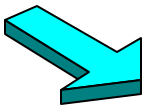
APPENDIX A

COACHELLA VALLEY AD HOC PM10 TASK FORCE

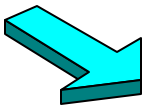
COACHELLA VALLEY AIR QUALITY AD HOC TASK FORCE

MEETING SUMMARY

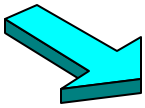
COACHELLA VALLEY ASSOCIATION OF GOVERNMENTS, ENERGY AND ENVIRONMENT COMMITTEE ESTABLISH AD HOC PM10 TASK FORCE
(February 14, 2002)



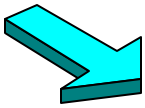
AD HOC PM10 TASK FORCE KICK-OFF MEETING
SUB-GROUPS ESTABLISHED FOR: CONSTRUCTION ACTIVITIES, AGRICULTURAL ACTIVITIES, ROADWAYS/OPEN AREAS, ENFORCEMENT, AND FUNDING
(March 14, 2002)



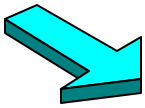
CONSTRUCTION ACTIVITIES, AGRICULTURAL ACTIVITIES, ROADWAYS/OPEN AREAS, ENFORCEMENT, AND FUNDING SUB-GROUPS MEETINGS
(April 17th, 18th, 24th, 2002)



SECOND AD HOC PM10 TASK FORCE MEETING
(April 25, 2002)



PUBLIC WORKSHOP: MAY 23, 2002
(Public Notice in Local Newspapers / 1,700 notices mailed)



PUBLIC HEARING: JUNE 21, 2002
(Scheduled)

COACHELLA VALLEY AIR QUALITY AD HOC PM10 TASK FORCE MEMBERS

MEMBER	TITLE	REPRESENTING
Sonny Hernandez	Councilmember	City of Blythe
Kathleen De Rosa	Council Member	City of Cathedral City
Richard Macknicki	Councilmember	City of Coachella
Gary Bosworth	Councilmember	City of Desert Hot Springs
Percy Byrd	Councilmember	City of Indian Wells
Ben Godfrey	Mayor	City of Indio
Stanley Sniff	Mayor Pro Tem	City of LaQuinta
Buford Crites	Councilmember	City of Palm Desert
Jeanne Reller-Spurgin	Mayor Pro Tem	City of Palm Springs
Roy Wilson	Supervisor	County of Riverside
Barbara Gonzales-Lyons	Tribal Representative	Auga Caliente Band of Cahuilla Indians
Marc Benitez	2nd Tribal Representative	Cabazon Band of Mission Indians
Byron Woosley	City Manager	City of Coachella
David Ready	City Manager	City of Palm Springs
Louis Flores	Chief, Local Assistance	Caltrans, District 8
Ed Kibbey	Executive Director	Building Industry Association
Lee Anderson	Member	Riverside County Farm Bureau
Sharon Bolton	Executive Director	Riverside County Farm Bureau
Dr. Laki Tisopulos	Assistant Deputy Executive Officer	SCAQMD
Dr. Julia Lester	Program Supervisor	SCAQMD
Pat Hotra	Senior Staff Specialist	SCAQMD
Mike Laybourn	Air Quality Specialist	SCAQMD
Eleanor Kaplan	Project Manager	U.S. EPA, Region 9
Cynthia Marvin	Chief, PTSD	California Air Resources

		Board

COACHELLA VALLEY PM10 TASK FORCE CONSTRUCTION ACTIVITIES SUB-COMMITTEE

NAME	ORGANIZATION	TITLE
Aurora Kerr	Coachella Valley Association of Governments	Director Human and Community Resources
Bob Lyman	Riverside County	Regional Office Manager, Transportation Land Management Agency
Byron Woosley	City of Coachella	City Manager
Ed Kibbey	Building Industry Association	Executive Director
Bruce Harry	City of Rancho Mirage	Public Works Director
Paul Quill	Del Webb Homes	
Roy Stephenson	City of La Quinta	Public Works Director/City Engineer
Steve Robbins	Coachella Valley Water District	Assistant General Manager
Michael Kellner	Agua Caliente Tribe	Tribal Representative

