Appendix A

AIR QUALITY MONITORING DATA (1994 – 2002)

APPENDIX A

24-Hour PM_{10} Ambient Air Quality Monitoring Network Data for Maricopa County and the Salt River PM_{10} Study Area

Table A. 1994 PM_{10} Monitoring Data Summary (μ/m^3), from *ADEQ Annual Air Quality Report for Arizona*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 μ/m^3)							
City Location	Site Location	Operator	Method	24-Hour Average		Number of Exceedances	Number of Samples
				MAX	2nd Hi		
Chandler	1475 E. Pecos	MCESD	HI-VOL	127	114	0	56
Glendale	6000 W. Olive	MCESD	HI-VOL	76	54	0	51
Mesa	Broadway/Brooks	MCESD	HI-VOL	73	51	0	43
South Phoenix	4732 S. Central	MCESD	HI-VOL	97	89	0	56
West Phoenix	3847 W. Earll	MCESD	HI-VOL	98	93	0	53
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	92	80	0	54
North Phoenix	601 E. Butler	MCESD	HI-VOL	73	66	0	51
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	76	65	0	50
Phx-Salt River	3045 S. 22nd Avenue	MCESD	HI-VOL	371	215	12	55

Table B. 1995 PM_{10} Monitoring Data Summary (μ/m^3), from *ADEQ Annual Air Quality Report for Arizona*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 μ/m^3)							
City Location	Site Location	Operator	Method	24-Hour Average		Number of Exceedances	Number of Samples
				MAX	2nd Hi		
Chandler	1475 E. Pecos Road	MCESD	HI-VOL	252	160	2	146
Gilbert[1]	15500 S. Higley	ADEQ	DICHOT	110	106	0	55
Glendale	6000 W. Olive	MCESD	HI-VOL	70	63	0	53
Goodyear[2]	15099 W. Casey Abbott	ADEQ	DICHOT	86	65	0	44
Mesa	Broadway & Brooks	MCESD	HI-VOL	89	70	0	57
South Phoenix	4732 S. Central	MCESD	HI-VOL	78	74	0	50
West Phoenix	3847 W. Earll	MCESD	HI-VOL	99	88	0	61
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	88	76	0	55
Phoenix[3]	4701 W. Thunderbird	ADEQ	DICHOT	57	51	0	51
Phx-JLG Site[4]	4530 N. 17th Ave.	ADEQ	HI-VOL	73	63	0	2084
Phoenix	4530 N. 17th Ave.	ADEQ	DICHOT	71	59	0	56
North Phoenix	601 E. Butler	MCESD	HI-VOL	84	68	0	58
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	75	69	0	61
Tempe[5]	3340 S. Rural	ADEQ	DICHOT	63	62	0	58
Phx-Salt River	3045 S. 22nd Avenue	MCESD	HI-VOL	199	196	15	57

Table C. 1996 PM_{10} Monitoring Data Summary ($\mu g/m^3$) – from *ADEQ Annual Air Quality Report for Arizona*, *Appendix 1*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 $\mu g/m^3$)							
City Location	Site Location	Operator	Method	24-Hour Average		Number of Exceedances	Number of Samples
				MAX	2nd Hi		
Chandler	1475 E. Pecos Road	MCESD	HI-VOL	140	130	0	59
Gilbert	15500 S. Higley	ADEQ	DICHOT	179	114	1	55
Glendale	6000 W. Olive	MCESD	HI-VOL	67	60	0	57
Goodyear	15099 W. Casey Abbott	ADEQ	DICHOT	82	72	0	55
Mesa	Broadway & Brooks	MCESD	HI-VOL	67	62	0	54
Mesa[6]	6001 S. Power Road	ADEQ	DICHOT	53	50	0	30
South Phoenix	4732 S. Central	MCESD	HI-VOL	96	96	0	75
West Phoenix	3847 W. Earll	MCESD	HI-VOL	102	100	0	55
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	105	89	0	59
Phoenix	4701 W. Thunderbird	ADEQ	DICHOT	58	57	0	55
Phoenix	4530 N. 17th Ave.	ADEQ	HI-VOL	137	104	0	8177
Phx-JLG Site	4530 N. 17th Ave.	ADEQ	DICHOT	83	68	0	54
North Phoenix	601 E. Butler	MCESD	HI-VOL	71	66	0	74
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	80	64	0	59
Tempe	3340 S. Rural	ADEQ	DICHOT	193	185	3	54
Phx-Salt River	3045 S. 22nd Avenue	MCESD	HI-VOL	250	238	11	55

