

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 indicated at the time of the soils investigation for this project at approximately 20 feet below ground surface. 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.

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:

Charter	951.343.5161
Indian Hills Golf Club (Scott Vlahos)	951.360.2093
Jurupa Community Services District (Umesh Shah)	951.685.7434
Jurupa Unified School District	951.360.4100
Riverside County Transportation Department	951.955.6880
Riverside County Sheriff's Department	951.955.2400
SBC (Pacific Bell)	951.359.2255
Southern California Edison	909.357.6191
The Gas Company	909.335.7776
Underground Service Alert	800.227.2600
United States Postal Service	909.360.9451

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.

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.

All trenches shall be backfilled or plated at the end of each work day.

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.

The Contractor is required to provide safe access for the golf course patrons through the construction work area and golf course access must be maintained at all times.

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 Riverside County Transportation Department, Telephone: 951.955.6885 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 Riverside County Transportation Department.

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, 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 return in kind, areas disturbed in the parkways including removing and replacing interfering portions of sprinkler systems. Sod shall be used to restore disturbed grass within parkways. Slopes shall be replanted in kind. 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. Removal and reinstallation of interfering portion of 2 rail fence as shown on Sheet 2 of the drawings and chain link gates as shown on Sheet 5 of the drawings.
5. Removal and replacement in kind of interfering portions of 6' block wall and planter as shown on Sheet 5 of the drawings.
6. Removal and disposal of existing shed, equipment within the shed, the concrete slab and miscellaneous items as shown on Sheet 5 of the drawings.
7. Removal of interfering palm tree as shown on Sheet 2 of the drawings. Trimming and/or removal of interfering trees as shown on Sheet 5 of the drawings.

8. Removal and disposal of energy dissipator structure, drop inlet, turf blocks and interfering existing 12" PVC storm drain as shown on Sheet 6 of the drawings.

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; Roadway Excavation; Backfill; Controlled Low Strength Material (CLSM) and Filter Material.

14.2 General Excavation Requirements - Pipe Excavation shall be in conformance with Section 306 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 manholes and headwalls 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 19-2.03 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 pipe, junction structures, headwalls, wingwalls, manholes and transitions as shown on the drawings, and the disposal of all surplus material. All A.C. and P.C.C. shall be sawcut unless otherwise specified.

14.4 Roadway Excavation - The contract item Roadway Excavation covers the sawcutting, excavation and removal of all materials including asphalt concrete, aggregate base and native material to the depths and dimensions as shown on the drawings.

Excluded from of this contract item is the asphalt concrete and aggregate base excavation within the storm drain trench excavation limits which will be measured and paid by the contract item Excavation.

Included in this item is all subgrade preparation including recompaction of aggregate base and/or native material to 95% relative compaction.

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 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.

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 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%).

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 bedding and shall consist of Portland cement, aggregate, water and fly ash CLSM shall be placed to 12 inches above the top of the reinforced concrete pipe or as shown in the drawings.

Backfill material placed above the CLSM 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 direction.

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 12" above the CLSM.
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 - The contract item Backfill includes all backfill material compacted as specified around the various concrete structures and pipe within the paylines as shown on the drawings.

14.8 Controlled Low Strength Material (CLSM) – The contract item Controlled Low Strength Material (CLSM) covers the placement of CLSM backfill around the pipe or structure 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 two (2) sacks of cement shall be used for each cubic yard of CLSM produced.

CLSM shall have a 28-day compressive strength between 200 to 300 psi.

14.9 Filter Material - The contract item Filter Material includes all filter material to be placed below the reinforced concrete pipe, and various other structures but exclusive of connector pipes and catch basins.

The Contractor should note that the placing of filter material will be determined from field conditions as directed by the Engineer.

The materials for filter material shall conform to Sections 90-2.02 and 90-3.01 of the State Standard Specifications. Grading shall meet the requirements for 1" x No. 4 coarse aggregate as per Section 90-3.02 of the State Standard Specifications. The filter material shall be consolidated and the surface trimmed to final grade as directed by the Engineer.

14.10 Measurement - Excavation; Roadway Excavation; Backfill; Controlled Low Strength Material (CLSM); and Filter Material 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 Roadway Excavation will be the area in square feet of the roadway excavated as shown on the drawings or as directed by the Engineer.

Measurement for payment for the contract item Backfill 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, asphalt concrete and other features for which a separate payment is made will be deducted from the gross volume.

Measurement for payment for the contract item CLSM will be the number of cubic yards of material placed in final position as specified and within the limits of the payment lines as shown on the drawings. The longitudinal limits for CLSM 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. Volume occupied by structures, aggregate base, asphalt concrete and other features for which a separate payment is made will be deducted from the gross volume.

Measurement for payment for the contract item Filter Material will be the number of cubic yards of material placed in final position as specified to the lines, grades and dimensions as shown on the drawings or as directed by the Engineer.

14.11 Payment - The contract prices paid for Excavation; Roadway Excavation; Backfill; CLSM and Filter Material shall include full compensation for all costs incurred under this section.

SECTION 15 - TRENCH SAFETY SYSTEM

15.1 Description - This section covers the contract item Trench Safety System. 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 Measurement and Payment - The contract price paid for the item Trench Safety System 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 Reinforcing Steel and 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:

<u>CONCRETE CLASS</u>	<u>MINIMUM SACKS CEMENT/C.Y.</u>	<u>TYPE OF WORK</u>	<u>POUNDS PER SQUARE INCH</u>
A	6	Grasscrete	4000*
A	6	Catch Basins, Drop Inlets, Junction Structure Nos. 2 and 3, Manholes, Concrete Collars, Footings and Headwalls	3250*
B	5	Local Depressions, Curb and Gutter, Cross Gutters, Driveways, Sidewalk and Miscellaneous Concrete not otherwise specified	3000*
E	2	Controlled Low Strength Material	200-300 max.

*Note: Concrete for use in structures constructed from State of California, Department of Transportation Standard Plans shall have compressive strengths as called for on those plans.

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 90-3.04 of the State Standard Specifications and the following tabulation for each type of work listed:

<u>TYPE OF WORK</u>	<u>COMBINED AGGREGATE GRADING</u>
The inverts of: Junction Structures, Transition Structures and Manholes.	1-1/2" Maximum
Headwalls, Catch Basins, Drop Inlets, Local Depressions, Curb and Gutter, Driveways, Sidewalk, Cutoff Walls, Bulkheads, Collars, and other Miscellaneous Concrete not otherwise specified. All other concrete structures.	1" Maximum
Controlled Low Strength Material, Grasscrete.	3/8" Maximum

Fly Ash, Class F may be substituted for cement, up to a maximum of 15 percent by weight for all concrete. 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.

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 90-6.03 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, except the concrete for the cast-in-place concrete pipe which shall have a slump of 2 inches plus or minus 1 inch.

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 51-1.09 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 F. 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.

<u>Element</u>	<u>Strength or Time</u>
All structures	16 hours

Except where textured form liners are specified on the drawings, the finish on all exposed formed surfaces shall conform to Section 51-1.18B Class 1 Surface Finish of the State Standard Specifications. A tight wood float finish will be required on the surface of trapezoidal channels and bridge decks 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 90-7.01B of the State Standard Specifications. The curing compound shall be No. 5 White Pigmented Curing Compound conforming to the requirements of ASTM Designation: C-309, Type 2, Class B for all concrete surfaces other than for flatwork which shall be coated with a clear or translucent curing compound containing a red fugitive dye.

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.

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 51-1.13 of the State Standard Specifications.

16.10 Class "A" Concrete, Minor Structures - The contract item Class "A" Concrete, Minor Structures includes the complete construction of the catch basins, 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.

16.11 Class "A" Concrete, Pipe Culvert Headwall and Wingwalls - The contract item Class "A" Concrete, Pipe Culvert Headwall and Wingwalls includes the complete construction of the pipe culvert headwall and wingwalls. Included in the pay item is all earthwork, reinforcing steel, concrete and specialty architectural concrete form liner required for the complete construction of this item.

16.12 Class "B" Concrete, Miscellaneous - The contract item Class "B" Concrete, Miscellaneous includes the complete construction of the curb and gutters, cross gutters, sidewalks, driveways, local depressions, collars, pipe plugs, sewer encasements, and any other concrete not specified. Included in the pay item is all earthwork and reinforcing steel required. The subgrade for cross gutters and driveways shall be recompacted to ninety-five percent (95%) relative compaction prior to the placement of concrete.

16.13 Junction Structure No. 2 - The contract item Junction Structure No. 2 covers the complete construction of these structures, including reinforcing steel, exclusive of earthwork.

16.14 Manholes - The contract items Manhole Nos. 1 and 4 cover the complete construction of these various structures, including reinforcing steel, exclusive of earthwork and 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.

16.15 Architectural Concrete Form Liner – The Architectural Concrete Form Liner is the textured form to produce a concrete designed to duplicate closely the appearance of natural stone. The form liner shall have a maximum relief of 2.5 inches and stone sizes ranging from approximately 4 inches to 15 inches. Design and pattern of the concrete surface shall follow the manufacturer's standard drawing and shall be approved by the Engineer. Patterning of simulated stone masonry shall appear natural and non-repeating. Seam lines or match lines will not be apparent when viewing final wall. Molds shall be removable without causing deterioration of surface or underlying concrete. Contractor shall follow manufacturer's specifications for installation of form liners, application of release agent and use of form ties. Additional wall thickness may be required to maintain the clear cover over the reinforcement of the walls.

