SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

FINAL NEGATIVE DECLARATION FOR:

The 2002 Coachella Valley PM10 State Implementation Plan (2002 CVSIP)

June 2002

Author: Kathy C. Stevens - Air Quality Specialist

Technical Assistance: Michael Krause - Air Quality Specialist
Michael Laybourn, AICP - Air Quality Specialist

Reviewed By: Frances Keeler – Senior Deputy District Counsel
Julia Lester Ph.D. – Program Supervisor, PM10 Strategies
Steve Smith Ph.D. - Program Supervisor, CEQA

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PREFACE

This document constitutes the Final Negative Declaration (ND) for the 2002 Coachella Valley PM10 State Implementation Plan (2002 CVSIP). The Draft ND was released for a 30-day public review and comment period from April 30, 2002 to May 29, 2002. Three comment letters were received: (1) Department of Transportation; (2) City of Anaheim; and (3) Department of the Interior, Fish & Wildlife Service. Comment letters and responses to comments are provided in this document in Appendix B.

Staff has evaluated the minor modifications to the control measures in the Draft 2002 CVSIP since the release of the Draft ND, and has determined that the net result from the proposed changes are within the scope of the project-specific analysis. No environmental areas were affected by the modifications and, thus, do not alter any conclusions reached in the Draft ND. Based on the fact that the modifications to the control measures in the Draft 2002 CVSIP do not create any new significant adverse impacts, nor do they result in a substantial increase in the severity of any impacts relative to the project-specific analysis, the proposed modifications to the control measures in the Draft 2002 CVSIP do not constitute significant new information that would require recirculation of the Draft ND pursuant to CEQA Guidelines §15073.5. Therefore, this document is now a Final ND.

TABLE OF CONTENTS

CHAPTER 1 - PROJECT OVERVIEW

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

TABLES

CHAPTER 1 - PROJECT OVERVIEW

Introduction

California Environmental Quality Act

Project Location

Statement of the Problem

Project Background

Project Objective

Project Description

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for all areas within the SCAQMD's jurisdiction[2]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[3]. The 1997 AQMP as amended in 1999 concluded that major reductions in emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx) are necessary to attain the air quality standards for ozone and particulate matter (PM10).

The SCAQMD is the local agency responsible for air quality assessment and improvement in the Coachella Valley pursuant to Health and Safety Code §§40410 and 40413. The Coachella Valley is located in the Riverside County portion of the South East Desert Air Basin (SEDAB). This area has been designated by the U.S. Environmental Protection Agency (EPA) as a serious PM10 non-attainment area. This means the Coachella Valley has not attained federal health-based standards for particulate matter 10 microns or less in diameter (PM10) by the statutory deadline of 2001. Under Section 188 of the Federal Clean Air Act (CAA), a State Implementation Plan (SIP) must be prepared, in this case, to request an extension of the attainment date for no more than five years. The SIP should include the most stringent measures defined by the CAA and a demonstration of attainment by the most expeditious alternative date practicable. Thus, a 2002 SIP must be prepared for Coachella Valley outlining an enhanced PM10 reduction program that demonstrates how the federal PM10 standards will be achieved to bring Coachella Valley into attainment.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The 2002 Coachella Valley PM10 SIP is a "project' as defined by CEQA (California Public Resources Code §21000 et seq). To fulfill the purpose and intent of CEQA, the SCAQMD is the lead agency for this project and has prepared this Final Negative Declaration (ND) to address the potential environmental impacts associated with the 2002 CVSIP.

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment (Public Resources Code §21067). The proposed project requires discretionary approval from the SCAQMD and, therefore, it is subject to the requirements of CEQA (Public Resources Code §21000 et seq.). Since the SCAQMD has the greatest responsibility for supervising or approving the project as a whole, it was determined that the SCAQMD would be the most appropriate public agency to act as lead agency (CEQA Guidelines §15051(b)).

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).
[2] Health & Safety Code, §40460 (a).
[3] Health & Safety Code, §40440 (a).

To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Final ND to address the potential environmental impacts associated with the 2002 CVSIP project. A ND for a project subject to CEQA is prepared when an analysis of the project does not identify potentially significant effects (CEQA Guidelines §15070(a)).

Control measures promulgated as new, or amendments to existing SCAQMD rules, will undergo an additional environmental evaluation as required, pursuant to the district's certified regulatory program (Public Resources Code §21080.5, SCAQMD Rule 110).

All comments received during the 30-day public comment period on the analyses presented in the Draft ND have been responded to and included in the Final ND to be presented to the SCAQMD Governing Board for certification.

PROJECT LOCATION

The Coachella Valley encompasses approximately 2500 square miles and is located in the central portion of Riverside County known as the Southeast Desert Air Basin (SEDAB). The 2002 CVSIP focuses on the Coachella Valley as defined by Banning Pass to the north, by the Riverside/Imperial county boundary lines to the south, by the San Jacinto mountains to the west, and by the San Bernardino mountains to the east. Elevation ranges from 500 feet above sea level to 150 feet below sea level. The climate is continental desert type with hot summers and mild winters, frequent gusty winds, and very little rainfall. During July and August, temperatures can reach 110 Fahrenheit.

STATEMENT OF THE PROBLEM

Within the Coachella Valley there is a natural sand migration process which has direct and indirect effects on air quality. Each year, winter rains cause erosion of adjacent mountains, and water run-off into the northern part of the Coachella Valley produces huge deposits of newly-created sand in that area. During the spring months, persistent, strong winds carry the sand methodically down the valley. Called 'blowsand", this natural sand migration process produces PM10 in two ways: (1) by direct particle erosion and fragmentation (natural PM10); and (2) by secondary effects, such as sand deposits on road surfaces which can be ground into PM10 by moving vehicles, and resuspended in the air by those vehicles (man-made PM10).

PM10 can lodge in the lungs contributing to respiratory problems. There are two federal standards for PM10, the annual average and the 24-hour average. The annual average standard is set at 50 micrograms per cubic meter, while the 24-hour average standard is 150 micrograms per cubic meter.

In the spring and early summer months, meteorological conditions favor the development of strong winds. Seasonally, as the deserts begin to heat up, surface pressures are systematically lower. This creates a "vacuum-like" effect, whereby cooler, ocean-modified air is pulled toward the deserts. As the air is channeled through Banning Pass, which separates the Coachella Valley from the South Coast Air Basin, it accelerates, creating winds which frequently exceed 40 miles per hour (mph). On occasion, winds exceed 60 mph and widespread natural dust storms develop. Desert visibility, which typically exceed 35 miles, can be reduced to less than a mile by the

blowsand. On other occasions, summer thunderstorms generate strong gusts and produce large-scale dust storms. Under both of these meteorological conditions, the natural large-scale effects over the desert overwhelm local man-made dust-producing conditions. Such events, which occur approximately 10 to 15 days per year, are considered "exceptional events" by EPA, and are excluded from violation status determinations.

Two monitoring sites are used to track emissions in the Coachella Valley, one at Indio, the other at Palm Springs. The Indio site has been operational since 1985, and the Palm Springs site has been operational since 1987. The sampling frequency at both monitoring stations is once every three days. Year 1999 to 2001 data indicates that the Indio monitoring site has exceeded the PM10 annual average standards. Palm Springs, on the other hand, is within both standards. Special monitoring at other sites confirmed that PM10 standards are exceeded throughout Coachella Valley.

Based on the 1996 CVSIP, approximately 53 tons of PM10 were released into the atmosphere in Coachella Valley on an average day in 1995. Of these, one percent was caused by fuel combustion; waste burning; industrial processes. Man-made and natural dust-causing activities, such as agricultural tilling in fields, construction and demolition operations, or driving on paved or unpaved roads account for 96%. Less than three percent of Coachella Valley's emissions are caused by mobile source tailpipe and brake/tire wear emissions.

The 1996 CVSIP demonstrated attainment of the PM10 standards. From 1999 through 2001, PM10 dust levels rose sufficiently to exceed the annual average PM10 standard. During this same timeframe, the region experienced significant increases in construction activities. In the 2002 CVSIP, the construction-related emissions will be revised based on actual 2000 construction activity data, which was higher than predicted in the 1996 CVSIP. The 2002 CVSIP details the control measures necessary to attain the PM10 standards again.

PROJECT BACKGROUND

In November 1990, amendments to the federal CAA were signed into law, setting into motion new statutory requirements for attaining federal NAAQS for PM10. All areas in the United States that were previously designated as federal nonattainment areas for PM10, including the Coachella Valley, were initially designated as "moderate" PM10 nonattainment areas.

Under Section 189(a) of the CAA, revisions to the SIP for PM10 were due by November 15, 1991, incorporating "reasonably available control measures" (RACM) for PM10 and indicating an attainment date. In response to these requirements, the SCAQMD adopted the "State Implementation Plan for PM10 in the Coachella Valley" (90-CVSIP) in November 1990. The 90-CVSIP identified candidate control measures and demonstrated attainment of the NAAQS for PM10 by the year 1995, one year after the statutory limit for moderate nonattainment areas.

CAA Section 188(b) specifies that any area that cannot attain the standards by December 1994 would subsequently be redesignated as a "serious" nonattainment area. In January 1993, U.S. EPA completed its initial redesignation process, and included the Coachella Valley among five nationwide areas redesignated as "serious" effective February 8, 1993. Section 189(b) of the CAA further specifies that a SIP revision is due within 18 months of the redesignation (August 8,

1994). The revision must assure that "best available control measures" (BACM) will be implemented and a demonstration of attainment will be submitted within four years of the redesignation date (February 8, 1997). In response to the CAA requirements for "serious areas", the SCAQMD prepared a SIP revision (94-CVSIP) that identified candidate BACM for implementation prior to February 8, 1997.

Section 107 (d)(3)(E) of the CAA states that an area can be redesignated to attainment if, among other requirements, the U.S. Environmental Protection Agency (U.S. EPA) determines that the NAAQS have been attained. U.S. EPA guidance further states that a determination of compliance with the NAAQS must be based on three complete, consecutive calendar years of quality-assured air quality monitoring data. In applying U.S. EPA's Natural Events Policy (NEP), it was determined that the Coachella Valley had not violated either the 24-hour or annual average PM10 standards during the three calendar years 1993 through 1995. Accordingly, the SCAQMD requested a redesignation of the Coachella Valley to attainment for PM10. The U.S. EPA has not acted on the request.

Despite previous efforts, the Coachella Valley exceeded the annual average PM10 standard of 50 $\mu g/m^3$ during the years 1999 - 2001. As mentioned, the CAA allows an extension of the attainment date for up to five years provided that: (1) all previous state implementation plan (SIP) commitments have been implemented; (2) a demonstration that attainment by 2001 is not practicable; (3) documentation that all feasible Most Stringent Measures (MSM) are being implemented; and (4) a demonstration that the expected attainment date is the most expeditious date practicable.

PROJECT OBJECTIVE

The Coachella Valley was classified as a serious PM10 non-attainment area on February 8, 1993 by the U.S. EPA. Under the Clean Air Act (CAA), areas that are classified as serious PM10 non-attainment are required to attain the 24-hour and annual average PM10 standards by December 31, 2001. CAA Section 188(e) further states that the U.S. Environmental Protection Agency (U.S. EPA) is allowed to extend the attainment date for up to five years if attainment by 2001 is not practicable. The purpose of the 2002 Coachella Valley SIP is to develop an enhanced PM10 reduction program that demonstrates attainment with the PM10 standards by the earliest practicable date and to provide the necessary supporting documentation to formally request an extension of the PM10 attainment date.

PROJECT DESCRIPTION

Under Title I of the CAA, EPA sets limits on how much of a particular pollutant can be present in the air for any given location within the United States. EPA, states, and local governments are required under the CAA to implement measures to prevent and control air pollution, with significant responsibility resting with the states. The major mechanism used to attain the standards in individual areas is a SIP.

The 2002 Coachella Valley State Implementation Plan (CVSIP) updates, carries forward, and incorporates all control measures not adopted from the previous Coachella Valley plans to address the recent rise in PM10 levels above the standard and forestall a notice of failure to attain. Its elements include the following:

- Air quality summary from 1997-2001, including natural events;
- Emissions inventory update;
- Control measures not adopted from the previous Coachella Valley plans;
- Most Stringent Measures (MSM) analysis and Proposed Control Strategy;
- Attainment demonstration;
- Natural Events Action Plan status and update; and
- Request for Extension of 2001 PM10 attainment deadline.

Table 1-1 is a summary of the control strategies in the 2002 CVSIP. For a detailed description of the 2002 CVSIP proposed control strategies, the reader is referred to Appendix A.

TABLE 1-1

Summary of 2002 CVSIP Control Strategies

CONTROL MEASURE	TITLE	CONTROL METHOD
BCM-1	Further Control of Emissions from Construction Activities	watering, chemical stabilization, wind fencing, revegetation, track-out control
BCM-2	Disturbed Vacant Lands	chemical stabilization, wind fencing, access restriction, revegetation
BCM-3	Unpaved Roads and Unpaved Parking Lots	paving, chemical stabilization, access restriction, revegetation
BCM-4	Paved Road Dust	minimal track-out, stabilization of unpaved road shoulders, clean streets maintenance
BCM-5	Control of Emissions from Agricultural Activities	requirements to implement agricultural handbook conservation practices
CV CTY 1*	Turf Overseeding	requirements to reduce emissions from turf overseeding activities

* Measure carried forward from previous Coachella Valley plans.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Potentially Significant Impact Areas

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's significant adverse environmental impacts.

