with Section 306-1.1.2 of the Standard Specifications.

In excavating for surfaces against which concrete is to be placed, care shall be exercised in removing the final lift. Upon completion of excavation for structures and pipe, surfaces against which concrete is to be placed shall be free of debris, mud or ponded water.

The foundation for all concrete structures including concrete channels and sideslopes will be inspected and tested after excavation. The subgrade shall be compacted to ninety percent (90%) relative compaction prior to the placement of concrete.

Material which will not provide a suitable foundation shall be removed and replaced with compacted select material as directed by the Engineer.

Any overexcavation shall be filled with select material compacted to ninety percent (90%) relative compaction and meeting the material requirements for backfill.

The Contractor shall remove slides and materials eroding into the work, and the slopes and grades refinished to original grades as specified.

The Contractor shall dispose of all surplus excavated material outside of the limits of the construction easements and permanent rights of way.

The removal of rock material from within the excavation paylines which requires the use of blasting or equipment beyond that normally necessary to accomplish the excavation (as determined by the Engineer) shall be paid for in accordance with Section VII, Article 7.03 of the General Provisions. The cost of removal and disposal (including trucking) of rock away from the jobsite will be paid for under the contract item Excavation and no additional compensation will be allowed.

Blasting, when necessary, as approved by the Engineer shall be in accordance with Section 19-2.03E of the State Standard Specifications.

The Contractor's attention is directed to the General Provisions, Section V, Article 5.09 on the use of explosives and Article 5.11 in regard to unforeseen difficulties.

14.3 Excavation - The contract item Excavation covers the removal of all material including asphalt, aggregate base, abandoned pipelines and concrete from within the excavation paylines as specified and as required for the construction and installation of the reinforced concrete box, junction structures, headwalls, manholes, transitions and pipe as shown on Sheet 41 of the plans, and the disposal of all surplus material. All HMA and P.C.C. shall be sawcut unless otherwise specified.

14.4 Hot Mix Asphalt Excavation - The contract item Hot Mix Asphalt Excavation covers the sawcut and removal of hot mix asphalt pavement to the depths and dimensions as specified and as shown on the drawings and the disposal of all surplus material.

Exclusive of this contract item is the hot mix asphalt excavation within the trench excavation limits which will be measured and paid by the contract item Excavation.

Included in this contract item is the recompaction of the existing Aggregate Base to 95% relative compaction should the Aggregate Base be exposed after removal of existing asphalt concrete.

The final cut shall result in a uniform surface conforming to the typical cross sections. The outside lines of the planed area shall be neat and uniform. The road surfacing to remain in place shall not be damaged in any way.

The material planed from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way, shall be immediately removed from the work site and

disposed of outside the right of way. The removal crew shall follow within 50 feet of the planer unless otherwise directed by the Engineer.

14.5 General Backfill Requirements - Whenever fill is specified or required (except for pipe backfill) the work shall be performed as set forth in Sections 300-4.1 to 300-4.8 of the Standard Specifications. Backfill for pipe and box shall conform to Section 306-1.3 of the Standard Specifications.

No backfill materials shall be placed against the outside walls of cast-in-place concrete structures until the concrete has developed eighty percent (80%) of its design strength. No fill or traffic will be permitted on the top of any cast-in-place concrete structure until the concrete in the structure has attained its design strength. Compressive strength will be determined by test cylinders taken by the Engineer.

The Contractor is required to submit for review and approval a crossing plan for the locations where construction loads are to be applied over the reinforced concrete box. The crossing plan shall include, at a minimum, the stations for the beginning and end of the crossing, type of construction equipment to be used at the crossing, the proposed strutting details and the materials to be used. The crossing plan shall conform to Caltrans Standard Plan D88, Construction Loads on Culverts. Any damage to the reinforced concrete box is the sole responsibility of the Contractor and shall be removed and replaced as directed by the Engineer.

The Contractor shall be prohibited from the use of scrapers to backfill around the system.

Regardless of the method of densification, backfill material shall not be placed against any reinforced concrete structure until the structure has been inspected and approved for backfilling by the Engineer.

Densification of backfill will be accomplished by mechanical methods only as described below. All relative compaction tests will be made by the Engineer in conformance with California Test 216. Whenever relative compaction is specified to be determined by California Test 216, the in-place density may be determined by California Test 231. The wet weight or dry weight basis and English units of measurement may be used at the option of the Engineer.

Mechanical Compaction - Backfill shall be mechanically compacted by means of tamping rollers or other mechanical tampers. Impact-type pavement breakers (stompers) will not be permitted unless otherwise approved by the Engineer.

All backfill material for structures shall be placed in uniform layers and shall be brought up uniformly on each side of the structure. The thickness of each layer of backfill shall not exceed 8 inches before compaction unless otherwise approved by the Engineer. For hand directed mechanical compactors, the thickness of each layer shall not exceed 4 inches before compaction.

Water densification by jetting will not be allowed.

Approval to use specific methods and compaction equipment shall not be construed as guaranteeing or implying that the use of such methods and equipment will not result in damage to adjacent ground, existing improvements or improvements installed under the contract, nor shall it be construed as guaranteeing proper compaction. The Contractor shall make his own determination in this regard.

All backfill and bedding around structures and pipe shall be compacted to not less than ninety percent (90%) relative compaction. Where such material is placed under existing or proposed paved roadways, the top 3 feet, measured from the subgrade plane, shall be compacted to ninety-five percent (95%) and shall be compacted by mechanical methods.

Trench bottoms for structures and pipe shall be graded to provide firm and uniform bearing throughout the entire length of the structures and pipe.

Controlled Low Strength Material (CLSM) shall be used for pipe backfill and shall consist of Portland Cement, Aggregate, Water and Fly Ash. CLSM shall be placed as shown on Sheet No. 41.

Pipe bedding shall consist of well graded granular material having a sand equivalent value of not less than 30. Gravel or crushed aggregate shall not be used for bedding materials. Pipe bedding shall be placed to one foot above the top of the reinforced concrete pipe as shown on the drawings. The Contractor may use onsite material for pipe bedding subject to the approval of the Engineer and provided it meets the requirements as set forth above.

The Contractor's attention is directed to SECTION 7 - SOILS REPORT. The Contractor may use onsite material for pipe bedding subject to the approval of the Engineer provided it meets the requirements as set forth above. The Contractor shall make his own determination as to the availability of suitable onsite material. Should onsite material be unsatisfactory, the Contractor will be required to import suitable material.

Backfill material placed above the bedding shall consist of either select material from the excavation or imported material, as approved by the Engineer.

14.6 Testing - District personnel shall perform compaction tests as described below. These tests represent the minimum required. Additional tests may be taken at the Engineer's discretion.

1. Mainline Trenches - A complete series of compaction tests will be taken for each 4-foot thickness of backfill placed. Each series will consist of tests taken at approximate maximum intervals of 300 feet. Each series will begin at the top of the bedding zone.

2. Connector Pipe Trenches - Compaction tests will be taken on 50% of the laterals, one test for each 4-foot of depth.

3. Any failed test will result in a retest.

14.7 Backfill Preparation - The Soils Report (page 20) states "Some of the fine-grained deposits were observed to be very moist and may require processing to enable compaction."

The contract item Backfill Preparation includes all additional direct and indirect costs related to hauling, storage and drying of wet material excavated from the trench to achieve optimum moisture content or the import of suitable material to be used for contract item Backfill as described in Section 14.8.

At the beginning of each day of trench excavation, the Engineer shall test the moisture content of the material excavated near the design storm drain flow line. The Contractor shall only be paid for Backfill Preparation on the days when the tested moisture content equals or exceeds fourteen percent (14%).

Measurement of the soil moisture content shall be performed by the nuclear gage test in accordance with ASTM D6938. The Contractor may request the Engineer to retest the moisture content by microwave oven heating in accordance with ASTM D4643 which shall be considered final.

14.8 Backfill - The contract item Backfill includes all backfill, and pipe and box bedding material compacted as specified around the various concrete structures and pipe within the paylines as shown on the drawings. Also included is the placement of fill required to meet the finished grade as shown on the drawings. See Section 14.5 for crossing plan requirements.

14.9 Controlled Low Strength Material (CLSM) - The contract item Controlled Low Strength Material (CLSM) covers the placement of CLSM backfill around the pipe, structure, or utility as shown on the plans and as directed by the Engineer.

CLSM shall be in conformance with Section 201-6 of the Standard Specifications.

CLSM shall be hand excavatable, a minimum of one-half (1/2) sack of cement shall be used for each cubic yard of CLSM produced.

CLSM shall have a 28-day compressive strength between 50 to 200 psi.

14.10 Measurement - Excavation; Hot Mix Asphalt Excavation; Backfill Preparation; Backfill; and Controlled Low Strength Material (CLSM) beyond the limits established by the drawings, unless ordered in writing by the Engineer, will not be measured for payment.

The excavated material shall be measured from the ground surface existing at the start of excavation, as determined from surveyed cross sections taken by the District, to the lines, grades and dimensions shown on the drawings. Longitudinal limits of the excavations as shown on the profile drawings terminate at a vertical plane at the limits of the structure, measured along the longitudinal axis of the various structures.

Measurement for payment for the contract item Excavation will be the number of cubic yards of material excavated as shown on the drawings. Longitudinal limits of the excavations terminate at a vertical plane at the limits of pipe or structures, measured along the longitudinal axis of the pipe or structure.

Measurement for payment for the contract item Hot Mix Asphalt Excavation will be the number of cubic yards of material excavated as shown on the drawings or as directed by the Engineer.

Measurement for payment for the contract bid item Backfill Preparation shall be the same number of cubic yards of material placed and paid under the contract item Backfill for each day the above qualifying criterion is met.

Measurement for payment for the contract items Backfill; and Controlled Low Strength Material (CLSM) will be the number of cubic yards of material placed in final position as specified and within the limits of the payment lines shown on the drawings. The longitudinal limits shall terminate at a vertical plane at the limits of the pipe or structure, measured along the longitudinal axis of the various pipe or structures. Volumes occupied by structures, aggregate base, hot mix asphalt and other feature for which a separate payment is made will be deducted from the gross volume.

14.11 Payment - The contract prices paid for Excavation; Hot Mix Asphalt Excavation; Backfill Preparation; Backfill; and Controlled Low Strength Material (CLSM) shall include full compensation for all costs incurred under this section.

SECTION 15 - TRENCH SAFETY SYSTEM AND FALSEWORK

15.1 Description - This section covers the contract item Trench Safety System and Falsework. This item is defined as a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Trench safety systems include support systems, sloping and benching systems, shield systems and other systems that will provide necessary protection. The item includes the furnishing and implementation of the safety system as required by Section 306-1.1.6 of the Standard Specifications or as directed by the Engineer.

15.2 Trench Safety System - Excavation for any trench five (5) feet or more in depth shall not begin until the Contractor has provided to the Engineer, a detailed plan for worker protection from the hazards of caving ground during the excavation of the trench. The plan shall show the details of the design of shoring, bracing, sloping or other provisions to be made for worker protection including any design calculations done in the preparation of the plan. No such plan shall allow the use of shoring, sloping or a protective system less effective than that required by the Construction Safety Orders of the California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal-OSHA). The plan shall be prepared and signed by an engineer who is registered as a civil engineer in the State of California, and the plan and design calculations shall be submitted for review at least two (2) weeks before the Contractor intends to begin trenching operations.

All safety plans shall reflect surcharge loadings imparted to the side of the trench by equipment and stored materials. Surcharge loads shall be monitored to verify that such loads do not exceed the design assumptions for the system.

The Contractor should not assume that only one type of trench safety system such as a shield or "trench box" will be adequate for all trenching situations encountered on a given project. The Contractor should be prepared with alternative safety system designs (such as solid sheeting) should construction circumstances dictate the use of such.

Trench safety system designs for support systems, shield systems or other protective systems whether drawn from manufacturers' data, other tabulated data or designed for this particular project must be signed by a civil engineer registered in the State of California prior to submittal to the District for review. A shoring plan for the specific use of a shield shall be prepared. Catalogs or engineering data for a product should be identified in the plan as supporting data. All specific items or applicable conditions must be outlined on the submittal.

The State of California Department of Transportation "Trenching and Shoring Manual" will be used as a guide for plan review and approval.

Also included in this item is the fencing and barricading of the open trench as required for the safety of pedestrians and vehicular traffic as directed by the Engineer.

15.3 Falsework - Falsework for the construction of reinforced concrete boxes shall conform with Section 48-2 Falsework of the State Standard Specifications.

The Falsework plan shall be prepared and signed by an engineer who is registered as a civil engineer in the State of California, and the plan and design calculations shall be submitted for review at least 4 weeks before the Contractor intends to begin Falsework construction.

The State of California Department of Transportation "Falsework Manual" will be used as a guide for plan preparation and review.

15.4 Measurement and Payment - The contract price paid for the item Trench Safety System and Falsework shall include full compensation for all costs incurred under this section.

This payment will be made on a basis of the percentage of the work completed on the items related to trenching operations.

SECTION 16 - CONCRETE CONSTRUCTION

16.1 Description - This section includes the contract items related to the various classes of Concrete.

16.2 General Requirements - Concrete for all purposes shall be composed of Portland Cement, aggregates and water of the quantities and qualities herein specified, and in the required

proportions. The ingredients are to be well mixed and brought to the proper consistency and to have a compressive strength at the age of 28 days of not less than the amount shown in the following tabulation for each type of work listed:

CONCRETE CLASS	MINIMUM SACKS CEMENT/C.Y.	TYPE OF WORK	POUNDS PER SQUARE INCH
A	6	Walls, Boxes and Transition Structure Nos. 1, 2, 3 and 4, Concrete Bulkhead	4500
A	6	Catch Basins, Drop Inlets, Junction Structure Nos. 1, 2, 3 and 4, Concrete Collars and Manholes	4500
B	5	Local Depressions, Cutoff Walls, Curb and Gutter, Concrete Pad, Concrete Apron, and Miscellaneous Concrete not otherwise specified	3000
E	½	Controlled Low Strength Material (CLSM)	50 – 200 Max.

16.3 Material and Methods - All concrete materials, methods, forms and proportioning shall conform to Sections 51 and 90, and additionally, curb construction shall conform to Section 73 of the State Standard Specifications. Concrete test specimens will be made in accordance with ASTM Designation C-31 and C172. Test for concrete compressive strengths will be performed in accordance with ASTM Designation C-39. Combined aggregate grading for all concrete shall be in conformance with Section 90-1.02C(4)(d) of the State Standard Specifications and the following tabulation for each type of work listed:

TYPE OF WORK	COMBINED AGGREGATE GRADING
The inverts of: Reinforced Concrete Box, Junction Structures, Transition Structures and Manholes	1-1/2" Maximum
Retaining Walls, L-Walls, Box Deck and Walls, Catch Basins, Drop Inlets, Local Depressions, Curb and Gutter, Sidewalk, Cutoff Walls, Bulkheads, Collars, Encasements and other Miscellaneous Concrete not otherwise specified. All other concrete structures	1" Maximum
Controlled Low Strength Material (CLSM)	Sand
Controlled Density Fill (CDF)	3/8" Maximum

Concrete shall consist of Type V cement with a maximum water-cement ratio of 0.45 to protect the noted concrete structures against severe sulfate attack from the surrounding soil. Refer to Appendix D of the soils report for additional information.

Corrosion inhibitor admixture, such as Grace and Company's DCI admixture or equivalent, shall be added to all concrete to protect against a chloride content of 660 ppm in the surrounding soil. Corrosion inhibitor admixture shall meet the standards of ASTM Designation: C-1582 and shall be used in amounts recommended by the supplier and approved by the Engineer in writing. Refer to Appendix D of the soils report for additional information.

Fly Ash, Class F may be substituted for cement, up to a maximum of 15 percent by weight for all concrete, unless otherwise noted. Fly Ash shall meet the standards of ASTM Designation: C-618. Water reducing agents meeting ASTM Designation: C-494 will be permitted in amounts recommended by the supplier and approved by the Engineer in writing.

Controlled Density Fill (CDF) shall conform to Section 02252 of EMWD Standard Specification. CDF shall be composed of the following: Cement - 50 pounds maximum; Fly Ash, Class F - 50 to 150 pounds; Total Mix Water - 35 gallons maximum; and Stable Air Content - 20% to 30%. CDF shall be paid for under Section 13.2.

No other admixture shall be used in any class of concrete without written permission from the Engineer.

Supplementing Section 90-1.01 of the State Standard Specifications, prior to placement of any concrete the Contractor shall submit mix designs, for all types of concrete to be placed, to the Engineer for approval. Supplementing Section 90-1.02G(3) of the State Standard Specifications, concrete delivered to the job site shall be accompanied by a ticket containing the weight of each of the individual ingredients in the mix.