16.16 Grasscrete – The contract item Grasscrete includes the complete construction of a cast-in-place, monolithic, porous concrete pavement that is continuously reinforced. Included in the pay item are subgrade preparation, concrete, reinforcement and planting of voids. Grasscrete shall have a minimum thickness of 6 inches. Subgrade shall be compacted to at least ninety-five percent (95%) relative compaction. Reinforcement shall be a #3 rebar placed at 18" on center. Grasscrete shall be constructed in accordance with manufacturer's specifications.

16.17 Measurement - Measurement for payment for the contract items 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 item Class "A" Concrete, Pipe Culvert Headwall and Wingwalls will be lump sum.

Measurement for payment for the contract items Junction Structure No. 2; Manhole No. 1; and Manhole No. 4 will be the number of each type constructed as specified.

Measurement for payment for the contract item Grasscrete shall be the number of square feet placed.

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

16.18 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(1) 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.

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 - ASPHALT CONCRETE CONSTRUCTION

19.1 Description - This section covers the contract items Aggregate Base, Class 2; Asphalt Concrete Type "B"; and Temporary Resurfacing.

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, vegetable matter 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 3/4-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 26-1.035 and 26-1.04 of the State Standard Specifications. The aggregate base material shall be compacted as specified in Section 26-1.05 of the State Standard Specifications.

19.3 Asphalt Concrete, Type "B" - The contract item Asphalt Concrete, Type "B" covers the asphalt concrete necessary for the repair and resurfacing of streets damaged or removed due to construction operations.

The Contractor shall not pave any or start paving asphalt concrete until all compaction on the aggregate base are tested and approved by the Engineer.

The Asphalt Concrete shall be Type B and shall be proportioned, mixed, spread and compacted in accordance with the applicable provisions in Section 39 of the State Standard Specifications and these Special Provisions. The gradation of the mineral aggregate shall be one-half inch (1/2-inch) maximum, medium for final course and three-quarter inch (3/4-inch) maximum, coarse for base course.

The Contractor shall furnish and place the asphalt concrete with all asphaltic emulsions required. The asphalt binder to be mixed with aggregate shall conform to these special provisions and shall be of the Performance Grade (PG) designated below or as determined by the Engineer.

- Grade PG 64-10 (Inland Valleys)

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

Liquid asphalt for prime coat shall conform to the provisions in Section 93 "Liquid Asphalts", of the State Standard Specifications and shall be Grade PG 64-10.

Asphalt emulsion for paint binder (tack coat) shall conform to the provisions in Section 94, "Asphaltic Emulsions", of the State Standard Specifications for the rapid-setting or slow-setting type and shall be grade PG 64-10.

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

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

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

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

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

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
Original Binder				
Flash Point, Minimum °C	T48	230	230	230
Solubility, Minimum %	T44	99	99	99
Viscosity at 135°C, Maximum, Pa·s	T316	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C	T315	64	64	70
Minimum G*/sin(Delta), kPa		1.00	1.00	1.00
Rolling Thin Film Oven (RTFO) Test, or ASTM D2827	T240			
Mass Loss, Maximum, %		1.00	1.00	1.00
RTFO Test Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C	T315	64	64	70
Minimum G*/sin(delta), kPa		2.20	2.20	2.20
Ductility at 25°C	T51			
Minimum, cm		75	75	75

Pressurized Aging Vessel (PAV) Aging, Temperature, °C	R28	100	100	110
RTFO Test and PAV Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*sin(delta), kPa	T315	31 5000	28 5000	34 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

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

In lieu of the table of Section 39-6.01, asphalt concrete shall be spread and compacted in the number of layers as outlined in the table below:

Total Thickness Shown on Plans	Minimum No. of Layers	Top Layer Thickness		Next Lower Layer Thickness		All Other Lower Layer Thickness	
		Min.	Max.	Min.	Max.	Min.	Max.
0.23' or less	1	-	-	-	-	-	-
0.24' through 0.44'	2	0.10'	0.21'	0.14'	0.23'	-	-
0.45' or more	3 or more	0.10'	0.20'	0.15'	0.23'	0.20'	0.23'

Finished surfaces shall conform to the straightedge provisions in Section 39-6.03, "Compacting", of the Standard Specifications.

Areas of the top surface of the uppermost layer of asphalt concrete pavement that do not meet the specified surface tolerances shall be brought within tolerance by abrasive grinding. Areas which have been subjected to abrasive grinding shall receive a seal coat. Areas which cannot be brought into specified tolerance by abrasive grinding shall be corrected by removal and replacement.

19.4 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 asphalt concrete paving 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 an Asphalt Concrete item, not Temporary Resurfacing.

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

19.5 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 Asphalt Concrete Type "B" will be the number of tons placed to the lines, grades and dimensions shown on the drawings. The Asphalt Concrete pay quantity shall be determined by using a conversion factor of 144 pounds per cubic foot for all asphalt concrete placed within standard paylines. No measurement will be made for paint binder required for this portion of the work. All charges for asphalt emulsions are included in the price paid for Asphalt Concrete. **No allowance will be made for asphalt concrete 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 19.4 and as directed by the Engineer.

19.6 Payment - The contract prices paid for Aggregate Base, Class 2; Asphalt Concrete, Type "B"; and Temporary Resurfacing 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 Temporary Fencing; and 3-Foot Cable Railing.

20.2 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. Temporary fencing is required at the outlet construction area, at the construction area between the residential properties (approximate Station 22+50 to Station 23+50) and at the drop inlet construction area (Station 23+65.13) and as directed by the Engineer. 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.

The Contractor shall provide temporary fencing to ensure the safety of the site and the safety of the golf course patrons and residents.

20.3 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.

20.4 Measurement - Measurement for payment for the contract item Temporary Fencing will be the number of lineal feet of fencing installed for the temporary fencing and relocations.

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

20.5 Payment - The contract price paid for Temporary Fencing; and 3-Foot Cable Railing shall include full compensation for all costs incurred under this section.

SECTION 21 - MISCELLANEOUS

21.1 Description - This section covers the contract items Miscellaneous Iron and Steel; Remodel 4-Inch Vitrified Clay Pipe (VCP) House Connection; Adjust Manhole to Grade; and Adjust Valve to Grade.

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 Remodel 4-Inch VCP House Connection - The contract item Remodel 4-Inch VCP House Connection pertains to the removing of interfering portions of house connections and replacing with new pipe and any mainline modification required. The remodeling shall be done in accordance with the drawings, including excavation, backfill and any concrete encasement but excluding asphalt concrete or aggregate base in this item of work. Only the VCP house connections interfering with the RCB or pipe conduit to be constructed will be measured for payment.

21.4 Adjust Manhole to Grade - The contract item Adjust Manhole to Grade covers all labor, equipment, materials and incidentals required for the complete adjustment of all manholes within the limits of the street improvements to meet the finished street grade. Adjustments shall be performed in accordance with Section 301.1.6 of the Standard Specifications.

21.5 Adjust Valve to Grade - The contract item Adjust Valve to Grade covers all labor, equipment, materials and incidentals required for the complete adjustment of all valves within the limits of the street improvements to meet the finished street grade.

21.6 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 payment for the contract item Remodel 4-Inch VCP House Connection will be the number of lineal feet of 4-inch vitrified clay pipe installed. There will be no separate payment for special fittings or joint materials and modification to the main line.

Measurement for payment for the contract item Adjust Manhole to Grade shall be the number of manholes that are adjusted to meet the finished street grade.

Measurement for payment for the contract item Adjust Valve to Grade shall be the number of valves that are adjusted to meet the finished street grade.

21.7 Payment - The contract prices paid for Miscellaneous Iron and Steel; Remodel 4-Inch VCP House Connection; Adjust Manhole to Grade; and Adjust Valve to Grade shall include full compensation for all costs incurred under this section.

SECTION 22 THROUGH SECTION 25 – NOT USED

SECTION 26 - STONEWORK

26.1 Description - This section covers the contract items Rock Slope Protection of various classes; Filter Blanket, No. 2 Backing; and Rock Slope Protection Fabric.

26.2 General - All rock materials shall meet the quality requirements of Section 72-2.02 of the State Standard Specifications.

Rock materials shall be blocky and predominantly angular in shape. Not more than 25% of the rock shall have a length more than 2.5 times the breadth or thickness. No rock shall have a length exceeding 3.0 times its breadth or thickness. All oversize rocks, as determined by the Engineer, shall be removed.

Rock materials shall be placed on a firm dry foundation in conformance with Method A of Section 72-2.03 of the State Standard Specifications, however, additional placement effort shall be required to meet the lines and grades as shown on the drawings and to fill and chink oversize voids with selected rock to establish a stable interlock. Chinking of voids will not be required for rock specified to be concreted.

Permeable materials such as filter blankets shall be consolidated and the surface trimmed to final grade as directed by the Engineer.

26.3 Rock Slope Protection, 1/4-Ton Class - The contract item Rock Slope Protection 1/4-Ton Class covers the rock furnished and placed as shown on the drawings as specified. Rock shall conform to 1/4-Ton Class, for Method A placement per Section 72-2.02 of the State Standard Specifications.