GENERAL INFORMATION

Project Title:	2002 Coachella Valley PM10 State Implementation Plan
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 E. Copley Drive, Diamond Bar, CA 91765
CEQA Contact Person:	Ms. Kathy C. Stevens (909) 396-3439
CVSIP Contact Person:	Mr. Michael Laybourn (909) 396-3066
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 E. Copley Drive, Diamond Bar, CA 91765
General Plan Designation/ Zoning:	Not applicable
Description of Project:	The Coachella Valley was classified as a serious PM10 non-attainment area on February 8, 1993. Under the CAA, areas that are classified as serious PM10 non-attainment are required to attain the 24-hour and annual average PM10 standards by December 31, 2001. CAA Section 188(e) further states that the U.S. EPA is allowed to extend the attainment date for up to five years if attainment by 2001 is not practicable. The 2002 CVSIP outlines an enhanced PM10 reduction program to demonstrate attainment with the federal PM10 standards by the earliest practicable date and provide the necessary supporting documentation to formally request an extension of the PM10 attainment date.
Surrounding Land Uses:	Not applicable
Other Public Agencies Whose Approval is Required:	California Air Resources Board; U.S. Environmental Protection Agency

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. Any checked items represent areas that may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐	Aesthetics	☐	Geology and Soils	☐	Population and Housing
☐	Agricultural Resources	☐	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality	☑	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☐	Land Use and Planning	☐	Solid/Hazardous Waste
☐	Cultural Resources	☐	Mineral Resources	☑	Transportation./Traffic
☐	Energy	☐	Noise	☐	Mandatory Findings

DETERMINATION

On the basis of this initial evaluation:

☑ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: June 21, 2002 **Signature:** Steve Smith

Steve Smith, Ph.D.
Program Supervisor – CEQA Section
Planning, Rule Development, and
Area Sources

ENVIRONMENTAL CHECKLIST AND DISCUSSION

The following checklist evaluates the proposed project's potential adverse impacts. For those environmental topics for which a potential adverse impact may exist, a discussion of the existing environment related to the topic is presented followed by an analysis of the project's potential adverse impacts. When the project does not have any potential for adverse impacts for an environmental topic, the reasons why there are no potential adverse impacts are described. Control measures carried forward from previous Coachella Valley plans are considered to be part of the existing setting and, therefore, are not evaluated further in the following checklist (e.g. CV CTY 1 - Turf Overseeding).

		Potentially Significant Impact	Less Than Significant Impact	No Impact
I.	**AESTHETICS.** Would the project:			
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑

I. AESTHETICS

(a) through (d) The 2002 CVSIP does not require the construction of any building, structure or other visual obstruction. The 2002 CVSIP outlines control measures and an associated enforcement program to reduce PM10 emissions from construction activities, paved and unpaved roads, unpaved parking lots, undisturbed vacant lands and agricultural operations in Coachella Valley. Implementation of the control measures in the 2002 CVSIP will actually improve aesthetics by reducing dust. In addition, 2002 CVSIP does not require the creation of a new source of light or glare in the area which would adversely affect day or nighttime views in the area.

Based on the above discussion, the proposed project is not expected to have a significant adverse impact on aesthetics.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
II.	**AGRICULTURAL RESOURCES.** Would the project:			
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑
c)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☑

II. AGRICULTURAL RESOURCES

(a) and (c) The 2002 CVSIP does not require the taking of any land for construction of any building or structure. The 2002 CVSIP outlines control measures and an associated enforcement program to reduce PM10 emissions from construction activities, paved and unpaved roads, unpaved parking lots, undisturbed vacant lands and agricultural operations in Coachella Valley. These control measures do not require changes in farmland, but do require dust control measures for specific agricultural operations. Therefore, the proposed project will not convert any existing, prime or unique farmland to a non-agricultural use; nor will the proposed project cause other changes to the existing environment which would result in the conversion of any existing, prime or unique farmland to a non-agricultural use.

(b) The proposed project implements air quality control measures intended to reduce PM10 emissions. These measures will not conflict with existing zoning or any Williamson Act contracts.

Based on the above discussion, the proposed project is not expected to have a significant adverse impact on agricultural resources.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
III.	**AIR QUALITY.** Would the project:			
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☑	☐
b)	Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☑	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☑	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☑
f)	Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☑	☐

III. AIR QUALITY

(a), (b), (c) and (f) The 2002 CVSIP outlines an enhanced PM10 reduction program to demonstrate attainment with the federal PM10 standards by the earliest practicable date and provide the necessary supporting documentation to formally request an extension of the PM10 attainment date. The Coachella Valley was classified as a serious PM10 non-attainment area on February 8, 1993. Under the Clean Air Act (CAA), areas that are classified as serious PM10 non-attainment are required to attain the 24-hour and annual average PM10 standards by December 31, 2001. CAA Section 188(e) further states that the U.S. Environmental Protection Agency (U.S. EPA) is allowed to extend the attainment date for up to five years if attainment is not practicable.

Ultimately, it is the responsibility of the SCAQMD under state and federal law to reduce emissions of those substances that impair public health including primary and secondary air contaminants. Pursuant to the provisions of both the state and federal CAA, the SCAQMD is

required to attain the federal ambient air quality standards for all criteria pollutants, including PM10.

The SCAQMD's planning document which sets forth policies and measures to achieve federal and state air quality standards in the region is the Air Quality Management Plan (AQMP). The AQMP strategy includes measures which target stationary, mobile and indirect sources. These measures are based on feasible methods of attaining ambient air quality standards. The 2002 CVSIP is being prepared in concert with the goals and objectives of the district's AQMP. The intent of both of these documents is to outline a strategy for achieving state and federal air quality mandates.

The intent of the control measures in the 2002 CVSIP is to provide further reductions in PM10 emissions in the Coachella Valley. Anticipated PM10 emission reductions for each control measure, if known, are shown below in Table 2-A.

Table 2-A
Summary of 2002 CVSIP Control Measure Implementation

Control Measure	Implementation Schedule	2006 Estimated Emission Reductions
CV BCM 1 (Construction)	Begin no later than 10/03 (local) or 1/04 (AQMD)	2.0 tons/day
CV BCM 2 (Disturbed Lands)	Begin no later than 10/03	TBD after survey
CV BCM 3 (Unpaved roads and lots)	Begin no later than 10/1/03, phased implementation	0.71 tons/day
CV BCM 4 (Paved Roads)	Begin no later than 10/03 (local) or 1/04 (AQMD)	0.57 tons/day
CV BCM 5 (Agriculture)	Begin no later than 1/04 (AQMD)	0.02 tons/day (farming operations)
CV CTY 1 (Overseeding)	In event of RFP failure or non-attainment by the year 2006	TBD (partially implemented voluntarily)
TOTAL		**3.3 tons/day**

While the 2002 CVSIP control strategies are designed to reduce PM10 emissions, there is a potential secondary adverse air quality impact from the exhaust emissions from the increased number of water and chemical stabilizer trucks that may be operated to comply with the control strategies BCM-01, BCM-02, BCM-03 and BCM-05. The Clean Streets Management program under BCM-04 is an existing program and therefore increased exhaust emissions from non-alternative fueled street sweepers is not anticipated.

It is estimated that BCM-01 could result in an increase of water demand from watering for dust suppression during construction activities. The total annual residential, commercial, industrial and institutional/government acres under construction in the year 2000 was 2,510.8 acres. This value was used as an overly conservative estimate of annual construction activity in the future subject to the control measures presented in the CVSIP. If construction takes place 260 days per year, an average of 10 acres are under construction per day. Using an industry standard that one truck waters four acres on any given day, an increased number of water trucks necessary to implement BCM-01 is three per day (10 acres per day/ 4 acres per truck).

The disturbed desert vacant land in Coachella Valley is approximately 26,000 acres (SCAQMD's "State Implementation Plan for PM10 in the Coachella Valley, November 1990). Ninety percent of those landowners subject to the control strategy BCM-02 is expected to comply by restricting access to the vacant land, and ten percent is anticipated to use chemical stabilizers (10 percent x 26,000 acres = 2600 acres). Each truck can carry 2,000 gallon of chemical stabilizer and the standard is 200 gallons of chemical stabilizer covers one acre of land. Therefore, 10 acres is covered by one truck load of chemical stabilizer. Assuming the chemical stabilization is necessary once a year, the increased number of chemical stabilizer trucks necessary to implement BCM-02 is one truck per day ((2600 acres per year /260 days per year)/10 acres per truck).

According the County of Riverside (letter to SCAQMD from County of Riverside, April 15, 2002), 158 miles of unpaved county roads are in Coachella Valley. There are 36.1 miles of unpaved Bureau of Land Management roads (California Air Resources Board, Emission Inventory Procedural Manual, October 1997) in Coachella Valley. Therefore, a total of 194.1 miles (235 acres) is potentially subject to control strategy BCM-03 to pave unpaved roads, or use chemical stabilizers on unpaved roads. Assuming landowners would chemically stabilize the unpaved roads throughout the year and that 10 acres of land can be chemically stabilized by one truck, the increased daily trucks necessary to implement BCM-03 is one truck per day (235 acres per year/260 days per year)/10 acres per truck).

BCM-05 calls for control of PM10 emission from agricultural activities through implementation of conservation practices presented in the SCAQMD Rule 403 Agricultural Handbook. Such practices would apply to active sources, inactive sources, unpaved equipment storage, track out prevention, unpaved roads and storage piles. During harvesting season, PM10 emissions from vehicle use of unpaved roads can be controlled by watering. Using vehicle miles traveled (VMT) data from the California Air Resources Board's (CARB) Emission Inventory Procedural Manual (Volume III, October 1997), the distance of unpaved roads traveled daily in Coachella Valley is approximately 157 miles (190 acres per day). Assuming half the landowners would water the unpaved roads during the harvest and the other half would use chemical stabilizers, and using the industry standards in acreage covered per truck, the increased peak daily number of trucks necessary to implement BCM-05 is 34 trucks per day (95 acres per day/4 acres per truck + 95 acres per day/10 acres per truck).

Table 2-1 outlines the four new control strategies, the estimated number of trucks and the activity.

TABLE 2-1

Increased Number of Trucks to Comply with Control Strategies
BCM-01, BCM-02, BCM-03 and BCM-05

CONTROL STRATEGY	CONTROL ACTIVITY	ESTIMATED DAILY NUMBER OF VEHICLES
BCM-01	Watering, Chemical Stabilization	3
BCM-02	Chemical Stabilization	1
BCM-03	Chemical Stabilization; Paving	1
BCM-05	Watering, Chemical Stabilization	34
	TOTAL	**39/day**

Using California Air Resources Board (CARB)'s most current emission factors (from the burden model for EMFAC2000, Version 2.02) for the five criteria pollutants (reactive organic gas, carbon monoxide, oxides of nitrogen, particulate matter and sulfur oxides) for year 2002, the exhaust emissions from water/chemical stabilizer "delivery trucks" (>8500 pounds) were calculated. The emissions factors are derived assuming temperatures, relative humidity, speed distribution, number of vehicles, average vehicle trips and VMT. Table 2-2 outlines the calculation of daily exhaust emissions from the estimated increase number of water and/or chemical stabilizer trucks necessary to comply with the new control strategies. None of the total criteria pollutant emissions exceed the SCAQMD's air quality significance thresholds for Coachella Valley (SCAQMD's CEQA Handbook, 1993) and therefore, potential adverse air quality impacts from the 2002 CVSIP are not significant.

TABLE 2-2

Exhaust Emission Calculations from Control Strategies
BCM-01, BCM-02, BCM-03 and BCM-05

Criteria Pollutant	Estimated Daily Number of Vehicles	Estimated Total Daily Trip Miles	Emission Factors for Trucks in 2002 (lbs/mile)	Daily Exhaust Emissions (lbs/day)	SCAQMD Significance Threshold (Coachella) (lbs/day)	Significant ?
ROG	39	50	0.00637	12.4	75	No
CO	39	50	0.06372	12.4	550	No
NOx	39	50	0.03242	63	100	No
PM10	39	50	0.00077	1.5	150	No
SOx	39	50	0.00024	0.5	150	No

As a result of the above, the proposed project is not expected to conflict with applicable air quality plans, violate any air quality standards, contribute to an existing or projected air quality violation, result in a cumulatively considerable net increase of any criteria pollutant, or diminish an existing air quality rule or future compliance requirement.

(d) Sensitive receptors in Coachella Valley are currently exposed to daily PM10 conditions. PM10 has been found to lodge in the lungs contributing to respiratory problems. Implementation of the propose project is intended to control PM10 conditions in the Coachella Valley, thereby reducing the exposure of PM10 on sensitive receptors.

(e) The proposed project does not require the construction of any building or structure; the addition of any new facility or air emission source, or cause any objectionable odors to be created. The control measures do however, reduce air quality impacts if any new building, structure or facility were built.