COACHELLA VALLEY PM10 TASK FORCE AGRICULTURAL ACTIVITIES SUB-COMMITTEE

NAME	ORGANIZATION	TITLE
Aurora Kerr	Coachella Valley Association of Governments	Director Human and Community Resources
Lee Anderson	Riverside County Farm Bureau	Member
Patrick Suarthoct	The Gas Company	Public Affairs
Sharon Bolton	Riverside County Farm Bureau	Executive Director

COACHELLA VALLEY PM10 TASK FORCE ROADWAYS/OPEN AREA SUB-COMMITTEE

NAME	ORGANIZATION	TITLE
Aurora Kerr	Coachella Valley Association of Governments	Director Human and Community Resources
Bob Lyman	Riverside County	Regional Office Manager, Transportation Land Management Agency
Byron Woosley	City Manager	City Manager
Jim Kenna	Bureau of Land Management	Field Manager
Bill Enos	City of Rancho Mirage	City Engineer
Lee Anderson	Riverside County Farm Bureau	Member
Sharon Bolton	Riverside County Farm Bureau	Executive Director
Bill Maier	Sunline Transit	Chief Financial Officer
Mike Janis	City of Desert Hot Springs	Administrator of Public Works
Ray Meijer	Caltrans, District 8	Civil Transportation Engineer

COACHELLA VALLEY PM10 TASK FORCE ENFORCEMENT SUB-COMMITTEE

NAME	ORGANIZATION	TITLE
Aurora Kerr	Coachella Valley Association of Governments	Director Human and Community Resources
Bob Lyman	Riverside County	Regional Office Manager, Transportation Land Management Agency
David Ready	Palm Springs	City Manager
Dick Folkers	Palm Desert	Assistant City Manager for Development Services
Amir Modarressi	City of Indio	Deputy Public Works Director
Bill Bayne	City of Cathedral City	Senior Engineer
Eldon Lee	City of Coachella	Public Works Director
Jerry Hanson	City of Desert Hot Springs	City Engineer
Tim Wassil	City of Indian Wells	Public Works Director
John Freeland	City of La Quinta	Senior Engineer
Leland Cole	City of Rancho Mirage	Senior Civil Engineer
Mike Kelner	Auga Caliente Band of Cahuilla Indians	Tribal Representative
Rue Doolin	Cabazon Band of Mission Indians	Grants Administrator
Alberto Ramirez	Torres Martinez Desert Cahuilla Indians	Tribal Environmental Protection Agency Director
Ed Kibbey	Building Industry Association	Executive Director
Bill Maier	Sunline Transit	Chief Financial Officer

COACHELLA VALLEY PM10 TASK FORCE FUNDING SUB-COMMITTEE

NAME	ORGANIZATION	TITLE
Aurora Kerr	Coachella Valley Association of Governments	Director Human and Community Resources
Bill Bayne	City of Cathedral City	Senior Engineer
Eldon Lee	City of Coachella	Public Works Director
Jerry Hanson	City of Desert Hot Springs	City Engineer
Tim Wassil	City of Indian Wells	Public Works Director
Amir Modarressi	City of Indio	Deputy Public Works Director
John Freeland	City of La Quinta	Senior Engineer
Joe Gaugush	City of Palm Desert	City Engineer
Dave Barakian	City of Palm Springs	City Engineer
Leland Cole	City of Rancho Mirage	Senior Civil Engineer
Bob Lyman	Riverside County	Regional Office Manager, Transportation Land Management Agency

APPENDIX B

GUIDELINES FOR DUST CONTROL PLAN REVIEW

GUIDELINES FOR DUST CONTROL PLAN REVIEW FOR COACHELLA VALLEY JURISDICTIONS

provided by

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

January 2001

Introduction

Local ordinances require submittal of dust control plans to City/County Planning Departments for all projects that require a grading permit. The following information has been prepared to assist local government staff in reviewing dust control plans submitted for construction projects in the Coachella Valley.

Section	Contents
Section 1: Site Plans	A detailed **construction site plan** is a useful tool for specifying dust control practices. Applicants who identify dust control practices on a site plan: ✓ Are more likely to design and cost dust control into a project. ✓ Can expedite plan review by helping local code enforcement officials visualize a project's dust control practices. Detailed site plans are prepared for larger construction projects and can be easily modified by the project applicant to specify dust control practices. Section 1 features a sample site plan which identifies specific dust control practices (NOTE: Site plan is simplified for purposes of illustration only).
Section 2: Dust Control Plan Guidance	Dust control plan reviewers are encouraged to use the forms provided in Section 2 as: ✓ A dust control plan approval application form to be completed and submitted for review by the applicant. ✓ Checklists for use by local governments in reviewing dust control plans submitted by an applicant.
Section 3: Lessons from Experience	Dust control poses an ongoing challenge, not only in the Coachella Valley, but in the San Joaquin Valley, Phoenix, Las Vegas, and other arid environments. Section 3 provides practical information based on lessons learned in these and other PM10 non-attainment areas.
Section 4: Site Inspection Checklist	A sample site inspection checklist is included to assist local code enforcement officials in conducting future compliance activities.