Table D. 1997 PM_{10} Monitoring Data Summary (μ/m^3), from *ADEQ Annual Air Quality Report for Arizona*, *Appendix I*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 μ/m^3)							
City Location	Site Location	Operator	Method	24-Hour Average		Number of Exceedances	Number of Samples
				MAX	2nd Hi		
Chandler	1475 E. Pecos Road	MCESD	HI-VOL	221	148	1	57
W. Chandler[7]	163 S. Price Road	MCESD	HI-VOL	194	162	2	57
Gilbert	535 N. Lindsay Road	MCESD	HI-VOL	170	108	1	55
Glendale	6000 W. Olive	MCESD	HI-VOL	170	87	1	57
Goodyear	15099 W. Casey Abbott	ADEQ	DICHOT	179	146	1	50
Higley[8]	15500 S. Higley	ADEQ	DICHOT	288	234	2	56
Maryvale[9]	6180 W. Encanto	MCESD	HI-VOL	345	161	2	61
Mesa[10]	Broadway & Brooks	MCESD	HI-VOL	129	119	0	59
Palo Verde[11]	36248 W. Elliot Road	ADEQ	DICHOT	124	73	0	62
South Phoenix	4732 S. Central	MCESD	HI-VOL	160	114	1	61
West Phoenix	3847 W. Earll	MCESD	HI-VOL	224	137	1	60
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	108	96	0	55
North Phoenix	601 E. Butler	MCESD	HI-VOL	152	81	0	51
Phx-JLG Site	4530 N. 17th Ave.	ADEQ	DICHOT	131	82	0	57
Phx-JLG Site[12]	4530 N. 17th Ave.	ADEQ	HI-VOL	147	143	0	7328
Phoenix[13]	27th Ave./I-10	ADEQ	DICHOT	148	103	0	53
Phoenix	27th Ave./I-10	ADEQ	HI-VOL	161	113	1	7792
Phoenix	27th Ave./I-10	MCESD	HI-VOL	220	125	1	56
Phoenix	4701 W. Thunderbird	ADEQ	DICHOT	164	92	1	55
Phx-Salt River	3045 S. 22nd Avenue	MCESD	HI-VOL	480	301	15	59
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	154	84	0	60
Tempe	3340 S. Rural	ADEQ	DICHOT	90	74	0	56
Wickenburg	155 North Tegner	MCESD	HI-VOL	125	65	0	48

Table E. 1998 PM_{10} Monitoring Data Summary (μ/m^3), from *ADEQ Annual Air Quality Report for Arizona*, *Appendix I*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 μ/m^3)								
City Location	Site Location	Operator	Method	24-Hour Average			Number of Exceedances	Number of Samples
				MAX	2nd Hi	99th Pct		
Chandler	1475 E. Pecos Road	MCESD	HI-VOL	136	104	136	0	52
W. Chandler	163 S. Price Road	MCESD	HI-VOL	78	74	78	0	55
Gilbert	535 N. Lindsay Road	MCESD	HI-VOL	133	91	133	0	55
Glendale	6000 W. Olive	MCESD	HI-VOL	61	57	61	0	56
Goodyear / Estrella	15099 W. Casey Abbott	ADEQ	DICHOT	56	56	56	0	61
Higley	15500 S. Higley	ADEQ	DICHOT	135	116	135	0	61
Maryvale	6180 W. Encanto	MCESD	HI-VOL	92	83	92	0	59
Mesa	Broadway & Brooks	MCESD	HI-VOL	64	61	64	0	61
Palo Verde	36248 W. Elliot Road	ADEQ	DICHOT	47	46	47	0	55
South Phoenix	4732 S. Central	MCESD	HI-VOL	77	67	77	0	25
West Phoenix	3847 W. Earll	MCESD	HI-VOL	107	106	107	0	57
Phx-Salt River[14]	3045 S. 22nd Avenue	MCESD	HI-VOL	NA	NA	NA	0	25
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	70	62	70	0	23
North Phoenix	601 E. Butler	MCESD	HI-VOL	67	62	67	0	57
Phx-JLG Site	4530 N. 17th Ave.	ADEQ	DICHOT	69	67	69	0	54
Phx-Greenwood	27th Ave./I-10	ADEQ	DICHOT	106	95	106	0	37
Phx-Greenwood	27th Ave./I-10	MCESD	HI-VOL	121	115	121	0	61
Phx-ASU West	4701 W. Thunderbird	ADEQ	DICHOT	55	53	55	0	61
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	81	66	81	0	58
Tempe	3340 S. Rural	ADEQ	DICHOT	70	68	70	0	61
Wickenburg[15]	155 North Tegner	MCESD	HI-VOL	55	42	55	0	17

Table F. 1999 PM_{10} Monitoring Data Summary ($\mu g/m^3$), from *ADEQ Annual Air Quality Report for Arizona*, *Appendix I*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 $\mu g/m^3$)							
City Location	Site Location	Operator	Method	24-Hour Average		Number of Exceedances	Number of Samples
				MAX	2nd Hi		
Chandler	1475 E. Pecos Road	MCESD	HI-VOL	110	100	0	59
W. Chandler	163 S. Price Road	MCESD	HI-VOL	104	92	0	59
Gilbert	535 N. Lindsay Road	MCESD	HI-VOL	90	88	0	55
Glendale	6000 W. Olive	MCESD	HI-VOL	77	63	0	58
Goodyear / Estrella	15099 W. Casey Abbott Drive	ADEQ	DICHOT	80	73	0	59
Higley	15500 S. Higley	ADEQ	DICHOT	208	110	1	58
Maryvale	6180 W. Encanto	MCESD	HI-VOL	104	96	0	60
Mesa	Broadway & Brooks	MCESD	HI-VOL	80	71	0	60
Palo Verde	36248 W. Elliot Road	ADEQ	DICHOT	83	46	0	53
Phx-Durango[16]	2702 AC Esterbrook	MCESD	HI-VOL	148	143	0	29
South Phoenix	4732 S. Central	MCESD	HI-VOL	67	62	1	18
West Phoenix	3847 W. Earll	MCESD	HI-VOL	111	103	0	57
Phx-Salt River	3045 S. 22nd Avenue	MCESD	HI-VOL	148	143	0	29
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	85	85	0	45
North Phoenix	601 E. Butler	MCESD	HI-VOL	70	63	0	57
Phx-JLG Site	4530 N. 17th Ave.	ADEQ	DICHOT	78	70	0	58
Phx-Greenwood	27th Ave./I-10	ADEQ	DICHOT	111	111	0	55
Phx-Greenwood	27th Ave./I-10	MCESD	HI-VOL	117	115	0	59
Phx-ASU West	4701 W. Thunderbird	ADEQ	DICHOT	55	53	0	59
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	87	80	0	57
Tempe	3340 S. Rural	ADEQ	DICHOT	82	78	0	55