16.4 General Reinforcing Steel Requirements - Reinforcing steel for all reinforced concrete structures shall be Grade 60 Low-Alloy or Grade 60 Billet-Steel. The reinforcing steel for use in structures constructed from State of California, Department of Transportation Standard Plans shall be of Grade 60 or as called for on those plans. Cleaning, bending, placing and spacing of reinforcement shall conform to the applicable provisions of Section 52 of the State Standard Specifications and to the drawings. The Contractor shall furnish a "Certificate of Compliance" with the specification of ASTM Designation: A-706/A or A-615/A. All splices shall conform to the requirements of A.C.I. Manual, Standard 318, latest edition. Splices requested by the Contractor for his convenience shall be subject to approval by the Engineer. Longitudinal lap shall be 16 inches minimum for #4 bars and 19 inches minimum for #5 bars.

16.5 Consistency - The consistency of the concrete shall be such as to allow it to be worked into place without segregation. Unless otherwise specified, the slump shall be 3 inches plus or minus 1 inch for all concrete.

Controlled Low Strength Material (CLSM) flow characteristics shall be determined by the producer to meet job site conditions and shall be approved by the Engineer.

The slump test shall be performed in accordance with the requirements of ASTM Designation: C-143. Slumps greater than those specified may be cause for rejection of the concrete by the Engineer.

16.6 Placing - Supplementing Section 51-1.03D(1) of the State Standard Specifications, concrete shall not be placed except in the presence of the Engineer. The Contractor shall give reasonable notice to the Engineer each time he intends to place concrete. Such notice shall be far enough in advance to give the Engineer adequate time to inspect the subgrade, forms, steel reinforcement and other preparations for compliance with the specifications before concrete is delivered for placing.

Formed concrete shall be placed in horizontal layers in lifts of not more than 20 inches. Hoppers and chutes, pipes and "elephant trunks" shall be used as necessary to prevent segregation of the concrete.

16.7 Form Removal and Finish - Forms shall be removed only when the Engineer has given his approval. Forms shall be removed in such a way as to prevent damage to the concrete. Supports shall be removed in a manner that will permit the concrete to take stresses due to its own weight uniformly.

Forms shall not be removed sooner than the following minimum time or strength after the concrete is placed. These times represent cumulative number of days and fractions of days, not necessarily consecutive, during which the temperature of the air adjacent to the concrete is above 50 degrees Fahrenheit. If the temperature falls below 50 degrees Fahrenheit at any time after the concrete is placed in the forms, the Engineer will advise the Contractor of additional time required before forms can be removed.

Element	Strength or Time
L-walls and Retaining Walls - supporting forms and shoring, and reinforced concrete boxes with spans equal to or greater than 14 feet	3000 psi or 7 days
Reinforced Concrete Boxes	3000 psi or 7 days
Transition Structure Nos. 1, 2, 3 & 4	1600 psi
All other structures	16 hours

The finish on all exposed formed surfaces shall conform to Section 51-1.03F(3) Class 1 Surface Finish of the State Standard Specifications. A tight wood float finish will be required on the surface and excessive surface working will not be permitted. The exposed concrete surfaces shall be broomed in a transverse direction with a fine textured hair push broom to produce a uniform surface and eliminate float marks. Brooming shall be done when the surface is sufficiently set to prevent deep scarring. If directed by the Engineer, a fine spray of water shall be applied to the surface immediately in advance of brooming.

Exposed corners of all concrete structures shall be finished with a 3/4" chamfer.

Concrete flatwork shall match adjacent surfaces. The concrete shall be struck off and tamped or vibrated until a layer of mortar has been brought to the surface. The top surface and face of curbs, gutters, catch basins and sidewalks shall be finished to match adjacent surfaces.

16.8 Curing - All concrete shall be prevented from drying for a curing period of at least seven (7) days after it is placed. Surfaces exposed to air during the curing process shall be kept continuously moist for the entire period or until curing compound is applied.

Formed surfaces shall be thoroughly wetted immediately after forms are removed and shall be kept wet until patching and repairs are completed. Water or covering shall be applied in such a way that the concrete surface is not eroded or otherwise damaged. Water for curing shall be clean and free from any substances that will cause discoloration of the concrete.

Concrete may be coated with curing compound in lieu of the continued application of moisture. The curing compound shall comply with the requirements of Section 90-1.03B(3) of the State Standard Specifications. The curing compound for all concrete surfaces other than flatwork shall be No. 2 White Pigmented Curing Compound conforming to the requirements of ASTM Designation: C-309, Type 2, Class B. The curing compound for all flatwork shall be No. 6 Red Fugitive Dye Non-pigmented Curing Compound conforming to the requirements of ASTM Designation: C-309, Type 1-D, Class A.

The curing compound shall be sprayed on the moist concrete surfaces as soon as free water has disappeared, but shall not be applied to any surface until patching, repairs and finishing of that surface are completed. The curing compound shall be thoroughly mixed immediately before applying, and shall be applied at a uniform rate of not less than one gallon per 150 square feet of surface. No separate payment will be made for the curing compound or its application.

16.9 Joints - Joints shall be made at the locations shown on the drawings, or as approved by the Engineer.

The Contractor shall construct, in one continuous concrete placing operation, all work comprised between such joints. Joints shall be kept moist until adjacent concrete is placed.

All construction joints having a keyed, stepped, or roughened surface shall be cleaned by sandblasting prior to placement of the adjacent concrete, unless otherwise directed by the Engineer.

The sandblasting operations shall be continued until all unsatisfactory concrete, laitance, coatings, stains, debris, and other foreign materials are removed. The surface of the concrete shall be washed thoroughly to remove all loose material.

Construction joints, when required, shall be located between the transverse joints and, unless otherwise specified on the plans, shall utilize 1/2 inch diameter deformed bars 30 inches

long, spaced at 18-inch centers as tie bars. The construction joints shall be straight and finished in a workmanlike manner.

Surfaces of construction joints shall be cleaned as set forth in Section 51-1.03D(4) of the State Standard Specifications.

For reinforced concrete boxes, keyed transverse construction joints shall be placed not more than 50 feet or be less than 10 feet. Transverse joints in the invert, walls and deck shall be in the same plane. Transverse construction joints shall be constructed per details on the Standard Drawings.

A complete curtain of transverse steel shall be placed 3 inches from the face of the joints and longitudinal steel will not be continuous through the joints.

16.10 Weepholes - Weepholes shall be constructed in accordance with the drawings and at locations directed by the Engineer. All weepholes shall be 2-1/2 inches in diameter unless noted otherwise on the drawings.

Weepholes may be formed by removable round wooden dowels, Schedule 40 PVC Pipe or greater, or by other methods acceptable to the Engineer.

All weepholes shall have a rodent screen consisting of 1/4-inch mesh, 16-gauge galvanized hardware cloth securely and permanently attached over the drain opening in a manner approved by the Engineer.

Filter material for the weepholes shall be one inch (1") nominal size crushed rock conforming to the gradation of Section 200-1.2 of the Standard Specifications. Filter material shall also meet the quality requirements of Sections 200-1.1 and 200-1.2 of the Standard Specifications.

Filter material shall be wrapped in a single layer of filter fabric as shown on the drawings or approved by the Engineer. Filter fabric shall be Class A per Section 88-1.02B of the State Standard Specifications.

Filter fabric shall be furnished in protective wrapping which shall protect the fabric from ultraviolet radiation and from abrasion due to shipping and handling. The fabric shall also be ultraviolet stabilized.

The fabric shall be placed in the manner and at the locations shown on the drawings. The surface to receive the fabric shall be prepared to a smooth condition free of obstructions and debris.

The fabric shall be covered within 72 hours of its placement. Should the fabric be damaged during construction, the torn or punctured section shall be repaired or replaced as directed by the Engineer.

No separate payment will be made for the installation of the weephole, hardware cloth, filter material or filter fabric.

16.11 Use of Invert - Dump trucks, concrete trucks and earth moving equipment (whether full or empty) will not be allowed to operate on the invert of the reinforced concrete box or Menlo Avenue inlet structure.

A small crane with capacity not to exceed 10 tons will be permitted to operate on the concrete channel invert for the purpose of setting and moving forms, and erecting the steel reinforcement for the walls. Wheel loading types and amounts will be subject to the approval of the Engineer. Vehicles of 3/4 ton capacity (or less) will also be permitted access to the invert. The speed of any vehicle using the invert will be limited to 10 m.p.h. maximum to avoid impact loading.

No other category of equipment, except that specifically approved by the Engineer in writing will be permitted to use the invert of the channel for access to the work area.

In any event, vehicular access to the invert will not be permitted until the concrete has achieved its design strength. Approval for access to use the invert shall not relieve the Contractor of the responsibility to avoid damage to the concrete. Cracking, displacement or other damage which occurs to the invert will be cause to restrict some or all of the categories of equipment allowed access on the invert. Repair or replacement of damaged concrete will be required.

16.12 Class "A" Concrete, Reinforced Concrete Box - The contract item Class "A" Concrete, Reinforced Concrete Box covers the concrete and reinforcing steel incorporated in the construction of all reinforced concrete boxes.

Loading and vehicular use of box deck slab shall comply with the requirements of Section 51-1.03B of the State Standard Specifications and State Standard Plan D88.

Also included in this item of work will be the construction of the weepholes if required in the invert slab or sides of the reinforced concrete box.

16.13 Class "A" Concrete, Menlo Avenue Inlet Structure - The contract item Class "A" Concrete, Menlo Avenue Inlet Structure covers the complete construction of the inlet structure located on the south side of Menlo Avenue, as identified on Sheet No. 20 in the drawing. The inlet structure consists of retaining walls, L-Walls and the unlined approach channel. Included in this contract item is all reinforcing steel and earthwork required for this structure.

16.14 Class "A" Concrete, Minor Structures - The contract item Class "A" Concrete, Minor Structures includes the complete construction of the catch basins, collars, concrete bulkhead, and drop inlets. Included in the pay item is all earthwork and reinforcing steel required for these structures, but exclusive of the required miscellaneous iron and steel.

16.15 Class "B" Concrete, Miscellaneous - The contract item Class "B" Concrete, Miscellaneous includes the complete construction of the curb and gutters, cross gutters, local depressions, pipe plugs, concrete pads, concrete apron, 2' cutoff wall, 6" concrete slab and any other concrete not specified. Included in the pay item is all earthwork and reinforcing steel required. The subgrade for cross gutters shall be recompacted to ninety-five percent (95%) relative compaction prior to the placement of concrete.

16.16 Transition Structures - The contract item Transition Structure Nos. 1, 2, 3 and 4 covers the complete construction of these various structures, including reinforcing steel, exclusive of earthwork.

16.17 Junction Structures - The contract item Junction Structure Nos. 1 and 2 covers the complete construction of these structures, including reinforcing steel and earthwork.

No separate payment will be made for Junction Structure No. 3 or Junction Structure No. 4.

16.18 Manholes - The contract items Manhole Nos. 2, 3 and 4 cover the complete construction of these various structures, including reinforcing steel and earthwork, exclusive of the miscellaneous iron and steel.

The manhole rings are required and shall conform to ASTM Designation: C-478, and the drawings. The rings shall be laid up using Type II modified cement with a 1:2 mix mortar and with 1/2-inch minimum thickness pointed joints. On completion, vertical wall section shall not be out of plumb by more than 1/2-inch in 10 feet of vertical height. The manhole rings shall also be accurately aligned. The cast iron manhole frame and cover shall be installed, with frame accurately set to finished grade of pavement, in mortar well tamped around the perimeter of frame to ensure full bearing.

16.19 Measurement - Measurement for payment for the contract items Class "A" Concrete, Reinforced Concrete Box; Class "A" Concrete, Minor Structures; and Class "B" Concrete, Miscellaneous will be the number of cubic yards placed as specified, measured to the neat lines as shown on the drawings.

Measurement for payment for the contract items Class "A" Concrete, Menlo Avenue Inlet Structure, Manhole No. 2, Manhole No. 3, Manhole No. 4, Transition Structure No. 1, Transition Structure No. 2, Transition Structure No. 3, Transition Structure No. 4, Junction Structure No. 1 and Junction Structure No. 2 will be the number of each type constructed as specified.

No measurement or payment will be made for Junction Structure Nos. 3, 4 and 7.

No measurement or payment will be made for dowels, tie bars, tie wires, blocks, chairs and other accessories.

16.20 Payment - The contract prices paid for the various Concrete items and reinforcing steel items shall include full compensation for all costs incurred under this section.

SECTION 17 - CONCRETE PIPE

17.1 Description - This section covers the contract item Reinforced Concrete Pipe of the various sizes as required for the work.

17.2 General Pipe Requirement - Pipe materials, manufacture and quality, shall conform to ASTM Designation: C-76 or C-655. The Engineer shall be furnished a "Certificate of Compliance" signed by the manufacturer of the pipe certifying that the pipe conforms to the ASTM requirements. All pipe and pipe material supplied by the Contractor shall be new.

The District will also require the D-load bearing strength test conforming to ASTM C497 for new pipe 48" or greater, in conformance with Sections 207-2.9.1(a) and 207-2.9.2 of the Standard Specifications as a basis for acceptance of the pipe. The test shall be performed in the presence of the Engineer.

Pipe shall be laid in a trench free of ponded water in conformance with Section 306-1.2.2, with joints in conformance with Section 306-1.2.4 of the Standard Specifications.

Pipe ends shall be cleaned and moistened prior to making up joint.

17.3 Reinforced Concrete Pipe - The contract items for the various Reinforced Concrete Pipe include the furnishing and installing of the various pipe as specified, exclusive of earthwork.

17.4 Pipe on Curves - Unsymmetrical closure of pipe joints shall not exceed 1 inch pull on the outside of the curve when pull is measured at the springline on the inside of the pipe. Mortar joints on curves shall conform in strength, texture of mortar finish and tightness to the joints for straight ended pipe.

When beveled pipe is used the maximum deflection angle shall not exceed 6 degrees unless shown on the plans or approved by the Engineer.

17.5 Video Inspection - All concrete pipe (cast-in-place and reinforced) with inside diameters of 30 inches or less shall be videotaped prior to final inspection. Copies of the videotapes shall be provided to the Engineer. For pipe placed within roadway area, video inspection shall be performed and the results approved by the Engineer prior to paving.

17.6 Measurement - Measurement for payment of the contract items Reinforced Concrete Pipe of the various sizes and classes will be the number of lineal feet of each class installed as specified measured along the centerline of the pipe in place including curves, exclusive of earthwork.

17.7 Payment - The contract prices paid for the Reinforced Concrete Pipe shall include full compensation for all costs incurred under this section.

SECTION 17 - CONCRETE PIPE

17.1 Description - This section covers the contract item Reinforced Concrete Pipe of the various sizes as required for the work.

17.2 General Pipe Requirement - Pipe materials, manufacture and quality, shall conform to ASTM Designation: C-76 or C-655. The Engineer shall be furnished a "Certificate of Compliance" signed by the manufacturer of the pipe certifying that the pipe conforms to the ASTM requirements. All pipe and pipe material supplied by the Contractor shall be new.

The District will also require the D-load bearing strength test conforming to ASTM C497 for new pipe 48" or greater, in conformance with Sections 207-2.9.1(a) and 207-2.9.2 of the Standard Specifications as a basis for acceptance of the pipe. The test shall be performed in the presence of the Engineer.

Pipe shall be laid in a trench free of ponded water in conformance with Section 306-1.2.2, with joints in conformance with Section 306-1.2.4 of the Standard Specifications.

Pipe ends shall be cleaned and moistened prior to making up joint.

Concrete shall consist of Type V cement with a maximum water-cement ratio of 0.45 to protect the noted concrete structures against severe sulfate attack from the surrounding soil. Refer to Appendix D of the soils report for additional information.

Corrosion inhibitor admixture, such as Grace and Company's DCI admixture or equivalent, shall be added to all concrete to protect against a chloride content of 660 ppm in the surrounding soil. Corrosion inhibitor admixture shall meet the standards of ASTM Designation: C-1582 and shall be used in amounts recommended by the supplier and approved by the Engineer in writing. Refer to Appendix D of the soils report for additional information.

17.3 Reinforced Concrete Pipe - The contract items for the various Reinforced Concrete Pipe include the furnishing and installing of the various pipe as specified, exclusive of earthwork.

17.4 Pipe on Curves - Unsymmetrical closure of pipe joints shall not exceed 1 inch pull on the outside of the curve when pull is measured at the springline on the inside of the pipe. Mortar joints on curves shall conform in strength, texture of mortar finish and tightness to the joints for straight ended pipe.

When beveled pipe is used the maximum deflection angle shall not exceed 6 degrees unless shown on the plans or approved by the Engineer.

17.5 Video Inspection - All concrete pipe (cast-in-place and reinforced) with inside diameters of 30 inches or less shall be videotaped prior to final inspection. Copies of the videotapes shall be provided to the Engineer. For pipe placed within roadway area, video inspection shall be performed and the results approved by the Engineer prior to paving.

17.6 Measurement - Measurement for payment of the contract items Reinforced Concrete Pipe of the various sizes and classes will be the number of lineal feet of each class installed as specified measured along the centerline of the pipe in place including curves, exclusive of earthwork.

17.7 Payment - The contract prices paid for the Reinforced Concrete Pipe shall include full compensation for all costs incurred under this section.

SECTION 18 - NOT USED

SECTION 19 - FLEXIBLE PAVEMENT CONSTRUCTION

19.1 Description - This section covers the contract items Aggregate Base, Class 2; Hot Mix Asphalt (HMA), Type A; Temporary Resurfacing; and Hot Mix Asphalt (HMA) Dike.