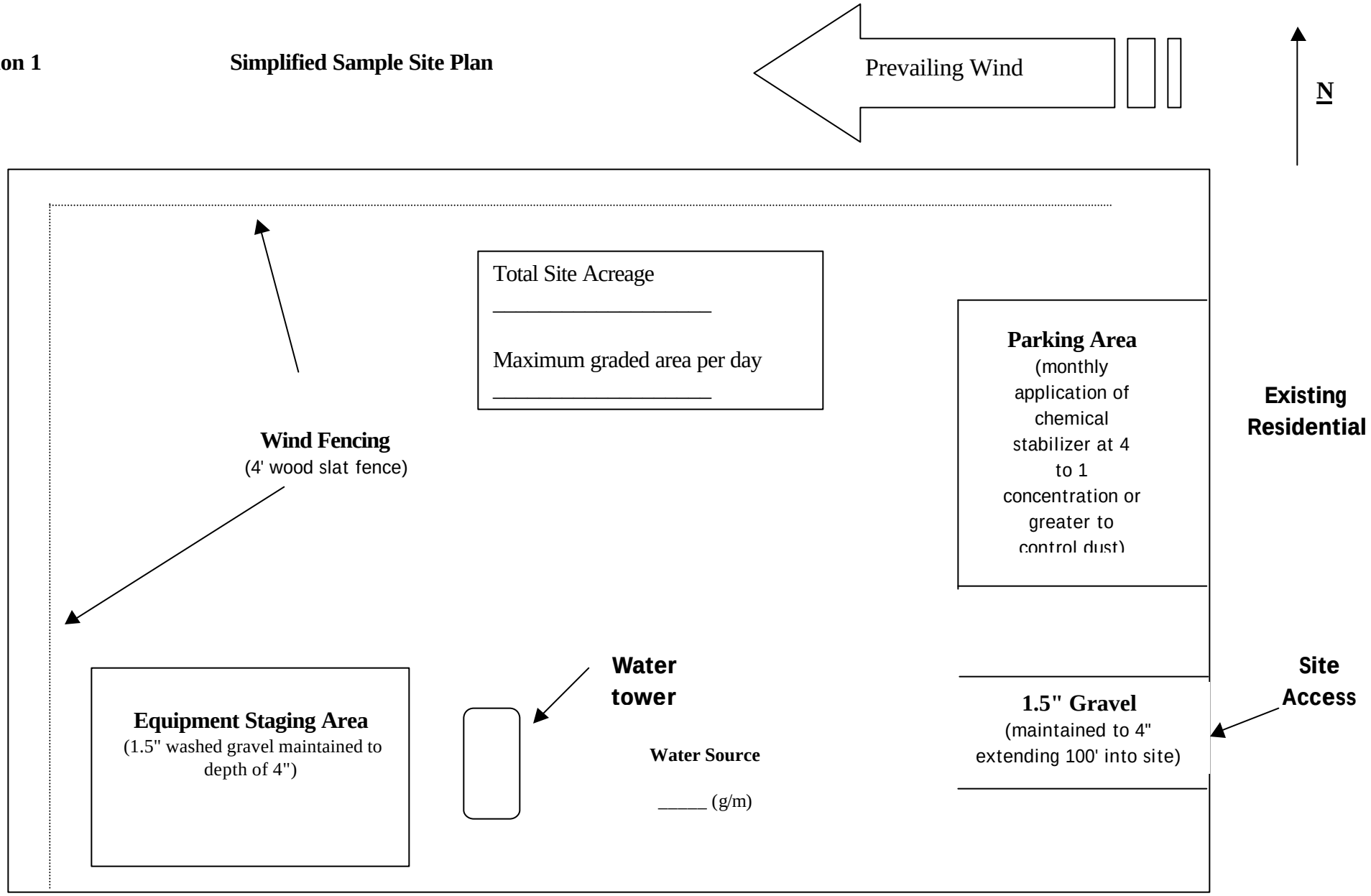
To include your comments and suggestions in future versions of this guide, please contact AQMD staff:

Pat Hotra --- (909) 396-2995
Phil Hubbard --- (909) 396-2966
Dan Vasquez --- (909) 396-3386

Remember…

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

Section 1 **Simplified Sample Site Plan**



Remember...