26.4 Filter Blanket, No. 2 Backing - The contract item Filter Blanket, No. 2 Backing covers the 9-inch filter blanket installed under the Rock Slope Protection.

The filter blanket shall be permeable material conforming to Section 72-2.01 of the State Standard Specifications for No. 2 Backing, and shall be placed to the lines and grades as shown on the plans. Material shall be placed on firm, dry foundation. Soft, spongy material shall be removed and replaced with acceptable compacted material as directed by the Engineer. The cost of foundation preparation shall be included in price bid for excavation and no additional allowance will be made for such work. The permeable material shall be consolidated and the surface trimmed to final grade as shown on the drawings or as directed by the Engineer.

26.5 Rock Slope Protection Fabric - Rock Protection Fabric placed beneath rock shall conform to Type "B" per Section 88-1.04 of the State Standard Specifications with the exception the weight in ounces per square yard shall be a minimum of 10. A six-inch minimum layer of backing material shall be placed over the fabric prior to placing rock unless otherwise shown on the plans.

26.6 Measurement - Measurement for payment for the contract items Rock Slope Protection, 1/4-Ton Class; and Filter Blanket, No. 2 Backing, shall be the number of cubic yards placed as specified.

Measurement for payment for the contract item Rock Slope Protection, Fabric shall be the number of square yards placed as specified. No measurement for payment will be made for laps required for installation or for convenience to the Contractor.

26.7 Payment - The contract prices paid for Rock Slope Protection 1/4-Ton Class; Filter Blanket, No. 2 Backing, and Rock Slope Protection Fabric, shall include full compensation for all costs incurred under this section.

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. 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 20-2.07 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
400 lbs./acre 16-20-0 Commercial Fertilizer
160 lbs./acre Stabilizing binder
132 lbs./acre Seed Mix as follows:

Species	Lbs/ac	P/G
Common Bermuda/Cynodon dactylon	132	98/85

(If required by Fish and Game)

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 the Santa Ana Regional Water Quality Board Order No. R8-2009-2003.

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) 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. Risk Assessment (Section VIII of the General Permit)
2. Site Map
3. Stormwater Pollution Prevention Plan (Section XIV of General Permit)
4. Signed Certification Statement

Risk Assessment – The Contractor shall calculate the project site's sediment risk and receiving water risk during periods of soil exposure (i.e. grading and site stabilization) and use the calculated risks to determine a Risk Level(s) using the methodology in Appendix 1 of the General Permit.

Site Map – The Contractor shall provide a site map of the project area.

Stormwater Pollution Prevention Plan (SWPPP) – The SWPPP shall identify site specific Best Management Practices (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 Qualified SWPPP Developer (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.

Signed Certification Statement – The Contractor shall submit a signed certification (see Appendix "D") certifying the SWPPP was prepared under their direction and that 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 California Stormwater Quality Association (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 handbook can also be downloaded from the CASQA Internet site at <http://www.cabmphandbooks.com/construction.asp>.

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, at reasonable times, 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 Permit Registration Documents (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 Construction Site Monitoring Program (CSMP) as required by Section I, "Monitoring and Reporting Requirements" of Attachment C of the General Permit. A guidance document titled "Field Monitoring and Analysis Guidance Document" is available from the California Stormwater Quality Association internet site at <http://www.casqa.org/LeftNavigation/BMPHandbooksPortal/tabid/200/Default.aspx>. The Contractor shall prepare and implement the SWPPP in accordance with the CASQA Handbook and CSMP, 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) copies 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, CSMP and General Permit:

Section 1 - SWPPP Requirements:

- 1.1 Introduction
- 1.2 Permit Registration Documents
- 1.3 SWPPP Availability and Implementation
- 1.4 SWPPP Amendments
- 1.5 Retention of Records
- 1.6 Required Non-Compliance Reporting
- 1.7 Annual Report
- 1.8 Changes to Permit Coverage
- 1.9 Notice of Termination

Section 2 - Project Information:

- 2.1 Project and Site Description
- 2.2 Stormwater Run-On From Offsite Areas
- 2.3 Findings of the Construction Site Sediment and Receiving Water Risk Determination
- 2.4 Construction Schedule
- 2.5 Potential Construction Site Pollutant Sources
- 2.6 Identification of Non-Stormwater Discharges

Section 3 - Best Management Practices:

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

Section 4 - BMP Inspection, Maintenance, and Rain Event Action Plans:

- 4.1 BMP Inspection and Maintenance
- 4.2 Rain Event Action Plans

Section 5 – Training

Section 6 - Responsible Parties and Operators:

- 6.1 Responsible Parties
- 6.2 Contractor List

Section 7 - Construction Site Monitoring Program:

- 7.1 Purpose
- 7.2 Applicability of Permit Requirements
- 7.3 Monitoring Locations
- 7.4 Safety
- 7.5 Visual Monitoring (Inspections)
- 7.6 Water Quality Sampling and Analysis
- 7.7 Watershed Monitoring Option
- 7.8 Quality Assurance and Quality Control
- 7.9 Reporting Requirements and Records Retention

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 best management practices 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 Storm Water 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 Permit Registration Document (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, Construction Site Monitoring Program (CSMP), 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 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 Construction Site Monitoring Program as included in the SWPPP and any amendments thereto, and for removing and disposing of temporary BMPs. 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 Caltrans Handbooks 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 Caltrans Handbooks, on all disturbed areas of the project site during the rainy season, defined as between October 1st and May 31st.**

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 no later than ten (10) calendar days prior to the start of the rainy season or upon start of applicable Contractor's construction activities for projects which begin either during or within ten (10) calendar days of the rainy season.

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 rainy season, soil-disturbed areas of the project site shall be considered to be nonactive whenever soil disturbing activities are expected to be discontinued for a period of fifteen (15) calendar days or more. Areas that will become nonactive either during the rainy season or within ten (10) calendar days thereof 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 prior to the onset of precipitation, whichever is first to occur. Areas that will become nonactive either during the rainy season or within ten (10) calendar days thereof shall be fully protected with sediment control BMPs within ten (10) calendar days of the discontinuance of soil disturbing activities or prior to the onset of precipitation, whichever is first to occur.

Throughout the rainy season, active soil-disturbed areas of the project site shall be fully protected at the end of each day 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, or an alternative weather forecast proposed by the Contractor may be used if approved by the Engineer. If precipitation is predicted prior to the end of the following workday, construction scheduling shall be modified, as required, and the Contractor shall deploy functioning BMPs prior to the onset of the precipitation.

- (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 regularly inspect the construction site for BMPs identified in the SWPPP to ensure the proper implementation and functioning of BMPs. The Contractor shall identify corrective actions and time frames to address any damaged BMPs or reinitiate any BMPs that have been discontinued.**

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 2 weeks.

The construction site inspection checklist provided in the Caltrans Handbooks 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 shall maintain construction site BMPs identified in the SWPPP to ensure the proper implementation and functioning of BMPs. If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified BMP, the deficiency shall be corrected by the Contractor immediately, or by a later date and time if requested by the Contractor and approved by the Engineer in writing, but not later than the onset of subsequent precipitation events. 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.

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

29.7 Rain Event Action Plan (REAP) - The REAP is applicable to Risk Level 2 construction sites only. The Contractor shall ensure a QSP develop a REAP (see Appendix "E") and submit a copy to the Engineer for review 48 hours prior to any likely precipitation event. The Contractor shall amend and implement the REAP as directed by the Engineer. If no comments are received prior to the precipitation event, the REAP shall be implemented as proposed. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The discharger shall ensure a QSP obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., enter the zip code of the project's location at <http://www.srh.noaa.gov/forecast>).

The Contractor shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:

- a. Site Address
- b. Calculated Risk Level
- c. Site Storm Water Manager Information including the name, company and 24-hour emergency telephone number
- d. Erosion and Sediment Control Provider information including the name, company and 24-hour emergency telephone number
- e. Storm Water Sampling Agent information including the name, company and 24-hour emergency telephone number

29.8 Water Quality Monitoring, Sampling and Analysis – **The Water Quality Monitoring, Sampling and Analysis is applicable to Risk Level 2 construction sites only.** The Contractor shall be responsible for preparing a Construction Site Monitoring Program (CSMP) and implementing the monitoring, sampling and analysis requirements as described in Attachment D of the General Permit. Records of all visual observations and sampling results required by the General Permit shall be kept using the forms contained in Appendix "F" and Appendix "G", respectively. Copies of the forms shall be maintained in the SWPPP and submitted to the Engineer within 24 hours of the visual observation or sampling event.

29.9 Numeric Action Level (NAL) Exceedance Report - **The NAL Exceedance Report is applicable to Risk Level 2 construction sites only.** The Contractor shall be responsible for submitting a NAL Exceedance Report to the Engineer in the event that any effluent sample exceeds an applicable NAL.

- a. The Contractor shall submit all storm event sampling results using the form in Appendix "G" for each discharge point to the Engineer no later than 24 hours after the conclusion of the storm event.
- b. The Contractor shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.
- c. The Contractor shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.
- d. The Contractor shall use the reporting form contained in Appendix "G" and include in the NAL Exceedance Report:
 - i. The analytical method(s), method reporting unit(s) and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit").