Table G. 2000 PM_{10} Monitoring Data Summary ($\mu g/m^3$), from *ADEQ Annual Air Quality Report for Arizona*, *Appendix I*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 $\mu g/m^3$)							
City Location	Site Location	Operator	Method	24-Hour Average		Number of Exceedances	Number of Samples
				MAX	2nd Hi		
Chandler	1475 E. Pecos Road	MCESD	HI-VOL	202	145	0	59
W. Chandler	163 S. Price Road	MCESD	HI-VOL	135	95	0	51
Gilbert	535 N. Lindsay Road	MCESD	HI-VOL	128	109	0	60
Glendale	6000 W. Olive	MCESD	HI-VOL	122	100	0	58
Goodyear / Estrella	15099 W. Casey Abbott Drive	ADEQ	DICHOT	82	77	0	44
Higley	15500 S. Higley	ADEQ	DICHOT	136	129	0	53
Higley[17]	15500 S. Higley	MCESD	HI-VOL	327	143	0	38
Maryvale	6180 W. Encanto	MCESD	HI-VOL	173	109	1	61
Mesa	Broadway & Brooks	MCESD	HI-VOL	126	94	0	61
Palo Verde	36248 W. Elliot Road	ADEQ	DICHOT	75	43	0	57
Phx-Durango	2702 AC Esterbrook	MCESD	HI-VOL	300	173	2	61
South Phoenix	4732 S. Central	MCESD	HI-VOL	175	122	1	61
West Phoenix	3847 W. Earll	MCESD	HI-VOL	151	133	1	59
Phx-Salt River	3045 S. 22nd Avenue	MCESD	HI-VOL	244	232	6	54
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	135	105	0	59
North Phoenix	601 E. Butler	MCESD	HI-VOL	114	114	0	59
Phx-JLG Site	4530 N. 17th Ave.	ADEQ	DICHOT	84	84	0	61
Phx-Greenwood	27th Ave./I-10	ADEQ	DICHOT	151	108	1	49
Phx-Greenwood	27th Ave./I-10	MCESD	HI-VOL	164	159	2	60
Phx-ASU West	4701 W. Thunderbird	ADEQ	DICHOT	101	84	0	59
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	100	98	0	61
Tempe	3340 S. Rural	ADEQ	DICHOT	95	81	0	57

Table H. 2001 PM_{10} Monitoring Data Summary (μ/m^3), from *ADEQ Annual Air Quality Report for Arizona*, *Appendix I*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 μ/m^3)							
City Location	Site Location	Operator	Method	24-Hour Average		Number of Exceedances	Percent Data Recovery
				MAX	2nd Hi		
Chandler	1475 E. Pecos Road	MCESD	HI-VOL	146	99	0	100
W. Chandler	163 S. Price Road	MCESD	HI-VOL	134	58	0	100
Gilbert[18]	535 N. Lindsay Road	MCESD	HI-VOL	121	119	0	100
Glendale	6000 W. Olive	MCESD	HI-VOL	110	63	0	97
Goodyear / Estrella	15099 W. Casey Abbott Drive	ADEQ	DICHOT	122	51	0	90
Higley[19]	15500 S. Higley	ADEQ	DICHOT	NA	NA	NA	NA
Higley	15500 S. Higley	MCESD	HI-VOL	176	93	1	97
Maryvale	6180 W. Encanto	MCESD	HI-VOL	123	94	0	97
Mesa	Broadway & Brooks	MCESD	HI-VOL	98	55	0	100
Palo Verde	36248 W. Elliot Road	ADEQ	DICHOT	71	54	0	85
Phx-Durango	2702 AC Esterbrook	MCESD	HI-VOL	189	142	1	100
South Phoenix	4732 S. Central	MCESD	HI-VOL	143	92	0	98
West Phoenix	3847 W. Earll	MCESD	HI-VOL	142	91	0	100
Phx-Salt River	3045 S. 22nd Avenue	MCESD	HI-VOL	281	275	2	98
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	124	65	0	98
North Phoenix	601 E. Butler	MCESD	HI-VOL	99	55	0	100
Phx-JLG Site	4530 N. 17th Ave.	ADEQ	DICHOT	109	58	0	97
Phx-Greenwood[20]	27th Ave./I-10	ADEQ	DICHOT	NA	NA	NA	NA
Phx-Greenwood	27th Ave./I-10	MCESD	HI-VOL	145	99	0	97
Phx-ASU West[21]	4701 W. Thunderbird	ADEQ	DICHOT	42	39	0	59
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	110	53	0	100
Tempe	3340 S. Rural	ADEQ	DICHOT	109	55	0	95
Surprise[22]	18600 N. Reems	MCESD	HI-VOL	107	52	0	97