Based on the above discussion, no significant adverse impacts to air quality are expected.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:			
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☑

d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☑

IV. BIOLOGICAL RESOURCES

(a), (b) The PM10 control measures discussed in the 2002 CVSIP do not require any specific disturbance of undisturbed habitat, or have a direct or indirect impact on plant or animal species. The 2002 CVSIP outlines control measures to improve air quality and reduce PM10 emissions. The plan may however, include control measures for revegetation or landscaping. Those control measures, where feasible, will require revegetation of native desert plant species. The revegetation of native desert plant species will reduce fugitive dust emissions and also benefit desert animal species by providing habitat for nesting, protection from predators and food. No reductions in sensitive plant or animal species are expected to result from implementing the PM10 control measures outlined in the 2002 CVSIP. No riparian habitat or other sensitive natural community will be affected by the proposed PM10 control measures.

(c) The proposed project does not require any direct removal, filling, hydrological or other activities in, or near, wetland areas as defined by the Clean Water Act (CWA).

(d), (e) and (f) The 2002 CVSIP is being prepared in accordance with a variety of state, federal and local agencies and specialty groups. No construction or earth-moving is required as part of the proposed project. The control measures to reduce PM10 emissions, contained in the plan, will not conflict with any local policies or ordinances to protect biological resources. The intent of the plan is to work within the existing desert environment, while reducing PM10 from man-made activities and natural wind occurrences. The proposed project will not interfere with the movement of any native or migratory animals, affect wildlife corridors or impede the use of native wildlife nursery sites.

In addition, there are no requirements in the 2002 CVSIP that would affect land use plans, local policies or ordinances, regulations, or conservation plans. Land use and other planning

considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project.

Based on the above discussion, the proposed project is not expected to have a significant adverse impact on biological resources.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☑
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑
d) Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☑

V. CULTURAL RESOURCES

(a) through (d) The 2002 CVSIP is a plan which outlines air quality control measures. The plan does not require the construction of buildings or structures, or other activities which would potentially impact cultural resources. No changes to historic, archaeological or paleontological resources, or unique geologic features are required upon implementation of PM10/air quality control measures. No human remains or cemeteries will be affected by the proposed project.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	☐	☐	☑

b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☐	☑
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☐	☑
e)	Comply with existing energy standards?	☐	☐	☑

VI. ENERGY

(a)through (e) The 2002 CVSIP outlines control measures to reduce PM10 and bring Coachella Valley into attainment with state and federal air quality standards. There are no provisions of the 2002 CVSIP that would conflict with adopted energy conservation plans, result in the need for additional power or natural gas, create impacts on local or regional energy supplies, impact existing energy standards, or affect peak and base demands for electricity or other forms of energy.

		Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
VII.	**GEOLOGY AND SOILS.** Would the project:			
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☑
	• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☑
	• Strong seismic ground shaking?	☐	☐	☑
	• Seismic–related ground failure, including liquefaction?	☐	☐	☑
	• Landslides?	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑

c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☑

VII. GEOLOGY AND SOILS

(a) through (e) The 2002 CVSIP is a plan to control PM10 air emissions, and does not require any activities which would directly or indirectly expose people to the risk of loss, injury or death associated with earthquakes, seismic ground shaking, seismic-related ground failure or landslides. The proposed project does not require the construction of any building or structure, thereby resulting in a potential to be located on an unstable geologic unit or on expansive soil. The 2002 CVSIP does not require the installation of septic tanks or wastewater systems, or require any construction activities which would create soil erosion or loss of topsoil.

Based on the above discussion, the proposed project is not expected to have an adverse impact on geology or soils.

		Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:			
a)	Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	☐	☐	☑
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑

c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑
i)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑

VIII. HAZARDS AND HAZARDOUS MATERIALS

(a) through (i) The 2002 CVSIP is a plan to reduce PM10 emissions and bring Coachella Valley in attainment with state and federal air quality standards. There are no provisions in the Coachella Valley SIP that would result in the routine transport, use, and disposal of hazardous materials; create a significant hazard to the public; or emit hazardous emissions/handle hazardous materials within one-quarter mile of an existing or proposed school. Pursuant to a letter from the California Regional Water Quality Control Board, Region 7, dated November 10, 1994, "The chemical and physical properties of the non-brine [stabilizer] products indicate that the risk to water quality may be minimal." Further, the

letter stated that the chemical stabilizer products that were listed for use for dust control, are widely used in California for various purposes on the soil, such as control of soil erosion, re-vegetation, slope stability, as well as dust control.

The proposed project does not require the construction of any building, structure or facility which could potentially be located on a site pursuant to Government Code §65962.5; or located within an airport land use plan, within two miles of a public airport or within the vicinity of a private airstrip.

The proposed PM10 air quality control measures will not interfere with an adopted emergency response or evacuation plan; expose people or structures to wildland fires; or increase fire hazards in areas with flammable materials.

Based on the above discussion, the proposed project is not expected to create a hazard or hazardous materials impact.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑

d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☑
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☑
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flaws?	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑

n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☑	☐
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑

IX. HYDROLOGY AND WATER QUALITY

The following discussion encompasses a response to checklist questions (a) through (o) above.

There are potential water resource impacts that may be generated by implementing the 2002 Coachella Valley SIP. The project-specific impacts are divided into two major impact categories - water quality and water demand. Water impacts will be considered significant if any of the following occur:

- The existing water supply is insufficient to handle project-related increases in water demand.
- Substantial increases in mass inflow of effluents to public wastewater treatment facilities.
- Substantial degradation of surface water or groundwater quality.
- Changes in absorption rates, drainage patterns or the rate and amount of surface runoff.
- Substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- Alterations to the course or flow of floodwaters.

POTENTIAL WATER QUALITY IMPACTS FROM CHEMICAL DUST SUPPRESSION

The following paragraphs describe the characteristics of three categories of chemical dust suppressant and their potential to adversely affect groundwater or surface water. (The District does not endorse any particular product, but does encourage the use of environmentally safe chemical dust suppressants.) It should be noted that although many of these products and control measures required by the 2002 CVSIP are in existing SCAQMD regulations, the analyses in this ND are based on overly conservative assumptions.

Petroleum-Based Dust Suppressants: Witco, the manufacturer of petroleum-based chemical dust suppressants COHEREX and COHEREX-PM, has stated "Although COHEREX has been used for more than forty years and COHEREX-PM is a polymer modified version of this product, we have not experienced any problems of groundwater contamination by the application of COHEREX or COHEREX-PM." The manufacturer goes on to state that the deepest penetration into the soil's surface ranges from 1 3/4 inches to 2 inches. According to the manufacturer, this would be true even if the product were over-applied because of the

ability of the product to create a barrier that limits deeper penetration into the treated soil (Escobar, 1991).

Chloride-Based Dust Suppressants**:** The manufacturer of a magnesium chloride-based product, Leslie Salt, has indicated that its product, "Dust-Off", is a moderately concentrated salt solution containing certain trace metals such as cadmium, chromium (III and VI), lead, etc. However, these metals are present in amounts that are several orders of magnitude below the Total Threshold Limit Concentration Level (Title 22, List of Organic and Bioaccumulative Substances and Their Total Threshold Limit Concentration Values) for each metal. In a report prepared for Leslie Salt by McLaren Engineering in 1989 (Leslie Salt, 1989), it was noted that "The behavior and environmental fate of "Dust-Off" following any given application is site-specific . . . The potential for migration of "Dust-Off" ….is a function of site characteristics including climate (wind and rain), soil type, topography (slope or exposed surface and surrounding area), proximity to surface drainages (streams and intermittent drainages), depth to bedrock and depth to groundwater." Leslie Salt has reported results of the application of "Dust-Off" in terms of vertical migration through soil, migration in runoff and deposition to surface water, and aerial migration.

The report concludes that "the salt concentration in the leachate percolating through the soil becomes significantly diluted due to dispersive transport. Therefore, the amount of dissolved salts from "Dust-Off" that could potentially enter a groundwater system depends on the location of the water table, the quantity of "Dust-Off" applied, and the number of years of application." The report further concludes that water tables more than 26 feet deep would not be affected by application of this product; however, very shallow water tables could be affected if they are below the application area.

Leslie Salt reported that for a worst-case scenario concerning migration in runoff and deposition to surface water involving a 20-cubic-feet-per-second stream, chloride concentrations would be about 274.5 ppm in a 24-hour period, or slightly above the drinking water standard of 250 ppm. It should be noted that this analysis is based on a modeling scenario that included an application of 1.0 gallon per square yard, which is twice the typical application found in the field (Leslie Salt, 1989).

For aerial migration, predicted salt concentrations away from the area of application are very small, ranging from 0.0592 ug/m^2 at 25 meters to 0.00070 ug/m^2 at 500 meters (Leslie Salt, 1989). The manufacturer concludes that "Dust-Off" would not adversely affect groundwater, migrate into surface water runoff, or be deposited through aerial migration. However, the manufacturer specifically noted that very shallow water tables - less than 25 feet - could be affected after long periods of repeated application, especially in porous soils. Concentrations entering such groundwater could be significant in areas directly below application; thus, the manufacturer recommended that its product not be used in soils where the water table is very shallow, or used for drinking water or domestic purposes; or if the table is near the area of application or near a low-volume stream or pond used for domestic water supply (Leslie Salt, 1989).

Another manufacturer of a magnesium chloride product, South Western Sealcoating, Inc., indicated that magnesium chloride has been used for years by the mining industry on haul

roads and provided documentation of permission to use magnesium chloride from the Colorado River Basin Regional Water Quality Control Board (RWQCB) (Khan, 1991). The Arizona Department of Environmental Quality, Office of Water Quality gave similar permission for the use of magnesium chloride dust suppressants (Sobchak, 1989).

A study of magnesium chloride dust suppressants done for the Camp Pendleton Military Base found no evidence of magnesium chloride solution leaching below the application level (EMCON, 1989a and 1989b).

The RWQCB for the Colorado River Basin - Region 7, reviews applications for use of brine-based chemicals (i.e., calcium chloride and magnesium chloride) for dust control on a case-by-case basis (Gruenberg, 1994). This RWQCB has recently conditionally approved the use of Lee Chemical, Incs'. Liquid Calcium Chloride in Colorado River Basin, Region 7, provided the Best Management Practices identified by Lee Chemical, Inc. are adhered to (Gruenberg, 1996).

Lignosulfonate Dust Suppressants: Lignosulfonate is a dust suppressant derived from the sulfite pulping process. One product, Raybinder, produced by ITT Rayonier, is a water soluble sodium lignosulfonate with very low phytotoxicity (ITT Rayonier, Inc., 1992). The water toxicology characteristics of lignosulfonates were briefly examined by Reintjes (1992). Reintjes determined the LC_{50} to be 2400 mg solids/L. The LC_{50} is a measurement of the lethal concentration at which 50 percent of the exposed organisms die. For comparison, laundry detergents have LC_{50s} in the range of 40 to 85 mg solids/L.

An earlier report (Acres International, Ltd., 1988) for Environment Ontario in Canada acknowledged that the literature available on the environmental effects of lignosulfonates is limited. However, the study noted the following:

- Research indicates that lignosulfonates and their spent liquor could reduce dissolved oxygen, increase the color and quantity of suspended solids in water, and adversely affect fish.
- One lignosulfonate product applied to a road showed no measurable environmental effects even after a heavy rainfall.
- USEPA found that a commercial lignosulfonate road stabilizer was moderately toxic to rainbow trout. However, another study found no clear relationship between lignosulfonate concentrations and growth retardation in rainbow trout.

The Environment Ontario study thus concluded, "it would be prudent to recommend avoiding application of lignosulfonate as a dust suppressant in the vicinity of spawning sites and cold water streams supporting trout."

Control Measures BCM-01, BCM-02, BCM-03, and BCM-05 may result in increased use of chemical dust suppressants for PM10 control. Any increase is expected to be relatively limited for three reasons: 1) chemical dust suppressants are often used only near or at the end of projects; 2) in most cases, other control methods are available, and 3) chemical dust suppressants are already used for fugitive dust control and required from existing rules, regulations and local programs.

As the background information provided above indicates, some products have the potential to adversely affect nearby groundwater supplies by migrating to an aquifer or surface body of water, or become a part of surface runoff or storm water. Thus, potential users of chemical dust suppressants should contact local RWQCBs to determine whether or not a product is environmentally safe. RWQCBs evaluate MSDS and other information as appropriate and examine the area to be sprayed if necessary. RWQCBs do not typically maintain a list of chemical dust suppressants, but evaluate the use of chemical dust suppressants on a case-by-case basis. Users are required to ensure that runoff does not migrate to a surface body of water, or if the dust suppressant is used in liquid form, that it does not flow from the use-area.

While there are a number of strategies besides chemical dust suppressants for complying with the provisions of BCM-01, BCM-02, BCM-03, and BCM-05, an adverse impact to water quality could occur if improper use of chemical dust suppressants occurs. However, according to the California RWQCB, Colorado River Basin, Region 7 (from Phil Gruenberg, Executive Officer) in a November 10, 1994 letter to the SCAQMD, "the chemical and physical properties of the non-brine products indicate that the risk to water quality may be minimal." In addition, as currently required in Rule 403 and 403.1, local RWQCB's should be consulted before use of any chemical dust suppressant to ensure that the product has not been prohibited. Users must apply chemical dust suppressants in accordance with manufacturers' and RWQCB recommendations to ensure that water quality is protected. Therefore, the proposed project will not generate significant adverse impacts to water quality.