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Section 2 Dust Control Plan Guidance

2.1 Project Contacts

At a minimum, all dust control plans should include the information requested by the sample ***Project Contact Information*** form included on Page 6 of this packet.

Because dust control is required 24 hours a day, 7 days a week, regardless of construction status, it is especially important to identify**:**

- ✓ the **person responsible for dust control during off-hours,** and
- ✓ a **pager/phone number that provides 24-hour access to this person.**

2.2 Project Description

Applicants must furnish sufficient **project level information** to local governments for effective dust control plan review. A sample ***Project Level Information*** form is included on Page 7 of this packet.

The following sites MUST submit an approved dust control plan to AQMD:

- ✓ Projects with more than 100 acres of disturbed surfaces at any given time.
- ✓ Projects which move more than 10,000 cubic yards of soil on at least three days per year.

2.3 Project Phasing

Applicants are to identify **all phases** of a project (i.e., clear and grub, mass grading, finish grading, site construction, etc.).

The ***Dust Control Actions*** form included on Page 8 of this packet may be used as a template for each phase of the project. It can be copied and inserted as many times as necessary to complete a dust mitigation plan.

Remember…
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REGARDLESS OF CONSTRUCTION STATUS

2.4 Plan Review

Three sample checklists are provided for staff to ensure that appropriate control actions are implemented for each source during the following project phases:

- ✓ ***Clearing/Grubbing/Mass Grading Checklist*** (see Pages 9-10)
  (Note: Separate copies of Checklist to be used for each phase)
- ✓ ***Finish Grading Checklist*** (see Page 11)
- ✓ ***Construction Checklist*** (see Page 12)

The level of detail required for any given plan is to be based on the scale (size) of the project, and MUST be specific enough to be enforceable during any site inspection. Additional items may be added to each checklist as necessary to achieve this outcome. In addition, the plan MUST include:

- ✓ Information about any and all **contractors and sub-contractors** involved in earth-movement and/or soil stabilization at the project (e.g., company name and address, name of responsible person, 24-hour phone/pager access number, etc.)
- ✓ Steps the contractor will take to prevent fugitive dust whenever an AQMD high wind forecast occurs.

2.5 Sample Agreement

A ***Sample Agreement*** that can be used as part of a local jurisdiction's approval of a dust control plan is included on Page 13 of this packet.

2.6 Dust Control Plan Submittal

AQMD Rule 403 (h)(6)(c) provides, in part, that:

> *[A]ny large operation or a medium operation under a contingency notification which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance…must submit a copy of the city- or county-approved dust control plan to [AQMD's] Executive Officer…within 30 days of receiving approval from the city or county government.*

Remember…
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REGARDLESS OF CONSTRUCTION STATUS

Although these operations are required to submit a copy of their dust control plan to AQMD within 30 days of city or county approval, all other sources are strongly encouraged to provide AQMD with a copy of their plan as well.

City- and county-approved dust control plans should be postmarked and mailed no later than 30 days after the date of their approval to the following address:

South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar CA 91765
Attn: Phil Hubbard, Engineering and Compliance

Remember…
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REGARDLESS OF CONSTRUCTION STATUS

Project Contact Information for (check one):

- ☐ **Owner**
- ☐ **Owner's Authorized Representative***
- ☐ **Environmental Observer***
- ☐ **General Contractor**
- ☐ **Sub-Contractor (s) involved in earth-movement and/or soil stabilization**

Instructions:	Please enter information below
Name	
Title (if applicable)	
Company Name (if applicable)	
Mailing Address	
City	
State	
Zip	
Location Address	
City	
State	
Zip	
Primary Phone	
Fax	
24-Hour Access/Emergency Phone	
Cellular Phone	
E-mail address	
Responsible for dust control during construction activities?	☐ **Yes** ☐ **No**

Remember…

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REGARDLESS OF CONSTRUCTION STATUS

Responsible for dust control during off-hours?	☐ **Yes** ☐ **No**

*Where the property owner is not the lead contact for the project, his/her authorized representative is responsible for all dust control actions.