- ii. The date, place, time of sampling, visual observation (inspections) and/or measurements, including precipitation.
- iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

29.10 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 at 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 the template included in Appendix "H". 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.

29.11 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 template included in Appendix "I". 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;
 4. Summary of changes to the SWPPP and or REAP based on inspection results for the preceding month.

29.12 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 Handbooks and Sample Contractor's Water Quality CSMP, 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 US EPA 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) PM₁₀ 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 PM₁₀ 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 PM₁₀ 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 PM₁₀ 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 PM₁₀.
 - (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 PM₁₀ 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.	<ul style="list-style-type: none"> ✓ 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.	<ul style="list-style-type: none"> ✓ 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.	<ul style="list-style-type: none"> ✓ 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.	<ul style="list-style-type: none"> ✓ 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	✓ Use tarps or other suitable enclosures on haul trucks
	09-2 Maintain at least six inches of freeboard on haul vehicles; and	✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage
	09-3 Stabilize material while transporting to reduce fugitive dust emissions; and	✓ Comply with track-out prevention/mitigation requirements
	09-4 Stabilize material while unloading to reduce fugitive dust emissions; and	✓ Provide water while loading and unloading to reduce visible dust plumes
	09-5 Comply with Vehicle Code Section 23114.	
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
	11-1 Apply water to unpaved shoulders prior to clearing; and	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs
	11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ 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.	<ul style="list-style-type: none"> ✓ 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.	<ul style="list-style-type: none"> ✓ 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.	<ul style="list-style-type: none"> ✓ 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	<ul style="list-style-type: none"> ✓ 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
	15-2 Stabilize all haul routes; and	
	15-3 Direct construction traffic over established haul routes.	
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and	<ul style="list-style-type: none"> ✓ 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
	16-2 Stabilize soils at the completion of trenching activities.	
Truck loading	17-1 Pre-water material prior to loading; and	<ul style="list-style-type: none"> ✓ 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
	17-2 Ensure that freeboard exceeds six inches (CVC 23114)	
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and	<ul style="list-style-type: none"> ✓ Haul waste material immediately off-site
	18-2 Cover haul vehicles prior to exiting the 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)	<p>(1a) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR</p> <p>(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.</p>
Earth-moving: Construction fill areas:	<p>(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.</p>

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 SIGN

8'-0"

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

①

**PEDLEY HILLS BOLERO DRIVE STORM DRAIN
STAGE 1**

②

TOTAL CONSTRUCTION COST: \$ * ③
FUNDED BY RIVERSIDE COUNTY FLOOD CONTROL AND
WATER CONSERVATION DISTRICT ④

START DATE: * ④ **APPROX. COMPLETION DATE:** *

ENGINEER: ④ **CONTRACTOR:** *

WARREN D. WILLIAMS
GENERAL MANAGER-CHIEF ENGINEER ⑤
RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
RIVERSIDE, CALIFORNIA
(951) 955-1200

6x6 POSTS SHALL
BE BURIED 3' MINIMUM
WITH 5' FROM GROUND
TO BOTTOM OF SIGN

LETTER SCHEDULE

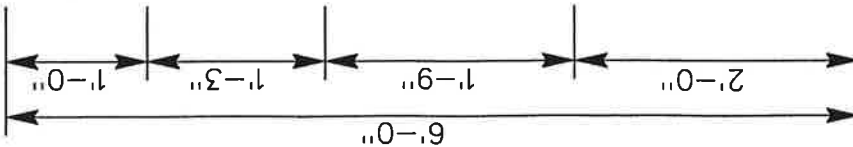
	SIZE	COLOR
①	2"	BLACK
②	4"	ROYAL
③	3"	ROYAL
④	2"	ROYAL
⑤	2"	BLACK

3/4" CDX GRADE
PLYWOOD

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

EXPLORATORY BORING NO. 1

Date Drilled: 4/28/09

Client: Riverside County Flood Control & Water Conservation District

Equipment: CME 55 Drill Rig

Driving Weight / Drop: 140 lbs./30 in.

Surface Elevation(ft): N/A

Logged by: VJR

Measured Depth to Water(ft): 20.0

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES		BLOWS/6 IN.	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
				DRIVE	BULK				
		3" Asphalt Concrete, No Aggregate Base (SM) Silty Sand, fine to medium with clay, red	Asphalt Fill	X	X	12 15 17	9.9 10.8	124	SA, SE Ring, MDC
5		(SM) Silty Sand, fine to medium with coarse, clay, brown	Native	X	X	7 8 14	8.7 9.1	124	Ring Cor.
10				X	X	5 8 10	5.0	119	Ring
15		(SM) Silty Sand, fine with medium, brown		X	X	7 12 15	16.3 15.2	118	Ring
20			▼ Groundwater	X	X	9 15 27	14.7	120	Ring
25		END OF BORING NO REFUSAL, NO BEDROCK FILL TO 6.0', SLIGHT CAVING GROUNDWATER AT 20.0'							
30									

BORING LOG - NO EQUIV & BLOW PER 6 IN. 09189-3.GPJ CHJ.GDT 5/1/09



C.H.J.

PEDLEY HILLS - BOLERO DRIVE STORM DRAIN
RIVERSIDE, CALIFORNIA

Job No.
09189-3

Enclosure
B-1

EXPLORATORY BORING NO. 2

Date Drilled: 4/28/09

Client: Riverside County Flood Control & Water Conservation District

Equipment: CME 55 Drill Rig

Driving Weight / Drop: 140 lbs./30 in.

Surface Elevation(ft): N/A

Logged by: VJR

Measured Depth to Water(ft): 21.5

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES		BLOWS/6 IN.	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
				DRIVE	BULK				
		2" Asphalt Concrete, No Aggregate Base	Asphalt Fill	X	X		10.5		SA, SE
		(SM) Silty Sand, fine to medium, with coarse, red		X	X	16 37 50/4"	11.8	121	Ring
5		(SP-SM) Sand, fine to medium with coarse and silt, gravel to 1", red brown	Native	X	X		7.3		SE
				X	X	50/5"	7.1	Dist.	Ring
10				X	X				
				X	X	44 50/2"	5.2	113	Ring
15				X	X				
				X	X	50/4"	4.9	112	Ring
20				X	X				
			▽ Groundwater	X	X	50/3"	16.0	Dist.	Ring
25		END OF BORING							
		NO REFUSAL, GRANITIC BEDROCK RECOVERED							
		AS (SP-SM) SAND AT 4.0', FILL TO 4.0'							
		SLIGHT CAVING, GROUNDWATER AT 21.5'							
30									

BORING LOG - NO EQUIV & BLOW/PER 6 IN 09189-3.GPJ CHJ.GDT 5/1/09



C.H.J.

PEDLEY HILLS - BOLERO DRIVE STORM DRAIN
RIVERSIDE, CALIFORNIA

Job No.
09189-3

Enclosure
B-2

EXPLORATORY BORING NO. 3

Date Drilled: 4/28/09

Client: Riverside County Flood Control & Water Conservation District

Equipment: CME 55 Drill Rig

Driving Weight / Drop: 140 lbs./30 in.

Surface Elevation(ft): N/A

Logged by: VJR

Measured Depth to Water(ft): N/A

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES		BLOWS/6 IN.	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
				DRIVE	BULK				
		3" Asphalt Concrete, 1" Aggregate Base	Asphalt Fill	X	X	12	7.8		SA, SE Ring, MDC
		(SM) Silty Sand, fine to medium, clay, gravel to 2", red brown		X	X	19	8.2	130	
		(SM) Silty Sand, fine with medium, gravel to 2", red brown		X	X	33	8.2	130	
5		(SM) Silty Sand, fine with medium, gravel to 1", red	Native	X	X	33	7.8		Ring
				X	X	50/5"	8.8	124	
10				X	X	14	8.9	125	Ring
				X	X	24			
				X	X	27			
15				X	X	20	6.4	127	Ring
				X	X	31			
				X	X	29			
20		(SP-SM) Sand, fine to coarse with silt, gravel to 2", gray		X	X				
		END OF BORING		X	X	50/3"	2.6	Dist	Ring
25		NO REFUSAL, BEDROCK RECOVERED AS (SP-SM)							
		SAND AT 18.0', FILL TO 3.0', SLIGHT CAVING							
		NO FREE GROUNDWATER							
30									

BORING LOG - NO EQUIV & BLOW PER 6 IN. 09189-3.GPJ CHJ/GDT 5/1/09



C.H.J.

PEDLEY HILLS - BOLERO DRIVE STORM DRAIN
RIVERSIDE, CALIFORNIA

Job No.
09189-3

Enclosure
B-3

APPENDIX "D"

SWPPP CERTIFICATION

SWPPP Certification

Project Name: _____

Project Number: _____

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Contractor's Signature

Date

Contractor's Name and Title

Telephone Number

APPENDIX "E"

RAIN EVENT ACTION PLAN (REAP)

Rain Event Action Plan (REAP)

Date:		WDID Number:	
Date Rain Predicted to Occur:		Predicted % chance of rain:	

Site Information:

Site Name, City and Zip Code _____ Project Risk Level: Risk Level 2 Risk Level 3

Site Stormwater Manager Information:

Name, Company, Emergency Phone Number (24/7) _____

Erosion and Sediment Control Contractor – Labor Force contracted for the site:

Name, Company, Emergency Phone Number (24/7) _____

Stormwater Sampling Agent:

Name, Company, Emergency Phone Number (24/7) _____

Current Phase of Construction

Check ALL the boxes below that apply to your site.