POTENTIAL WATER DEMAND IMPACTS FROM DUST SUPPRESSION

Control Measures BCM-01 and BCM-05 consider watering as one of a number of potential control options for dust suppression. These control measures are aimed at reducing windblown dust from earth-moving, disturbed surface areas, paved road track-out, unpaved roads, and open storage piles.

Watering is currently being used as one of a number of dust suppression methods for construction and demolition sites, unpaved roads and parking lots, storage piles, landfills, and bulk material facilities under District Rules 403 and 403.1. In addition, many local governments (approximately 24 percent of Los Angeles County jurisdictions, 38 percent in Orange County, 64 percent in Riverside County and 75 percent in San Bernardino County) require some form of dust control at construction/demolition sites (Brenk, 1993). State nuisance law (Cal. Health and Safety Code § 41700) also restricts PM10 emissions to levels that do not "... cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public…" With the exception of unpaved roads and parking lots, the most frequently employed method of control for the types of facilities listed above is watering.

Implementation of BCM-01 and BCM-05 could create additional demand for water as a dust suppression method. Water could be used by itself for wet suppression, in conjunction with certain chemical dust suppressants, for ground covers, or to maintain tree wind breaks.

It is estimated that BCM-01 could result in an increase of water demand from watering for dust suppression during construction activities. The total annual residential, commercial, industrial and institutional/government acres under construction in the year 2000 was 2,510.8 acres. This value was used as an overly conservative estimate of annual construction activity in the future subject to the control measures presented in the 2002 CVSIP. If construction takes place 260 days per year, an average of 10 acres are under construction per day. Using EPA's water use factor of 0.2 gallons of water is used per square yard per day (EPA's Fugitive Dust Background Document and Technical Information Document of Best Available Control Measures, September 1992), the amount of water needed to implement BCM-01 will be approximately 77,443 gallons per day (assuming a daily 8-hour watering period).

BCM-05 calls for control of PM10 emission from agricultural activities through implementation of conservation practices presented in the SCAQMD Rule 403 Agricultural Handbook. Such practices would apply to active sources, inactive sources, unpaved equipment storage, track out prevention, unpaved roads and storage piles. During harvesting season, PM10 emissions from vehicle use of unpaved roads can be controlled by watering. Using vehicle miles traveled (VMT) data from the California Air Resources Board's (CARB) Emission Inventory Procedural Manual (Volume III, October 1997), the distance of unpaved roads traveled daily in Coachella Valley are approximately 157 miles. Again, using EPA's water use factor mentioned above, approximately 1,437,707 gallons of water could be used daily during implementation of BCM-05. BCM-05 calls for practices only during the harvesting period, which can vary for different crop products. The "worst case" harvesting scenario in the Coachella Valley occurs four times per year and two weeks each harvest. Therefore, the total annual water demand from BCM-05 occurs approximately 56 days per year. Because these control strategies regulate operations already required to control PM10 emissions through methods, such as watering, the water demand from the whole project is overly conservative and the actual incremental increase will be less that the overall project water demand impact calculated in Table 2-3.

TABLE 2-3

Water Demand from Implementation of Control Strategies BCM-01 and BCM-05

CONTROL MEASURE	ESTIMATED AMOUNT OF WATER NEEDED	DAYS PER YEAR OF WATER DEMAND	TOTAL ANNUAL WATER DEMAND
BCM-01	77,443 gallons per day	260	20,135,180
BCM-05	1,473,707 gallons per day	56	82,527,592
TOTAL	**1,551,150 gallons per day**		**102,662,772 gallons/year**

This increase in water demand is negligible compared to the projected total district supply capacity for year 2005. Current practices allow the Metropolitan Water District (MWD) to bring water supplies on-line at least ten years in advance of demand with a very high degree of reliability. According to the MWD (Report on Metropolitan's Water Supplies, February 11, 2002), "if all imported water supply programs and local projects proceed as planned, with no change in demand projections, the reliability (of their projected numbers) could be assured beyond 20 years." In that same MWD report, the total projected water demand for all MWD water supply programs and local projects in the year 2005, the first future year listed, is 2,199,300 acre-feet (717 billion gallons) and the water supply is 2,557,300 acre-feet (834 billion gallons). Thus, the annual available supply capacity is 358,000 acre-feet (117 billion gallons), and the total annual water demand impact from 2002 CVSIP is 0.09 percent (103 million/117 billion gallons) of the total available supply capacity. Further, this increase in water demand does not exceed the SCAQMD's significance threshold of 5,000,000 gallons per day, and therefore is considered to be not significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING.** Would the project:			
a)	Physically divide an established community?	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑
c)	Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

X. LAND USE AND PLANNING

(a) through (c) The 2002 CVSIP has no land use components with the project description. The proposed project is a plan which outlines control measures to reduce PM10 emissions in Coachella Valley. The proposed project does not require the construction of any structure, building or facility. As a result, the 2002 CVSIP will not physically divide an established community, nor conflict with any land use, habitat conservation or natural community conservation plans.

Based on the above discussion, the proposed project is not expected to create any impacts on local land use and planning.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☑

XI. MINERAL RESOURCES

(a) and (b) No provisions of the proposed project require the loss of availability of known mineral resources, or the loss of availability of a locally-important mineral resource site. The 2002 CVSIP outlines control measures to reduce PM10 emissions in Coachella Valley.

Based on the above, no adverse impacts on mineral resources are expected.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑

d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

XII. NOISE

(a) through (f) No provisions of the 2002 CVSIP expose persons to noise levels in excess of standards established in local general plans or ordinances, or standards of other agencies. The proposed project is a plan which outlines control measures to reduce PM10 emissions in Coachella Valley. The 2002 CVSIP does not require the construction of any structure, building or facility that would expose people to groundborne vibration or noise, or increase ambient noise levels (either temporary or permanent). No structures, buildings or facilities are required as part of the proposed project, and as a result will not affect any airport land use plan or private airstrip.

Based on the above discussion, no adverse noise impacts are expected as a result of the proposed project.

	Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
XIII. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

XIII. POPULATION AND HOUSING

(a) through (c) The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. No provisions of this plan induce growth either directly or indirectly; or displace any housing or substantial numbers of people, requiring the construction of replacement housing. The 2002 CVSIP controls air (PM10) emissions as growth and construction occur.

Based on the above discussion, no impacts to population and housing are expected as a result of the proposed project.

	Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	☐	☐	☑
b) Police protection?	☐	☐	☑
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

XIV. PUBLIC SERVICES

(a) through (e) No provision of the proposed project requires the use of public services such as fire and police protection, schools, parks or other public facilities. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. In addition, this plan includes its own enforcement program to be carried out by SCAQMD inspectors. The SCAQMD will work closely with local agencies and organizations to implement the plan, but does not anticipate an impact on public services.

Based on the above discussion, no impacts to public services are expected as a result of the proposed project.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.?	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☑

XV. RECREATION

(a) and (b) The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. No provisions of this proposed project will increase the need for additional parks or other recreational facilities, or cause the deterioration of existing facilities. The project does not require the development of new recreational facilities or require the construction or expansion of recreational facilities that might have an adverse effect on the environment.

Based on the above discussion, no impacts to recreation are expected from the proposed project.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑

b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

XVI. SOLID/HAZARDOUS WASTE

(a) and (b) The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. No provisions of this plan require solid waste disposal activities. As a result, no impacts on landfill capacity are expected. Any and all applicable control measures within the plan will comply with federal, state and local statutes regarding solid and hazardous waste.

Based on the above discussion, solid and hazardous waste are not expected to be impacted by the proposed project.

	Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
XVII. TRANSPORTATION/TRAFFIC. Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☑	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☑
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☑

f)	Result in inadequate parking capacity?	☐	☐	☑
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

XVII. TRANSPORTATION/TRAFFIC

(a), (b) The 2002 CVSIP includes a number of control measures that may potentially cause an increase in traffic. Truck movements may increase as a result of dust suppression measures that could require trucks to bring water or chemical stabilizers to sites in Coachella Valley as a PM10 control strategy. If chemical stabilization is required, the stabilizer need only be applied once or twice per year, resulting in few new truck trips. Existing SCAQMD Rules 403 and 403.1 require the control of PM10 emissions by watering. The control measures proposed in the 2002 CVSIP would require an expansion of these existing rules. To the extent that more water trucks are required for these increases in control, increased truck movements would not cause a significant adverse impact.

It is not expected that any increases in traffic due to the implementation of control measures outlined in the 2002 CVSIP will cause an exceedance of the level of service established by the county congestion management agency for designated roads or highways.

TABLE 2-4

Potential Increase in Number of Trucks Per Day

CONTROL MEASURE	TRUCK ACTIVITY	# OF TRUCKS PER DAY
BCM-1	Chemical stabilization and watering	3 trucks per day
BCM-2	Chemical stabilization	1 truck per day
BCM-3	Paving and chemical stabilization	1 truck per day
BCM-5	Chemical stabilization and watering	34 trucks per day
	TOTAL	39 trucks per day[(1)]

(1) Please refer to Section III "Air Quality" for the methodology for the number of trucks per day.

This potential increase of 39 trucks per day is not considered significant because it does not exceed the AQMD's significance threshold of 350 heavy-duty truck round-trips per day. In addition, this potential additional traffic (39 trucks per day) will be distributed throughout the entire Coachella Valley.

(c) There are no requirements in the 2002 CVSIP which would affect air traffic patterns. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. The 2002 CVSIP does not require the construction of any building, structure or facility; or require any changes to existing land uses.

(d) There are no provisions of the 2002 CVSIP which would require any transportation/traffic design features. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. The 2002 CVSIP does not require the construction of any building, structure or facility; or require any changes to existing land uses.

(e) There are no requirements in the 2002 CVSIP which would affect any emergency access, or create an inadequate emergency access situation. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. The 2002 CVSIP does not require the construction of any building, structure or facility; or require any changes to existing land uses.

(f) There are no requirements in the 2002 CVSIP which would affect parking capacity, or create an inadequate parking capacity situation. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. The 2002 CVSIP does not require the construction of any building, structure or facility; or require any changes to existing land uses.

(g) There are no requirements in the 2002 CVSIP which would affect adopted policies, plans, or programs supporting alternative transportation. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. The 2002 CVSIP does not require the construction of any building, structure or facility; or require any changes to existing land uses.

Overall, the control measures outlined in the 2002 CVSIP are not expected to generate a substantial number of new vehicle trips and therefore would not have a significant adverse impact on the Coachella Valley transportation system.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.			
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑

b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☑
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☑

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

(a) The proposed 2002 CVSIP does not have the potential to adversely affect the environment, reduce or eliminate any plant or animal species or destroy prehistoric records of the past. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. The 2002 CVSIP does not require the construction of any building, structure or facility; or require any changes to existing land uses.

(b) The proposed 2002 CVSIP does not have the potential to cause cumulative adverse environmental impacts that are individually limited, but cumulatively considerable. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. The 2002 CVSIP does not require the construction of any building, structure or facility; or require any changes to existing land uses.

(c) The proposed 2002 CVSIP does not have the potential to cause environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. The 2002 CVSIP is a plan which outlines air quality control measures to reduce PM10 in Coachella Valley. The 2002 CVSIP does not require the construction of any building, structure or facility; or require any changes to existing land uses.

APPENDIX A

2002 CVSIP CONTROL STRATEGIES

CONTROL STRATEGY SUMMARY

The following summary of the Coachella Valley CV SIP 2002 control strategies intends to provide an overview of:

- source characterization
- control options
- implementation mechanism
- expected implementation schedule

The control strategies are part of the 2002 CVSIP and are provided because they are analyzed in the CEQA document. Other elements of the 2002 CVSIP, such as inventory data and attainment demonstrations, are not provided in detail but are administrative in nature and thus, will not generate any potential adverse environmental impacts. Changes to the project may occur as a result of the most stringent measures (MSM) analyses, but are not expected to substantially change the conclusions regarding the environmental impacts analyzed in this ND. In addition, the specific enforceable SIP commitments are detailed in the draft 2002 CVSIP.

Also included as part of the 2002 CVSIP are any control measures not adopted from previous Coachella Valley plans, such as CV CTY 1. As noted in Chapter 2, control measures carried forward from previous Coachella Valley plans are considered to be part of the existing setting and, therefore, are not analyzed further.

Control strategy measures from the 2002 CVSIP are proposed to be adopted as expeditiously as possible, but no later than the adoption dates outlined in the following table.

Summary of CV SIP 2002 Control Measures

Control Measure	Source Category	Implementing Agency	Adoption Schedule
CV BCM 1	Construction	Local Jurisdictions	Prior to October 1, 2003
		AQMD	Prior to January 1, 2004
CV BCM 2	Disturbed Lands	Local Jurisdictions	Prior to October 1, 2003
CV BCM 3	Upaved Roads	Local Jurisdictions	Prior to October 1, 2003
	Unpaved Parking Lots	Local Jurisdictions	Prior to October 1, 2003
CV BCM 4	Paved Roads	Local Jurisdictions	Prior to October 1, 2003
		AQMD	Prior to January 1, 2004
CV BCM 5	Agriculture	AQMD	Prior to January 1, 2004
CV CTY 1*, [1]	Turf Overseeding	AQMD	Potential triggers include: RFP failure or non-attainment by the year 2006

* Control measure carried over from previous Coachella Valley plans.