Remember…

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

Project Level Information

Instructions to Applicant:	Please enter information below:		
PROJECT ACREAGE			
Total Earth-Movement (cubic yds)			
Maximum Daily Earth-Movement (cubic yds)			
Source of Water			
Water Availability (gallons/minute)			
Back-up Water Source (if applicable)			
Water Delivery Equipment: ✓ **Type (e.g., water trucks, water pulls, irrigation system, etc.)** ✓ **# Units (e.g., # trucks, # water pulls, # feet of irrigation pipes, etc.), and** ✓ **Frequency/ Conditions of Use (e.g., # times per day, when surfaces look dry, etc.)**	**Type**	**# Units**	**Frequency/ Conditions of Use**
	Remember… **DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK, REGARDLESS OF CONSTRUCTION STATUS**		

Remember…

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REGARDLESS OF CONSTRUCTION STATUS

Dust Control Actions

Project Name:_____

Contractor Name:_____

Instructions: Please complete this form for each phase of the construction project. Identify the phase by number (e.g., Phase 2 of 5) in the spaces provided below.

Phase _____ of _____

Instructions to Applicant:	**Please enter information below as requested.**
Project Phase (check):	☐ **Clearing/Grubbing** ☐ **Mass Grading** ☐ **Finish Grading** ☐ **Construction Phase** ☐ **Other (specify:_____)**
Anticipated Start Date:	
Anticipated Completion Date:	
Number of Acres under Active Construction:	
Detailed description of dust control actions implemented during this phase (should match information provided on site plan; use additional pages as necessary):	

Remember…

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Plan Review Checklist
Clearing/Grubbing/Mass Grading Phase

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

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

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

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

Remember…
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REGARDLESS OF CONSTRUCTION STATUS

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

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

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

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

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

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

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

Remember…
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REGARDLESS OF CONSTRUCTION STATUS

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

☐ Other (specify):_____
_____

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

Plan Review Checklist
Finish Grading Phase

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

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

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

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

Remember…

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

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

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

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

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

☐ Other
(specify):_____
_____
_____
_____

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

Plan Review Checklist
Construction Phase

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

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

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

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

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

Remember…
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REGARDLESS OF CONSTRUCTION STATUS

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

☐ Other (specify):_____
_____
_____
_____
_____
_____
_____

Remember…
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REGARDLESS OF CONSTRUCTION STATUS

Sample Agreement

The signature of the property owner (or authorized representative):

- ✓ Shall act as his/her acknowledgment of dust control requirements and their enforceability, pursuant to AQMD Rules 403 and 403.1.
- ✓ Shall constitute an agreement to comply with all project conditions as identified in the approved dust control plan.

The property owner (or authorized representative):

- ✓ Acknowledges that dust control is required 24 hours a day, 7 days a week, throughout the period of project performance, regardless of project size or status;
- ✓ Shall ensure that each and every contractor/subcontractor and all other persons associated with the project shall be in continuous compliance with all requirements of the approved dust control plan;
- ✓ Shall take all necessary precautions to minimize dust, even if additional measures beyond those listed in the dust control plan are necessary;
- ✓ Shall authorize representatives of the City/County to enter upon the above-mentioned property for inspection and/or abatement purposes; and
- ✓ Shall hold harmless the City/County and its representatives from liability for any actions related to this dust control plan or any City/County-initiated abatement activities.

PROPERTY OWNER/ AUTHORIZED REPRESENTATIVE PRINTED NAME:	
TITLE :	
COMPANY:	
SIGNATURE:	
DATE:	

Remember…

DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK,

REGARDLESS OF CONSTRUCTION STATUS

Section 3 Lessons from Experience

Experience in the Coachella Valley has shown the benefit of implementing at least some, if not all, of the following practices:

3.1 Require Dust Control as a Bid Specification

Local governments can require that the property owner or prime contractor include dust control as a **bid specification** for contractors and subcontractors. For example, instead of specifying a total amount (like $10,000) for water for dust control, the contract should state that water for dust control can be billed a certain amount (like $200) per acre-foot. Using this approach, a subcontractor will not exceed a set amount for dust control but rather can bill the owner/prime contractor based on the amount of water necessary for adequate dust control.