19.2 Aggregate Base, Class 2 - The contract item Aggregate Base, Class 2 includes furnishing and placing such material as indicated on the drawings. Aggregate Base, Class 2 shall be clean and free from roots, organic material and other deleterious substances, and be of such character that when wet it will compact to form a firm stable base. Material and placing shall be in accordance with Section 26 of the State Standard Specifications using ¾-inch maximum size.

The aggregate base shall also have a sand equivalent value of not less than 35 when tested in conformance with California Test Method 217.

The aggregate base material shall be spread as specified in Sections 26-1.03A and 26-1.03C of the State Standard Specifications. The aggregate base material shall be compacted as specified in Section 26-1.03D of the State Standard Specifications.

19.3 General Hot Mix Asphalt (HMA) Requirements - The Contractor shall not pave any or start paving Hot Mix Asphalt (HMA) until all compaction on the aggregate base is tested and approved by the Engineer.

The HMA shall be proportioned, mixed, spread and compacted in accordance with the applicable provisions in Section 39 of the State Standard Specifications and these Detailed Specifications.

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

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

19.4 Hot Mix Asphalt (HMA) Aggregate - Aggregates shall be clean and free from decomposed materials, organic material, and other deleterious substances. Coarse aggregate is material retained on the No. 4 sieve and fine aggregate is material passing the No. 4 sieve. Supplemental fine aggregate is added fine material passing the No. 30 sieve including, but not limited to, cement and stored fines from dust collectors.

The aggregate grading of the different types of Hot Mix Asphalt (HMA) shall conform to the following, unless otherwise specified on the plans:

HMA Type	Grading
A	¾-inch and/or ½-inch
C	1-inch

The base course of the HMA shall consist of ¾-inch aggregate for Type A and 1-inch aggregate for Type C, and the final course for Type A shall consist of ½-inch aggregate.

The combined aggregate gradation and quality characteristics for HMA Type A and Type C aggregate(s), prior to addition of asphalt binder, shall conform to the requirements found in the following tables:

Aggregate Gradation HMA Type A
(Percentage Passing)

¾-inch HMA Type A

Sieve Sizes	Target Value Limits	Allowable Tolerance
1-inch	100	-
¾-inch	90-100	TV ±5
½-inch	70-90	TV ±6
No. 4	45-55	TV ±7
No. 8	32-40	TV ±5
No. 30	12-21	TV ±4
No. 200	2-7	TV ±2

Aggregate Gradation HMA Type A
(Percentage Passing)

½-inch HMA Type A

Sieve Sizes	Target Value Limits	Allowable Tolerance
¾-inch	100	-
½-inch	95-99	TV ±6
3/8-inch	75-95	TV ±6
No. 4	55-66	TV ±7
No. 8	38-49	TV ±5
No. 30	15-27	TV ±4
No. 200	2-8	TV ±2

HMA Type A Aggregate Quality

Quality Characteristic	Test Method	Requirement
Percent of crushed particles[1]	CT 205	
Coarse aggregate (% min.)		
One fractured face		90
Two fractured faces		75
Fine aggregate (Passing No. 4 Sieve and retained on No. 8 Sieve) (% min.)		
One fractured face		70
Los Angeles Rattler (% max.)[1]	CT 211	
Loss at 100 rev.		12
Loss at 500 rev.		45
Sand equivalent[1, 2] (min.)	CT 217	47
Fine aggregate angularity (% min.)[1]	AASHTO T 304 Method A	45
Flat and elongated particles (% max. by weight at 5:1)[1]	ASTM D 4791	10

Note: [1]Combine aggregate in the job mix formula proportions.
[2]Reported value must be the average of three (3) tests from a single sample.

Aggregate Gradation HMA Type C
(Percentage Passing)

1-inch HMA Type C

Sieve Sizes	Target Value Limits	Allowable Tolerance
1-inch	100	-
¾-inch	88-93	TV ±5
½-inch	72-85	TV ±6
3/8-inch	55-70	TV ±6
No. 4	35-52	TV ±7
No. 8	22-40	TV ±5
No. 30	8-24	TV ±4
No. 50	5-18	TV ±4
No. 200	3-7	TV ±2

HMA Type C Aggregate Quality

Quality Characteristic	Test Method	Requirement
Percent of crushed particles[1] Coarse aggregate (% min.) Two fractured faces Fine aggregate (Passing No. 4 Sieve and retained on No. 8 Sieve) (% min.) One fractured face	CT 205	 95 90
Los Angeles Rattler (% max.)[1] Loss at 100 rev. Loss at 500 rev.	CT 211	 12 40
Sand equivalent[1, 2] (min.)	CT 217	47
Fine aggregate angularity (% min.)[1]	AASHTO T 304 Method A	45
Flat and elongated particles (% max. by weight at 5:1)[1]	ASTM D 4791	10

Note: [1]Combine aggregate in the job mix formula proportions.
[2]Reported value must be the average of three (3) tests from a single sample.

19.5 Asphalt Binder - The asphalt binder to be mixed with aggregate shall conform to these Detailed Specifications and shall be as designated below or as determined by the Engineer:

- Grade PG 64-10 (Inland Valleys)

The Contractor shall furnish and place the HMA with all asphaltic emulsions required.

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

- Free from residues caused by the artificial distillation of coal, coal tar or paraffin
- Free from water
- Homogeneous

The Contractor shall furnish asphalt binder from a supplier that conforms to 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/ofpm/fpmcoc.htm.

The amount of asphalt binder to be mixed with the mineral aggregate shall be between three percent (3%) and seven percent (7%) by weight, of the dry mineral aggregate. The exact amount of asphalt binder to be mixed with the mineral aggregate shall be determined by a special mix design.

Performance grade paving asphalt shall conform to the testing requirements in the table below:

Performance Graded Asphalt Binder

Property	AASHTO Test Method	Specification Grade			
		PG 64-10	PG 64-16	PG 70-10	PG 64-28PM[i]
Original Binder					
Flash Point, Minimum °C	T48	230	230	230	230
Solubility, Minimum %[b]	T44	99	99	99	98.5
Viscosity[c] at 135 °C, Maximum, Pa·s	T316	3.0	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	64 1.00
RTFO Test[e], Mass Loss, Maximum, %	T240	1.00	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	64 2.20
Ductility at 25 °C Minimum, cm	T51	75	75	75	-
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum (delta), %	T315	-	-	-	Note g 80
PAV[f] Aging, Test Temperature, °C	R28	100	100	110	100
Elastic Recovery[n], Test Temp., °C Minimum recovery, %	T 301	-	-	-	25 75

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	31 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	-12 300 0.300

Notes:

a. Not 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.
g. 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.
h. Test without a force ductility clamp may be performed.
i. Do not modify PG Polymer Modifier using acid modification.

Certificates of compliance shall be furnished to the Engineer certifying that the asphaltic emulsions and paving asphalts conform to the referenced standard specifications.

19.6 Hot Mix Asphalt (HMA) Prime Coat - Prime coat shall consist of refined petroleum and shall conform to the provisions in Section 93 "Liquid Asphalts" of the State Standard Specifications. Prime coat shall be applied only to those areas designated by the Engineer. The application rate shall be 0.25 gallon per square yard of surface covered. The exact rate and number of applications will be determined by the Engineer.

19.7 Hot Mix Asphalt (HMA) Paint Binder/Tack Coat - Asphaltic emulsion for paint binder (tack coat) shall conform to the provisions in Section 94 "Asphaltic Emulsion" of the State Standard Specifications for the rapid-setting or slow-setting type and grade approved by the Engineer. Grade CQS1 shall be used if not otherwise specified by the Engineer. Tack coat shall be applied to all vertical surfaces of existing pavement, curbs, gutters, and construction joints in the surfacing against which additional material is to be placed, to a pavement to be surfaced, and to other surfaces designated in the Special Provisions. The application rate shall be from 0.02 to 0.10 gallon per square yard of surface covered. The exact rate and number of applications will be determined by the Engineer.

19.8 Hot Mix Asphalt (HMA) Placement - Hot Mix Asphalt (HMA) shall be spread and compacted in the number of layers of the thicknesses indicated in the following table:

Total Thickness Shown on Plans[1]	Minimum No. of Layers	Top Layer Thickness (ft.)		Next Lower Layer Thickness (ft.)		All Other Lower Layer Thickness (ft.)	
		Min.	Max.	Min.	Max.	Min.	Max.
0.24-foot or less	1	-	-	-	-	-	-
0.25-foot	2	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

[1]When pavement reinforcing mat is shown to be placed between layers of HMA, the thickness of HMA above the pavement reinforcing mat shall be considered to be the "total thickness shown on plans".

The straightedge for smoothness determination on the top layer of HMA pavement shall conform to the tolerance specified in Section 39-1.12B, "Straightedge" of the State Standard Specifications.

Areas of the top surface of the uppermost layer of HMA pavement that do not meet the specified surface tolerances shall be brought within tolerance by abrasive grinding. Areas which have been subjected to abrasive grinding shall receive a seal coat. 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.

When abrasive grinding is used to bring the top surface of the uppermost layer of HMA 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.

19.9 Hot Mix Asphalt (HMA), Type A - The contract item Hot Mix Asphalt (HMA), Type A covers the furnishing and installation of HMA necessary for the repair and resurfacing of streets damaged or removed due to construction operations, or as otherwise specified on the plans, including all aggregate, asphalt binder, prime coat, and tack coat/paint binder as specified herein, exclusive of any excavation or pavement grinding.

19.10 Temporary Resurfacing - The contract item Temporary Resurfacing is required for short reaches of the mainline and connector pipe trenches whenever excavation is made through pavement on which traffic must be allowed immediately after backfilling, only as directed by the Engineer. Otherwise the leveling course of the HMA may be used to open the work area to traffic until the final paving is completed. Measurement and payment of the leveling course will be made as a HMA item, not Temporary Resurfacing.

Temporary Resurfacing shall be 2" (0.17') and in conformance with Section 306-1.5 of the Standard Specifications.

19.11 Hot Mix Asphalt (HMA) Dike - The contract item Hot Mix Asphalt (HMA) Dike covers the HMA necessary for complete construction of HMA dikes as shown on the drawings. HMA surface shall be cleaned prior to applying tack coat.

19.12 Measurement - Measurement for payment of the contract item Aggregate Base, Class 2 will be the number of cubic yards placed to the lines, grades and dimensions shown on the drawings. **No allowance will be made for aggregate base placed outside said dimensions unless otherwise ordered by the Engineer.**

Measurement for payment of the contract item Hot Mix Asphalt (HMA), Type A will be the number of tons placed to the lines, grades and dimensions shown on the drawings. The HMA pay quantity shall be determined by using a conversion factor of 144 pounds per cubic foot for all HMA placed within standard paylines. No measurement for payment will be made for asphalt emulsions, including asphalt binder, HMA prime coat, HMA tack coat/paint binder required for this portion of the work, all costs for these items shall be included in the price paid for HMA. **No allowance will be made for HMA placed outside said dimensions unless otherwise ordered by the Engineer.**

Measurement for payment of the contract item Temporary Resurfacing will be the number of tons placed as specified in Section 19.10 and as directed by the Engineer.

Measurement for payment of the contract item Hot Mix Asphalt (HMA) Dike will be the number of tons placed as shown on the drawings. No measurement for payment will be made for asphalt emulsions.

19.13 Payment - The contract prices paid for Aggregate Base, Class 2; Hot Mix Asphalt (HMA), Type A; Temporary Resurfacing; and Hot Mix Asphalt (HMA) Dike shall include full compensation for all costs incurred under this section.

SECTION 20 - FENCES AND GATES

20.1 Description - This section covers the contract items 6-Foot Chain Link Fence; Temporary Fencing; 3-Foot Cable Railing; 3-Strand, Barbed Wire Fence; and Pipe Swing Gate.

20.2 6-Foot Chain Link Fence - The contract item 6-Foot Chain Link Fence includes furnishing and installing the material required for this portion of the work as shown on the drawings and as directed by the Engineer. Included in this item is all hardware parts, posts and fittings. Also included in this item of work will be the removal and relocation, if required, of chain link fence as noted on the drawings and as directed by the Engineer.

All materials shall be new except that specified for removal and relocation and shall conform to Section 206-6 of the Standard Specifications and the drawings, with installation in conformance with Section 304-3.2. Materials salvaged shall be subject to the Engineer's approval prior to reinstallation. All posts shall be set in commercial plant quality, 4 sack per cubic yard concrete.

20.3 Temporary Fencing - The contract item Temporary Fencing shall include all labor, materials and equipment necessary for installing and removing the temporary fencing and removing and reinstalling the property line fences as shown on the drawings. The temporary fencing shall be a 6-foot high chain link fence. Fencing materials need not be new and fence posts need not be set in concrete.

20.4 3-Foot Cable Railing - The contract item 3-Foot Cable Railing includes furnishing and installing the material required for this portion of the work. Included in this item is all hardware, parts, posts and fitting in conformance with Section 83-1.02E of the State Standard Specifications.

20.5 3-Strand, Barbed Wire Fence - The contract item 3-Strand, Barbed Wire Fence includes furnishing and installing the material required for this portion of the work. Included in this item is all hardware, parts, posts and fitting in conformance with Section 206-6.7 of the Standard Specifications.

20.6 Pipe Swing Gate - The contract item Pipe Swing Gate includes furnishing and installing the gate as shown on the drawings, complete with gate posts set in concrete and in conformance with Section 206-6.2 of the Standard Specifications. Padlocks are not included in this item. On completion, the gate shall operate freely without wedging or binding.

20.7 Measurement - Measurement for payment for the contract item 6-Foot Chain Link Fence will be the number of lineal feet of new fence installed measured along the top of the fence parallel to the ground.

Measurement for payment for the contract item 3-Foot Cable Railing will be the number of lineal feet of new cable railing installed along the top of the railing parallel to the ground.

Measurement for payment for the contract item 3-Strand, Barbed Wire Fence will be the number of lineal feet of new barbed wire fence installed along the top of the fence parallel to the ground.

Measurement for payment for the contract item Pipe Swing Gate will be the number of gates installed. Excavation and concrete required for fence or gate posts will not be measured for payment.

20.8 Payment - The contract price paid for 6-Foot Chain Link Fence; 3-Foot Cable Railing; 3-Strand, Barbed Wire Fence; and Pipe Swing Gate shall include full compensation for all costs incurred under this section.

The contract lump sum price for Temporary Fencing shall include full compensation for all direct and indirect costs incurred under this section.

Payment will be made on the basis of the percentage of the work completed on the entire project.

SECTION 21 - MISCELLANEOUS

21.1 Description - This section covers the contract items Miscellaneous Iron and Steel; and Protection of EMWD 33" CML&C Waterline.

21.2 Miscellaneous Iron and Steel - The contract item Miscellaneous Iron and Steel covers all ferrous metal used in the various hydraulic structures. Materials, parts and fittings shall conform with the following:

(a) Manhole Frames and Covers - Per ASTM Designation: A-48, Class 35B. Manhole frames and covers shall be minimum weight as shown on the plans, and the weight of each frame and cover shall be indicated thereon in white paint. Style and markings shall be approved by the Engineer. The castings shall be free from cracks, blowholes or other imperfections, straight, true to pattern and have a uniform finish. The castings for manholes in streets shall be thoroughly cleaned and coated with asphaltum paint of approved composition; all other castings for frames and covers shall be cleaned and galvanized. The cover shall fit firmly into the frame without rocking, with the frame accurately placed so that cover is flush with finish paving.

(b) All other Miscellaneous Metal - Per ASTM Designation: A-36.

(c) Galvanizing - Except for manhole frames and covers described above, all exposed ferrous metal shall be galvanized per Section 210-3 of the Standard Specifications.

21.3 Protection of EMWD 33" CML&C Waterline - The contract item Protection of EMWD 33" CML&C Waterline covers the protection of the existing Eastern Municipal Water District (EMWD) 33" CML&C waterline located along Oakwood Street.

If dewatering of the waterline is required the Contractor shall conform to the Discharge Authorization and Monitoring and Reporting Program as outlined in Order No. R8-2009-0003-003, under the General Permit No. R8-2009-0003, NPDES No. CAG998001 for Eastern Municipal Water District. A copy of the permit can be found in Appendix "E".

Included will be all activities associated with protection of the waterline, which shall conform to the following procedures:

1. The Contractor shall notify and coordinate with EMWD for the water system shut down of the 33" CML&C waterline. The Contractor shall be responsible for dewatering the trench excavations as necessary.

2. The 33" EWMD CML&C waterline shall be completely exposed in a trench measuring 10 feet from the outside wall on both sides of the reinforced concrete box plus the total width of the system, as shown on Sheet 5.

3. All joints shall be fully exposed from cement lining and checked for full double-pass welds. If not double-pass, joints shall be fully welded with double-pass welds per EMWD Standards B-638 and B-661.

4. All exposed joints shall be resealed with Class B Concrete.

5. Controlled Density Fill (CDF) shall be placed from the top of the waterline to the bottom of the RCB structure and per the neat lines as shown on Sheet No. 5 on the drawings.