[1] While local jurisdictions will continue to take the lead in controlling emissions from construction activities, disturbed vacant lands, paved and unpaved roads, AQMD compliance personnel have the authority under Health and Safety Code §40449 to enforce dust control ordinance provisions and locally-approved dust control plan conditions.

CV BCM 1 – FURTHER CONTROL OF EMISSIONS FROM CONSTRUCTION/EARTH-MOVEMENT ACTIVITIES

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	CONSTRUCTION ACTIVITIES
CONTROL METHODS:	WATERING, CHEMICAL STABILIZATION, WIND FENCING, REVEGETATION, TRACK-OUT CONTROL
IMPLEMENTING AGENCY:	LOCAL GOVERNMENTS/AQMD

DESCRIPTION OF SOURCE CATEGORY

Background

Construction activities are a fugitive dust source that may have a substantial temporary impact on local air quality. Emission sources during construction activities include land clearing, drilling and blasting, ground excavation, cut and fill activities, and windblown emissions from disturbed surfaces. Vehicular travel on disturbed surfaces and material tracked from unpaved surfaces onto paved public roads can also contribute to construction activity emissions. Construction activity fugitive dust emissions can vary significantly from day to day depending on the level/type of activity and wind conditions.[1]

Regulatory History

In the Coachella Valley, construction projects are subject to dust control ordinances that require applicants to obtain local jurisdiction approval of a dust control plan (plan) prior to issuance of a grading permit. The ordinance requires that the plan must include sufficient detail to demonstrate compliance with AQMD Rule 403. In addition, AQMD Rules 403/403.1 serve as backstop regulations for Coachella Valley construction activity emissions. A summary of local jurisdiction dust control ordinance and AQMD Rule 403/403.1 requirements for construction activities is included in Chapter 4.

PROPOSED METHOD OF CONTROL

Local Government Dust Control Ordinances

In order to facilitate enforcement activities at construction sites under local jurisdiction control, a revised model ordinance is proposed to be adopted by all Coachella Valley local jurisdictions as expeditiously as possible and no later than October 2003. In addition to the dust control plan submittal requirements, the revised dust control ordinance is proposed to include the following upgrades to enhance construction site compliance determinations.

[1] U.S. Environmental Protection Agency, Compilation of Emission Factors (AP-42), Chapter 13 - Miscellaneous Sources, January 1995.

- All fugitive dust sources required to implement Coachella Valley Best Available Control Measures (CV BACM). The CV BACM will expand the SIP-approved BACM listed in Chapter 6 of the Rule 403 Implementation Handbook to include the control measures required by CV BCM-1 (including work practice requirements). The CV BACM would be modeled on the Best Management Practices for Dust Control contained in the Clark County Dust Control Handbook (e.g. required control actions based on specific activities, site conditions, etc.), but modified based on local Coachella Valley conditions.
- Dust control plans required prior to issuance of building permits for projects with more than 5,000 square feet of disturbed soils unless a dust control plan has already been issued to the builder/developer through a grading permit. The plan must have the required elements described in the Coachella Valley Dust Control Handbook (which will be developed concurrently with the revised dust control ordinance).
- Site-specific dust mitigation plan required for construction activities greater than or equal to 10 acres (must be forwarded to AQMD after local approval). AQMD staff will compile this information for compliance purposes and not issue a separate approval.
- Construction activities greater than or equal to 10 acres required to notify local jurisdiction/AQMD at least 24-hours prior to initiating earth-movement activities.
- Construction activities greater than or equal to 10 acres required to notify local jurisdiction/AQMD within 10 days of project completion.
- Construction site signage required for projects requiring issuance of grading permit or building permit for a site with greater than or equal to 5,000 square feet (approximately 0.1 acre) of disturbed soils, activities that import or export more than 100 cubic yards of material, or trenching activities greater than 100 feet in length. AQMD staff proposes to scale the signage requirements based on project site acreage (i.e., smaller/fewer signs required for trenching activities and sites with between 5,000 square feet to ten acres with larger signage required for sites with more than ten acres). Based on guidance contained in Clark County and Maricopa County regulations, sites with more than ten acres would be required to install four-foot by eight-foot signs with the following information provided in three-inch lettering: project name, permittee name, phone number of person(s) responsible for dust control, local jurisdiction phone number, AQMD phone number, dust control permit (plan) number, and project acreage.
- Dust control monitor (responsible person) required for sites with greater than or equal to 50 acres of actively disturbed soils. Monitor(s) must be hired by property owner or developer, have dust control as primary responsibility, and have the authority to initiate dust control measures.

Work Practice Requirements

Under existing dust control ordinance requirements, activities that submit a dust control plan are required to provide sufficient detail to demonstrate compliance with AQMD Rule 403. In order to provide more direct guidance, the AQMD proposes that specific work practices be incorporated into the revised dust control ordinance. These work practice requirements are based on the most stringent requirements contained in Clark and Maricopa County

regulations and are intended to ensure a baseline level of control regardless if a plan has been submitted. Specific dust control work practices include the following:

- Earth-moving operations on sites with greater than one acre of disturbed surfaces required to operate a water application system (i.e., water truck) while conducting earth-moving operations, if watering is the selected control measure.
- Short-term stabilization (maintaining soils in a damp condition, surface crust, or chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months) required for after-hours/weekends.
- Long-term stabilization techniques (e.g., vegetation, chemical stabilization with access restriction) required within 10 days for areas where construction activities are not scheduled for 30 days.
- Track-out control device (washed gravel pad at least 30 feet wide, 50 feet long, and six inches deep, paving starting from the point of intersection with a paved public roadway and extending for a centerline distance of at least 100 feet and a width of at least 20 feet, wheel shaker device or wheel wash system) required for construction projects greater than or equal to five acres or those that import/export greater than or equal to 100 cubic yards per day. Additional track-out control devices may be considered during program implementation. Regardless of project size or track-out control device selected, material tracked-out onto a paved public or private road must be removed at anytime it extends more than 25 feet from a site entrance (approximate width of two travel lanes) and at the conclusion of the work day.

LOCAL GOVERNMENT/AQMD AGREEMENTS

To ensure a uniform approach to development and approval of dust control plans, all jurisdictions are proposed to be required to adopt the Coachella Valley Dust Control Handbook in conjunction with the revised dust control ordinance. The Coachella Valley Dust Control Handbook will be an enforceable upgrade to the Coachella Valley Dust Control Plan Review Guidance document approved by the Coachella Valley Association of Governments (CVAG) in March 2001 (see Appendix B). The intent of the Coachella Valley Dust Control Handbook is to specify the procedures for preparation and approval of a dust control plan, similar to the Handbooks prepared by Maricopa and Clark Counties. Proposed elements of the Coachella Valley Dust Control Handbook include:

- Project applicant forms
- Project description forms (acreage, phasing, water sources)
- Requirements for site mapping (site location/boundaries and all access points)
- Forms for notifying local jurisdictions/AQMD of project initiation/completion
- Standards (dimensions, lettering, location, etc.) for construction site signage
- List of Coachella Valley Best Available Control Measures (CV BACM) for fugitive dust sources

- Forms to describe the CV BACM to be implemented on-site (routine dust control measures in sufficient detail to facilitate compliance determinations and a description of the contingency control measures to be implemented if the routine measures are ineffective)
- Estimates of daily throughput
- Detailed description of track-out control system (gravel pad, wheel washer, etc.) and procedures for removal of material that extends more than 25 feet (approximate width of two travel lanes) from any site access point
- Identification of dust control monitor (responsible person) for sites with greater than or equal to 50 acres of actively disturbed soils.
- Checklist for local government plan reviewers
- Sample recordkeeping form

Finally, the AQMD is proposing to specify enforcement guidelines, such as through a Memorandum of Understanding (MOU) with either CVAG or each local jurisdiction to specify responsibilities and commitments (permitting fees, enforcement staffing, penalty procedures, etc.) associated with the revised dust control ordinance provisions.

AQMD Regulations

Construction/earth-movement activities that are not required to obtain grading/building permits from local jurisdictions (School Districts, Flood Control Maintenance, CalTrans, railroads, etc.) are currently subject to AQMD Rules 403/403.1 (summarized in Chapter 4). Under the planned dust control program upgrades, the AQMD proposes to revise these regulations to require:

- Implementation of CV BACM instead of Rule 403 RACM that are currently required. These CV BACM would be required for all Coachella Valley fugitive dust sources.

- An AQMD-approved dust control plan (plan) for any source not under local jurisdiction control with greater than or equal to one acre of disturbed surfaces, or those that import/export greater than or equal to 100 cubic yards per day, or trenching activities greater than 100 feet in length.

- An AQMD-approved plan must follow the Coachella Valley Dust Control Handbook procedures summarized above. For routine maintenance activities of road shoulders, flood control channels, railroad tracks / right-of-ways, etc., one AQMD-approved plan can be developed and approved for multiple sites provided that sufficient information is provided to describe dust control efforts. This portion of CV BCM-1 implements MSM on most unpaved road shoulders in the Coachella Valley. The remainder of the unpaved road shoulders are addressed in CV BCM-4, which identifies and sets control requirements for unpaved road shoulders not covered by maintenance activities.

EMISSION REDUCTIONS

All of the control options listed above represent existing technologies that are presently available to construction site managers. For more traditional air pollution sources, such as point sources, emissions reductions are calculated by multiplying the baseline emissions by the effectiveness of a given control technology (e.g., selective catalytic reduction). For non-traditional air pollution sources, such as fugitive dust, emissions reductions calculations are more difficult because the level of control necessary to comply will vary greatly due to site-specific conditions. For example, a construction site in a wind-protected cove area of the desert may need to apply less water to a grading project when compared to a site located in the Coachella Valley blowsand zone. Moreover, many of the proposed rule requirements allow various control options. Accordingly, it is not possible to quantify precise emissions reductions from implementation of the proposed revised dust control ordinance/AQMD rule requirements. A study conducted by the Midwest Research Institute that monitored PM10 emissions both with and without an extensive watering program, however, determined that an effective watering program can reduce PM10 emissions by 60 to 90 percent.[4] Some of these reductions are already attributed to the RACM and BACM measures currently in the local ordinances and the 1992 version of Rule 403. Staff also estimated emission reductions associated with upgrading the 1992 version of Rule 403 (RACM/BACM) to full BACM when the AQMD Rule 403 BACM amendments were adopted in February 1997. These "BACM" control factors (ten percent reduction per year) have been applied to Coachella Valley construction activities as a conservatively low estimate of the effectiveness of CV BCM-1. Reductions of entrained paved road dust resulting from the additional track-out controls are described in CV BCM-4.

RULE COMPLIANCE/TEST METHODS/RECORDKEEPING

The following test methods/performance standards are proposed for the locally-adopted dust control ordinances and AQMD regulations: visible plume length limit (e.g., 100 - 300 feet), 20 percent opacity for active operations, silt loading not to exceed 0.33 ounces/square foot or silt content not to exceed 6 percent for haul roads, and drop ball/threshold friction velocity for disturbed surface areas.

Self-inspection records (daily inspection of damp or crusted soils, track-out conditions, water usage) must be prepared and retained for three years after project completion and must be made available to the local jurisdiction/AQMD upon request. The Coachella Valley Dust Control Handbook will contain sample recordkeeping forms. Activities that use chemical dust suppressants are required to maintain records indicating type of product applied, vendor name, and the method, frequency, concentration, and quantity of application.

SIP Commitments

The local ordinances and the Coachella Valley Dust Control Handbook (including list of CV BACM) will be prepared with the assistance of CVAG, local jurisdictions, and industry through the CV Task Force, which also includes representatives from the AQMD, CARB,

[4] Midwest Research Institute, Improvement of Specific Emission Factors, March 29, 1996

and U.S. EPA. Per direction by CVAG's Energy and Environmental Resources Committee, the CV Task Force will prepare a model ordinance and the Coachella Valley Dust Control Handbook. After review and approval by CVAG's Energy and Environmental Resources Committee and its Executive Committee, each jurisdiction will adopt the model ordinance and Handbook as expeditiously as possible, no later than October 2003. During that time, AQMD staff will be preparing proposed amendments to Rules 403, 403.1, and 1186, as necessary, to implement this control measure. As expeditiously as possible and no later than January 1, 2004, the AQMD will adopt the amended rule(s), the Coachella Valley Dust Control Handbook, and any related amendments to the Rule 403 Implementation Handbook.

In the Coachella Valley, the responsibility of construction activity compliance determinations falls on local code enforcement officers/building inspectors and AQMD inspectors. While AQMD inspectors are trained and certified to conduct visible emission evaluations (VEE), local jurisdiction staff is presently not familiar with test methods based on opacity. Accordingly, the enhanced Coachella Valley dust control program needs to develop a series of test methods that can be effectively utilized by local jurisdictions, AQMD staff, and industry. Efforts to develop and evaluate test methods are ongoing in other PM10 non-attainment areas and AQMD staff commits to evaluate these programs for possible inclusion into the revised dust control ordinance, the Coachella Valley dust control handbook, and AQMD regulations. Specifically, the AQMD will research and evaluate test methods for construction activity sources, designed to be enforceable and meet BACM requirements for stringency. Furthermore, the test methods developed by AQMD would need to be approved by the U.S. EPA.