3.2 Require a Letter of Credit or Other Performance Bond

If dust emissions from a construction project occur off-hours or on a weekend and the local jurisdiction or public official acting in his/her official capacity cannot locate the responsible person(s) to mitigate the problem, the jurisdiction may elect to water the problem areas on a construction site. In order to offset the costs of such an action, the jurisdiction may elect to require a **letter of credit or other performance bond**.

The following text has been included in several Coachella Valley dust control ordinances and can be used as a guide in conditioning projects:

> *To ensure implementation of the of dust control mitigation measures, a letter of credit or other financial securities which meet the requirements of the City Attorney and are equal to the cost of implementation of any mitigation measures will be required prior to issuance of any permit. Any financial securities collected under the provisions of this requirement will be held by the jurisdiction for potential use in mitigating sources of fugitive dust not adequately mitigated by the property owner, or the authorized representative. Said securities (or the unused balance) will be returned to the applicant once the owner (authorized representative) has eliminated the source of dust.*

Remember…
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REGARDLESS OF CONSTRUCTION STATUS

3.3 Require an Environmental Observer

Hiring of an **environmental observer** whose primary duty is to oversee dust control at the site and who is authorized to deploy additional water trucks, install wind fencing, contract for street sweeping and chemical dust suppressant application has proven to be an invaluable tool for controlling dust at large scale construction sites. For the largest construction projects, the environmental observer program should be extended to 24 hours per day, 7 days per week during active construction.

3.4 Require Construction Site Signage

Appropriate **signs that meet AQMD specifications and are posted on the perimeter of the construction site** can provide information to the public about notifying the appropriate construction contact person(s) when dust problems arise. At a minimum, such signs should include:

- ✓ The project name;
- ✓ The phone number of the person(s) responsible for dust control on the site;
- ✓ The phone number for City/County complaints; and
- ✓ The phone number for the South Coast Air Quality Management District complaint line (1-800-CUT-SMOG).

3.5 Apply Conditions of Approval to Grading Permit

If an applicant is uncooperative or if there are delays in obtaining an adequate dust control plan for a specific project, the City/County can place **conditions on the grading permit** issued for the project. Examples of such conditions include (but are not limited to):

- ✓ Installation and maintenance of wind fencing;
- ✓ Site access improvements;
- ✓ Treatment of staging areas/parking areas;
- ✓ Verifying water availability and back-up sources of water;
- ✓ Specifying placement of water towers; and
- ✓ Establishing performance standards for maintaining the site in a moist condition.

3.6 Include elements from "Possible Dust Control Measures - Coachella Valley" (see chart on Pages 15 - 18).

Remember…

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REGARDLESS OF CONSTRUCTION STATUS

POSSIBLE DUST CONTROL MEASURES
Coachella Valley

CONTROL MEASURE	RATIONALE
PRE-GRADING PLANNING	
Grade each phase separately, timed to coincide with construction phase	The most challenging dust control problems in the Coachella Valley to date have been at construction sites where mass grading occurred substantially in advance of phased project implementation/completion. Although Rule 403 currently requires phase-by-phase grading as BACM (Best Available Control Measure) in the South Coast Air Basin only, implementing this practice, when feasible, on Coachella Valley construction sites ≥100 acres would substantially reduce the likelihood of other fugitive dust (Rules 403 & 403.1) and nuisance (Rule 402) problems.
Watering Frequency/Duration	

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CONTROL MEASURE	RATIONALE
Water inactive disturbed areas at least 4 times per day	In the Coachella Valley, soil and dust become wind-driven when winds fall within a range of 10-20 mph. Rule 403 high wind control measures for large sites (Table 1) include watering at least 4 times a day when there is "any evidence of wind-driven dust." Increasing the frequency of watering across all wind conditions improves particle cohesion, helps stabilize the site, and reduces dust emissions, especially when wind gusts or unexpected high wind events occur. Methods of water application should not be limited to the use of water pulls and trucks, but should include temporary/portable irrigation systems that can be placed in areas that are particularly problematic as sources of fugitive dust.
Increase the duration of watering cycles	Watering typically occurs in cycles for a total of no more than 3-4 hours on weekdays, within the 12-hour window between 6:30AM and 6:30 PM. Even moderate winds in late afternoon and evening hours can cause wind-driven dust to blow off-site in violation of Rule 403(d)(1). Increasing the duration of each watering cycle within this 12-hour window and beyond helps saturate the soil and prevent dust emissions.
Schedule off-hours watering at night and on weekends and holidays	Daily watering can be key to helping control fugitive dust. Many sites are not watered regularly at night or on weekends and holidays. Large wind-driven dust clouds generated in the absence of regular off-hours watering during these periods often lead to violations of Rule 402 (nuisance) and Rules 403 & 403.1 (fugitive dust).