Contractor shall provide at least two (2) weeks prior notice to EWMD in writing, followed by forty-eight (48) hour and twenty-four (24) hour confirmation notices before implementing the protection of the waterline. The contact at EMWD will be Cameron Webb at 951.928.3777 ext. 7302, John Dotinga at 951.928.3777 ext. 7301 and Becky Rathbone at 951.928.3777 ext. 6242. No work shall be done without an EMWD representative present.

21.4 Measurement - Measurement for payment for the contract item Miscellaneous Iron and Steel will be the number of pounds used in the work as specified. Should manhole frames and covers exceed the minimum weights as shown on the drawings by more than two percent (2%) that weight in excess of the allowable two percent (2%) increase will not be measured for payment. Manhole frames and covers to be salvaged and reused will not be measured for payment.

Measurement for the payment for the contract item Protection of EMWD 33" CML&C Waterline will be for each performed.

21.5 Payment - The contract prices paid for Miscellaneous Iron and Steel; and Protection of EMWD 33" CML&C Waterline shall include full compensation for all costs incurred under this section.

SECTION 22 through SECTION 26 - NOT USED

SECTION 27 - DUST ABATEMENT

27.1 Description - This section covers the implementation of dust control measures necessary to prevent harm and nuisance from dust. Supplementing Section 8.06 of the General Provisions, the Contractor shall comply with all the provisions of the South Coast Air Quality Management District (SCAQMD) Rule 403 as described in Appendix "A".

27.2 Dust Abatement - The contract item Dust Abatement includes the action necessary to prevent, reduce or control dust within the work area as required to complete the work. The Contractor shall carry out proper and efficient measures to prevent his operations from producing dust in amounts damaging to property or causing a nuisance, or harm to persons living nearby or occupying buildings in the vicinity of the work. The methods to be used for controlling dust in the construction area and along haul roads shall be approved by the Engineer prior to starting any work included in this contract. The Rule 403 Implementation Handbook published by the

SCAQMD contains a detailed listing of reasonably available dust control measures and is available for inspection at the District office.

27.3 Payment - The contract lump sum price paid for Dust Abatement shall include full compensation for all direct and indirect costs incurred under this section.

This payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 28 - HYDROSEEDING

28.1 Description - This section covers the contract item Hydroseeding as directed by the Engineer. The cut or fill slopes and all exposed or stripped areas (including TCE's) within the project limits shall be hydroseeded.

28.2 Hydroseeding - This item includes the furnishing of all materials, incidentals, labor and equipment necessary to complete the work as specified herein, and as directed by the Engineer. All hydroseeding work shall be done by fully qualified and experienced personnel.

The hydroseeding materials shall not be stored onsite without prior approval of the Engineer as to location, duration and method of storage. All debris and excess materials shall be removed on a daily basis, unless otherwise authorized by the Engineer. The Contractor shall leave the work area in a clean and finished appearance upon completion of hydroseeding.

28.3 Equipment and Materials - The equipment shall be a mobile mounted unit in a fully operational and well maintained condition, meeting the requirements of Section 20-3.04B of the State Standard Specifications. Fiber shall be produced from natural or recycled (pulp) fiber and shall meet the requirements of Section 21-1.03E of the State Standard Specifications. Stabilizing binder upon drying shall allow water and air penetration, shall be non-flammable, shall have an effective life of at least 1 year, and shall not be toxic to plants and animals.

All seed shall be delivered to the site tagged and labeled in accordance with the California Agricultural Code. Seed shall be of a quality which has a minimum pure live seed content (% of purity x % germination) as specified and weed seed shall not exceed 0.5% of the aggregate of pure live seed and other material.

A commercial Ammonium Phosphate fertilizer shall be used containing a minimum of 16% nitrogen, 20% available phosphoric acid and 0% water soluble potash, uniform in composition, dry and free flowing, pelleted or granular. All fertilizer shall be delivered in unbroken or unopened containers, labeled in accordance with applicable State regulations and bearing the warranty of the producer for the grade furnished.

Straw mulch shall be new straw derived from rice, wheat, oats or barley and be free of mold and noxious weed seed. Straw shall be furnished in air dry bales. The Contractor shall furnish evidence that clearance has been obtained from the County Agricultural Commissioner,

as required by law, before straw obtained from outside the county in which it is to be used is delivered to the site of the work.

A mulch covering shall be distributed uniformly over the surface of the seeded area. Mulching shall follow immediately after seeding. The straw mulch shall be applied at a rate of two (2) tons per acre. The mulch shall be applied by hand, blower or other suitable equipment. If straw is applied with a blower, it shall not be chopped in lengths less than six (6) inches.

28.4 Application - The Engineer shall review and approve completion of all construction and grading prior to any section being approved as ready for hydroseeding application.

The Contractor shall provide a written per load mix tabulation, ratioed to the tank capacity of the equipment to be used on the project, for review and approval by the Engineer well in advance of anticipated start of hydroseeding.

The Contractor shall provide a sample demonstration area for application by preparing one load of hydroseed mix. The demonstration areas shall be wet down thoroughly prior to application. The Engineer shall review and approve the sample section for compliance and workmanship. Upon approval, this area shall become the sample for all remaining application. No hydroseeding shall take place during high winds or during periods of rainfall.

Areas designated for hydroseeding shall receive an application made with an overlapping fan motion to provide a full and even spread throughout the coverage area.

The hydroseed mix, per acre of coverage, shall be as follows:

2,000 lbs./acre	Fiber Mulch
250 lbs./acre	16-20-0 Commercial Fertilizer
120 lbs./acre	Stabilizing binder
36 lbs./acre	Seed Mix as follows:

(For Slope Stabilization - Based on information from soil report, Project Engineer to consult seeding company for recommended hydroseed mix.)

Species	Lbs/ac	P/G
Bromas Carinatus 'Cucamonga'	20	95/80
Vulpia Microstachys	8	90/80
Trifolium Tridentatum	8	90/80

28.5 Measurement - Measurement for the contract item Hydroseeding will be made on the basis of the actual area treated to the nearest one hundredth (0.01) acre as measured by the Engineer.

28.6 Payment - The contract price paid for Hydroseeding shall include full compensation for all costs incurred under this section.

SECTION 29 - STORMWATER AND NON-STORMWATER POLLUTION CONTROL

29.1 Description - This section covers the contract items Stormwater and Non-Stormwater Pollution Control; and Non-Stormwater Discharge or Dewatering. The contract item Stormwater and Non-Stormwater Pollution Control shall include preparing, obtaining approval of, amending and implementing the Permit Registration Documents (PRDs) as required by the State Water Resources Control Board (SWRCB) and the California Regional Water Quality Control Board (CRWQCB) - Santa Ana Region. The contract item Non-Stormwater Discharge or Dewatering shall include compliance with Santa Ana Regional Water Quality Board Order No. R8-2009-0003.

29.2 General Requirements - All activities performed by the Contractor for this project shall conform to the requirements of the State-wide National Pollutant Discharge Elimination System (NPDES) General Permit (Board Order No. 2009-0009-DWQ, NPDES No. CAS000002 as amended by Board Order No. 2010-0014-DWQ and Board Order No. 2012-0006-DWQ) for Stormwater Discharges Associated with Construction and Land Disturbance Activities, hereafter referred to as the "General Permit", issued by the SWRCB. This General Permit regulates both stormwater and non-stormwater discharges associated with Contractor's construction activities. This General Permit can be downloaded at http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

The PRDs mentioned above consist of:

1. Notice of Intent
2. LUP Project Area or Project Section Area Type Determination (General Permit, Attachment A.1)
3. Site Map
4. Drawing(s)
5. Stormwater Pollution Prevention Plan (SWPPP) (Attachment A, Section K.1 of the General Permit)
6. Contact Information
7. Annual Fee
8. Signed Certification Statement

Notice of Intent - The District will complete and submit the Notice of Intent.

LUP Project Area or Project Section Area Type Determination - Using the methodology in Appendix 1 and Attachment A.1 of the General Permit, the District has calculated the project to be an LUP Type 1 construction project based on returning disturbed areas to pre-construction conditions at the end of the day.

Site Map - The Contractor shall revise District provided site map of the project area if Contractor's Qualified SWPPP Developer (QSD) deems necessary. Site Map shall conform to requirements of General Permit Attachment A, Section B.

Drawings - The Contractor shall revise the District-provided construction drawing(s) detailing the BMP locations if the Contractor's Qualified SWPPP Developer (QSD) deems it necessary. Drawing(s) shall conform to requirements of General Permit Attachment A, Section B.

SWPPP - For the convenience of the Contractor and to expedite the SWPPP preparation and approval, a "90%" SWPPP Template has been prepared by the District. This SWPPP Template has been tailored to the referenced project and can be downloaded from http://rcflood.org/Documents/SWPPP_Template_4000124.pdf or obtained from the District in CD form. Winning bidder will be provided two (2) hard copies and a Word document of the "90%" SWPPP Template to amend. The Contractor shall review and amend this SWPPP Template based on the requirements of the General Permit and per the construction schedule and work plan proposed by the Contractor. The Contractor shall then submit a SWPPP certified by the Contractor's QSD which conforms to Section 29.3 for District review and approval.

The Contractor shall amend and finalize the complete "90%" SWPPP Template referenced above. The Contractor shall, at a minimum, provide and/or prepare the following:

1. Name and contact information for the Contractor's Qualified SWPPP Practitioner (QSP) and QSD
2. Contractor name and contact information
3. Contractor site contact person and emergency contact person information
4. Verification of disturbance area due to construction
5. Construction commencement date
6. Anticipated construction completion date
7. Construction Activity Schedule/Best Management Practices (BMPs) Installation Schedule
8. Name and contact information for personnel responsible for pre-storm, post-storm and storm event BMP inspections – this should be the project's QSP
9. Name of the lab responsible for testing any stormwater samples for non-visible pollutants
10. Verification of project risk level and permit type (Linear Underground/Overhead Project (LUP) or Traditional)
11. List of all subcontractors that will be working on the project
12. Review and finalize water pollution control drawings

The SWPPP shall be certified by the Contractor's QSD and implemented by the Contractor's QSP. The SWPPP shall be developed based on the format outlined in the CASQA SWPPP Template located in the California Stormwater Quality Association (CASQA) Construction BMP Handbook Portal and modified as required to meet the LUP specific requirements set forth in the General Permit Attachment A. The portal can be found on the CASQA Website: www.casqa.org. The SWPPP shall identify site specific BMPs to be

implemented during and after construction to minimize the potential pollution of stormwater runoff and downstream receiving waters. The identified BMPs shall be practices designed to minimize or eliminate the discharge of pollutants from the construction site and Contractor's construction activities, including, but not limited to:

1. Good housekeeping practices for solid and sanitary/septic waste management, vehicle and equipment cleaning/maintenance, and material handling and storage.

2. Construction procedures such as stabilized construction access points, scheduling/phasing to minimize areas of soil disturbance, soil stabilization and erosion/sediment control.

The SWPPP shall also stipulate an ongoing program for monitoring and maintenance of all BMPs.

The SWPPP shall be designed to address the following objectives:

1. All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled;
2. Where not otherwise required to be under a Regional Water Board permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
3. Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Conventional Technology (BAT/BCT) standard;
4. Calculations and design details as well as BMP controls for site run-on are complete and correct; and
5. Stabilization BMPs, installed to reduce or eliminate pollutants after construction, are completed.

To demonstrate compliance with requirements of the General Permit, the QSD shall include information in the SWPPP that supports the conclusions, selections, use, and maintenance of BMPs.

The Contractor shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Regional Board inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

Contact Information - The Contractor shall provide the contact information for all contractors and subcontractors responsible for each area of the LUP project. Contact information

shall include the names, telephone numbers, and addresses of contact personnel. Contact Information shall conform to the requirements of General Permit Attachment A, Section B.

Annual Fee - The District will pay any necessary fees.

Signed Certification Statement - The Contractor's QSD shall submit a signed certification certifying the SWPPP is a true, accurate and complete representation of the proposed project and mitigation measures.

In the event the District incurs any Administrative Civil Liability or Mandatory Minimum (fine) imposed by the CRWQCB - Santa Ana Region, as a result of Contractor's failure to fully implement the provisions of this section and permit requirements, "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 Civil Liability. Liability for "Negligent Violations" may be in an amount up to $50,000 per day per deemed occurrence while "Knowing Violations" can result in fines as high as $250,000 and imprisonment.

Stormwater and Non-Stormwater Pollution Control work shall conform to the requirements in the latest version of the CASQA Handbook, entitled **"California Stormwater BMP Handbook – Construction" updated November 2009**. A copy of the "California Stormwater BMP Handbook – Construction", updated November 2009, hereafter referred to as the "CASQA Handbook", may be obtained from CASQA, Post Office Box 2105, Menlo Park, California 94026-2105. Telephone: 650.366.1042. Copies of the CASQA Handbook can also be downloaded from the CASQA Construction BMP Handbook Portal.

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 this section, "Stormwater and Non-Stormwater Pollution Control", including but not limited to, compliance with the applicable provisions of the CASQA Handbook, General Permit, General De Minimus Permit, Federal, State and local regulations. For the purpose of this paragraph, costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the District or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Quality Act.

The Contractor shall become fully informed of and comply with the applicable provisions of the CASQA Handbook, General Permit, General De Minimus Permit, and Federal, State and local regulations that govern the Contractor's activities and operation pertaining to both stormwater and non-stormwater discharges from both the project site and areas of disturbance outside the project limits during construction. The Contractor shall, at all times, keep copies of the General Permit, General De Minimus Permit, approved SWPPP and all amendments at the project site. The SWPPP shall be made available upon request of a representative of the SWRCB, CRWQCB, United States Environmental Protection Agency (USEPA) or local stormwater management agency. Requests by the public shall be directed to the Engineer.

The Contractor is solely and exclusively responsible for any arrangements made between the Contractor and other property owners or entities that result in disturbance of areas or construction activities being conducted outside limits of the designated rights-of-way and temporary construction easements as shown on the project drawings.

The Contractor shall, during work hours, allow authorized agents of the CRWQCB, SWRCB, USEPA or local stormwater management agency, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the construction site and the Contractor's facilities pertinent to the work;
2. Have access to and copy any records required to be kept as specified in the General Permit;
3. Inspect the construction site, including any offsite staging areas or material storage areas, and related soil stabilization practices and sediment control BMPs; and
4. Sample or monitor for the purpose of ensuring compliance with the General Permit.

The Contractor shall notify the Engineer immediately upon request from regulatory agencies to enter, inspect, sample, monitor or otherwise access the project site or the Contractor's records.

29.3 PRDs Preparation and Approval - The Contractor shall prepare and obtain approval of the PRDs as part of the Stormwater and Non-Stormwater Pollution Control work for this contract. The SWPPP shall include an appropriate Monitoring and Reporting Program (M&RP) as required by Section M, "Monitoring and Reporting Requirements" of Attachment A of the General Permit. A guidance document titled "Field Monitoring and Analysis Guidance" is available from the CASQA internet site in their Construction BMP Handbook Portal. The Contractor shall prepare and implement the SWPPP in accordance with the CASQA Handbook, the General Permit and these Detailed Specifications.

In case of conflict between the CASQA Handbook and these Detailed Specifications, the Detailed Specifications shall govern; in case of conflict between these Detailed Specifications and the General Permit, the latter shall govern.

Within five (5) working days after the award of the contract, the Contractor shall submit two (2) copies of the PRDs to the Engineer for review and approval. The Contractor shall allow ten (10) working days for the Engineer to review the PRDs. If revisions are required as determined by the Engineer, the Contractor shall revise and resubmit the PRDs 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) hard copies and one (1) pdf copy of the approved SWPPP to the Engineer prior to the pre-construction meeting. **The Contractor must have approved PRDs prior to the pre-construction meeting.**

The SWPPP shall incorporate BMPs in each of the following categories:

1. Soil stabilization practices;
2. Sediment control practices;
3. Sediment tracking control practices;
4. Wind erosion control practices; and
5. Non-stormwater management, and waste management and disposal control practices.

Specific objectives and minimum requirements for each category of BMPs are described in the CASQA Handbook. The Contractor shall consider the objectives and minimum requirements presented in the CASQA Handbook for each of the above categories. When minimum requirements are listed for any category, the Contractor shall incorporate one or more of the listed minimum BMPs required into the SWPPP and implement them on the project to meet the pollution control objectives for the category. In addition, the Contractor shall consider other BMPs presented in the CASQA Handbook to supplement the minimum BMPs required when necessary to meet the objectives of the SWPPP and maintain compliance with the General Permit. The Contractor shall document the selection process in accordance with the procedure specified in the CASQA Handbook.

The Contractor should not assume that the minimum BMPs required for each category presented in the CASQA Handbook are adequate to meet the pollution control objectives. The Contractor may use other effective BMPs, as approved by the Engineer, in addition to the minimum as required in the CASQA Handbook to achieve the pollution control objectives.