Table I. 2002 PM_{10} Monitoring Data Summary ($\mu g/m^3$), from *ADEQ Annual Air Quality Report for Arizona*, *Appendix I*

MARICOPA COUNTY PM_{10} MONITORS - (24-Hour National Ambient Air Quality Standard - 150 $\mu g/m^3$)							
City Location	Site Location	Operator	Method	24-Hour Average		Number of Exceedances	Percent Data Recovery
				MAX	2nd Hi		
Chandler	1475 E. Pecos Road	MCESD	HI-VOL	128	117	0	100
W. Chandler	163 S. Price Road	MCESD	HI-VOL	80	77	0	100
Glendale	6000 W. Olive	MCESD	HI-VOL	88	85	0	98
Goodyear / Estrella	15099 W. Casey Abbott Drive	ADEQ	DICHOT	92	68	0	85
Higley	15500 S. Higley	MCESD	HI-VOL	138	134	0	95
Maryvale	6180 W. Encanto	MCESD	HI-VOL	142	90	0	92
Mesa	Broadway & Brooks	MCESD	HI-VOL	102	86	0	100
Palo Verde	36248 W. Elliot Road	ADEQ	DICHOT	100	78	0	97
Phx-Durango	2702 AC Esterbrook	MCESD	HI-VOL	232	158	2	100
South Phoenix	4732 S. Central	MCESD	HI-VOL	137	123	0	100
W. 43rd Ave.[23]	3940 W. Broadway Road	MCESD		172	135	1	100
West Phoenix	3847 W. Earll	MCESD	HI-VOL	122	98	0	100
Phx-Salt River	3045 S. 22nd Avenue	MCESD	HI-VOL	249	174	2	98
Central Phoenix	1845 E. Roosevelt	MCESD	HI-VOL	81	76	0	100
North Phoenix	601 E. Butler	MCESD	HI-VOL	80	72	0	98
Phx-JLG Site	4530 N. 17th Ave.	ADEQ	DICHOT	72	52	0	74
Phx-Greenwood	27th Ave./I-10	MCESD	HI-VOL	116	102	0	100
South Scottsdale	2857 N. Miller	MCESD	HI-VOL	64	62	0	100
Tempe	3340 S. Rural	ADEQ	DICHOT	65	60	0	90
Surprise	18600 N. Reems	MCESD	HI-VOL	81	67	0	97

[1] ADEQ added its Gilbert monitor site in 1995.
[2] ADEQ added its Goodyear monitor in 1995.

[3] ADEQ added a monitor at 4701 W. Thunderbird, in 1995.
[4] ADEQ added two monitors at 4530 North 17th Avenue, in Phoenix, in 1995.
[5] ADEQ added a monitor in Tempe, in 1995.
[6] ADEQ added a monitor in Mesa, in 1996.
[7] MCESD added a monitor in West Chandler, in 1997.
[8] ADEQ added a Higley monitor in 1997.
[9] MCESD added a Maryvale monitor in 1997.
[10] ADEQ removed its Mesa monitor at 6001 South Power Road, in 1997.
[11] ADEQ added the Palo Verde monitor in 1997.
[12] ADEQ's monitor was closed in 1997 at the Phoenix-JLG Site.
[13] Three monitors were added to sites at I-10 and 27th Avenue, just north of the current Salt River study area, in 1997. Two monitors were operated by ADEQ, and one by MCESD.
[14] MCESD added its Phoenix-Salt River monitor in 1998.
[15] MCESD removed its Wickenburg monitor in 1998.
[16] MCESD added the Phoenix-Durango Complex monitor in 1999, adding to monitoring data for the Salt River study area.
[17] MCESD added a monitor in Higley, in 2000.
[18] The Gilbert monitor was closed on December 31, 2001.
[19] ADEQ's Higley monitor was removed in 2001.
[20] ADEQ's Phoenix – Greenwood monitor was removed in 2001.
[21] The Phoenix – ASU West monitor was closed on August 6, 2001.
[22] MCESD placed an SPM monitor in Surprise, Arizona, in 2001.
[23] The West 43rd Avenue monitoring site was opened on April 1, 2002.

Appendix B

Commitments from *Revised MAG 1999 Serious Area Particulate Plan for PM10 for the Maricopa County Nonattainment Area* (February 2000)

For:

Arizona Department of Environmental Quality
Arizona Department of Transportation
City of Phoenix
Maricopa County

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull John F. Hagen, Acting Director

January 14, 1999

Lindy Bauer
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, AZ 85003

Dear Ms. Bauer:

SUBJECT: Best Available Control Measure (BACM) Analysis for Agricultural Best Management Practices for the Phoenix PM_{10} Serious Attainment Demonstration Plan

Enclosed is the Best Available Control Measure (BACM) analysis for agricultural best management practices. We are requesting the BACM analysis be included in the Phoenix PM_{10} Serious Attainment Demonstration Plan.