Subsequent to adoption of the revised dust control ordinance and AQMD regulations, the AQMD commits to conduct compliance training classes for local government staff and industry. The compliance training classes will be similar to those currently conducted by AQMD staff and participants will receive a certificate of attendance. Based on input from local jurisdictions and industry, the MOU or other enforcement protocols that may be adopted in conjunction with the revised dust control ordinance is proposed to contain a requirement that persons submitting a dust control plan must demonstrate attendance at an AQMD-sponsored compliance training class.

COST EFFECTIVENESS

In 1997, AQMD adopted amendments to Rule 403. Among other requirements, these amendments upgraded the existing RACM implementation requirement to require BACM for all fugitive dust sources in the South Coast Air Basin. The cost-effectiveness of these upgrades was estimated at $197 per ton of PM10 reduced. [5]

[5] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

Implementing Agency

Local jurisdictions have the authority to require and enforce conditions of approval (i.e., plan conditions) prior to issuance of building/grading permits. Additionally, Health and Safety Code Section 40449 states that there are no limitations on cities or counties to adopt any ordinance that is more stringent than and not in conflict with AQMD regulations. Under this Health and Safety Code Section, AQMD also has the authority to enforce locally-adopted ordinance provisions and conditions of approval placed on construction projects. The AQMD has the authority to adopt and enforce rules and regulations to achieve and maintain the National Ambient Air Quality Standards under Health and Safety Code Section 40460 and 40440(a).

CV BCM 2 – DISTURBED VACANT LANDS

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	DISTURBED VACANT LANDS
CONTROL METHODS:	CHEMICAL STABILIZATION, WIND FENCING, ACCESS RESTRICTION, REVEGETATION
IMPLEMENTING AGENCY:	LOCAL GOVERNMENTS/AQMD

Description of Source Category

Background

Fugitive dust emissions can be generated by wind erosion of vacant lands and areas that have been disturbed by man-made activities. In the Coachella Valley, a unique situation exists where approximately 20,000 acres of vacant land have been preserved to protect the federally threatened Coachella Valley fringe-toed lizard. These animals rely on sand migration for foraging and habitat and thus, the control of fugitive dust from wind erosion is prohibited in these areas. Accordingly, the proposed disturbed vacant land controls target areas subject to man-made disturbances (i.e., off-road vehicle use, inactive construction sites, etc.). As mentioned in Chapter 2, exclusion of certain air quality data is allowed under the U.S. EPA Natural Events Policy if it can be documented that emissions are attributable to a natural source such as the Coachella Valley preserve.

Regulatory History

The dust control ordinance currently requires owners of unimproved property to discourage off-road motor vehicle use through signage and/or fencing as deemed necessary by local jurisdiction. In addition, AQMD Rules 403/403.1 serve as backstop regulations for the dust control ordinance. A summary of local jurisdiction dust control ordinance and AQMD Rule 403/403.1 requirements is included in Chapter 4.

Proposed Method of Control

In order to facilitate enforcement activities on disturbed vacant lands, a revised dust control ordinance is proposed for adoption by all Coachella Valley local jurisdictions. The revised dust control ordinance is proposed to include the following upgrades to further reduce emissions from disturbed surface areas.

- Owners/operators of vacant lands with disturbed surfaces greater than or equal to 5,000 square feet are required to either 1) prevent trespass by installing physical barriers such that a surface crust is developed, or 2) treat the disturbed surfaces such that a surface crust is formed. Treatment options include uniform application and maintenance of two inches of washed gravel or chemical/organic dust suppressants to all disturbed areas at a level sufficient to develop and maintain a surface crust. Determination of a surface crust is based

on drop ball, threshold friction velocity, and/or another U.S. EPA-approved alternative test method. When an owner/operator has applied physical access restrictions and an acceptable surface crust has not been established, treatment of disturbed vacant lands with greater than or equal to 5,000 square feet will be required unless such treatments are considered technically unfeasibility (steep slopes or conflicts with the federal Endangered Species Act or other federal and State regulations[6]). These treatments shall be required within 30 days of initial discovery by either the local jurisdiction or the AQMD and must be maintained in a condition that to meet the applicable performance standards.

- Owner/operators of vacant lands where weed abatement is conducted by disking or blading that disturbs more than 5,000 square feet are required to apply water before and during weed abatement activities and stabilize the site after activities have ceased. Acceptable stabilization techniques include vegetative ground cover, chemical dust suppressants, washed gravel, or implementation and maintenance of an alternative U.S. EPA-approved control measure that results in a surface crust. Demonstration of an acceptable surface crust is based on drop ball, threshold friction velocity, and/or another U.S. EPA-approved alternative test method.

SIP Commitment (AQMD Regulations and/or Interagency Agreements)

In the Coachella Valley, there are governmental agencies such as the Bureau of Land Management (BLM) and water districts that control large parcels of undeveloped land. Based on information provided, local jurisdictions have no land use authority for BLM lands or actions that involve the delivery, storage, and transmission of public utilities. Accordingly, AQMD will explore interagency agreements and/or AQMD regulations that would include similar requirements for disturbed vacant land control as required by the revised Coachella Valley dust control ordinance. The Bureau of Land Management has indicated that efforts are currently underway to implement programs to control off-highway vehicle (OHV) use through the Coachella Valley Amendment to the California Desert Area Conservation Plan.[7] AQMD staff will continue to work with stakeholders, including the Bureau of Land Management, U.S. Fish and Wildlife, developers, and local governments, to identify and implement these types of controls for areas impacted by sand movement from the natural lands (e.g. Fringe-toed lizard preserve, the proposed Multi-Species Habitat Conservation Plan [MSHCP] lands, and the Whitewater channel, as called for in the SIP commitment in the 2002 CVSIP). It should be noted that the Endangered Species Act and other federal and state regulations may limit control options on certain government lands.

Emission Reductions

All of the control options listed above represent existing technologies that are presently available to owner/operators of disturbed vacant lands. As with the proposed controls for construction activities, there is a range of compliance options for reducing PM10 emissions

[6] The Definition of steep slopes and areas that conflict with the federal Endangered Species Act will be developed during program implementation.

[7] Jim Kenna, U.S. Bureau of Land Management Staff, personal communication with Mike Laybourn, South Coast Air Quality Management District Staff, April 26, 2002.

from disturbed vacant lands. Accordingly, it is difficult to estimate the percent reduction from this source category. For reference, the AQMD 1990 CVSIP estimated that vacant land control measures (vegetative cover, chemical stabilization, and wind fencing) would reduce emissions by 28 percent.[8] Until rule development clarifies the effectiveness of the measures beyond the local ordinance and AQMD rule provisions, the 2002 CVSIP does not take emission reduction credit for CV BCM-2.

Rule Compliance/Test Methods/Recordkeeping

The following test methods/performance standards are proposed for the locally-adopted dust control ordinance requirements for disturbed vacant lands and weed abatement activities: surface crust, drop ball, vegetative cover, rock test and/or threshold friction velocity.

To proactively address potential wind erosion emissions from disturbed vacant lands, owners of disturbed vacant lands that are subject to the revised dust control ordinance provisions are required to notify the City (County) of the location of subject vacant lands and owner contact information within 90 days of ordinance adoption.

Owner/operators of disturbed vacant lands are required to compile records of evidence that documents compliance with the ordinance requirements. Said records of evidence may include, but shall not be limited to, name and contact person of all firms contracted with for access restriction or dust suppression, listing of all dust control implements used on-site, and proof (invoices from dust suppressant and dust control implement vendors) of dust suppressant application. The records must be retained for three years and made available to the City (County) and AQMD upon request.

Cost Effectiveness

Cost-effectiveness calculations for controlling emissions from disturbed vacant lands were calculated in the 1990 CVSIP as follows: stabilizing blowsand areas with chemical stabilizers - $810/ton PM10 reduced, snow fence windbreaks - $281/ton PM10 reduced, tree wind breaks - $409/ton PM10 reduced, and vegetative planting $532/ton PM10 reduced.

Implementing Agency

Under general police powers, local jurisdictions have the authority to impose requirements and enforce ordinance requirements on owners of disturbed vacant lands. Additionally, Health and Safety Code Section 40449 states that there are no limitations on cities or counties to adopt any ordinance that is more stringent than and not in conflict with AQMD regulations. This Health and Safety Code Section also provides the AQMD with the authority to enforce locally-adopted ordinance provisions.

[8] South Coast Air Quality Management District, State Implementation Plan for PM10 in the Coachella Valley, November 1990.

CV BCM 3 – UNPAVED ROADS AND UNPAVED PARKING LOTS

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	UNPAVED ROADS AND UNPAVED PARKING LOTS
CONTROL METHODS:	PAVING, CHEMICAL STABILIZATION, ACCESS RESTRICTION, REVEGETATION
IMPLEMENTING AGENCY:	LOCAL GOVERNMENTS/AQMD

Description of Source Category

Background

Continued growth and development in the Coachella Valley has resulted in conversion of many unpaved surfaces to paved areas. Additionally, unpaved roads and unpaved parking lots are typically not permitted in new land use developments. In spite of this, existing vehicular travel on and windblown emissions from unpaved roads and unpaved parking lots continue to generate significant amounts of fugitive dust and the accompanying PM10 emissions.

Regulatory History

The existing model ordinance requires that owners of public or private unpaved roads with between 20 and 150 average daily traffic (ADT) levels must take measures (signage or speed control devices) to reduce vehicular speeds to 15 miles per hour. Owners of public or private unpaved roads with more than 150 ADT are required to pave the roadway or submit a Fugitive Dust Mitigation Plan that specifies the method(s) to reduce fugitive dust emissions within six months of ordinance adoption. In addition, AQMD Rule 403 serves as a backstop regulation for the dust control ordinance. A summary of local jurisdiction dust control ordinance and AQMD Rule 403 requirements to reduce emissions from unpaved roads and parking lots is included in Chapter 4.

PROPOSED METHOD OF CONTROL

In order to improve enforcement determinations for unpaved roads and parking lots, a revised model ordinance is proposed to be adopted by all Coachella Valley local jurisdictions. The revised dust control ordinance is proposed to include the following upgrades to further reduce emissions from unpaved roads and unpaved parking lots.

UNPAVED ROADS

- Upon dust control ordinance adoption, new unpaved roads or alleys are prohibited as public thoroughfares after July 1, 2002 unless chemical dust suppressants are applied and maintained according to the applicable standards/test methods.

- Owner/operators of public or private unpaved roads with between 20 and 150 average daily traffic (ADT) levels must take measures (signage or speed control devices) to reduce vehicular speeds to 15 miles per hour *(existing model ordinance requirement).*
- Owner/operators of public or private unpaved public roads, including alleys, constructed prior to July 1, 2002, that have ADT levels of 150 or more, are required to pave or apply and maintain chemical dust suppressants according to the applicable rule standards/test methods in accordance with the following schedule:
  - ✓ 1/3 of qualifying unpaved roads within one year of ordinance adoption with the remainder treated within three years of ordinance adoption. For jurisdictions with more than six miles of qualifying roads, the treatment schedule is a minimum of two miles paved or four miles treated with chemical stabilizers within one year of ordinance adoption and annually thereafter until all qualifying roads have been treated. [Note: Treatments in excess of the annual requirement can be credited toward future year requirements].

UNPAVED PARKING LOTS

- Upon dust control ordinance adoption, new unpaved parking lots are prohibited unless treated with chemical dust suppressants or stabilized with chemical dust suppressants in travel lanes and two inches of uniformly applied washed gravel in parking areas and maintained in accordance with the applicable standards/test methods.
- Owners/operators of existing unpaved parking lots are required to pave, apply chemical dust suppressants, or apply washed gravel, according to the applicable rule standards/test methods within six months of ordinance adoption.
- Owners/operators of temporary unpaved parking lots (used no more than 35 days a year) are required to implement control measures [apply dust suppressants or apply washed gravel] according to the applicable rule standards/test methods on days when more than 10 vehicles enter and park. Temporary unpaved parking lots greater than 5,000 square feet are subject to disturbed vacant land controls during non-parking periods.

SIP Commitments

Currently, the AQMD and some local jurisdictions have very limited data regarding Average Daily Traffic (ADT) levels on Coachella Valley public or private unpaved roads. The revised dust control ordinance requires local jurisdictions to provide unpaved road ownership, location, and estimates of ADT levels. AQMD staff will review this information in conjunction with the 2003 CVSIP revision and will evaluate the proposed unpaved road treatment schedule/thresholds in accordance with the emission reductions necessary to demonstrate PM10 attainment.