CONTROL MEASURE	RATIONALE
Watering Equipment	

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REGARDLESS OF CONSTRUCTION STATUS

CONTROL MEASURE	RATIONALE
Increase number of available on-site water trucks and/or pulls	Reserve water trucks and pulls can help improve site control when high winds are predicted or present, or when dust is observed crossing property lines. Sites which are not watered frequently throughout the day or which contract for watering only when problems arise are particularly vulnerable and should ensure the availability of reserve watering equipment to avoid rule violations. Depending on soil characteristics, increasing summer temperatures, and certain micrometeorological conditions, some sites may require as much as 100% increase in access to water equipment to attain compliance with Rules 403 & 403.1 and minimize the potential for public nuisance (Rule 402).
Install and operate agricultural-type sprinkler systems on disturbed surfaces larger than one acre	Sprinklers should be used frequently enough, and for long enough, to maintain sufficient visible moisture on the soil surface, determined by touch and by visual contrast with lighter-colored, unwatered surface areas.
Wind fencing	
Install wind fencing on perimeters	Perimeter wind fencing reduces the nuisance potential (i.e., violation of Rule 402) by containing blowsand and preventing its migration across roadways and adjoining property lines.
Install wind fencing around sub-divided areas within site	Subdividing the site and installing wind fencing around multi-acre subdivided portions helps reduce blowsand movement and increase blowsand capture on site. Wind fencing also provides some protection against blowsand migration over chemically stabilized areas, and reduces displacement of smaller particles by larger particles as they sweep across dirt surfaces (i.e., saltation).

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CONTROL MEASURE	RATIONALE
CHEMICAL STABILIZATION	
Apply chemical stabilization to whole site excluding current earth-moving areas, roads, and parking areas	Chemical stabilizers have been very effective in minimizing fugitive dust emissions on treated dirt, even at wind speeds exceeding 25 mph. Used primarily to preserve the finished grading of housing pads, chemical stabilizers are effective when applied to larger areas after mass grading so long as water is applied to any subsequently disturbed soil (e.g., current earth-moving areas, roads, parking areas, landscaping areas, etc).
Chemically stabilize haul roads and access roads	Frequent application of water (up to 3x/hr on some sites) required to control dust on haul and access roads reduces availability of trucks for other watering duties. On some soil types, however, the use of chemical stabilizers such as magnesium chloride produces a stable, low-dust, compliant surface, even under heavy use, that frees water resources for use in other areas.
Require re-stabilization of previously treated areas where subsequent wind-driven dust and dust fallout have collected	Stabilized surfaces are collectors for wind-driven fallout dust and sand, which become wind-entrained and travel off site in moderate winds of less than 25 mph. Periodic re-application of chemical stabilizers helps to capture these otherwise freely blowing materials.

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CONTROL MEASURE	RATIONALE
Isolate inactive stabilized areas	Where a stabilized surface has been achieved and where active operations are not being conducted for one week or more, prevention and deterrence of unnecessary vehicle travel (e.g., through ropes, k-rail, berms, and/or other warning devices or barriers) are required to prevent breakdown of these wind-resistant surfaces. Educational programs, compliance monitoring, and sanctions may be required to enhance the effectiveness of warning signs and barriers at stabilized areas.
Trackout controls	
Maintain gravel (recommended size: 1.5 ") at a minimum depth of 4" in parking lots, access roads, site entrances and exits, and similar areas.	Gravel reduces or eliminates watering of areas disturbed by vehicle traffic, minimizing dust and freeing water resources for use in other areas. Occasional heavy watering is required to wash down fine dusts and other accumulated dirt.
Pave site entrances and exits	Paving reduces trackout dust onto public paved roadways.
Install ribbed steel plate in conjunction with graveling and/or paving site exits	Ribbed steel plates liberate trackout dust from tires before vehicles leave the site.