The Arizona Department of Environmental Quality (ADEQ) is committed to fulfill this PM_{10} serious area nonattainment requirement through the Agricultural Best Management Practices (BMPs) Committee. The Committee is tasked (see Arizona Revised Statutes, Section 49-457) to find the optimal mix of control measures to be applied to regulated agricultural activities to help the Phoenix PM_{10} nonattainment area reach attainment for the PM_{10} 24-hour and annual standards.

The Agricultural BMP legislation (see SB1427), signed into law by Governor Hull on May 29, 1999, meets the BACM requirements as the established Committee will be developing the best management practices for regulated agricultural activities to reduce PM_{10} emissions in the Phoenix nonattainment area. These practices are mandated to be adopted by June 10, 2000, through a rule with full compliance by affected sources by December 31, 2001.

If you have any questions, please contact me at 207-2308 or Ira Domsky, Deputy Division Director, at 207-2365.

Sincerely,

Nancy C. Wrona, Director
Air Quality Division

Enclosure

BACM #97-DC-3

June 5, 1997

MEASURE TITLE: Paving, Vegetating, and Chemically Stabilizing Unpaved Access Points onto Paved Roads (Especially Adjacent to Construction/ Industrial Sites)

SCHEDULE FOR ADOPTION: Pave, vegetate or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads has been an ADOT Commitment since 1991.

MEASURE DESCRIPTION: Mud and dirt carryout from unpaved areas such as construction sites often accounts for a substantial fraction of paved road silt loadings in many areas. The elimination of this carryout may significantly reduce paved road emissions. This measure would involve paving, vegetation, or chemically stabilizing access points where unpaved traffic surfaces adjoin paved roads.

RESPONSIBLE AGENCY AND AUTHORITY FOR IMPLEMENTATION:
Pursuant to A.R.S. 28-104 ADOT is responsible for the planning, construction, and management of facilities on the State Highway System. Paving turnouts is based on adopted guidelines. A new ADOT Highways Division Policy and Implementation Memoranda addressing TURNOUT PAVING IN PM_{10} NONATTAINMENT AREAS became effective February 1, 1995.

This procedure would apply to state highway construction projects within the boundaries of the attached PM_{10} Nonattainment Area map when paving operations are an integral part of new construction, reconstruction, and pavement preservation projects.

Pursuant to Arizona Revised Statute 28-108, ADOT adopted "Encroachments in Highway Rights-of-Way (Rule 17-3-702) on July 6, 1981. The rules and regulations established included permit application procedures, permit processing procedures, initial placement, adjustment, relocation, reconstruction and replacement for use of State Highway rights-of-way. Access is permitted in accordance with Driveway & Turnout Layouts Standards.

Rule 17-3-702 sets a Landscaping regulation. This identifies the highway roadside as an integral unit of a total highway facility and the term "roadside" generally refers to the area between the outer edge of the roadway pavement and the right-of-way boundary, including all unpaved areas within the right-of-way. Roadside Development Landscaping Permit Guidelines are available to applicants upon request.

The regulation, Maintenance Responsibility (Section "J." of Rule 17-3-702), requires the adjacent property owners having access to a state highway to be fully responsible and liable for costs for the maintenance of their driveway keeping that portion in a safe condition for the general public. The portion that the property owners are responsible for is from the highway right-of-way line to the outside edge of the highway shoulder or curbline.

IMPLEMENTATION SCHEDULE:

ADOT Controlled Access Roads do not have unpaved access points. Paving unpaved surfaces that adjoin facilities on the State Highway System is an ongoing effort of ADOT in conjunction with pavement preservation and reconstruction projects within our Right-of Way Section. When a state highway is being reconstructed or resurfaced, ADOT standard operating procedures allow for turnout paving for an entire legal and permitted encroachment from the highway pavement edge to the right-of-way line. Asphaltic concrete pavements are resurfaced approximately every 10 years.

LEVEL OF PERSONNEL AND FUNDING ALLOCATED FOR IMPLEMENTATION:

Paving unpaved adjoining surfaces to the right-of-way is a construction expense paid from the appropriate Federal, State, and local funds.

ENFORCEMENT & MONITORING PROGRAM:

This measure is enforced as a matter of internal policy. ADOT, through the Transportation Planning Group Air Quality Planner, will annually review this measure to ensure the commitment is being met.

STRENGTHENING OF THE MEASURE:

A new Highways Division Policy and Implementation Memoranda addressing TURNOUT PAVING IN PM_{10} NONATTAINMENT AREAS became effective February 1, 1995. As shown in the new policy ADOT will provide a bituminous driving surface within ADOT right of way for permitted side roads and turnouts which access the state highway in designated nonattainment areas for Suspended Particulate Matter (PM_{10}). Attached is a copy of the new ADOT policy on paving turnouts.

For the purposes of describing the Commitment, ADOT, through the Transportation Planning Group Air Quality Planner, will review and collect project information on turnouts to be surfaced within the Maricopa County Nonattainment Area. This information will be provided to the Maricopa County Environmental Services Division for the required annual report for the Environmental Protection Agency. This information will address side roads and turnouts which access a state highway in the designated Maricopa County Nonattainment Area of the state for Suspended Particulate Matter (PM_{10}).