EMISSION REDUCTIONS

All of the control options listed above represent existing technologies that are presently available to owner/operators of unpaved roads and unpaved parking lots. Because the proposed control measure allows the implementation of a variety of control options it is difficult to estimate the accompanying emission reductions. The 1997 AQMD staff report

for Rule 1186 (applicable to unpaved roads within the South Coast Air Basin) included the following emission reduction percentages for the various control options paving unpaved roads - 94 percent reduction, chemical stabilization - 75 percent reduction, and 15 mile per hour speed limits - 50 percent reduction.[9] Based on the Rule 1186 staff report, unpaved road dust emissions are estimated to decrease by a four percent per year for the years 2004 through 2006. Additional reductions will occur after 2006, based on the implementation schedule for jurisdictions with more than 6 miles of applicable unpaved roads.

RULE COMPLIANCE/TEST METHODS/RECORDKEEPING

The following test methods/performance standards are proposed for the locally-adopted dust control ordinances: visible plume length limit of 100 - 300 feet, 20 percent opacity standard, a 6 percent silt content standard and a 0.33 ounces per square foot silt loading standard (for unpaved roads), an eight percent silt content standard and a 0.33 ounces per square foot silt loading standard (for unpaved parking lots), and/or gravel applied uniformly and maintained to a depth of two inches.

To proactively address potential emissions from unpaved roads and unpaved parking lots owner/operators must report unpaved road locations and ADT estimates and parking lot size to the applicable jurisdiction within six months of ordinance adoption. Local jurisdictions are then required to prepare annual reports that describe the total unpaved road miles within their jurisdictional boundaries and the miles paved or treated in compliance with the revised dust control ordinance requirements until all applicable roads are in compliance. The annual reports must also include an inventory of unpaved parking lots within the jurisdiction and describe the control actions implemented to demonstrate compliance with the ordinance requirements. If chemical dust suppressants are used as an alternative to paving, then the annual report shall include the date, amount and proposed frequency of chemical dust suppressant application, and the manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. These records must be retained for three years and made available to the local jurisdiction/AQMD upon request.

COST EFFECTIVENESS

Costs for unpaved road treatments were estimated in the 1997 AQMD Rule 1186 staff report as follows: paving - $350,000 per mile, chemical stabilization - $16,107 per mile, and speed limit reduction: $200 per sign with four signs required per mile for a total of $800 per mile. The overall cost-effectiveness of AQMD Rule 1186 unpaved road treatment requirements was estimated at $958 per ton of PM10 reduced.[10]

IMPLEMENTING AGENCY

Under general police powers, local jurisdictions have the authority to impose dust control ordinance requirements on owner/operators of unpaved roads and parking lots and enforce

[9] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.
[10] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

the accompanying dust control ordinance provisions. Additionally, Health and Safety Code Section 40449 states that there are no limitations on cities or counties to adopt any ordinance that is more stringent than and not in conflict with AQMD regulations. This Health and Safety Code Section also provides AQMD with the authority to enforce locally-adopted ordinance requirements.

CV BCM 4 – PAVED ROAD DUST

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	PAVED ROAD DUST
CONTROL METHODS:	MINIMAL TRACK-OUT, STABILIZATION OF UNPAVED ROAD SHOULDERS, CLEAN STREETS MANAGEMENT
IMPLEMENTING AGENCY:	LOCAL GOVERNMENTS/AQMD

Description of Source Category

Background

Based on existing methodologies to estimate emissions, entrained road dust PM10 emissions are one of the largest source categories in the Coachella Valley. Many sources contribute to paved road silt loadings that in turn contribute to PM10 emissions. The U.S. EPA identifies the following as potential sources for deposition of material onto paved roadways: 1) pavement wear and decomposition, 2) vehicle-related deposition, 3) dustfall, 4) litter, 5) vehicles traveling from unpaved to paved surfaces [track-out], 6) erosion from adjacent areas, 7) spills, 8) biological debris, and 9) ice control compounds.[11]

Regulatory History

Vehicular track-out of material from unpaved to paved surfaces is currently addressed through local dust control plan conditions on construction sites/unpaved roads and through AQMD Rule 403 backstop requirements. Chapter 4 describes these existing regulatory requirements.

As mentioned, entrained road dust PM10 emissions are one of the largest source categories in the Coachella Valley. Accordingly, several control measures were originally included in the 1990 CVSIP. These control measures (e.g., post-event/enhanced street cleaning, road shoulder stabilization, etc.) were collectively referred to as the Coachella Valley clean streets management program. Since that time, CVAG staff worked diligently to secure funding for the clean streets management program. The result being the allocation of Congestion Management and Air Quality (CMAQ) funds, as established under the federal Intermodal Surface Transportation Efficiency Act (ISTEA), now referred to as the Transportation Efficiency Act for the 21st Century (TEA-21). Appendix C of the 1996 Coachella Valley Maintenance Plan contains a table that summarizes these projects.

In 1996, Sunline Transit Agency was allocated $2,500,000 in CMAQ funds to procure PM10-efficient street sweeping equipment (also referred to as Rule 1186-certified equipment) that is powered by alternative fuels. Sunline Transit Agency has utilized this equipment to conduct routine street sweeping on high ADT roadways and to remove

[11] U.S. EPA, Compilation of Emission Factors (AP-42), December, 1985.

material from paved public roads following wind storms (post-event street cleaning). CVAG continues to track CMAQ funding sources in order to secure future allocations.

PROPOSED METHOD OF CONTROL

Presently there are two methods to reduce the amount of material deposited onto paved roadways; preventive measures and mitigative measures. Preventive measures attempt to prevent deposition of material onto roadway surfaces while mitigative measures seek to remove material that has previously been deposited into driving lanes. EPA guidance strongly recommends implementation of preventive rather than mitigative measures for a variety of reasons. First, preventive measures are more reliable and require less effort for surveillance, enforcement, and administration. Secondly, in the long term, prevention is considered to be more economically and environmentally beneficial when compared to mitigation.[12]

Local Jurisdiction Dust Control Ordinances

The following are proposed upgrades to the Coachella Valley local jurisdiction dust control ordinances:

- Upon ordinance adoption, new or modified paved roads with 500-3,000 annual average daily vehicle trips must be constructed with four foot paved shoulders. Curbing adjacent to the travel lane or application and maintenance of chemical dust suppressants or washed gravel can be utilized in lieu of paving provided that such treatments maintain a stabilized surface.

- Upon ordinance adoption, new or modified paved roads with more than 3,000 annual average daily vehicle trips must be constructed with eight foot paved shoulders. Curbing adjacent to the travel lane or application and maintenance of chemical dust suppressants or washed gravel can be utilized in lieu of paving provided that such treatments maintain a stabilized surface.

- Upon ordinance adoption, new or modified paved roads with medians and projected average daily trips of greater than or equal to 500 vehicles must pave the median area unless the speed limits are set at or below 45 miles per hour; or the medians are landscaped and maintained with grass or other vegetative ground cover and are surrounded by curbing; or the medians are treated and maintained with chemical dust suppressants in sufficient quantity and frequency to establish a stabilized surface and are surrounded by curbing.

- Upon ordinance adoption, remediate erosion-caused deposits of bulk material on paved roads by removing such material within 24 hours after identification or prior to resumption of traffic, where the pavement area has been closed to traffic.

- Track-out control device (washed gravel pad at least 30 feet wide, 50 feet long, and six inches deep, paving starting from the point of intersection with a paved public roadway

[12] U.S. EPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, 1992.

and extending for a centerline distance of at least 100 feet and a width of at least 20 feet, wheel vibrator or wheel wash system) required for construction projects greater than five acres or those that import/export greater than or equal to 100 cubic yards per day. Additional track-out control devices may be considered during program implementation. Regardless of project size or track-out control device selected, material tracked-out onto a paved public or private road must be removed at anytime it extends more than 25 feet (approximate width of two travel lanes) from a site entrance and at the conclusion of the work day.

AQMD Regulations

AQMD currently requires the implementation of RACM in the Coachella Valley to prevent track-out of material onto paved public roads. The AQMD proposes to upgrade this provision to require the implementation of CV BACM. Additionally, AQMD proposes to require the use of Rule 1186-certified equipment for Coachella Valley routine street sweeping.

The construction activity control measure (CV BCM 1) includes a proposed requirement that activities that do not require issuance of a locally-approved grading permit and are greater than or equal to one acre of disturbed surfaces, or those that import/export greater than or equal to 100 cubic yards per day, or trenching activities greater than 100 feet in length must obtain an AQMD-approved dust control plan. This proposed requirement further states that one AQMD-approved plan can be developed and approved for routine maintenance activities (i.e., road shoulder/flood control channel maintenance) on multiple sites provided that sufficient information is provided to describe dust control efforts during the activity and stabilization procedures after activities have ceased. These provisions will ensure the control of fugitive dust from road shoulder maintenance activities which, collectively would exceed the proposed one acre threshold.

SIP Commitments

Implement the clean streets management program as administrated by CVAG. Explore contracts with Sunline Transit Agency to utilize TEA-21 CMAQ funding to stabilize existing unpaved shoulders on roadways with high ADT levels or high truck volumes. Seek additional sources of permanent funding. To date, there is currently very limited information regarding the extent of existing paved roads that are not in compliance with the proposed standards for new or modified paved roads. Accordingly, local jurisdictions are required to compile information regarding existing paved roads (i.e., shoulder width) and submit this information to the AQMD within one year of ordinance adoption. This information will be compiled with the goal of stabilizing existing unpaved road shoulders that are influenced by high traffic volumes or heavy-duty truck traffic. CV BCM-1 implements MSM on most of the major unpaved road shoulders in the Coachella Valley, which are graded or otherwise disturbed. The remainder of the unpaved road shoulders are addressed in CV BCM-4, which identifies and sets control requirements for unpaved road shoulders not covered by maintenance activities.

Emission Reductions

All of the control options listed above represent existing technologies that are presently available to owner/operators of paved roads. The 2002 CV SIP control factors are based on AQMD Rule 403 track-out provisions (15 percent annual reduction beginning in 2003) and AQMD Rule 1186-certified street sweeper requirements (seven percent annual reduction beginning in 2004).[13]

Limited research has been conducted regarding the effectiveness of curb and gutter or road shoulder improvements (e.g., chemical stabilization/asphaltic road base) in reducing paved road silt loading. Dust loadings for streets with uncurbed shoulders were, however, estimated to be four times greater than that observed for curbed streets.[14]

Rule Compliance/Test Methods/Recordkeeping

The following test methods/performance standards are proposed for the locally-adopted dust control ordinances: a 20 percent opacity standard or a six percent silt content standard and a 0.33 ounces per square foot silt loading standard. Where washed gravel is used as an alternative to paving, such gravel must be applied uniformly and maintained to a depth of two inches.

Local jurisdictions are required to prepare annual reports describing compliance with the paved roads requirements. Such records must include the total miles of paved roads under the owner/operator's jurisdiction, an inventory of existing paved roads that are not in compliance with the standards for new or modified paved roads, and the miles of paved roads constructed or modified during the reporting period. For newly constructed or modified roads, documentation that demonstrates compliance with the revised dust control ordinance provisions. The annual report must be submitted to AQMD within one-year of ordinance adoption and annually thereafter. These reports must be retained for three years.

Cost Effectiveness

Costs for unpaved road shoulder improvements were estimated in the AQMD Rule 1186 staff report as follows: curb and gutter - $ 79,200 per mile, chemical stabilization - $2,384 per mile, asphaltic road base - $6,800 per mile. The resulting cost-effectiveness for BCM 1d/e (curb and gutter/road shoulder stabilization) was estimated at $5,527 per ton PM10 reduced. The average price of a traditional street sweeper is $120,000. The average price of a Rule 1186-certified (previously referred to as a PM10 efficient street sweeper) is $157,148. The resulting price differential is $37,148 and cost-effectiveness was estimated at $1,199 per ton PM10 reduced. [15]

[13] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.
[14] U.S. EPA, Control of Open Fugitive Dust Sources, Document Number EPA-450/3-88-008, Office of Air Quality Planning and Standards, 1988.
[15] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

Implementing Agency

Under general police powers, local jurisdictions have the authority to implement dust control ordinance requirements. Additionally, Health and Safety Code Section 40449 states that there are no limitations on cities or counties to adopt any ordinance that is more stringent than and not in conflict with AQMD regulations. This Health and Safety Code Section also provides the AQMD with the authority to enforce locally-adopted ordinance provisions. The AQMD has the authority to adopt and enforce rules and regulations to achieve and maintain the National Ambient Air Quality Standards under Health and Safety Code Sections 40460 and 40440(a).

CV BCM 5 - CONTROL OF EMISSIONS FROM AGRICULTURAL ACTIVITIES

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	AGRICULTURE
CONTROL METHODS:	REQUIREMENTS TO IMPLEMENT AGRICULTURAL HANDBOOK CONSERVATION PRACTICES
IMPLEMENTING AGENCY:	AQMD/U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCE CONSERVATION SERVICE (NRCS)

Description of Source Category

Background

Continued growth in the Coachella Valley has resulted in conversion of many agricultural parcels to urban development. In some areas, however, agriculture remains a significant land use activity. There are a variety of soil preparation, soil maintenance, and harvesting operations that contribute to agricultural fugitive dust and the resulting PM10 emissions. EPA has listed these agricultural activities as plowing, disking, fertilizing, applying herbicides and insecticides, bedding, flattening and firming beds, planting, cultivating, and harvesting.[16] Factors influencing the amount of fugitive dust include: type of activity being conducted, farming equipment used, equipment speeds, wind speeds, soil type and soil moisture content. In addition to these agricultural activities, wind erosion of bare or partially vegetated soils can generate significant amounts of fugitive dust.