The SWPPP shall include the following items as described in the CASQA Handbook and General Permit:

Section 1 - SWPPP Requirements:

1.1 Introduction
1.2 District's MS4 Permits
1.3 PRDs
1.4 SWPPP Availability and Implementation
1.5 SWPPP Amendments
1.6 Retention of Records
1.7 Required Non-Compliance Reporting
1.8 Annual Report
1.9 Changes to Permit Coverage
1.10 Notice of Termination

Section 2 - Project Information:

2.1 Project and Site Description
2.2 Permits and Governing Documents
2.3 Stormwater Run-on from Offsite Areas

2.4 Findings of the Construction Site Sediment and Receiving Water Risk Determination
2.5 Construction Schedule
2.6 Potential Construction Site Pollutant Sources
2.7 Identification of Non-Stormwater Discharges
2.8 Required Site Map Information

Section 3 - Best Management Practices:

3.1 Schedule for BMP Implementation
3.2 Erosion Control and Sediment Control
3.3 Non-Stormwater Controls, Waste and Material Management
3.4 Post-Construction Stormwater Management Measures

Section 4 - BMP Inspection and Maintenance:

4.1 BMP Inspection and Maintenance

Section 5 - Training

Section 6 - Responsible Parties and Operators:

6.1 Responsible Parties
6.2 Contractor List

Section 7 - Monitoring and Reporting Program (M&RP):

7.1 Objectives
7.2 M&RP Implementation Schedule
7.3 LUP Monitoring and Reporting Requirements
7.4 Monitoring for Non-Visible Pollutants

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, individuals responsible for creating, revising, overseeing, and implementing the SWPPP should participate in applicable training programs and document such training in the SWPPP. A copy of the SWPPP should be located at the construction site.

The following notes (or notes of substantially similar intent) that address pollution prevention to the Maximum Extent Practicable during the construction phase of a project on a year-round basis need to be placed on the Stormwater and Non-Stormwater Pollution Control Drawings:

- Erosion control BMPs shall be implemented and maintained to minimize and/or prevent the entrainment of soil in runoff from disturbed soil areas on construction sites.

- Sediment control BMPs shall be implemented and maintained to prevent and/or minimize the transport of soil from the construction site.
- Stockpiles of soil shall be properly contained to eliminate or reduce sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking or wind.
- Appropriate BMPs for construction-related materials, wastes, spills or residues shall be implemented to eliminate or reduce transport from the site to streets, drainage facilities or adjoining properties by wind or runoff.
- Runoff from equipment and vehicle washing shall be contained at construction sites and must not be discharged to receiving waters or the local storm drain system. Washwaters or rinsate from ready mix, concrete, or cement vehicles must be handled appropriately and may not be discharged to receiving waters or any storm drain system.
- All construction contractor and subcontractor personnel are to be made aware of the required BMPs and good housekeeping measures for the project site and any associated construction staging areas.
- At the end of each day of construction activity all construction debris and waste materials shall be collected and properly disposed in trash or recycle bins.
- Construction sites shall be maintained in such a condition that a storm does not carry wastes or pollutants off the site. Discharges other than stormwater (non-stormwater discharges) are prohibited, except as authorized by an individual NPDES Permit or the State-wide General Permit for Stormwater Discharges Associated with Construction Activity. Potential pollutants include but are not limited to: solid or liquid chemical spills; wastes from paints, stains, sealants, solvents, detergents, glues, lime, pesticides, herbicides, fertilizers, wood preservatives and asbestos fibers; paint flakes or stucco fragments; fuels, oils, lubricants and hydraulic, radiator or battery fluids; concrete and related cutting or curing residues; floatable wastes; wastes from engine/equipment steam cleaning or chemical degreasing; wastes from street cleaning; and super-chlorinated potable water from line flushing and testing. During construction, disposal of such materials should occur in a specified and controlled temporary area onsite physically separated from potential stormwater runoff, with ultimate disposal in accordance with local, State and Federal requirements.
- Discharging contaminated groundwater produced by dewatering groundwater that has infiltrated into the construction site is prohibited. Discharging of contaminated soils via surface erosion is also prohibited.
- The Contractor is required to notify and obtain approval from the District ten (10) days prior to any non-stormwater discharge or dewatering associated with Contractor's construction activities.
- Construction sites shall be managed to minimize the exposure time of disturbed soil areas through phasing and scheduling of grading to the extent feasible and the use of temporary and permanent soil stabilization.
- BMPs shall be maintained at all times. In addition, BMPs shall be inspected prior to predicted storm events and following storm events.

29.4 PRD and Rain Event Action Plan (REAP) Amendments - If the scope or schedule of the project changes, the Contractor shall immediately notify the Engineer. The Engineer will determine if the Contractor will be required to recalculate the Risk Assessment. If it is determined by the Engineer that a new Risk Assessment is required, the Engineer will notify the Contractor to resubmit amended PRDs and in the case that the risk level increases, the Contractor shall comply with additional applicable requirements of the General Permit, including preparation and implementation of REAPs, M&RP, Numeric Action Level (NAL) Exceedance Reports, and annual reporting requirements. The Contractor shall also prepare amendments to the PRDs, both graphically and in narrative form, whenever there is a change in Contractor's construction activities or operations which may result in the discharge of pollutants to surface waters, groundwaters, municipal storm drain systems, or as deemed necessary by the Engineer. The Contractor shall also amend the PRDs if they are in violation of any condition of the General Permit, or has not effectively achieved the objective of reducing pollutants in stormwater discharges. Amendments shall show additional BMPs, revised Contractor's construction activities or operations, including those in areas not shown in the initially approved SWPPP, which are required on the project to effectively control water pollution.

Amendments to the PRDs shall be submitted for review and approval by the Engineer in the same manner specified for the initial approval of the PRDs. The Contractor shall date and attach all approved amendments to any of the PRDs. Upon approval of the amendment, the Contractor shall implement the approved changes, revised construction activities or operations.

29.5 Non-Compliance Reporting - If the project is in non-compliance at any time, the Contractor shall make a written report to the Engineer within two (2) calendar days of identification of non-compliance activities.

29.6 SWPPP Implementation - Upon approval of the SWPPP, the Contractor shall be responsible throughout the duration of the project for placing, installing, constructing, inspecting and maintaining the BMPs as well as conducting the M&RP as included in the SWPPP and any amendments thereto, and for removing and disposing of temporary BMPs. All SWPPP implementation shall be performed or supervised by a QSP. Unless otherwise directed by the Engineer or specified in these Detailed Specifications, the Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of work ordered in accordance with Section 6.05, "TEMPORARY SUSPENSION OF THE WORK", of the General Provisions. Requirements for installation, construction, inspection, maintenance, removal and disposal of BMPs are specified in the CASQA Construction BMP Handbook Portal and these Detailed Specifications.

The Engineer may order the suspension of construction operations if the Contractor fails to comply with the requirements of this section, "Stormwater and Non-Stormwater Pollution Control", as determined by the Engineer.

The Contractor will not be compensated for sampling and analysis work because of the Contractor's failure to properly implement, inspect, maintain and repair BMPs in the approved SWPPP and any amendments thereto, or for failing to store construction materials or wastes in watertight containers.

(a) Stormwater Pollution Control - **The Contractor shall implement soil stabilization practices and sediment control BMPs, including minimum requirements as presented in the CASQA Construction BMP Handbook Portal, on all disturbed areas of the project site throughout the duration of the project.**

Implementation of soil stabilization practices and sediment control BMPs for soil-disturbed areas, including but not limited to, rough graded access roads, slopes, channel inverts, operational inlets and outlets of the project shall be completed prior to soil disturbance. The General Permit requires BMPs to be deployed throughout the duration of the project.

The Engineer may require the Contractor, on a case-by-case basis, to reduce the active, soil-disturbed area limit of the project. The Contractor shall demonstrate the ability and preparedness to fully deploy soil stabilization practices and sediment control BMPs to protect soil-disturbed areas of the project site by maintaining an adequate quantity of soil stabilization and sediment control materials onsite to protect exposed, soil-disturbed areas and a detailed plan for the mobilization of sufficient labor and equipment to fully deploy the required BMPs prior to the onset of precipitation and for the duration of the project.

Throughout the duration of the project, soil-disturbed areas of the project site shall be considered to be inactive whenever soil disturbing activities are expected to be discontinued for a period of fourteen (14) calendar days or more. Areas that will become inactive shall be fully protected with soil stabilization practices such as covering with mulch, temporary seeding, fiber rolls, blankets, etc., within ten (10) calendar days of the discontinuance of soil disturbing activities or two (2) calendar days prior to the onset of precipitation, whichever is first to occur. Areas that will become inactive shall be fully protected with sediment control BMPs within ten (10) calendar days of the discontinuance of soil disturbing activities or two (2) calendar days prior to the onset of precipitation, whichever is first to occur.

Throughout the duration of the project, the project site shall be fully protected with soil stabilization practices and sediment control BMPs. The Contractor shall monitor the weather forecast on a daily basis. The National Weather Service forecast shall be used.

(b) Non-Stormwater Pollution Control - **The Contractor shall implement, year-round and throughout the duration of the project, BMPs included in the SWPPP for sediment tracking, wind erosion, non-stormwater management, and waste management and disposal.**

(c) Inspections and Reporting - The Contractor shall ensure that a QSP regularly inspects the construction site for BMPs identified in the SWPPP to ensure the

proper implementation and functioning of BMPs. The QSP shall identify corrective actions and time frames to address any damaged BMPs or reinitiate any BMPs that have been discontinued. All repairs and design changes shall begin to be implemented within 72 hours of identification.

At a minimum, the Contractor shall inspect the construction site as follows:

1. Prior to a forecast storm;
2. After any precipitation which causes runoff capable of carrying sediment from the construction site;
3. At 24-hour intervals during extended precipitation events; and
4. At a regular interval of once every week.

The construction site inspection checklist provided in the CASQA SWPPP Template shall be used to ensure that the necessary BMPs are being properly implemented and are functioning adequately. The Contractor shall submit one copy of each site inspection record to the Engineer.

(d) Maintenance - The Contractor's QSP shall maintain construction site BMPs identified in the SWPPP to ensure the proper implementation and functioning of BMPs. If the QSP or the Engineer identifies a deficiency in the deployment or functioning of an identified BMP, the QSP shall begin implementing repairs or design changes within 72 hours of identification and complete as soon as possible. The correction of deficiencies shall be at no additional cost to the District.

(e) Training - The Contractor shall ensure that all persons responsible for implementing requirements of the General Permit shall be appropriately trained in accordance with Section VII "Training Qualifications and Certification Requirements" of the General Permit. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. All training shall be documented and included in the SWPPP as an appendix.

The Contractor shall ensure that SWPPPs are written, amended and certified by a QSD. The Contractor shall also ensure that all inspection, maintenance, repair and sampling activities shall be performed or supervised by a QSP. A QSP is a person responsible for non-stormwater and stormwater visual observations, sampling and analysis.

29.7 Non-Stormwater Discharge or Dewatering - **Dewatering activity should only be considered after other methods have been determined to be inadequate for storm drain construction by the Engineer.** If groundwater will be encountered during the project activities, the dewatering activity must be covered by the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant Threat to Water Quality (De Minimus Permit), Santa Ana Regional Water Quality Control Board Order No. R8-2009-0003. The

Contractor shall comply with this Order, and notify and obtain approval from the Engineer fifteen (15) days prior to any non-stormwater discharging of groundwater dewatering. If an emergency or unforeseen dewatering activity that will discharge to Waters of the United States occurs, the Contractor shall contact the Engineer immediately.

When discharging groundwater from dewatering activities to surface waters, the Contractor shall comply with and implement the Monitoring and Reporting Program required under Order No. R8-2009-0003. This Order can be downloaded from http://www.waterboards.ca.gov/santaana/board_decisions/adopted_orders/orders/2009_orders.shtml. Under the Monitoring and Reporting Program, the Contractor shall prepare the monitoring report in accordance with Attachment E of the Order. The Contractor must submit the Monitoring Reports to the Engineer by the 15th day of each month following the monitoring period. The District will submit the Monitoring Reports to the Santa Ana Regional Water Quality Control Board. The Monitoring Reports shall cover the previous month's monitoring activities.

If there is any other form of non-stormwater discharge from the project to surface waters, the Contractor shall immediately contact the Engineer to determine appropriate actions required for coverage under the De Minimus Permit.

Failure of the Contractor to fully comply with this requirement may result in the suspension of construction operations and liability for any associated monitoring, fines, penalties and remediation activities related to the discharge.

29.8 Reports -

(a) Annual Report - The Contractor shall be responsible for preparing an Annual Report to meet the requirements of Section XVI of the General Permit covering the preceding period of construction from July 1st to June 30th. The Annual Report shall be structured in accordance with the CASQA Construction BMP Handbook Portal Section 1.7. The Contractor shall submit two (2) copies of the Annual Report to the Engineer by July 15th of each year for review and approval. The Contractor shall allow ten (10) working days for the Engineer to review the Annual Report. If revisions are required as determined by the Engineer, the Contractor shall revise and resubmit the Annual Report within three (3) working days of receipt of the Engineer's comments. The Contractor shall submit four (4) copies of the approved Annual Report to the Engineer prior to August 15th of each year. **The Contractor shall be responsible for providing an Annual Report to the Engineer for any construction occurring for part of the year after July 1st prior to receiving final payment on the project.**

(b) Monthly Report - The Contractor shall prepare and submit to the Engineer a Monthly Report within five (5) working days of the end of the month including:

1. All visual observation reports;
2. All sampling and analysis reports;

3. All NAL Exceedance Reports; and
4. Summary of changes to the SWPPP and or REAP based on inspection results for the preceding month.

29.9 Payment - The contract lump sum price paid for Stormwater and Non-Stormwater Pollution Control work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in developing, preparing, obtaining approval of, revising and amending the PRDs, and installing, constructing, maintaining, removing and disposing of BMPs as shown in the SWPPP, as specified in the CASQA Handbook, General Permit and these Detailed Specifications, and as directed by the Engineer.

The contract lump sum price paid for Non-Stormwater Discharge or Dewatering shall include full compensation for compliance of Section 29.10, "Non-Stormwater Discharge or Dewatering". **Contractor shall not be paid any portion of the contract lump sum if discharge of groundwater from dewatering activities to surface waters is avoided.**

Monthly payment will be made on a basis of the percentage of work completed on the entire project and subject to the submittal of a complete Monthly Report as specified in Section 29.11(b). Failure to complete or report required visual inspections, monitoring, sampling and analysis requirements, NAL Exceedance Reports, and/or other necessary follow-up actions to ensure that the project stays in compliance with the General Permit can be the basis for reducing monthly progress payments for the project. Monthly progress payments will be reduced by the amount of direct costs, overhead costs and engineering costs incurred by the Engineer to address compliance deficiencies, including costs to conduct inspections, monitoring, reporting and supplemental BMP implementation necessary to comply with the General Permit and costs incurred by the Engineer to address complaints, additional State inspections and violations and/or fines issued by the State or USEPA associated with failure to properly comply with the General Permit. Progress payment reductions can exceed the monthly percentage or total contract lump sum price for Stormwater and Non-Stormwater Pollution Control work.

Payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 30 and SECTION 31 - NOT USED

APPENDIX "A"

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RULE 403

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving (except construction cutting and filling areas, and mining operations)	(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
	(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.
Earth-moving: Construction fill areas:	(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.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
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 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 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 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.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
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 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. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(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.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

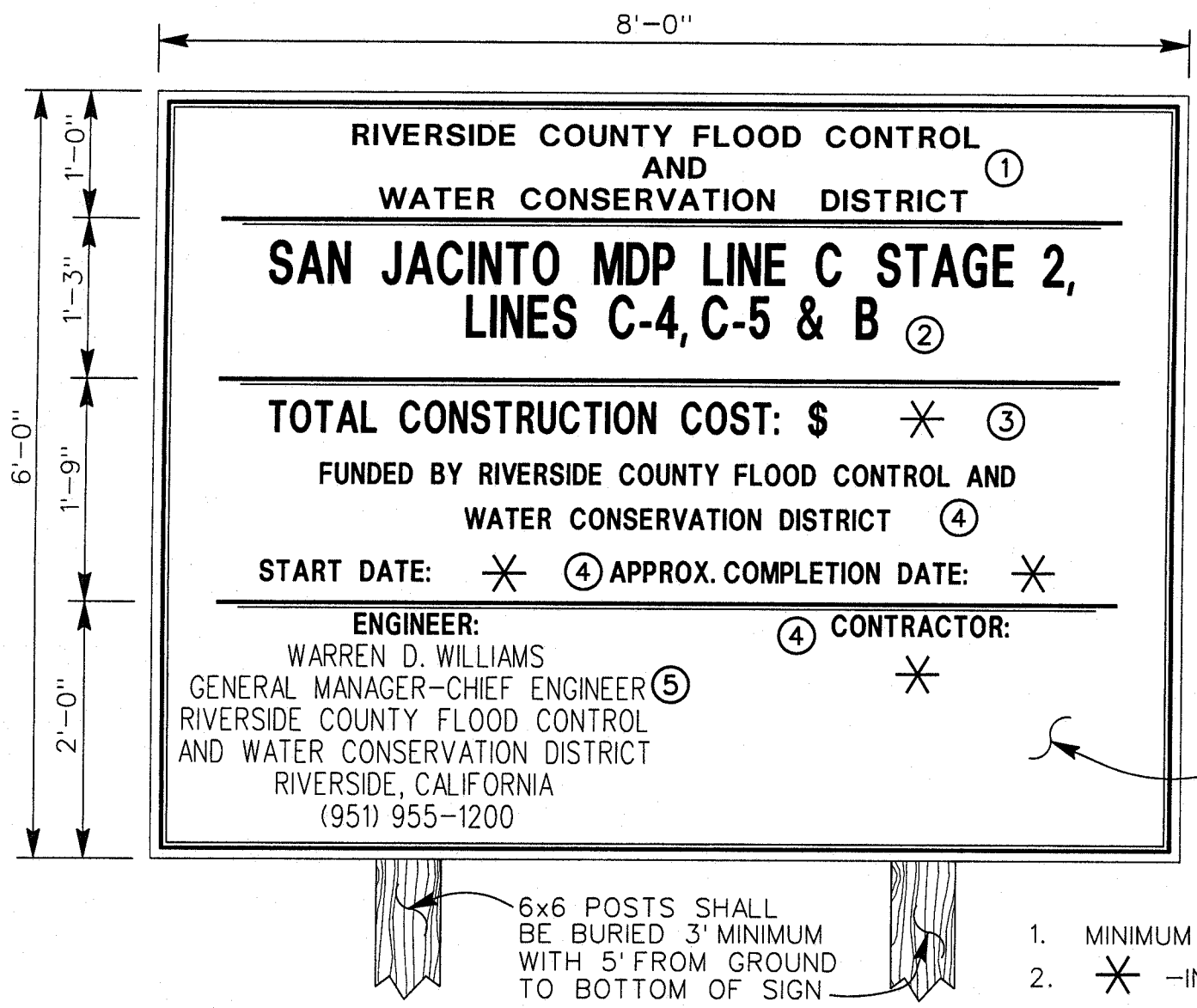
FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES	
Earth-moving	(1A)	Cease all active operations; OR
	(2A)	Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B)	On the last day of active operations prior to a weekend, holiday, or any other period when active 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 per hour during active operation; OR
	(3C)	Stop all vehicular traffic.
Open storage piles	(1D)	Apply water twice 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 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

APPENDIX "B"

PROJECT SIGNS



LETTER SCHEDULE

	SIZE	COLOR
(1)	2"	BLACK
(2)	4"	ROYAL
(3)	3"	ROYAL
(4)	2"	ROYAL
(5)	2"	BLACK

NOTES:

1. MINIMUM SPACING BETWEEN LINES 1".
2. ✳ –INFO. FURNISHED BY ENGINEER
3. ALL LETTERS FILLED AND CENTERED
4. THE STRIPES ARE GOLD AND BLACK ON WHITE BACKGROUND.

APPENDIX "B" PROJECT SIGN

APPENDIX "C"

LOG OF SOIL BORINGS

LOG OF BORING B-01

Elevation: 1605.0 Date(s) Drilled: 5/30/12 Logged by: FWC
Drilling Method: Rotary Auger Hammer Type: Auto-Trip
Drilling Rig: Mobile B-61 Hammer Weight: 140 lb.
Boring Diameter: 8-inches Hammer Drop: 30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	USCS	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
	ASPHALT CONCRETE over DECOMPOSED GRANITE, (4 inches over 12 inches)							
	SM **SILTY SAND,** fine to medium grained with trace clay, olive brown, moist, medium dense.			BULK				
		X		SS	7 8	8	123	
5	SM **SILTY SAND,** fine to medium grained, olive, moist, loose to medium dense.			BULK				
	SP SM **SAND with SILT,** fine to medium grained, olive, slightly moist, loose.	X		SS	4 6	4	108	
10	SP **SAND,** fine to medium grained, olive, moist, loose, interbedded with silt.			BULK				
		X		SS	5 5	12	88	
15	SW **SAND,** fine to coarse grained, olive brown, slightly moist, medium dense.							
		X		SS	9 11	2	103	
20								
		X		SS	10 15	3	113	
25	SM **SILTY SAND,** fine to medium grained with trace clay, olive, moist, medium dense.							
	SC **CLAYEY SAND**, very fine to fine grained, olive brown, moist, medium dense.	X		SS	4 7	9	105	
30	SW SM **SAND with SILT,** fine to coarse grained, olive, slightly moist, medium dense.							
		X		SS	16 17	2	116	
	End of boring at 33.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
Lines B & C
San Jacinto, CA
Project No. R206-014

Figure No. A-3

LOG OF BORING B-02

Elevation:	1597.5	Date(s) Drilled:	5/30/12	Logged by:	FWC
Drilling Method:	Rotary Auger			Hammer Type:	Auto-Trip
Drilling Rig:	Mobile B-61			Hammer Weight:	140 lb.
Boring Diameter:	8-inches			Hammer Drop:	30-inches

DEPTH (ft)	GRAPHIC	USCS	SUMMARY OF SUBSURFACE CONDITIONS This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
			ASPHALT CONCRETE, (11 inches)							
		SM	**SILTY SAND,** fine to medium grained with trace clay, olive, moist, loose, with thin interbeds of silt or clay.			BULK				
5				X		SS	2 3	7	97	
		SM	**SILTY SAND,** very fine to fine grained, olive, moist, loose, with thin interbeds of silt or clay.			BULK				
10				X		SS	3 4	11	94	
15				X		SS	3 5	7	92	
		SM	**SILTY SAND,** fine to coarse grained, olive, moist, loose, with sporadic very thin layers of clay.			BULK				
20				X		SS	3 5	5	89	
25				X		SS	5 7	8	110	
		SM	**SILTY SAND,** fine to medium grained, olive, moist, medium dense, with thin interbeds of sand.							
30		SW	**SAND,** fine to coarse grained, olive, slightly moist, medium dense.	X		SS	6 14	5	105	
				X		SS	13 16	2	112	
			End of boring at 34.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
Lines B & C
San Jacinto, CA
Project No. R206-014

Figure No. A-4

LOG OF BORING B-03

Elevation: 1592.5 Date(s) Drilled: 5/30/12 Logged by: FWC
Drilling Method: Rotary Auger Hammer Type: Auto-Trip
Drilling Rig: Mobile B-61 Hammer Weight: 140 lb.
Boring Diameter: 8-inches Hammer Drop: 30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	USCS	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)	
									ASPHALT CONCRETE, (13 inches)
	SC SM			BULK					**SILTY, CLAYEY SAND**, very fine to fine grained, olive, moist, loose.
5	SW			BULK					**SAND,** fine to coarse grained, olive, slightly moist, loose.
	ML	X		SS	4 3	2	109		**SANDY SILT,** very fine to fine grained, olive, moist, soft.
	SM			BULK					**SILTY SAND,** fine to medium grained, olive, moist, loose.
10		X		SS	2 4	8	107		
	SP SM			BULK					**SAND with SILT,** fine to medium grained, olive, moist, medium dense, with thin interbeds of silty sand.
15		X		SS	7 6	4	104		
	SM								**SILTY SAND,** fine to medium grained, olive, moist, loose to medium dense.
20	SP SM	X		SS	5 6	9	103		**SAND with SILT,** fine to medium grained, light olive, slightly moist, loose.
	SM								**SILTY SAND,** fine to medium grained, olive, moist, loose.
25	SC SM	X		SS	4	11	96		**SILTY, CLAYEY SAND**, fine to medium grained, olive, moist, medium dense.
				BULK	5				
	SM								**SILTY SAND,** fine to coarse grained, olive, moist, medium dense.
30		X		SS	8 12	5	100		
35		X		SS	6	9	106		
					12				End of boring at 35.5 feet. No groundwater or mottling encountered.

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
Lines B & C
San Jacinto, CA
Project No. R206-014

Figure No. A-5

LOG OF BORING B-04

Elevation:	1582.0	Date(s) Drilled:	5/30/12
Drilling Method:	Rotary Auger		
Drilling Rig:	Mobile B-61		
Boring Diameter:	8-inches		

Logged by:	FWC		
Hammer Type:	Auto-Trip		
Hammer Weight:	140 lb.		
Hammer Drop:	30-inches		

DEPTH (ft)	GRAPHIC	USCS	SUMMARY OF SUBSURFACE CONDITIONS This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
			ASPHALT CONCRETE, (15 inches)							
		SC SM	**SILTY, CLAYEY SAND,** very fine to fine grained, dark olive, moist, loose.			BULK				
				X		SS	2 3	13	100	
5										
		ML	**SANDY SILT,** very fine to fine grained, dark olive, very moist, soft, with thin interbeds of silt or clay.			BULK				
				X		SS	2 4	36	87	
10										
		SC	**CLAYEY SAND**, very fine to fine grained, olive, very moist, loose, with thin interbeds of silt or clay.			BULK				
				X		SS	4 5	17	101	
15		ML	**SANDY SILT,** very fine to fine grained, olive, very moist, stiff.			BULK				
				X		SS	6	16	105	
20		SM	**SILTY SAND,** fine to medium grained, olive, moist, medium dense, with sporadic interbeds of sand or silt.			BULK	8			
				X		SS	7 7	7	104	
25										
				X		SS	8 11	7	114	
30										
				X		SS	13 18	10	122	
			End of boring at 34.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
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Project No. R206-014

Figure No.
A-6

LOG OF BORING B-05

Elevation:	1576.0	Date(s) Drilled:	5/30/12	Logged by:	FWC
Drilling Method:	Rotary Auger			Hammer Type:	Auto-Trip
Drilling Rig:	Mobile B-61			Hammer Weight:	140 lb.
Boring Diameter:	8-inches			Hammer Drop:	30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	USCS	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
	SC/SM			BULK				
	SC/SM	X		SS	3 4	8	96	
5								
	CL/ML			BULK				
	CL/ML	X		SS	2 2	16	91	
10								
	SW			BULK				
	SW	X		SS	2 3	18	95	
15								
	SW	X		SS	4 5	21	94	
20								
	CL			BULK				
	SM	X		SS	4 8	12	107	
25								
	SM	X		SS	7 7			

ASPHALT CONCRETE, (3 inches)

SILTY, CLAYEY SAND, very fine to fine grained, olive, moist, loose, with thin interbeds of silty sand.

SANDY SILTY CLAY, very fine grained, olive, moist, soft.

SAND, very fine to fine grained, dark olive, moist, loose, interbedded with sandy silty clay.

SANDY CLAY, fine grained, dark olive, very moist, soft to stiff, interbedded with silty sand.

SILTY SAND, fine to medium grained with trace clay, olive, moist, medium dense.

End of boring at 29.5 feet. No groundwater or mottling encountered.

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
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Figure No. A-7

LOG OF BORING B-06

Elevation: 1571.0 Date(s) Drilled: 5/30/12 Logged by: FWC
Drilling Method: Rotary Auger Hammer Type: Auto-Trip
Drilling Rig: Mobile B-61 Hammer Weight: 140 lb.
Boring Diameter: 8-inches Hammer Drop: 30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	GRAPHIC	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
		SC	**ASPHALT CONCRETE**, (3 inches) **CLAYEY SAND**, very fine to fine grained, dark olive, moist, medium dense.		■	BULK				
		SM	**SILTY SAND,** fine to medium grained, olive brown, moist, loose.							
5				☒		SS	2 3	11	112	
		SC	**CLAYEY SAND**, very fine to fine grained, olive, moist, loose.							
		SM	**SILTY SAND,** fine to medium grained, olive, moist, loose to medium dense.		■	BULK				
10				☒		SS	5	3	114	
		SW SM	**SAND with SILT,** fine to coarse grained, olive, moist, medium dense.		■	BULK	11			
15		SC	**CLAYEY SAND**, very fine to fine grained, olive, moist, medium dense.	☒		SS	7 12	14	104	
		SW SM	**SAND with SILT,** fine to coarse grained, olive, moist, medium dense.							
		SM	**SILTY SAND,** fine to medium grained, olive, moist, medium dense, sporadic very thin layers of clay.		■	BULK				
20				☒		SS	5 6	8	107	
25				☒		SS	7 9	4	100	
			End of boring at 26.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
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Figure No. A-8

LOG OF BORING B-07

Elevation: 1571.0 Date(s) Drilled: 5/30/12 Logged by: FWC
Drilling Method: Rotary Auger Hammer Type: Auto-Trip
Drilling Rig: Mobile B-61 Hammer Weight: 140 lb.
Boring Diameter: 8-inches Hammer Drop: 30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	GRAPHIC	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
			ASPHALT CONCRETE over DECOMPOSED GRANITE, (5.5 inches over 3.5 inches)			BULK				
		SM	**SILTY SAND**, fine to medium grained with trace clay, olive brown, moist, very loose to loose.			BULK				
5		SM	**SILTY SAND**, fine to medium grained, olive, moist, loose, interbedded with sandy clay.	X		SS	2 2	10	101	
		SM	**SILTY SAND**, fine to medium grained with trace clay, olive, moist, loose, interbedded with sandy clay.			BULK				
10				X		SS	2 2	12	106	
		SM	**SILTY SAND**, fine to medium grained, olive, slightly moist, medium dense, with thin interbeds of sandy silt.			BULK				
15				X		SS	6 8	5	110	
		SW	**SAND**, fine to coarse grained, olive, slightly moist, medium dense.	X		SS	13 15	3	109	
20		SM	**SILTY SAND**, fine to medium grained, olive, moist, medium dense, with very thin interbeds of silt.			BULK				
				X		SS	5 7	13	104	
25				X		SS	6 7	14	93	
			End of boring at 29.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

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Figure No. A-9

LOG OF BORING B-08

Elevation:	1566.0	Date(s) Drilled:	5/31/12	Logged by:	FWC
Drilling Method:	Rotary Auger			Hammer Type:	Auto-Trip
Drilling Rig:	Mobile B-61			Hammer Weight:	140 lb.
Boring Diameter:	8-inches			Hammer Drop:	30-inches

DEPTH (ft)	GRAPHIC	USCS	SUMMARY OF SUBSURFACE CONDITIONS This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
		CL	**SANDY CLAY**, very fine to fine grained, dark olive, moist, soft to stiff.			BULK				
5		SM	**SILTY SAND,** fine to medium grained, olive brown, moist, loose to medium dense.			BULK				
				X		SS	6 8	5	92	
10				X		SS	4 5	6	101	
		SP	**SAND,** fine to medium grained, light olive, slightly moist, medium dense.			BULK				
15				X		SS	7 11	2	109	
		SM	**SILTY SAND,** fine to medium grained with trace clay, olive, moist, medium dense.							
20		SP	**SAND,** fine to medium grained, light olive, moist, medium dense.	X		SS	7 11	10	102	
		SM	**SILTY SAND,** fine to medium grained, olive, moist, medium dense.							
25				X		SPT	4 5	7		
			End of boring at 25.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
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Figure No.
A-10

LOG OF BORING B-09

Elevation: 1561.0 Date(s) Drilled: 5/31/12 Logged by: FWC
Drilling Method: Rotary Auger Hammer Type: Auto-Trip
Drilling Rig: Mobile B-61 Hammer Weight: 140 lb.
Boring Diameter: 8-inches Hammer Drop: 30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	USCS	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
	SM			BULK				
	ML	X		SS	3 2	12	99	
5	SP			BULK				
	SM			BULK				
		X		SS	3 4	7	110	
10								
	SC			BULK				
		X		SS	3 4	12	101	
15								
	SW							
		X		SS	7	3	107	
	SM			BULK	6			
20								
	ML	X		SPT	4 5	25		

SM **ARTIFICIAL FILL,** SILTY SAND, fine to very coarse grained, olive, slightly moist, very loose to loose, with asphalt and concrete debis.

ML **SILT with SAND**, very fine grained, olive, moist, soft.

SP **SAND,** fine to medium grained, olive, slightly moist, loose.

SM **SILTY SAND,** very fine to fine grained with trace clay, dark olive, moist, loose, with thin interbeds of clay.

SC **CLAYEY SAND**, very fine to fine grained, dark olive, moist, loose.

SW **SAND,** fine to coarse grained, olive, slightly moist, medium dense.

SM **SILTY SAND,** fine to medium grained, olive, moist, medium dense.

ML **SILT with SAND,** very fine to fine grained, dark olive, very moist, stiff, interbedded with silty sand.

End of boring at 24.5 feet. No groundwater or mottling encountered.

INLAND FOUNDATION ENGINEERING, INC.