ADOT ADOT

BACM #97-DC-4 June 5, 1997

MEASURE TITLE: Curbing, Paving, or Stabilizing Shoulders on Paved Roads (Including Painting Stripe on Outside of Travel Lane)

SCHEDULE FOR ADOPTION: Requiring curbing, paving, or stabilizing (chemically or with vegetation) shoulders of paved roads has been an ADOT Commitment since 1991.

MEASURE DESCRIPTION: Preventive measures are very important since mitigative measures are often less effective for paved roads, especially in instances where no dominant or localized source of dust loading can be identified. This measure would require the curbing, paving, or stabilizing (chemically or with vegetation) of shoulders of paved roads.

RESPONSIBLE AGENCY AND AUTHORITY FOR IMPLEMENTATION:
Pursuant to A.R.S. 28-104 and ADOT Standard Specifications Section 101.5 "Roadside Development" requires the rehabilitation and protection against erosion of all areas disturbed by construction through seeding, sodding, mulching and the placing of other ground covers. As stated in the Overview of the ADOT Roadside Vegetation Management Program, ADOT shall provide for the prevention and control of soil erosion within the right-of-way and adjacent lands that may be affected by the operation or maintenance of the highway."

The Roadside Vegetation Maintenance Program coordinates activities in such a manner that the safety appearance, stability, and resource benefits of the ADOT roadways are improved.

IMPLEMENTATION SCHEDULE:
Specific curb and gutter projects are included in the Five-Year Highway Construction Program as part of new construction or reconstruction, when applicable.

LEVEL OF PERSONNEL AND FUNDING ALLOCATED FOR IMPLEMENTATION:
Curbing and paving of shoulders may be included in construction projects. A key component of highway maintenance is vegetation management, which is carried out by maintenance forces.

The ADOT Highway Maintenance Performance Guidelines applicable to stabilizing shoulders of paved roads, other than curbing or paving, reference seeding. This type of seeding is done in more of the rural areas. Seeding in the urban area is currently being done by the contractor as part of the construction process.

ENFORCEMENT AND MONITORING PROGRAM:
ADOT, through the Transportation Planning Group Air Quality Planner, will review field reports for projects within the nonattainment area and provide information to the Maricopa County Environmental Protection Agency for the required annual report for the Environmental Protection Agency.

STRENGTHENING OF THE COMMITMENT:

For describing the Commitment, ADOT, through the Transportation Planning Group Air Quality Planner, will provide information to Maricopa Environmental Services Division on roadside maintenance and construction activities in the Maricopa County Nonattainment Area by researching the project construction plans and the Progress and Final Payment Report for highway projects in the Maricopa County Nonattainment Area . While the various types of concrete curb and gutter are measured in lineal feet, other landscaping and seeding activities to stabilize the shoulders are measured in various units such as cubic yards, acres, or per unit.

BACM #97-DC-5

June 5, 1997

MEASURE TITLE: Measure 97-DC-5. Frequent, Routine Sweeping or Cleaning of Paved Roads.

SCHEDULE FOR ADOPTION: Sweeping streets on a frequent basis has been an ADOT Commitment since 1991.

MEASURE DESCRIPTION: Paved road sweeping and flushing represents a mitigative measure for paved road surface dust loading. This measure would involve the frequent sweeping or cleaning of paved roads, including the flushing of paved roads. Vacuum and regenerative sweeping are acceptable methods.

RESPONSIBLE AGENCY AND AUTHORITY FOR IMPLEMENTATION:
Pursuant to A.R.S. 28-104, ADOT has the responsibility for maintenance of facilities on the State Highway System.

IMPLEMENTATION SCHEDULE:
In 1989, street sweeping on State Highways was accomplished through three mechanisms: (1) Under Intergovernmental Agreements with ADOT, cities and towns perform routine sweeping of arterial streets on the State Highway System; (2) ADOT contracts with the private sector to secure regular maintenance of freeway facilities and ; (3) ADOT supplements these efforts with adhoc sweeping performed by ADOT personnel using state-owned equipment, as needed. The approximate schedule for freeway maintenance was set forth in the terms of the contract between ADOT and the private vendor.

The same three mechanisms are currently used to accomplish street sweeping activities.

In 1989 ADOT contracted for the Metro Phoenix Area an annual 26,000 curb miles to be swept in various frequencies. ADOT District Maintenance forces supplemented the sweeping efforts approximately 60% of the time. In addition, ADOT contracted for debris snatching or litter removal on interstate roadways at an annual cost of $135,000.

Currently ADOT contracts for the Metro Phoenix Area an annual 30,000 curb miles to be swept in various frequencies. ADOT District Maintenance forces still supplement the sweeping activities, as needed. The current annual contract cost for litter removal is $181,000.

LEVEL OF PERSONNEL AND FUNDING ALLOCATED FOR IMPLEMENTATION:
As needed, ADOT maintenance personnel provide supplemental sweeping. The person-hours required will vary depending upon needs. All of the sweeping expenses are included in the ADOT budget for maintenance in District I.

ENFORCEMENT AND MONITORING PROGRAM:

Assigned ADOT maintenance personnel promptly inspect the contractor's work to ascertain the contractor's compliance with contract requirements. Additionally, inspections of streets are routinely done to evaluate and modify, if needed, the schedule for sweeping. The cost of these inspections is also included in the ADOT maintenance budget. ADOT will annually review this measure to ensure the commitment is met.