- | | | |
|---|---|--|
| <input type="checkbox"/> Grading and Land Development | <input type="checkbox"/> Vertical Construction | <input type="checkbox"/> Inactive Site |
| <input type="checkbox"/> Streets and Utilities | <input type="checkbox"/> Final Landscaping and Site Stabilization | <input type="checkbox"/> Other: |

Activities Associated with Current Phase(s)

Check ALL the boxes below that apply to your site (some apply to all Phases).

Grading and Land Development:

- | | | |
|---|--|---|
| <input type="checkbox"/> Demolition | <input type="checkbox"/> Vegetation Removal | <input type="checkbox"/> Vegetation Salvage-Harvest |
| <input type="checkbox"/> Rough Grade | <input type="checkbox"/> Finish Grade | <input type="checkbox"/> Blasting |
| <input type="checkbox"/> Soil Amendment(s): | <input type="checkbox"/> Excavation (_____ ft) | <input type="checkbox"/> Soils Testing |
| <input type="checkbox"/> Rock Crushing | <input type="checkbox"/> Erosion and Sediment Control | <input type="checkbox"/> Surveying |
| <input type="checkbox"/> Equip. Maintenance/Fueling | <input type="checkbox"/> Material Delivery and Storage | <input type="checkbox"/> Other: |

Streets and Utilities:

- | | | |
|--|---|--|
| <input type="checkbox"/> Finish Grade | <input type="checkbox"/> Utility Install: water-sewer-gas | <input type="checkbox"/> Paving Operations |
| <input type="checkbox"/> Equip. Maintenance/Fueling | <input type="checkbox"/> Storm Drain Installation | <input type="checkbox"/> Material Delivery & Storage |
| <input type="checkbox"/> Curb and Gutter/Concrete Pour | <input type="checkbox"/> Masonry | <input type="checkbox"/> Other: |

Vertical Construction:

- | | | |
|---|-------------------------------------|--|
| <input type="checkbox"/> Framing | <input type="checkbox"/> Carpentry | <input type="checkbox"/> Concrete/Forms/Foundation |
| <input type="checkbox"/> Masonry | <input type="checkbox"/> Electrical | <input type="checkbox"/> Painting |
| <input type="checkbox"/> Drywall/Interior Walls | <input type="checkbox"/> Plumbing | <input type="checkbox"/> Stucco |
| <input type="checkbox"/> Equip. Maintenance/Fueling | <input type="checkbox"/> HVAC | <input type="checkbox"/> Tile |
| <input type="checkbox"/> Exterior Siding | <input type="checkbox"/> Insulation | <input type="checkbox"/> Landscaping & Irrigation |
| <input type="checkbox"/> Flooring | <input type="checkbox"/> Roofing | <input type="checkbox"/> Other: |

Final Landscaping & Site Stabilization:

- | | | |
|--|---|--|
| <input type="checkbox"/> Stabilization | <input type="checkbox"/> Vegetation Establishment | <input type="checkbox"/> E&S Control BMP Removal |
| <input type="checkbox"/> Finish Grade | <input type="checkbox"/> Storage Yard/ Material Removal | <input type="checkbox"/> Landscape Installation |
| <input type="checkbox"/> Painting and Touch-Up | <input type="checkbox"/> Irrigation System Testing | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Drainage Inlet Stencils | <input type="checkbox"/> Inlet Filtration | <input type="checkbox"/> Perm. Water Quality Ponds |
| <input type="checkbox"/> Other: | <input type="checkbox"/> Other: | <input type="checkbox"/> Other: |

Inactive Construction Site:

- | | | |
|--|--|--|
| <input type="checkbox"/> E & S Control Device Installation | <input type="checkbox"/> Routine Site Inspection | <input type="checkbox"/> Trash Removal |
| <input type="checkbox"/> E & S Control Device Maintenance | <input type="checkbox"/> Street Sweeping | <input type="checkbox"/> Other: |

Rain Event Action Plan (REAP)

Date:		WDID Number:	
Trades Active on Site during Current Phase(s)			
<i>Check ALL the boxes below that apply to your site</i>			
<input type="checkbox"/> Storm Drain Improvement	<input type="checkbox"/> Grading Contractor	<input type="checkbox"/> Surveyor- Soil Technician	
<input type="checkbox"/> Street Improvements	<input type="checkbox"/> Water Pipe Installation	<input type="checkbox"/> Sanitary Station Provider	
<input type="checkbox"/> Material Delivery	<input type="checkbox"/> Sewer Pipe Installation	<input type="checkbox"/> Electrical	
<input type="checkbox"/> Trenching	<input type="checkbox"/> Gas Pipe Installation	<input type="checkbox"/> Carpentry	
<input type="checkbox"/> Concrete Pouring	<input type="checkbox"/> Electrical Installation	<input type="checkbox"/> Plumbing	
<input type="checkbox"/> Foundation	<input type="checkbox"/> Communication Installation	<input type="checkbox"/> Masonry	
<input type="checkbox"/> Demolition	<input type="checkbox"/> Erosion and Sediment Control	<input type="checkbox"/> Water, Sewer, Electric Utilities	
<input type="checkbox"/> Material Delivery	<input type="checkbox"/> Equipment Fueling/Maintenance	<input type="checkbox"/> Rock Products	
<input type="checkbox"/> Tile Work- Flooring	<input type="checkbox"/> Utilities, e.g., Sewer, Electric	<input type="checkbox"/> Painters	
<input type="checkbox"/> Drywall	<input type="checkbox"/> Roofers	<input type="checkbox"/> Carpenters	
<input type="checkbox"/> HVAC installers	<input type="checkbox"/> Stucco	<input type="checkbox"/> Pest Control: e.g., termite prevention	
<input type="checkbox"/> Exterior Siding	<input type="checkbox"/> Masons	<input type="checkbox"/> Water Feature Installation	
<input type="checkbox"/> Insulation	<input type="checkbox"/> Landscapers	<input type="checkbox"/> Utility Line Testers	
<input type="checkbox"/> Fireproofing	<input type="checkbox"/> Riggers	<input type="checkbox"/> Irrigation System Installation	
<input type="checkbox"/> Steel Systems	<input type="checkbox"/> Utility Line Testers	<input type="checkbox"/> Other:	
Trade Contractor Information Provided			
<i>Check ALL the boxes below that apply to your site.</i>			
<input type="checkbox"/> Educational Material Handout	<input type="checkbox"/> Tailgate Meetings	<input type="checkbox"/> Training Workshop	
<input type="checkbox"/> Contractual Language	<input type="checkbox"/> Fines and Penalties	<input type="checkbox"/> Signage	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

Continued on next page.

Rain Event Action Plan (REAP)

Date of REAP

WDID Number:

Date Rain Predicted to Occur:

Predicted % chance of rain:

Predicted Rain Event Triggered Actions

Below is a list of suggested actions and items to review for this project. Each active Trade should check all material storage areas, stockpiles, waste management areas, vehicle and equipment storage and maintenance, areas of active soil disturbance, and areas of active work to ensure the proper implementation of BMPs. Project-wide BMPs should be checked and cross-referenced to the BMP progress map.

Trade or Activity	Suggested action(s) to perform / item(s) to review prior to rain event
<input type="checkbox"/> Information & Scheduling	<input type="checkbox"/> Inform trade supervisors of predicted rain <input type="checkbox"/> Check scheduled activities and reschedule as needed <input type="checkbox"/> Alert erosion/sediment control provider <input type="checkbox"/> Alert sample collection contractor (if applicable) <input type="checkbox"/> Schedule staff for extended rain inspections (including weekends & holidays) <input type="checkbox"/> Check Erosion and Sediment Control (ESC) material stock <input type="checkbox"/> Review BMP progress map <input type="checkbox"/> Other: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<input type="checkbox"/> Material storage areas	<input type="checkbox"/> Material under cover or in sheds (ex: treated woods and metals) <input type="checkbox"/> Perimeter control around stockpiles <input type="checkbox"/> Other: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<input type="checkbox"/> Waste management areas	<input type="checkbox"/> Dumpsters closed <input type="checkbox"/> Drain holes plugged <input type="checkbox"/> Recycling bins covered <input type="checkbox"/> Sanitary stations bermed and protected from tipping <input type="checkbox"/> Other: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<input type="checkbox"/> Trade operations	<input type="checkbox"/> Exterior operations shut down for event (e.g., no concrete pours or paving) <input type="checkbox"/> Soil treatments (e.g., fertilizer) ceased within 24 hours of event <input type="checkbox"/> Materials and equipment (ex: tools) properly stored and covered <input type="checkbox"/> Waste and debris disposed in covered dumpsters or removed from site <input type="checkbox"/> Trenches and excavations protected <input type="checkbox"/> Perimeter controls around disturbed areas <input type="checkbox"/> Fueling and repair areas covered and bermed <input type="checkbox"/> Other: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<input type="checkbox"/> Site ESC BMPs	<input type="checkbox"/> Adequate capacity in sediment basins and traps <input type="checkbox"/> Site perimeter controls in place <input type="checkbox"/> Catch basin and drop inlet protection in place and cleaned <input type="checkbox"/> Temporary erosion controls deployed <input type="checkbox"/> Temporary perimeter controls deployed around disturbed areas and stockpiles <input type="checkbox"/> Roads swept; site ingress and egress points stabilized <input type="checkbox"/> Other: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<input type="checkbox"/> Concrete rinse out area	<input type="checkbox"/> Adequate capacity for rain <input type="checkbox"/> Wash-out bins covered <input type="checkbox"/> Other: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<input type="checkbox"/> Spill and drips	<input type="checkbox"/> All incident spills and drips, including paint, stucco, fuel, and oil cleaned <input type="checkbox"/> Drip pans emptied <input type="checkbox"/> Other: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____

Other / Discussion / Diagrams

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
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<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

Attach a printout of the weather forecast from the NOAA website to the REAP.