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Figure No. A-11

LOG OF BORING B-10

Elevation:	1559.5	Date(s) Drilled:	5/31/12	Logged by:	FWC
Drilling Method:	Rotary Auger			Hammer Type:	Auto-Trip
Drilling Rig:	Mobile B-61			Hammer Weight:	140 lb.
Boring Diameter:	8-inches			Hammer Drop:	30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	USCS	Description	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
	CH	**SANDY CLAY**, very fine grained, dark olive, slightly moist to moist, stiff, rootlets.		■	BULK				
			X	■	SS	4 7	16	99	
	SC	**CLAYEY SAND**, very fine to fine grained, olive, slightly moist to moist, medium dense.							
	SM	**SILTY SAND,** fine to medium grained, olive brown, moist, medium dense.		■	BULK				
5	CH	**SANDY CLAY**, very fine grained, olive, moist, stiff.		■	BULK		20	109	
			X	■	SS	9 15	8	110	
	SC	**CLAYEY SAND**, very fine to fine grained, olive, slightly moist, medium dense.		■	BULK				
10			X	■	SS	13 17	4	107	
	SP	**SAND,** fine to medium grained, light olive, slightly moist, medium dense.							
	SC SM	**SILTY, CLAYEY SAND**, very fine to fine grained, olive, moist, medium dense.		■	BULK				
15	ML	**SILT with SAND,** very fine grained, olive, moist, hard.							
	SW	**SAND,** fine to coarse grained, light olive, slightly moist, medium dense.	X		SS	11 15	11	103	
20			X		SPT	5 7	12		
		End of boring at 22.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

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Figure No. A-12

LOG OF BORING B-11

Elevation: 1555.5 Date(s) Drilled: 5/31/12 Logged by: FWC
Drilling Method: Rotary Auger Hammer Type: Auto-Trip
Drilling Rig: Mobile B-61 Hammer Weight: 140 lb.
Boring Diameter: 8-inches Hammer Drop: 30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	GRAPHIC	USCS	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
		CH	**SANDY CLAY**, very fine grained, dark olive, dry to slightly moist, stiff to hard, strongly cemented.			BULK				
				X		SS	17	5	109	
		SC	**CLAYEY SAND**, very fine to fine grained, olive, slightly moist, medium dense, strongly cemented.			BULK	19			
5										
				X		SS	17	8	113	
		SM	**SILTY SAND,** very fine to fine grained, olive, slightly moist, medium dense to dense, with thin interbeds of sand.			BULK	24			
10										
		CL ML	**SANDY ,SILTY CLAY**, very fine to fine grained, olive, slightly moist, very hard.			BULK				
				X		SS	14	9	107	
		SP	**SAND,** fine to medium grained, olive, slightly moist, dense.			BULK	19			
15										
				X		SS	13	2	105	
							17			
20										
		CL	**SANDY CLAY**, very fine grained, dark olive, moist, stiff, interbedded with clayey sand.	X		SPT	3	26		
							6			
			End of boring at 23.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
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Figure No. A-13

LOG OF BORING B-12

Elevation:	1548.5	Date(s) Drilled:	5/31/12	Logged by:	FWC
Drilling Method:	Rotary Auger			Hammer Type:	Auto-Trip
Drilling Rig:	Mobile B-61			Hammer Weight:	140 lb.
Boring Diameter:	8-inches			Hammer Drop:	30-inches

SUMMARY OF SUBSURFACE CONDITIONS

This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered and is representative of interpretations made during drilling. Contrasting data derived from laboratory analysis may not be reflected in these representations.

DEPTH (ft)	USCS	Description	SAMPLES: DRIVE SAMPLE	SAMPLES: BULK SAMPLE	SAMPLES: SAMPLE TYPE	BLOWS/6"	MOISTURE (%)	DRY UNIT WT. (pcf)	RELATIVE COMPACTION (%)
	SC	**CLAYEY SAND**, very fine grained, dark olive, slightly moist, dense.			BULK				
	SW	**SAND,** fine to coarse grained, olive, slightly moist, dense.	X		SS	25	6	118	
					BULK	35			
5	ML	**SANDY SILT,** very fine to fine grained, dark olive, slightly moist, hard, interbedded with sand or silty sand.			BULK				
			X		SS	9	2	104	
						16			
	SM	**SILTY SAND,** very fine to fine grained, olive, moist, medium dense, with thin interbeds of sand.			BULK				
10			X		SS	15	4	106	
						20			
	SM	**SILTY SAND,** fine to medium grained, dark olive, moist, dense.							
15			X		SS	16	4	112	
						20			
	CL	**SANDY CLAY**, very fine to fine grained, dark olive, moist, stiff, interbedded with silty sand.							
20			X		SPT	4	24		
						6			
		End of boring at 23.5 feet. No groundwater or mottling encountered.							

INLAND FOUNDATION ENGINEERING, INC.

San Jacinto MDP
Lines B & C
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Figure No. A-14

APPENDIX "D"

CALTRANS ENCROACHMENT PERMIT

STATE OF CALIFORNIA · DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT

TR-0120 (REV. 6/2012)

Permit No.	08-13-N-TK-0609
Dist/Co/Rte/PM	08-RIV-79 PM 26.3
Date	09/10/2013
Fee Paid	$ EXEMPT
Deposit	$ EXEMPT
Performance Bond Amount (1)	$ 0.00
Payment Bond Amount (2)	$ 0.00
Bond Company	
Bond Number (1)	
Bond Number (2)	

In compliance with:

☒ Your application of August 5, 2013

☐ Utility Notice No. _____ of _____

☐ Agreement No. _____ of _____

☐ R/W Contract No. _____ of _____

TO:

Riverside County Flood Control and Water Conservation District
1995 Market St
Riverside, CA 92501
Attn: Robert J. Cullen 951-755-1200

, PERMITTEE

and subject to the following, PERMISSION IS HEREBY GRANTED to:

Enter onto State Route 79 (SR-79) right-of-way for the placement and removal of temporary traffic control devices at SR-79 and Menlo Avenue in the City of Hemet, County of Riverside, as shown on the plans date stamped, September 9, 2013 by the Caltrans District 8 Encroachment Permits Office and/or as directed by the Caltrans representative.

Notwithstanding General Provision #4, your contractor is required to apply for and obtain an encroachment permit prior to start work. A fee/deposit of $492.00 for processing and inspection is required at the time of application.

A pre-job meeting with the assigned Caltrans Representative, Martin Morris, (909) 383-4207, is required at least 7 days prior to start of any work under this permit! Failure to do so may result in permit revocation with no prejudice.

THIS PERMIT IS NOT A PROPERTY RIGHT AND DOES NOT TRANSFER WITH THE PROPERTY TO A NEW OWNER.

The following attachments are also included as part of this permit *(Check applicable)*:

☒ Yes ☐ No General Provisions

☒ Yes ☐ No Utility Maintenance Provisions

☒ Yes ☐ No Storm Water Special Provisions

☒ Yes ☐ No Special Provisions

☐ Yes ☒ No A Cal-OSHA permit, if required: Permit No. _____

☐ Yes ☒ No As-Built Plans Submittal Route Slip for Locally Advertised Projects

☐ Yes ☒ No Storm Water Pollution Prevention Plan / Water Pollution Control Plan

In addition to fee, the permittee will be billed actual costs for:

☐ Yes ☒ No Review

☐ Yes ☒ No Inspection

☒ Yes ☐ No Field Work

(if any Caltrans effort expended)

☐ Yes ☒ No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before September 10, 2014

This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.

No project work shall be commenced until all the other necessary permits and the environmental clearances have been obtained.

PERMIT ENGINEER: Rick Lam

COPIES TO:

File

Maintenance: Hemet

Inspector: Martin Morris

APPROVED:

Basem Muallem, District Director

BY:

RICHARD GOH , P.E., District Permit Engineer

91 1436 (D8 Permit App.)

PAGE 1: ATTACHED TO AND MADE PART OF PERMIT NO. 08-13-N-TK-0609

In addition to the attached General Provisions, the following checked special provisions are applicable:

☒ A PRE-JOB MEETING WITH THE ASSIGNED CALTRANS REPRESENTATIVE, Martin Morris, (909) 383-4207 AT LEAST 7 DAYS IS REQUIRED PRIOR TO START OF ANY WORK UNDER THIS PERMIT. FAILURE TO DO SO WILL RESULT IN PERMIT CANCELLATION AND RESUBMITTAL MAY BE REQUIRED.

☒ Notwithstanding General Provision #4, your contractor is required to apply for and obtain an encroachment permit prior to starting work. A fee/deposit of $ 492 for inspection, and $ _____ for electrical equipment is required at the time of application.

☐ You are required to submit an approved Storm Water Pollution Prevention Plan (SWPPP) for projects with a cumulative disturbed soil area equal or greater than 1 acre, and an approved Water Pollution Control Program (WPCP) for projects with a disturbed soil area less than 1 acre, unless otherwise required by other agencies (RWQCBs, U.S. Army Corps of Engineers, Department of Fish and Game, etc.).

☐ Upon the expiration of this permit, the Permittee is required to apply for the countywide annual maintenance permit for this new facilities installed under the Permit No.: _____.

☐ The Permittee is required to apply for a separate permit to maintain and/or replace in kind of these facilities on each occurrence upon the expiration of this permit.

☒ The Permittee shall provide the stage construction traffic handling plans, work schedule and a list of all sub-contractors to the Department's Representative at the time of the pre-construction meeting or prior to start construction.

☒ All traffic control, signing and striping shall comply with California MUTCD 2012. It is available at: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd.htm

☒ Contractor shall comply with Department 2010 Standard Specifications, Department 2010 Standard Plans, Revised Standard Plans and the project special provisions. The latest Revised Standard Plans are available at: http://www.dot.ca.gov/hq/esc/oe/standards.php

☒ All personnel shall wear hard hats and orange or lime vests, shirts or jackets as appropriate while on State property.

☒ The Permittee's work shall be subordinated to any operations which the Department may conduct and shall not delay, nor interfere with the Department's Forces or Department's Contractors.

☒ Attention is directed to Standard Specifications Section 7-1.11, Preservation of Property, and Business and Professions Code, Section 8771. The Permittee shall physically inspect the work site and locate survey monuments prior to work commencement. Monuments shall be referenced or reset in accordance with the Business and Professions Code.

☒ No lane may be closed or obstructed at any time unless specifically allowed per the encroachment permit, shown in approved traffic control plans, and/or as directed by the Department's Representative.

. ☒ Except for installing, maintaining and removing traffic control devices, any work encroaching within 3 feet of the edge of a travel lane for areas with a posted speed limit below 45mph, or 6 feet of the edge of a travel lane, for areas with a speed limit posted at 45mph or higher, shall require closing of that travel lane. Any work encroaching within 6 feet of the edge of the shoulder, shall require closing of that shoulder. Permittee shall notify the Department's Representative, and obtain approval of, all traffic control, lane closures or detours, at least seven (7) WORKING DAYS prior to setting up of any traffic control.

☒ Traffic control is generally authorized between 9:00 AM and 3:00 PM only on Monday through Thursday and until 1:00 PM on Fridays, excluding holidays except specified in the Permit. Lane closure is not allowed on Saturdays, Sundays and designated holidays. The designated holidays are: January 1st, the third Monday in January, the second and third Mondays in February, March 31, the last Monday in May, July 4th, the first Monday in September, the second Monday in October, November 11th, Thanksgiving Day, the day after Thanksgiving Day, and December 25th. When a fixed holiday falls on Saturday, the preceding Friday shall be designated as holiday.

☒ Should any deviation from these procedures or conditions be observed, all work shall be suspended until satisfactory steps have been taken to ensure compliance.

☒ If time extension is necessary, a request for time extension and the accompanying attachments must be made a minimum of two (2) weeks prior to completion date stated on face of permit. If work has not been started before completion date, the permit will be voided. Failure to comply with rules and regulations stated on permit will jeopardize future permit privileges.

☐ "AS-BUILT" PLANS ARE REQUIRED UPON COMPLETION OF ALL WORK. PLEASE REFER TO THE GENERAL PROVISION TR-0045, ITEM 22 FOR THE "AS-BUILT" REQUIREMENTS. NO FINAL INSPECTION WILL BE PERFORMED UNTIL THE DEPARTMENT IS IN RECEIPT OF "AS-BUILT" PLANS.

☒ No vehicle or equipment shall be stored overnight within the right of way; it shall be removed immediately at the completion of the day's work. Refueling of vehicle or equipment within the right of way is strictly prohibited.

☒ Required traffic control devices shall be installed around fixed objects to warn the motoring public for safety. Personal vehicles of the contractor shall not be parked within freeway right of way.

☒ No materials or waste shall be stockpiled within State right of way.

☒ Except as specifically provided herein, all requirements of the Vehicle Code and other applicable laws must be complied with in all particulars.

☒ When traffic cones or delineators are used to delineate a temporary edge of traffic lane, the line of cones or delineators shall be considered to be the edge of the traffic lane. The permittee shall not reduce the width of the existing lane to less than 10 feet without written approval from the Department's Representative.

☒ Excavations made within the limits of the right of way shall be backfilled and resurfaced to original condition before leaving the work area unless otherwise authorized by the Department's Representative.

☒ Permittee shall be responsible for arranging the services of a qualified traffic control contractor to provide any needed traffic control.

. ☐ The permittee shall arrange a meeting between his field representative, traffic control contractor, Department's Representative and/or CHP at least two (2) weeks prior to start of any work covered under this permit to arrange date and time of starting work and determine appropriate methods of handling traffic. At least 3 working days notice shall be given to the Caltrans representative and/or the CHP, prior to the meeting to allow time to arrange for attendance.

☒ A copy of this permit, complete with all attachments, shall be kept by permittee/contractor working under this permit and must be shown to the Department Permit Inspector, Department's Representatives, or Law Enforcement Officer, on demand.

☒ The permittee shall be responsible for notifying the appropriate utility companies or underground service alert prior to any excavation work.

☐ The permittee shall notify the California Highway Patrol Area Commander at least 72 hours prior to implementing traffic control.

☒ When the work area encroaches upon a sidewalk, walkway, or crosswalk area, special consideration must be given to pedestrian safety. Protective barricades, fencing, handrails and bridges, together with warning and guidance devices and signs must be utilized so that the passageway for pedestrians, especially blind and other physically handicapped, is safe and well defined and shown on the approved permit plan.

☒ Pedestrian walkways and canopies within State Right of Way shall comply with the requirements of the applicable local agency or of the latest edition of the Uniform Building Code whichever contains the higher standards.

[For City or County projects with utility relocations:]
☒ If existing public or private utilities conflict with the construction PROJECT, PERMITTEE will make necessary arrangements with the owners of such utilities for their protection, relocation, or removal. PERMITTEE shall inspect the protection, relocation, or removal of such facilities. Total costs of such protection, relocation, or removal which STATE or PERMITTEE must legally pay, will be borne by PERMITTEE. If any protection, relocation, or removal of utilities is required, including determination of liability for cost, such work shall be performed in accordance with STATE policy and procedure. PERMITTEE shall require any utility company performing relocation work in the STATE's right-of-way to obtain a State Encroachment Permit before the performance of said relocation work. Any relocated utilities shall be correctly located and identified on the as-built plans.

[For other projects with utility relocations:]
☐ If existing public or private utilities conflict with the construction PROJECT, PERMITTEE will make necessary arrangements with the owners of such utilities for their protection, relocation, or removal. PERMITTEE shall inspect the protection, relocation, or removal of such facilities. Total costs of such protection, relocation, or removal shall be borne by PERMITTEE in compliance with the terms of the Highway Encroachment Permits, Case Law, Public Utility Regulations, and Property Rights. PERMITTEE shall require any utility company performing relocation work in the STATE's right-of-way to obtain a State Encroachment Permit before the performance of said relocation work. Any relocated utilities shall be correctly located and identified on the as-built plans.

PERMIT NO.: 08-13-N-TK-0609

CO/RTE/PM: 08/RIV/79/26.3

PRECONSTRUCTION MEETING AGREEMENT

I, _____, acting as an authorized agent for the permittee,_____ , do hereby agree to personally accomplish or have another designated person arrange for all involved company representatives to attend a pre-construction meeting with the authorized Department's Representative at_____ , as specified on this permit. Such meeting must be held two (2) days or more prior to the planned start of the work on this project. The Authorized Department's Representative shall have complete authority to determine whether the permit conditions, either implied or written, have been complied with. The Department's Representative may then allow the permit work to proceed as appropriate. The Pre-construction Meeting Record below must be signed by both the Department's Representative and the permittee before the permit work may start.

I have read and understand the attached General Provisions TR-0045 and other attached prosivions of this permit.

This agreement or a copy thereof, must be mailed back to the **Department's District 8 Encroachment Permit Office at 464 W. 4th. Street, MS 619, San Bernardino, CA 92401-1400**, within three (3) working days prior to the pre-construction meeting. Failure to return this form could delay the release of your bonds. A copy of this document shall be at the job site at all times when work is in progress and failure to do so may result in the suspension of work, as directed by the Department's Representative.

It is the permittee's responsibility to insure that the Department's Representative is notified of work completion and that the attached Completion Notice is mailed to the Department's Permit office.

Signature Date

Print or Type Name

Position or Title

PRECONSTRUCTION MEETING RECORD

Department's Representative Date

Permittee's Representative Date

Date Work May Begin: _____

-

-

PERMIT NO.: 08-13-N-TK-0609
CO/RTE/PM: 08/RIV/79/26.3

DEPARTMENT OF TRANSPORTATION-DISTRICT 8
ENCROACHMENT PERMITS OFFICE
464 W. 4th. Street, MS 619
San Bernardino, CA 92401-1400

100% COMPLETION NOTICE

Work on Permit No.: 08-13-N-TK-0609 has been completed. A final inspection meeting was held on

Permittee's Representative Date

Department's Representative Date

FAILURE TO COMPLETE AND RETURN THIS TO THE DISTRICT PERMITS OFFICE MAY CAUSE A DELAY IN THE RELEASE OF YOUR BONDS.