Regulatory History

As described in Chapter 4, Coachella Valley agricultural activities are currently subject to AQMD Rule 403.1 provisions that prohibit tilling activities when wind gusts exceed 25 miles per hour. Wind conditions are determined through AQMD forecasts or through use of an on-site anemometer. Facilities that use an on-site anemometer must register the equipment with the AQMD and must maintain records of daily wind conditions.

Proposed method of control

In the South Coast Air Basin, agricultural activities greater than ten acres are subject to AQMD Rule 403 general requirements unless the producer voluntarily implements the conservation practices specified in the Rule 403 Agricultural Handbook and maintains records of the specific practices implemented on-site. AQMD intends to develop a similar program for the Coachella Valley and tailor the control measures to be specific to Coachella Valley producers.

[16] U.S. Environmental Protection Agency (EPA), September 1988, Control of Open Fugitive Dust Sources, Office of Air Quality Planning and Standards, Research Triangle Park, NC, EPA-450/3-88-008

The following is a summary of the proposed revisions to AQMD regulations that would be applicable to Coachella Valley agricultural activities.

- Agricultural Handbook conservation practices required for agricultural operations greater than or equal to ten acres. The Agricultural Handbook specifies menu of conservation practices for:

  ✓ Active sources (tilling, soil preparation, etc.)
  ✓ Inactive sources (producing/fallow fields)
  ✓ Unpaved equipment storage/maintenance areas
  ✓ Track-out prevention
  ✓ Unpaved roads
  ✓ Storage piles

- Specific conservation practices for unpaved roads and equipment areas (watering, uniform layer of washed gravel, or application of chemical dust suppressants) required during harvesting season.

- Maintain existing Rule 403.1 prohibition of agricultural tilling on days when wind gusts exceed 25 miles per hour. A one-day exemption from the tilling prohibition is provided when a high-wind forecast has been issued for the previous two consecutive days.

SIP Commitment

The AQMD Agricultural Handbook was developed in conjunction with representatives from Western Riverside County agricultural producers, and staff from the U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS), the County Agricultural Commissioners office and the Resource Conservation District (RCD). Based on information provided from Coachella Valley agricultural producers, some of the Agricultural Handbook conservation practices used in Western Riverside County may not be feasible in the Coachella Valley. Accordingly, staff proposes to establish a working group comprised of local producers, AQMD staff and appropriate local NRCS/RCD staff to tailor the Agricultural Handbook conservation practices for the Coachella Valley. As described in Table 5-1, AQMD regulations for Coachella Valley agricultural sources are committed for adoption prior to January 1, 2004.

Emission reductions

All of the guidance contained in the Agricultural Handbook is based on existing technologies that are presently available to agricultural producers. Because this control measure proposes a menu of conservation practices there would be many control variations implemented throughout the Valley. A conservative annual reduction of two percent per year in farming activity emissions was used based on AQMD Rule provisions for agricultural operators in the South Coast Air Basin. A control factor was not applied to windblown dust from agricultural sources at this time. The existing AQMD Rule 403.1 tilling prohibition on high wind days is similar to the key provision in the Agricultural Handbook. The existing Coachella Valley emission inventory currently accounts for the

AQMD Rule 403.1 tilling prohibitions. AQMD Staff will evaluate the additional emission reductions associated with the enhanced Coachella Valley agricultural program and will report any changes, if documented, in the 2003 CV SIP or rule staff reports.

Rule Compliance

Recordkeeping of conservation practices implemented is required to demonstrate compliance and a recordkeeping form is included in the Agricultural Handbook. If chemical dust suppressants are used to control unpaved road dust during harvesting activities, then the recordkeeping form must include the date, amount and proposed frequency of chemical dust suppressant application, and the manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. These records must be retained for three years and made available to the AQMD upon request.

Cost Effectiveness

Uncertainties associated with the specific Agricultural Handbook conservation practices that would ultimately be implemented by local producers as well as the number of facilities that would implement conservation practices make cost estimates difficult. Cost estimates for stabilizing a fallow field were previously estimated at $100 per acre annually.[17] For reference, the cost-effectiveness of AQMD Rule 403 agricultural requirements was estimated at $134 per ton of PM10 reduced.[18]

Implementing Agency

State law prohibits air districts from issuing permits to agricultural activities. Agricultural operations can, however, be subject to prohibitory rules, such as AQMD Rules 403 and 403.1. In settlement of a lawsuit challenging U.S. EPA's approval of California's Title V permitting program, U.S.EPA agreed to issue a notice of proposed rulemaking no later than July 19, 2002, to implement a partial federal operating air permits program under 40 C.F.R. Part 71 for state-exempt agricultural sources. Petitioners had challenged U.S. EPA's approval of California's Title V program because state law exempts agricultural operations from obtaining permits from local air districts. The settlement provides that if California removes its agricultural sources permitting exemption, U.S.EPA may grant full approval to the covered Part 70 programs and discontinue the federal permit program.

[17] Grantz, David, University of California Agricultural and Natural Resources Cooperative Extension, Personal communication with Mike Laybourn, April 26, 1996.
[18] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

CV CTY 1 (CONTINGENCY) - CONTROL OF EMISSIONS FROM TURF OVERSEEDING ACTIVITIES

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	GOLF COURSES/TURF AREAS
CONTROL METHODS:	REQUIREMENTS TO REDUCE EMISSIONS FROM TURF OVERSEEDING ACTIVITIES
IMPLEMENTING AGENCY:	LOCAL JURISDICTIONS/AQMD

Description of Source Category

Background

With over 90 golf courses, the Coachella Valley is recognized as a destination resort community. In order to maintain the quality of golf course fairways and other turf areas (common areas, parks and homeowner lawns), many facilities conduct overseeding operations to replace the summer Bermuda grasses that become dormant in the winter with winter rye grasses. The overseeding process begins in early September with the Bermuda grass forced into early dormancy by either reducing the application of water or through application of herbicides. Next, the Bermuda grass is either mowed shorter or scalped to the ground. Turf rakers (power equipment that uses brushes to collect material and a vacuum to convey material to the hopper) are then used to remove debris (thatch) and prepare the soil for rye grass seed application. This activity can generate significant amounts of fugitive dust because the thatch material is very dry and because the turf raker equipment is not designed to capture fine particles.

Regulatory History

The reduction of PM10 from turf overseeding activities was included as a contingency measure in the 1996 CVSIP. Since that time, CVAG, in conjunction with local governments, homeowner associations, and golf course superintendents, has implemented a variety of studies and programs to reduce emissions from this activity. Specifically, these efforts began with a study conducted by researchers from the University of California, Riverside College of Engineering - Center for Environmental Research and Technology (CE-CERT).[19] In this study, several test plots were identified and varying turf overseeding procedures were conducted (i.e., dry baseline test plot, use of herbicides to retard grass growth, application of water prior to initiating turf raking activities). The study documented that the most effective control program for large turf areas (golf courses, parks, and common areas) was a light application of water immediately prior to operating the turf raker equipment. The study also documented that use of a herbicide to retard plant growth resulted in a 50 percent reduction in PM10 emissions when compared to a test plot where summer Bermuda grasses were simply allowed to dry out. This information was shared with

[19] Evaluation of Fugitive Dust Technology for a Lawn Raker, Center for Environmental Research and Technology, College of Engineering, University of California at Riverside, August 28, 1998.

the Hi-Lo Golf Course Superintendent association that has agreed to voluntarily implement the recommended overseeding procedures identified by the CE-CERT studies.

CVAG also developed a bilingual brochure that specifies procedures for homeowners and their gardeners to reduce dust from turf overseeeding activities. The brochure specifies watering procedures as well as a timeline for conducting all phases of turf overseeding. This brochure was first made public at a press conference and CVAG has subsequently distributed the material to homeowner associations, landscaping companies and the general public.

Proposed method of control

Due to the proactive involvement of CVAG and interested parties to implement a program to reduce emissions from turf overseeding activities, staff believes that this proposed control measure is already being fully implemented by local golf courses voluntarily. AQMD staff will continue to monitor program implementation and effectiveness and report findings in future Coachella Valley SIPs. Additionally, if voluntary compliance drops, AQMD would propose to implement this measure as an AQMD rule or rule amendment.

CONTROL MEASURE ADOPTION AND IMPLEMENTATION

As listed in Table 5-1, the 2002 CVSIP commits to adopt the proposed control measures no later than January 1, 2004. As mentioned at the beginning of the chapter, future analysis associated with rule or ordinance development may indicate that portions of the measures may be infeasible or not suited to the Coachella Valley (per MSM analysis requirements). AQMD staff will evaluate all measures and may elect to adopt certain portions of a measure that do not meet a specified cost and technological feasibility criteria as contingency measures. If that is the case, AQMD staff would document the infeasibility or insuitability of the control measure provision. The specified cost and technological criteria used in the 1997 PM10 SIP for the South Coast Air Basin were:

Cost feasibility

A control measure is considered cost feasible if the cost-effectiveness is less than $5,300 per ton of PM10 reduced on an annual basis.

Technological feasibility

A control measures is considered technically feasible if all of the following conditions are satisfied:

The control technology is currently available; and

The control efficiency has been demonstrated to achieve a minimum of at least ten percent.

This is consistent with the CAA attainment date extension provisions that requires implementation of MSMs that are included in any State implementation Plan or are achieved in practice in any State, and can be feasibly implemented in the area. Significant changes to a control measure would need to be documented in a SIP revision and would be subject to U.S. EPA review and approval.

ADDITIONAL FUNDING EFFORTS FOR SIP COMMITMENTS

Some of the control measures are partially implemented through SIP commitments by local governments and others (e.g. CV BCM-3 and CV BCM-4). Recent efforts have resulted in new funds to expeditiously implement controls called for in those control measures. Additionally, CVAG has initiated a CMAQ Technical Assistance Program to facilitate the use of CMAQ funds for PM10 control projects. The following paragraphs describe these initiatives.

AB2766 Discretionary Funds for the Coachella Valley PM10 Reduction Program

The Mobile Source Air Pollution Reduction Review Committee (MSRC) for the South Coast AQMD recently allocated $1,000,000 from the AB2766 Discretionary Fund to implement a PM10 reduction program in the Coachella Valley. The Coachella Valley PM10 Reduction Program will use MSRC Discretionary Funds as a match to implement motor vehicle-related PM10 reduction strategies, focusing on implementation of Most Stringent Measures prior to the implementation schedule committed in the SIP. The MSRC Program will be implemented within the following general guidelines:

- *MSRC funds to be matched with a specified level of regional funds*. For the purpose of this program, regional funds are defined as federal, state, or local funds, including AB 2766 Subvention Funds;
- *Amount of MSRC match varies as a function of MSM or control strategy*. Each MSM or control strategy will be assessed relative to its cost-effectiveness at reducing motor vehicle-related PM10. The amount of MSRC match will differ based upon the effectiveness of the control measure;
- *Eligible Control Measures.* It is anticipated that the MSMs and/or other candidate control strategies will include:
  - Purchase of alternative-fuel AQMD Rule 1186-certified street sweepers;
  - Purchase of alternative-fuel dust control vehicles (water trucks, blow sand removal vehicles);
  - Wind fences adjacent to roadways;
  - Chemical stabilization of roadways, shoulders, turnouts, parking lots, etc.;
  - Paving of parking lots, road surfaces, and shoulders;
  - Installation of curb and gutter to facilitate street sweeping and blow sand removal.

Federal CMAQ Technical Assistance Program

In an effort to ensure the effective and timely utilization of CMAQ funds for PM10 mitigation projects, CVAG has initiated a CMAQ Technical Assistance Program. The objectives of the Technical Assistance Program are as follows:

- Quantify and document the PM10 emission reduction benefits of CMAQ projects previously approved and implemented within the Coachella Valley;
- Assist CVAG member jurisdictions in identifying transportation-related PM10 reduction projects for funding under the current or future CMAQ funding allocations;
- Assist CVAG member jurisdictions in submitting approved CMAQ projects to Caltrans District 8 Local Assistance;
- Interface with Caltrans District 8 staff during CMAQ project submittal to address questions regarding a proposed project's eligibility under the FHWA guidelines, including the development of substantiating documentation relative to the proposed project's PM10 reduction benefits.

To assist CVAG staff in implementing these objectives, CVAG has retained the services of recognized technical experts in areas of health effects, emission reduction quantification, and project implementation. These technical consultants work one-on-one with each jurisdiction to identify and implement cost-effective PM10 reduction projects appropriate to that jurisdiction. Accomplishments of the CVAG technical assistance team to date are as follows:

- The team has met with each CVAG member jurisdiction one or more times;

- Cost-effective PM10 reduction projects have been identified for each jurisdiction;
- Field reviews have been conducted with Caltrans in cases where project eligibility was a potential issue;
- Emissions reduction benefits for all projects submitted to Caltrans have been quantified and documented.

APPENDIX B

RESPONSES TO COMMENTS ON THE DRAFT NEGATIVE DECLARATION