I certify under penalty of law that this Rain Event Action Plan (REAP) will be performed in accordance with the General Permit by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ Date: _____
 Qualified SWPPP Practitioner (Use ink please)

APPENDIX "F"

RISK LEVEL 1 AND 2
VISUAL INSPECTION FIELD LOG SHEET

**Risk Level 1 and 2
Visual Inspection Field Log Sheet**

Date and Time of Inspection: _____ Report Date: _____

Inspection Type:	<input type="checkbox"/> Weekly	<input type="checkbox"/> Before predicted rain	<input type="checkbox"/> During rain event	<input type="checkbox"/> Following qualifying rain event	<input type="checkbox"/> Contained stormwater release	<input type="checkbox"/> Quarterly non-stormwater
------------------	---------------------------------	--	--	--	---	---

Site Information

Construction Site Name: _____

Construction stage and completed activities: _____	Approximate area of exposed site: _____
--	---

Weather and Observations

Date Rain Predicted to Occur: _____ Predicted % chance of rain: _____

Estimate storm beginning: _____ (date and time)	Estimate storm duration: _____ (hours)	Estimate time since last storm: _____ (days or hours)	Rain gauge reading: _____ (inches)
--	--	---	------------------------------------

Observations: If yes identify location

Odors	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Floating material	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Suspended Material	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Sheen	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Discolorations	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Turbidity	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	

Photos Taken:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Photo Reference IDs: _____
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Corrective Actions Identified (note if SWPPP/REAP change is needed)

Inspector Information

Inspector Name: _____	Inspector Title: _____
-----------------------	------------------------

Signature: _____	Date: _____
------------------	-------------

Summary of Risk Level 1 and 2 Monitoring Requirements for Visual Inspections

Type of Monitoring	When
Non-stormwater inspection	Quarterly for each drainage area.
Qualifying rain event: Pre-rain inspection	All drainage areas, BMPs, and stormwater containments within two business days of each qualifying rain event.
Qualifying rain event: Post-rain inspection	All discharge locations within two business days after each qualifying rain event. Visually observe discharge of contained stormwater when discharged.
During rain inspection	See BMP inspection below.
BMP	Weekly and every 24 hours during extended storm events.

APPENDIX "G"

RISK LEVEL 2
EFFLUENT SAMPLING FIELD LOG SHEETS

**Risk Level 2
Effluent Sampling Field Log Sheets**

Construction Site Name:	Date:	Time Start:
-------------------------	-------	-------------

Sampler:

Sampling Event Type:	<input type="checkbox"/> Stormwater	<input type="checkbox"/> Non-stormwater	<input type="checkbox"/> Non-visible pollutant
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Field Meter Calibration

pH Meter ID No./Desc.:	Turbidity Meter ID No./Desc.:
Calibration Date/Time:	Calibration Date/Time:

Field pH and Turbidity Measurements

Discharge Location Description	pH	Turbidity	Time

Grab Samples Collected

Discharge Location Description	Sample Type	Time

Additional Sampling Notes:

Time End:

Summary of Risk Level 2 Monitoring Requirements

Type of Monitoring	When
Effluent sampling: Turbidity	<p>Collect a minimum of three samples per day.</p> <p>Collect runoff samples representative of site discharges.</p>
Effluent sampling: pH	<p>During construction phases with high risk of high pH discharge.</p> <p>Collect a minimum of three samples per day.</p> <p>Collect runoff samples representative of site discharges.</p>
Non-visible pollutants: spill/BMP failure based on pollutant source assessment	<p>Within first two hours of discharge from site.</p> <p>Collect samples of runoff affected by the spilled or released material(s) and runoff unaffected by the spilled or released material(s).</p>
Contained rain water	At time of discharge.
Non-stormwater	At locations where discharged off the site.
Particle size	<p>When sediment basins are used.</p> <p>If needed to justify site specific sediment risk using RUSLE.</p>
Other	Other

APPENDIX "H"

MONITORING REPORT TEMPLATE
FOR
ORDER NO. R8-2009-0003
(DE MINIMUS PERMIT)

**MONITORING REPORT FOR
ORDER NO. R8-2009-0003
GENERAL WASTE DISCHARGE REQUIREMENTS FOR
DISCHARGES TO SURFACE WATERS THAT POSE AN
INSIGNIFICANT THREAT TO WATER QUALITY
(DE MINIMUS PERMIT)**

PROJECT NAME
PROJECT ADDRESS

Submitted to:
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3348

Prepared by:
Contractor's Name
Contractor's Address
Contractor's Address
Contractor's Contact Person
Contractor's Contact Phone Number

Prepared for:
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, California 92501
Contact Person
Contact Phone Number

Date

CONTRACTOR'S CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations" [40 CFR Section 122.22(d)].

Contractor's Name

Contractor's Title

Name: _____

Title: _____

Signature: _____

Date: _____

OWNER'S CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations" [40 CFR Section 122.22(d)].

Signed: _____

Jason E. Uhley
Chief of Watershed Protection Division
Riverside County Flood Control
and Water Conservation District

MONITORING RESULTS:

Monitoring results are reported at the intervals specified in the Monitoring and Reporting Program of the De Minimus Permit. Seven days prior to discharging, contact your contract manager at the District, so they can call the RWQCB with the following information:

1. Specific type of the proposed wastewater discharge
2. The estimated average and maximum daily flow rates
3. The frequency and duration of the discharge
4. The affected receiving water
5. A description of the path from the point of the initial discharge to the ultimate location of discharge (fax map if possible)

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions and to allow ongoing characterization of discharges to determine potential adverse impacts and to determine continued suitability for coverage under the General Permit.

Contractor conducting work for the District must be familiar with the De Minimus Permit and its monitoring requirements and comply with them. **Please be aware that there are different Monitoring Reporting Requirements which are dependent on the amount of flow that is being discharged per day.**

Calculations for all limitations, which require averaging of measurements, utilize an arithmetic mean unless otherwise specified in the De Minimus Permit.

Contractor, acknowledge that samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR §122.41(j)(1)]. Also, Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in the General Permit [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)]. You also acknowledge that records shall be retained for a period of at least five years. Sample results are hereby reported per the requirements of the General Permit.

SUMMARY OF MONITORING RESULTS:

Samples are collected for the following constituents and measured against the following maximum limits. All laboratory analyses are performed in accordance with test procedures under 40 CFR 136 (revised April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants", promulgated by the United States Environmental Protection Agency. In the case of sludge use or disposal, will have used test procedures approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

Chemical, bacteriological, and bioassay analyses are 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.

In conformance with federal regulations 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals are 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.

Organic pollutants are analyzed using EPA Method 8260, as appropriate, and results are reported with ML or PQL and MDL. A chain of custody and sample information record are included in Appendix B of this report. The complete monitoring results are included in Appendix C of this report. Monitoring results are summarized in attached Tables.

Monitoring results are reported at the intervals specified in the Monitoring and Reporting Program (MRP).

Results are reported of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- Must use ML minimum levels for sample results as specified in Attachment H of the General Permit. 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).
- 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.
- Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

For every item of monitoring data where the requirements are not met, this 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 you will be in compliance. The Contractor shall notify the Regional Water Board by letter when compliance with the time schedule has been achieved.

Effluent Limitations and Discharge Specifications

The Contractor will maintain compliance with the following effluent limitations at approved compliance point monitoring locations:

Table 1 - Effluent Limitations Applicable to All Receiving Waters

Constituent	Maximum Daily Concentration Limit in milligrams per liter (mg/L)
Total Dissolved Solids (TDS)	See Sections 4 and 5 below
Total Inorganic Nitrogen (TIN)	See Sections 4 and 5 below
Total Petroleum Hydrocarbons	0.1 mg/L
Total Residual Chlorine <i>(If chlorine is used for treatment or disinfection of wastes)</i>	0.1 mg/L
Suspended Solids	75 mg/L
Sulfides	0.4 mg/L
Oil and Grease	15 mg/L

1. The pH of the discharge shall be within 6.5 and 8.5 pH units (see also Receiving Water Limitations B.2.g.).
2. There shall be no visible oil and grease in the discharge.
3. The discharge of decanted filter backwash wastewater and/or sludge dewatering filtrate water from water treatment facilities shall not contain a total suspended solids maximum daily concentration in excess of 30 mg/L.
4. For discharges to surface waters where groundwater will not be affected by the discharge, the TDS and/or TIN of the effluent shall not exceed the water quality objectives for the receiving surface water where the effluent is discharged, as specified in Table 4-1 of the Basin Plan for the Santa Ana Region.
5. For discharges to surface waters where the groundwater will be affected by the discharge, the TDS and/or TIN concentrations of the effluent shall not exceed the water quality objectives for the surface water where the effluent is discharged nor the affected groundwater management zone, as specified in Table 4-1 of the Basin Plan for the Santa Ana Region. The more restrictive water quality objectives shall govern. However, treated effluent exceeding the groundwater management zone water quality objectives may be returned to the same management zone from which it was extracted without reduction of the TDS or TIN concentrations so long as the concentrations of those constituents are no greater than when the groundwater was first extracted. Incidental increases in the TDS and TIN concentrations (such as may occur during air stripping) of treated effluent will not be considered increases for the purposes of determining compliance with this discharge specification.