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CONTROL MEASURE	RATIONALE
Install wheel washers on-site to reduce trackout	Soil and dust tracked out onto roads by vehicles leaving construction sites contribute to fugitive dust. Clay-type soils in the eastern section of La Quinta and surrounding unincorporated areas create the greatest problem with trackout and associated dust emissions, but the more ubiquitous sandy soil in the Coachella Valley can create trackout problems as well. On-site wheel washers help reduce dust emissions by flushing soil out of tire treads before vehicles leave the site.
Wash or vacuum-sweep paved public road surfaces to remove visible trackout	Sweeping and washing are characterized as: ✓ BACM (Best Available Control Measure; see Rule 403[d][5][A]) for removing trackout dirt from sites within the South Coast Air Basin when wheel washers and other prevention measures are ineffective. ✓ RACM (Reasonably Available Control Measure; see Rule 403[d][3]), for removing trackout dirt from sites beyond the South Coast Air Basin. Washing is effective if allowable under storm water pollution prevention requirements or other regulatory restrictions. Broom-type sweepers without vacuum collection launch, rather than collect, trackout and should not be used.
Speed limits	
Limit speed of non-earth-moving equipment to 15 mph	When combined with frequent watering of all road and disturbed surfaces used for vehicular traffic, reduced speeds for non-earth-moving vehicles can reduce dust from the frequent and varied vehicle use at construction sites.

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CONTROL MEASURE	RATIONALE
Limit speed of earth-moving equipment to 10 mph	Dust emissions increase with vehicle speed and size. Heavy, multi-axle vehicles used for earth-moving can create substantially greater emissions than passenger vehicles and pickups, especially when operated at higher speeds. When coupled with the existing ambient wind, vehicle windage can cause airflows sufficient to evaporate water from soil and to launch dust particles. Limiting the speed of such equipment can reduce the need for more frequent watering and help control fugitive dust.
DETECTION	
Electronic dust analyzers	Installing electronic dust analyzers at boundary limits and/or within a site permits detection and early warning of dust crossing property lines or migrating within the site which can be mitigated via timely redirection of watering resources.
On-site staffing	
Equipment operators	Access to additional equipment operators on demand can help prevent dust problems due to unexpected high winds.
Environmental Observer(s)	"Environmental Observers," authorized to deploy watering equipment to match specific needs for dust containment on site, maximize the effectiveness of available resources and to implement other and reduce the likelihood of fugitive dust (Rules 403 & 403.1) and nuisance (Rule 402) violations.
Staff training	Emphasizing dust awareness, underscoring personal/contractual requirements, and providing knowledge about the public impacts of dust emissions in training sessions with contractors and staff enhances their responsiveness to local concerns and may help prevent dust problems.

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Section 4 Site Inspection Checklist

The attached form can be used by code enforcement personnel to document and enforce conditions at a construction site. By completing the applicable information, the City/County can easily document conditions for a specified time period.

Remember…

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ENVIRONMENTAL OBSERVER CHECKLIST – AM HOURS

Elements Monitored	12am	1am	2am	3am	4am	5am	6am	7am	8am	9am	10am	11am	Comments
Forecasted high winds													
Wind speed													
Wind direction													
# Water trucks operating													
# Water trucks available													
Roads moist/watered													
Unstabilized areas moist/watered													
Dry areas observed													
Irrigation working													
Irrigation maintenance													
Water tanks filled													
Water pumps working													
Chemical stabilization used													
Track-out observed													
Blow sand observed on-site													
Blowing dust observed on-site													
Blowing dust observed off-site													
Wind/snow fencing maintained													
# Complaints received													
Corrective action taken													

N= No or none Y = Yes N/A = Not applicable Name: _____ Date: _____

Remember…

DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK,

REGARDLESS OF CONSTRUCTION STATUS

Remember…

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

ENVIRONMENTAL OBSERVER CHECKLIST – PM HOURS

Elements Monitored	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm	Comments
Forecasted high winds													
Wind speed													
Wind direction													
# Water trucks operating													
# Water trucks available													
Roads moist/watered													
Unstabilized areas moist/watered													
Dry areas observed													
Irrigation working													
Irrigation maintenance													
Water tanks filled													
Water pumps working													
Chemical stabilization used													
Track-out observed													
Blow sand observed on-site													
Blowing dust observed on-site													
Blowing dust observed off-site													
Wind/snow fencing maintained													
# Complaints received													
Corrective action taken													

N= No or none Y = Yes N/A = Not applicable Name:_____ Date:_____

Remember…

DUST CONTROL IS REQUIRED 24 HOURS A DAY, 7 DAYS A WEEK,

REGARDLESS OF CONSTRUCTION STATUS

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