APPENDIX "E"

EMWD DEWATERING DEMINIMUS

California Regional Water Quality Control Board
Santa Ana Region

Linda S. Adams
Secretary for Environmental Protection

3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (951) 782-4130 • FAX (951) 781-6288 • TDD (951) 782-3221
www.waterboards.ca.gov/santaana

Arnold Schwarzenegger
Governor

2009 MAY 13 PM 2:23

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Recd. Electronic

May 13, 2009

To: Ghaderi, Khos
Javier, Alfred
Joy, Jayne

Khos Ghaderi, Director of Water Operations
Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300

DISCHARGE AUTHORIZATION AND MONITORING AND REPORTING PROGRAM NO. R8-2009-0003-003, UNDER GENERAL PERMIT NO. R8-2009-0003, NPDES NO. CAG998001, FOR EASTERN MUNICIPAL WATER DISTRICT, RIVERSIDE COUNTY

Dear Mr. Ghaderi:

On May 11, 2009, you submitted a complete Notice of Intent to continue discharging wastewater from various sites under the terms and conditions of the Regional Board's renewed general permit, Order No. R8-2009-0003. This Order replaces Order No. R8-2003-0061, under which you previously had authorization to discharge.

Effective immediately, you are authorized to discharge wastewater under the terms and conditions of Order No. R8-2009-0003. Enclosed is Monitoring and Reporting Program (MRP) No. R8-2009-0003-003, which specifies the frequency of sampling and the constituents to be monitored. Modifications to the sampling frequency and constituents to be monitored can be considered on a case-by-case basis.

Please note that changes in the California Water Code require the Regional Board to assess a mandatory minimum penalty of $3,000 for each month your monthly monitoring reports are overdue.

Order No. R8-2009-0003 will expire on March 1, 2014. If you wish to terminate coverage under this general permit prior to that time, please notify us immediately upon project completion so that we can rescind your authorization and avoid billing you an annual fee.

MAIL		ADD. INFO	
BD		ORIG	
CI		W/O	
EN		W/E	
EX		W/CK	
FI		W/ENV	
HR		W/MAP	
LG		ADV. COPY	
OP	X		
RD			
SF			

The Riverside County Flood Control and Water Conservation District has requested that dischargers in Riverside County call Jason Uhley at (951) 955-1273 regarding local agency requirements for this discharge. If you have any questions regarding the Discharge Authorization or the M&RP, please contact Julio Lara of our Compliance Section at (951) 782-4901 or email at Jlara@waterbords.ca.gov.

Sincerely,

for Gerard J. Thibeault
Executive Officer

Enclosures: MRP No. R8-2009-0003-003

cc w/o enc: US EPA Permits Issuance Section (WTR-5) - Doug Eberhardt
Riverside County Flood Control and Water Conservation District – Jason Uhley

cc w/ enc: EMWD – Khos Ghaderi, ghaderik@emwd.org
EMWD – Jayne Joy, joyj@emwd.org
EMWD – Al Javier, javiera@emwd.org

Attachment E – Monitoring and Reporting Program

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List of Tables

Attachment E – Monitoring and Reporting Program (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. General Monitoring Provision

1. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association).

2. All laboratory analyses[1], [2] shall be performed in accordance with test procedures under 40 CFR 136 (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this MRP. In addition, the Regional Water Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with the provision of Water Code Section 13176, or conducted at a laboratory certified for such analyses by the EPA or at laboratories approved by the Regional Water Board's Executive Officer.

4. In conformance with federal regulations 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. For Chromium (VI), the dissolved method in conformance with 40 CFR 136 may be used to measure compliance with the Chromium (VI) limitation.

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1 *For Selenium testing use modified EPA Method 200.8 using a Dynamic Reaction Cell (DRC) with an ICP-MS and with reporting limit below 1 ug/L*

2 *For testing organic volatile compounds use EPA Method 8260B and report entire suite of detected constituents*

5. The Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[3] specified in Attachment "H" for priority pollutants with effluent limitations in this Order, unless an alternative reporting level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall use the ML values, and their associated analytical methods, listed in Attachment "H" that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value and its associated analytical method, listed in Attachment "H" shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

6. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
   b. Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[4], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.
   c. Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

7. The Discharger shall submit to the Regional Water Board reports necessary to determine compliance with effluent limitations in this Order. The Discharger shall report with each sample result:

   a. The reporting level achieved by the testing laboratory; and
   b. The laboratory's current MDL, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).

---

3 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

4 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of April 11, 2007.*

8. For receiving water monitoring and for those priority pollutants without effluent limitations, the Discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007)[5]. In situations where the most stringent applicable receiving water objective (freshwater or human health (consumption of organisms only), as specified for that pollutant in 40 CFR 131.38[6] is below the minimum level value specified in Attachment "H" and the Discharger cannot achieve an MDL value for that pollutant below the ML value, the Discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.

9. The Discharger shall have, and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Regional Water Board or EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.

10. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when compliance with the time schedule has been achieved.

11. The Discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years (this retention period supercedes the retention period specified in Section IV.A. of Attachment D) from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Regional Water Board at any time. Records of monitoring information shall include:

    a. The information listed in Attachment D- IV Standard Provisions – Records, subparagraph B. of this Order;
    b. The laboratory which performed the analyses;
    c. The date(s) analyses were performed;
    d. The individual(s) who performed the analyses;
    e. The modification(s) to analytical techniques or methods used;
    f. All sampling and analytical results, including
        (1) Units of measurement used;
        (2) Minimum reporting level for the analysis (minimum level);

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5 *For Selenium testing use modified EPA Method 200.8 using a Dynamic Reaction Cell (DRC) with an ICP-MS and with reporting limit below 1 ug/L*

6 *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

(3) Results less than the reporting level but above the method detection limit (MDL);
(4) Data qualifiers and a description of the qualifiers;
(5) Quality control test results (and a written copy of the laboratory quality assurance plan);
(6) Dilution factors, if used; and
(7) Sample matrix type.

g. All monitoring equipment calibration and maintenance records;
h. All original strip charts from continuous monitoring devices;
i. All data used to complete the application for this Order; and,
j. Copies of all reports required by this Order.
k. Electronic data and information generated by the Supervisory Control And Data Acquisition (SCADA) System.

12. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

13. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. In the event that continuous monitoring equipment is out of service for greater than a 24-hour period, the Discharger shall obtain a representative grab sample each day the equipment is out of service. The Discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. In its monitoring report, the Discharger shall specify the period(s) during which the equipment was out of service and if the problem has not been corrected, shall identify the steps which the Discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.

14. Monitoring and reporting shall be in accordance with the following:

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The monitoring and reporting of influent, effluent, and sludge shall be done more frequently as necessary to maintain compliance with this Order and or as specified in this order.

c. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

d. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

e. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

f. Daily samples shall be collected on each day of the week.

g. Monthly samples shall be collected on any representative day of each month.

h. Quarterly samples: A representative sample shall be taken on any representative day of January, April, July, and October and test results shall be reported in either micrograms/liter (ug/L) or milligrams/liter (mg/L) or nanograms/L (ng/L), as appropriate, by the last day of the month following the month that the sample was taken.

i. Semi-annual samples shall be collected in January and July.

j. Annual samples shall be collected in January to December.

II. MONITORING LOCATIONS

The Discharger shall establish monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order: The sample station shall be located where representative samples of the discharge can be obtained. The volume of daily discharge shall be recorded daily on a permanent log.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. The following shall constitute the effluent monitoring program for discharges other than decant filter backwash wastewater and/or sludge dewatering filtrate water. If there is no discharge see Section VIII.B.5., below.

1. For intermittent (less than daily) discharge flow of less than 25,000 gallons per day (gpd), effluent monitoring is as follows:

Table 1. Effluent Monitoring Program for Flow Less than 25,000 GPD

Parameter	Unit	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Flow	gpd	measured	Each discharge event	--
Total Petroleum Hydrocarbons[7]	µg/L	Grab	Once monthly, see also Section IV.A.3.	EPA METHOD 8015 Modified
Oil and Grease[8]	mg/L	Grab	"	See Section I.A.2. above, of this MRP
Total Residual Chlorine[9]	mg/L	Grab	"	See Section I.A.2. above, of this MRP
Total Suspended Solids	mg/L	"	"	"
Total Inorganic Nitrogen (TIN)	mg/L	"	Annually, see also Section IV.A.3.	"
Sulfate	mg/L	"	"	"
pH	Std. Units	"	"	"
Total Dissolved Solids	mg/L	Grab	Annually, see also Section IV.A.3.	"
Hardness[10]	mg/L	"	"	"
Pollutants listed in Attachment "I"	µg/L	Grab	Once during the first[10] 30 minutes of the discharge and annually thereafter; see also Section IV.A.4. and IV.A.5.	See Section I.A.2. & I.A.3. above, of this MRP

7 *Applies when dewatering operations are near suspected petroleum hydrocarbon contaminated sites or when diesel or gasoline powered generator is used in the dewatering operations.*

8 *Not applicable to discharges from established water supply systems where no oil and grease are expected.*

9 *Unless it is known that chlorine is not in the discharge.*

10 *If the pollutants were monitored at the outset during the application process, the Discharger may submit the analytical results in lieu of the first sampling event.*

2. For discharge flow of 25,000 gpd or more, effluent monitoring is as follows:

Table 2. Effluent Monitoring Program for Flow Over 25,000 GPD

Parameter	Unit	Sample Type See also IV.A.6., below	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Flow	gpd	measured	Daily	–
Total Petroleum Hydrocarbons[11]	µg/L	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	EPA METHOD 8015 Modified
Oil and Grease[12]	mg/L	Grab	"	See Section I.A.3. above, of this MRP
Total Residual Chlorine[13]	mg/L	Grab	"	See Section I.A.3. above, of this MRP
Total Suspended Solids	mg/L	"	During the first 30 minutes of each discharge event, then monthly, see also Section IV.A.3.	"
Total Inorganic Nitrogen (TIN)	mg/L	"	Semi-annually	"
pH	Std. Units	"	Semi-annually	"
Total Dissolved Solids	mg/L	Grab	Semi-annually	"
Hardness[15]	mg/L	"	Semi-annually	"
Pollutants[14] listed in Attachment "I"	µg/L	Grab	Once during the first[15] 30 minutes of the discharge and annually thereafter; see also Section IV.A.4., and IV.A.5.	See Section I.A.2. & I.A.3. above, of this MRP

11 *Applies when dewatering operations are near suspected petroleum hydrocarbon contaminated sites or when diesel or gasoline powered generator is used in the dewatering operations.*

12 *Not applicable to discharges from established water supply systems where no oil and grease are expected.*

13 *Unless it is known that chlorine is not in the discharge.*

14 *For testing organic volatile compounds use EPA Method 8260B and report entire suite of detected constituents.*

15 *If the pollutants were monitored at the outset during the application process, the Discharger may submit e analytical results in lieu of the first sampling event.*

3. Should any of the weekly, bi-monthly, monthly, quarterly or annual monitoring for a specific constituent show effluent concentrations above the effluent limit, the frequency of monitoring for that constituent shall be increased to weekly or as directed by the Executive Officer. To return to the monitoring frequency specified, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee. (See also Provision VII.C.6.a. of the Order regarding conditions that necessitate termination of the discharge.)

4. Should the annual monitoring for a specific constituent show effluent concentrations above the values specified in Attachment I, the monitoring frequency for that constituent shall be increased to weekly for one quarter or as directed by the Executive Officer. To return to the monitoring frequency specified, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee. (See also Provision VII.C.6.a. of the Order regarding conditions that necessitate termination of the discharge.)

5. Should two consecutive annual monitoring results for all the constituents specified in Attachment I show values below those listed in Attachment "I", the Discharger may stop monitoring for the pollutants listed in Attachment I.

6. If the discharge does not last for more than a day, one composite sample shall be taken for the duration of the discharge and shall be analyzed.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS – NOT APPLICABLE

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE.

VII. RECEIVING WATER MONITORING REQUIREMENTS

Whenever there is a discharge and the Discharger asserts that there are no surface waters at the point where the discharge reaches the stream, the Discharger shall record on a permanent log the following information: (a) the date(s), time(s), and duration(s) of the discharge; (b) a description of the location where the discharge(s) percolated into the ground, (c) the climatic condition in the area during the discharge and (d) the name of the individual(s) who performed the observation. This information shall be submitted with the required quarterly report.

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. All analytical data shall be reported with method detection limit[16] (MDLs) and with identification of either reporting level or limits of quantitation (LOQs).

3. Laboratory data for effluent samples must quantify each constituent down to the down to ML specified in Attachment "H" for priority pollutants. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data are unavailable or unacceptable.

4. Discharge monitoring data shall be submitted in a format acceptable to the Regional Water Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.

5. The Discharger shall submit to the Regional Water Board reports necessary to determine compliance with effluent limitations in this Order and shall follow the chemical nomenclature and sequential order of priority pollutant constituents shown in Attachment "G" – Priority Pollutant Lists. The Discharger shall report with each sample result:

   a. The reporting level achieved by the testing laboratory; and
   b. The laboratory's current MDL, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).

6. For non-priority pollutants monitoring, all analytical data shall be reported with identification of method detection limits, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).

7. The State or Regional Water Board may notify the Discharger to discontinue submittal of hard copies of reports. When such notification is given, the Discharger shall stop submitting hard copies of required monitoring reports.

B. Reporting Requirements:

1. All monitoring reports, or information submitted to the Regional Water Board shall be signed and certified in accordance with 40 CFR 122.22 and shall be submitted under penalty of perjury.

2. All reports shall be arranged in a tabular format to clearly show compliance or noncompliance with each discharge limitation.

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16 *The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, 'Definition and Procedure for the Determination of the Method Detection Limit' of 40 CFR 136.*

3. Five days prior to any discharge from locations already reported, the Discharger shall notify the Regional Board staff by phone or by a fax letter indicating the date and time of the proposed discharge.

4. Five days prior to any planned discharge[17] from locations not yet reported, the discharger shall notify the Regional Board staff by phone or by a fax letter indicating the following:

   a. Specific type of the proposed wastewater discharge (see listing on Finding 1 of the Order);
   b. The estimated average and maximum daily flow rates;
   c. The frequency and duration of the discharge;
   d. The affected receiving water(s);
   e. A description of the proposed treatment system (if appropriate); and
   f. A description of the path from the point of initial discharge to the ultimate location of discharge (fax a map if possible);

5. If no discharge occurs during the previous monitoring period, a letter to that effect shall be submitted in lieu of a monitoring report specified in Table 4, below.

6. Noncompliance Reporting

   a. The discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided to the Executive Officer (951-782-4130) and the Office of Emergency Services (1-800-852-7550) orally within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue, and, steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
   b. Any violation of a maximum daily discharge limitation for any of the pollutants listed in this Order shall be included as information that must be reported within 24 hours.
   c. The Regional Water Board may waive the above required written report on a case-by-case basis.

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[17] *For those unplanned discharges, as much prior notification as possible is required before any discharge is initiated.*

7. Except for data determined to be confidential under Section 308 of the Clean Water Act (CWA), all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board and the Regional Administrator of EPA. As required by the CWA, effluent data shall not be considered confidential.

8. Monitoring reports shall be submitted by the 30th day of each month following the monitoring period and shall include:

   a. The results of all chemical analyses for the previous month, and annual samples whenever applicable,

   b. The daily flow data,

   c. A summary of the month's activities including a report detailing compliance or noncompliance with the task for the specific schedule date, and

   d. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and of the actions undertaken or proposed which will bring the discharger into full compliance with requirements at the earliest time, and an estimate of the date when the discharger will be in compliance. The discharger shall notify the Regional Water Board by letter when compliance with the time schedule has been achieved.

9. For Dischargers discharging at a volume equal to or greater than 150,000 gallons per day, the Discharger shall submit semi-annual reports that tabulate all measured flows and measured parameters within the most recent six month period. Where discharges associated with these projects last less than 6 months, a report covering the period of discharges shall be submitted. Copies of these monitoring reports shall be submitted to the Regional Water Board and to the Water Quality Director of the Orange County Water District at P.O. Box 8300, Fountain Valley, CA 92728-8300.

C. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRsin accordance with the requirements described in subsection B.5 below. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit monthly, quarterly, and annual SMRs including

the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 3. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Day after permit effective date	All	30th day of the month following the sampling month.
Hourly	Day after permit effective date	Hourly	30th day of the month following the sampling month.
Daily	Day after permit effective date	Midnight through 11:59 PM or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	30th day of the month following the sampling month.
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	30th day of the month following the sampling month.
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	30th day of the month following the sampling month.
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	April 30 July 30 October 30 January 30
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	July 30 January 30
Annually	See Table 1	See Table 1	30th day of the month following the sampling month.
Per Discharge Event	Anytime during the discharge event or as soon as possible after aware of the event	At a time when sampling can characterize the discharge event	30th day of the month following the sampling month.

D. Other Reports – Not Applicable

ATTACHMENTS FILED

WITH

THE CLERK OF THE BOARD