6. 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.)
7. 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.)
8. 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.
9. 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.

Records of monitoring information shall include:

- a. **The date, exact place, and time of sampling or measurements;**
- b. **The individual(s) who performed the sampling or measurements;**
- c. **The date(s) analyses were performed;**
- d. **The laboratory and individual(s) who performed the analyses;**
- e. **The analytical techniques or methods used, including any modification(s) to analytical techniques or methods used;**
- f. **The results of such analyses, including measurement used and the minimum level for the analysis, results less than the reporting level but above the method detection limit (MDL), data qualifiers and a description of the qualifiers, quality control test results (and a written copy of the laboratory quality assurance plan), dilution factors, if used, and sample matrix type; and**
- g. **Other requirements as specified in the De Minimus Order's Monitoring and Reporting Program.**

Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by your District Contract Manager for reporting results of monitoring of sludge use or disposal practices.

Noncompliance Reporting

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.

Any unanticipated bypass that exceeds effluent limitations, or any upset that exceeds any effluent limitation, or any violation of a maximum daily discharge limitation for any of the pollutants listed in the General Permit shall be reported within 24 hours to the RWQCB.

PROJECT INFORMATION:

Type of discharge (place check):

- Construction Groundwater Dewatering**
- Other Non-stormwater Dewatering**

Date of initial discharge(s):

Duration/Frequency of discharge(s) (for example daily during working hours):

Estimated maximum daily flow:

Estimated average daily flow:

Sampling Point Location(s): (Identify on exhibit in Appendix A)

Receiving Water:

Summary of the month's activities including a report detailing compliance or noncompliance with the task for the specific schedule date:

Treatment System (if a constituent exceeded an allowable maximum describe additional BMPs that will be deployed to mitigate contaminant and the dates the BMPs are expected to be operational). **BMPs used to mitigate discharged pollutants, if applicable:**
Description, as applicable

Report for (month, year):

The Contractor shall collect samples within 30 minutes of the initiation of a discharge to determine potential constituents. The Contractor will then sample once a month for reporting purposes for the duration of the discharge.

This is the first report for this project

This is the _____ report for this project

This is the final report for this project

If no discharge occurs during the monthly monitoring period, the contractor shall check the line below.

There was no discharge during this reporting period

SUMMARY OF FLOW DATA AND VOLUME OF DISCHARGE

SAMPLE STATION # _____

	Date	Flow rate (gpd)	Volume of Daily Discharge
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

gpd = gallons per day

SUMMARY OF MONITORING RESULTS

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

Date and Time of Sample: _____

Parameter	Unit	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, Units, Respectively	Sample Results
Flow	GPD	Measured	Each discharge event	See Section I.A.2. of the MRP	
Total Petroleum Hydrocarbons	µg/L	Grab	Once monthly or as directed by the Executive Officer thereafter; see also Section IV.A.3.	EPA Method 8015 Modified	
Oil and Grease	mg/L	Grab	Once monthly or as directed by the Executive Officer thereafter; see also Section IV.A.3.	See Section I.A.2. of the MRP	
Total Residual Chlorine (unless it is known that chlorine is not in the discharge)	mg/L	Grab	Once monthly or as directed by the Executive Officer thereafter; see also Section IV.A.3.	See Section I.A.2. of the MRP	
Total Suspended Solids (not applicable if all wastewater will percolate prior to reaching receiving waters)	mg/L	Grab	Once monthly or as directed by the Executive Officer thereafter; see also Section IV.A.3.	See Section I.A.2. of the MRP	
Total Inorganic Nitrogen (TIN)	mg/L	Grab	Once monthly or as directed by the Executive Officer thereafter; see also Section IV.A.3.	See Section I.A.2. of the MRP	
Sulfate	mg/L	Grab	Once monthly or as directed by the Executive Officer thereafter; see also Section IV.A.3.	See Section I.A.2. of the MRP	
pH	Std. Units	Grab	Once monthly or as directed by the Executive Officer thereafter; see also Section IV.A.3.	See Section I.A.2. of the MRP	
Total Dissolved Solids	Mg/L	Grab	Annually see also Section IV.A.3.	See Section I.A.2. of the MRP	
Hardness	µg/L	Grab	Annually see also Section IV.A.3.	See Section I.A.2. of the MRP	

For discharge flow of less than 25,000 gpd the following pollutants also were sampled:

Date and Time of Sample: _____

CONSTITUENT	SAMPLE RESULT (ug/L)
Antimony	
Arsenic	
Cadmium	
Chromium III (only necessary to sample if the discharge is going to freshwater that is not designated at MUN)	
Chromium VI	
Copper	
Lead	
Mercury	
Nickel	
Selenium	
Silver	
Thallium	
Zinc	
Cyanide	
1,1,2-Trichloroethane	
1,1-Dichloroethane	
1,1-Dichloroethylene	
1,2-Dichloroethane	
1,2-Dichloroethylene(cis)	
1,2-Dichloroethylene(trans)	
1,4-Dioxane	
Benzene	

CONSTITUENT	SAMPLE RESULT (ug/L)
Carbon Tetrachloride	
Dibromochloropropane (DBCP)	
Dichlorobromomethane	
Ethylbenzene	
Methyl Isobutyl Ketone	
Methyl Tertiary Butyl Ether (MTBE)	
Naphthalene	
Perchlorate	
Tert Butyl Alcohol (TBA)	
Tetrachloroethylene (PCE)	
Toluene	
Trichloroethylene (TCE)	
Vinyl Chloride	
1,2,3-Trichloropropane (1,2,3- TCP)	
1,3-Dichloropropylene	
1,1,2,2-Tetrachloroethane	
1,2-Dichlorobenzene 600	
1,4-Dichlorobenzene	
1,2,4 -Trichlorobenzene	

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

Date and Time of Sample: _____

Parameter	Unit	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, Units, Respectively	Sample Results
Flow	GPD	Measured	Daily	See Section I.A.3. of the MRP	
Total Petroleum Hydrocarbons	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	mg/L	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	
Total Residual Chlorine (unless it is known that chlorine is not in the discharge)	mg/L	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	
Total Suspended Solids (not applicable if all wastewater will percolate prior to reaching receiving waters)	mg/L	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	
Total Inorganic Nitrogen (TIN)	mg/L	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	
Sulfate	mg/L	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	
pH	Std. Units	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	
Temperature	Degrees F	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	
Total Dissolved Solids	Mg/L	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	
Hardness	µg/L	Grab	During the first 30 minutes of the discharge, then monthly see also Section IV.A.3.	See Section I.A.3. of the MRP	

For discharge flow of 25,000 gpd or more, the following pollutants also were sampled:

Date and Time of Sample: _____

CONSTITUENT	SAMPLE RESULT (ug/L)
Antimony	
Arsenic	
Cadmium	
Chromium III (only necessary to sample if the discharge is going to freshwater that is not designated at MUN)	
Chromium VI	
Copper	
Lead	
Mercury	
Nickel	
Selenium	
Silver	
Thallium	
Zinc	
Cyanide	
1,1,2-Trichloroethane	
1,1-Dichloroethane	
1,1-Dichloroethylene	
1,2-Dichloroethane	
1,2-Dichloroethylene(cis)	
1,2-Dichloroethylene(trans)	
1,4-Dioxane	
Benzene	

CONSTITUENT	SAMPLE RESULT (ug/L)
Carbon Tetrachloride	
Dibromochloropropane (DBCP)	
Dichlorobromomethane	
Ethylbenzene	
Methyl Isobutyl Ketone	
Methyl Tertiary Butyl Ether (MTBE)	
Naphthalene	
Perchlorate	
Tert Butyl Alcohol (TBA)	
Tetrachloroethylene (PCE)	
Toluene	
Trichloroethylene (TCE)	
Vinyl Chloride	
1,2,3-Trichloropropane (1,2,3- TCP)	
1,3-Dichloropropylene	
1,1,2,2-Tetrachloroethane	
1,2-Dichlorobenzene 600	
1,4-Dichlorobenzene	
1,2,4 -Trichlorobenzene	

C. The following shall constitute the effluent monitoring program for discharges from water treatment plants of decant filter backwash wastewater and/or sludge dewatering filtrate water:

Date and Time of Sample: _____

Parameter Unit Sample	Type	Minimum Sampling	Frequency	Required Analytical Test	
Flow	gpd	Measured	Daily	See Section I.A.3. above, of MRP	
Total Residual Chlorine (unless it is known that chlorine is not in the discharge)	mg/L	Grab	During the first 30 minutes of each discharge event	See Section I.A.3. above, of MRP	
Total Suspended Solids (not applicable if all wastewater will percolate prior to reaching receiving waters)	mg/L	Grab	During the first 30 minutes of each discharge event	See Section I.A.3. above, of MRP	
Aluminum	µg/L	Grab	During the first 30 minutes of each discharge event	See Section I.A. 3. above, of this MRP; RL is 50 µg/L	
Iron	µg/L	Grab	During the first 30 minutes of each discharge event	See Section I.A.3. above, of this MRP; RL is 100 µg/L	
Manganese	µg/L	Grab	During the first 30 minutes of each discharge event	See Section I.A.3. above, of this MRP; RL is 20 µg/L	

D. 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 Post Office Box 8300, Fountain Valley, CA 92728-8300.

OTHER PERTINENT INFORMATION:

APPENDIX A

PROJECT MAP

Project Map shall include the following:

- Sampling point location;
- Initial discharge point;
- Ultimate discharge location;
- Path from the point of initial discharge to the ultimate receiving water;
- Treatment system location (as applicable); and
- Any other pertinent information.