STRENGTHENING OF THE MEASURE:

The ADOT Commitment to this measure is evidenced by the increase in contracted curb miles swept and the increased commitment to litter removal. Roadway maintenance resources and activities will have to be constantly adjusted as the number of roadway lane-miles increase in the District I area.

For the purposes of describing the Commitment the additional roadway lane-miles that are contracted to be swept would be the reporting unit. ADOT, through the Transportation Planning Group Air Quality Planner, will review the measure and provide information to the Maricopa County Environmental Services Division for the required annual report for the Environmental Protection Agency.

97-DC-3 Pavement, Vegetation, or Chemical Stabilization for Unpaved Access Points onto Paved Roads

97-DC-4 Curbs, Pavement, or Chemical Stabilization for Shoulders Use of Striping on Roads without Paved Shoulders Paving Unpaved Roads

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Measure Description: City Reference: 17909. P.10 (RACM 1, 9, 11)

The City Zoning Ordinance requires paving for all off-road parking other than duplex or single-family residential uses and requires dust free parking for all single-family residential and duplex parking areas.

The City Zoning Ordinance requires that all new roads serving multi-family, commercial and industrial development include paving, curbs, and driveways consistent with the municipal standards. Paving and new roads serving subdivisions are required for all residential subdivisions except those with very low density.

The Development Services Department may require compliance with Maricopa County dust control requirements as a condition for any City Grading Permit. The City also requires a haul permit for transporting excavated materials in excess of prescribed threshold quantities or for extended hauling periods. Requirements for reducing track-out onto City streets are defined included in the permit.

Pavement and curbs for existing unpaved roads is conducted through Improvement Districts. In 1992, the City reduced the assessment fee for property owners in targeted areas from a maximum of $40 per front foot to $20 per front foot, thus serving as an incentive to pave roads. This program addresses unpaved streets in the central areas of the City where particulate pollution is the highest. In April 1997, the City Council approved a pilot project to further reduce these assessment fees to $10 per front foot. (This project is also discussed in Measure 97-DC-99.)

The City uses painted edge lines along roadways with unpaved shoulders on arterials and other streets where appropriate to help ensure that vehicles stay on paved portion of the roadway.

Implementing Agency or City Department:

City of Phoenix, Street Transportation Department
City of Phoenix, Development Services Department

Authority for Implementation:

AZ Revised Statute, Section 9-240: General Powers of Councils
Charter and Code of Phoenix AZ, Chapter II, General Powers, Rights, and Liabilities
City of Phoenix Zoning Ordinance, Chapter 7, Section 702.A.2 (e): Dust Free Parking
City of Phoenix Zoning Ordinance, Chapter 2: Definitions
City Code, Article III, Section 32-41 and Section 32-49: Road Standards
Road Standards Revised in 1994 and 1995; City Code, Article II, Section 32-27 and 32-33.
City Code, Chapter 32A: Grading and Drainage

Implementation Schedule:

Grading and Drainage Haul Permit Program is in progress. Reduced Improvement District assessment fees were approved in April 1997.

Personnel and/or Funding:
Funding is allocated through the annual budget process.

Enforcement Program:
AZ Revised Statute, Section 49-406 grants the Maricopa County and the ADEQ the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:
The City will submit annual progress reports to Maricopa County as requested.

97-DC-5 Street Sweeping and Other Street Operations

Measure Description: City Reference: 17425.P4

The City conducts routine sweeping of residential and major streets. The street sweeping schedule will be changed to coordinate sweeping with the uncontained trash pick-up during the 1997/98 fiscal year. (See Measures 97-DC-99 for additional dust control measures.)

The City will continue to consider new street sweeping equipment which may be designed to reduced particulate emissions and/or to increase sweeping efficiency.

The City Street Transportation Department is conducting a pilot program to develop equipment to reduce the dust generated from the crack-seal operations. The City will continue to work with equipment manufacturers to replace high-pressure crack cleaning blowers with a vacuum system. In 1997, one prototype unit was placed in service and will three more units have been ordered. Additional units may be added in the future as the technology is perfected and as older crack-seal equipment is retired.

Also see Measure 97-DC-99 for information on additional dust control measures.

Implementing City Department:

City of Phoenix, Street Transportation Department

Authority for Implementation:

AZ Revised Statute, Section 9-240: General Powers of Councils
Charter and Code of Phoenix AZ, Chapter II, General Powers, Rights, and Liabilities

Implementation Schedule:

Implementation is in progress. Street Crack-Seal Technology Pilot Program began in 1996. Additional equipment is scheduled for delivery in 1997.

Personnel and/or Funding:

Funding is allocated through the annual budget process.
$ 656,000 has been allocated in FY 1997/98 for changes to the street sweeping schedule.

Enforcement Program:

AZ Revised Statute, Section 49-406 grants the Maricopa County and the ADEQ the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:

The City will submit annual progress reports to Maricopa County as requested.

97-DC-8 Reduce Particulate Emissions from Unpaved Shoulders and Access Points onto Paved Roads

Measure 97-DC-8a: Apply Dust-Proofing to Unpaved Shoulders and Access Points

- Pavement and other treatment of unpaved shoulders are included as part of the paving projects defined in Measure 97-DC-7b.