Please try to limit your maps to a size of 8.5" x 11".

APPENDIX B

**CHAIN OF CUSTODY AND SAMPLE INFORMATION
RECORD**

APPENDIX C

MONITORING DATA

APPENDIX D

**NOTICE OF INTENT
TO ACCOMPANY
INITIAL MONITORING REPORT**



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION
NOTICE OF INTENT
TO COMPLY WITH THE TERMS AND CONDITIONS OF THE**

- | | |
|--|---|
| <input type="checkbox"/> Riverside County MS4 Permit | <input type="checkbox"/> San Bernardino County MS4 Permit |
| ORDER NO. R8-2010-0033 | ORDER NO. R8-2010-0036 |
| NPDES NO. CAS 618033 | NPDES NO. CAS618036 |

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE TO
SURFACE WATERS
THAT POSE INSIGNIFICANT (DE MINIMUS) THREAT TO WATER QUALITY**

I. PERMITTEE *(Person/Agency Responsible for the Discharge)*

Agency/Company _____

Name: _____

Address/Street _____

City _____ State _____ ZIP _____ Contact Person: _____

Phone: (_____) _____; Email: _____

II. FACILITY

Name: _____

Address/Street _____

City _____ State _____ ZIP _____ Contact Person: _____

Phone: (_____) _____; Email: _____

a. Projected Flow Rate (gpd): _____

b. Receiving Water (identify): _____

III. INDICATE EXISTING PERMIT NUMBER: *(if applicable)*

a. Individual Permit Order No. _____ NPDES No. _____

b. General Permit Order No. R8-2010-003- _____

c. Others (specify) _____

IV. CERTIFICATION:

I certify under penalty of law that I am an authorized representative of the permittee and that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the permittee will comply with the terms and conditions stipulated in Orders No. R8-2009-0003 and (R8-2010-0033 or R8-2010-0036, as applicable) including the monitoring and reporting program issued by the Executive Officer of the Regional Board.

Name: _____ Title: _____
(type or print)

Signature: _____ Date: _____

Email: _____

Remarks: If changes to facility ownership and/or treatment processes were made after the issuance of the existing permit, please provide a description of such changes on another sheet and submit it with this Notice of Intent.

V. OTHER REQUIRED INFORMATION - FOR NEW DISCHARGERS AND FOR NEW DISCHARGES AND LOCATIONS NOT PREVIOUSLY REPORTED BY EXISTING DISCHARGERS.

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to:

- a. A list of constituents and the discharge concentration of each constituent;
- b. The estimated average and maximum daily flow rates at unit of gallons per day(gpd); the frequency and duration of the discharge and the date(s) when discharge will start;
- c. The proposed discharge location(s) as latitude and longitude for each discharge point;
- d. A description of the proposed treatment system (if appropriate);
- e. The affected receiving water; the receiving water(s) shall be
 - 1) receiving storm drain/creek, and/or
 - 2) the ultimate receiving water, such as Santa Ana River, San Jacinto River, Lake Elsinore, Prado Park Lake, etc.;
- f. A map showing the path from the point of initial discharge to the ultimate receiving water. Please try to limit your maps to size of 8.5" x 11".
- g. A list of known or suspected leaking underground tanks and other facilities or operations that have, or may have impacted the quality of the underlying groundwater within 200 feet of the site property lines for projects with expected discharge flow rates of less than 100,000 gallons per day and within 500 feet of the site property lines for projects with expected discharge flow rates of greater than 100,000 gallons per day.
- h. Any other information deemed necessary by the Executive Officer.

VI. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your application, pursuant to Division 7, Section 13260 of the California Water Code.

De Minimus Permit Discharge Characterization Summary
Construction Groundwater Dewatering Projects

District Project Name: _____

District Project No: _____

Date: _____

- a. A list of constituents and the discharge concentration of each constituent;

Source of water (groundwater, potable water, raw water): _____

Is the project discharging groundwater that is known to be contaminated (y/n): _____

If yes, what pollutants are contaminating the water: _____

Is there a known or suspected leaking underground storage tank, or other facilities or operations within 200 feet of rising groundwater that will be discharged?

If yes, what pollutants are associated with these facilities and/or operations?

Are there any other pollutants that may be discharged? _____

For each identified pollutant, collect a groundwater sample and attach monitoring results for those pollutant(s) consistent with the requirements of the monitoring section of the District's De Minimus Template Guidance Document. If an unexpected dewatering activity has occurred, this De Minimus NOI should be submitted immediately without the data. The data shall be provided in a follow up report as soon as possible.

- b. The estimated average and maximum daily flow rates at unit of gallons per day(gpd); the frequency and duration of the discharge and the date(s) when discharge will start;

Discharge Start Date: _____

Average Flow Rate (gpd): _____

Maximum Flow Rate (gpd): _____

Frequency and Duration of Discharge: _____

- c. The proposed discharge location(s) as latitude and longitude for each discharge point;

Discharge Location Name	Latitude	Longitude

- d. A description of the proposed treatment system or applicable BMPs (if appropriate);

De Minimus Permit Discharge Characterization Summary
Construction Groundwater Dewatering Projects

District Project Name: _____

District Project No: _____

Date: _____

- e. The affected receiving water;
 - 1) Direct receiving storm drain/creek: _____
 - 2) Circle the ultimate receiving water, (Reach 3 of Santa Ana River, Lake Elsinore);
- f. Please attach a map showing the path from the point of initial discharge to the ultimate receiving water. Please try to limit your maps to size of 8.5" X 11".
- g. A list of known or suspected leaking underground tanks and other facilities or operations that have, or may have impacted the quality of the underlying groundwater within 200 feet of the site property lines for projects with expected discharge flow rates of less than 100,000 gallons per day and within 500 feet of the site property lines for projects with expected discharge flow rates of greater than 100,000 gallons per day.

Tank / Facility or Operation within 200/500 feet of the project, as appropriate	Approximate location relative to the discharge point (project station, address, other) and relative distance to dewatering activity.

- h. Any other information deemed necessary by the Executive Officer.

APPENDIX "I"

ANNUAL REPORT TEMPLATE
FOR
ORDER NO. 2009-0009-DWQ

**ANNUAL REPORT FOR
ORDER NO. 2009-0009-DWQ
GENERAL PERMIT FOR STORMWATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND
DISTURBANCE ACTIVITIES**

PROJECT NAME
PROJECT ADDRESS

Submitted to:
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3348

Prepared by:
Contractor's Name
Contractor's Address
Contractor's Address
Contractor's Contact Person
Contractor's Contact Phone Number

Prepared for:
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, California 92501
Contact Person
Contact Phone Number

July 1, 20__ to June 30, 20__

CONTRACTOR'S CERTIFICATION

“I certify under a penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Contractor's Name

Contractor's Title

Name: _____

Title: _____

Signature: _____

Date: _____

OWNER'S CERTIFICATION

“I certify under a penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Signed: _____

Jason E. Uhley

Chief of Watershed Protection Division
Riverside County Flood Control
and Water Conservation District

SUMMARY OF SAMPLING AND ANALYSIS RESULTS

Include a summary and evaluation of all sampling and analysis results, including copies of laboratory reports.

ANALYTICAL METHOD RESULTS

Include the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit").

CORRECTIVE ACTIONS

Summarize all corrective actions taken during the compliance year. Also identify any compliance activities or corrective action that were not implemented.

VIOLATIONS

Summarize all violations of the General Permit.



INSPECTIONS

Provide:

1. The names of individual(s) who performed the facility inspections, sampling, visual observation (inspections), and/or measurements;
2. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge); and
3. The visual observation and sample collection exception records and reports

TRAINING

Provide training information consisting of:

1. Documentation of all training for individuals responsible for all activities associated with compliance with this General Permit;
2. Documentation of all training for individuals responsible for BMP installation, inspection, maintenance, and repair; and
3. Documentation of all training for individuals responsible for overseeing, revising, and amending the SWPPP.