- Treatment of shoulders is also addressed through the curb and gutter program as described in 97-DC-8b.

- The City will continue to work with Maricopa County and the ADEQ to evaluate the effectiveness and environmental impacts of chemical dust suppressants for stabilizing unpaved shoulders and roads.

The City of Phoenix addresses particulate emissions from access points through ordinances which prohibit parking and driving on unpaved lots:

- The Phoenix City Code, Chapter 39, Article II, Section 39-7, was amended in July 1997, to prohibit property owners from allowing vehicles to be parked on unpaved lots or any other surface which is not dust-free as defined in the City Zoning Code. The City Code also includes authority of the Neighborhood Services Department to issue citations to the property owner. (This ordinance is also included in Measure 97-DC-10d).

- The Phoenix City Code, Chapter 36, Article XI, Section 36-145, was amended in July 1997, to prohibit vehicle owners from parking on surfaces which are not dust-free as defined in the City Zoning Code. This amendment to the City Code includes the authority for the Police Department to issue citations to the vehicle owner, and to impound vehicles in violation of this Code. (This ordinance is also included in Measure 97-DC-10d).

- In July, 1997, the City Council approved Resolution #18949 which included measures to address particulate pollution. Measure 97-DC-4 in that Resolution includes the City parking lot standards which require paving for commercial parking lots with three or more spaces and dust-free parking for parking at duplex or single-family homes. This Code helps eliminate access points from unpaved parking lots.

Measure 97-DC-8 (Cont.)

Measure 97-DC-8b: Install Curb and Gutter on Existing Paved Roads

- ❑ The City installs curb and gutter on arterial streets through the 5-year Arterial Street and Storm Drain Program. Approximately six (6) miles of curb and gutter are budgeted for fiscal year 1997/98. Additional projects in the 5-year Plan are subject to the annual budget process. These include only projects to be installed on major streets which currently have no curb and gutter.

The estimated six miles assumes that approximately 85% of the length of the following projects currently does not have curb and gutter:

7th Avenue:	Union Hills Drive to Pima
40th Street:	Bell Road to Union Hills Drive
43rd Avenue:	Bell Road to Union Hills Drive
56th Street:	Bell Road to CAP Canal
Bell Road:	Tatum Boulevard to 64th Street

Measure 97-DC-8c: Install Curb and Gutter as Unpaved Roads are Paved

- ❑ Curb and gutters are also included as part of the pavement projects conducted through Improvement Districts or other paving projects as defined in Measure 97-DC-7a.

- ❑ As defined in Resolution #18949, Measure 97-DC-4, the City Zoning Ordinance requires that new roads serving multi-family, commercial and industrial development include paving, curbs, and driveways consistent with municipal standards. Paving with curb and gutter is required for streets in new developments.

Implementing Agency or City Department:

City of Phoenix, Street Transportation Department
City of Phoenix, Development Services Department
City of Phoenix, Neighborhood Services Department

Authority for Implementation:

Arizona Constitution, Article 13, Section 2
Phoenix Charter, Chapter 4, Section 2: Council Powers Enumerated
Phoenix City Code, Chapter 2, General Powers, Rights, and Liabilities
Phoenix City Code, Chapter 39, Article 2, Section 39-7: Neighborhood Preservation
Phoenix City Code, Chapter 36, Article XI, Division I, Section 36-145: Vehicles and Traffic

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Measure 97-DC-8 (Cont.)

Implementation Schedule:

1997/98 road paving, shoulders, and curb and gutter projects are scheduled for construction this fiscal year.

Enforcement of City Code regarding vehicle use and parking is in progress.

Personnel and/or Funding:

Funding is allocated through the annual budget process.

The City of Phoenix 5-year Arterial Street Program: 1997/98 fiscal year.

Funding for enforcement of City Code is included as part of the base budget for the responsible departments.

Enforcement Program:

A.R.S., Section 49-406, grants the Maricopa County and the Arizona Department of Environmental Quality the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:

The City will submit annual progress reports to Maricopa County as requested.

97-DC-10 Reduce Particulate Emissions from Vacant Disturbed Lots

Measure 97-DC-10a: Require Property Owners to Install Barriers Where There is Evidence of Vehicle Traffic on Vacant Lots

- The City's program to address dust generated from vehicles on vacant lots is included in Measure 97-DC-10d.

Measure 97-DC-10b: Apply Dust-Proofing Measures After Earthmoving or Other Disturbance of Vacant Lots

- Maricopa County Rule 310 requires property owners to apply permanent dust-proofing measures after earthmoving activities on vacant lots. The City will continue to work cooperatively with Maricopa County to promote compliance with this rule.

- Additional programs to address dust generated from disturbed vacant lots are included in Measure 97-DC-10d.

Measure 97-DC-10c: Establish Vegetation on Existing Vacant Lots to Control Dust

- Maricopa County Rule 310 requires property owners to apply permanent dust-proofing measures after earthmoving activities on vacant lots. Dust-proofing can include vegetation. As noted in Measure 97-DC-10b, the City will continue to work cooperatively with Maricopa County to promote compliance with this rule.

- The City is working with the Arizona Department of Transportation to help identify excess properties along freeways and to expedite their sale. This has helped eliminate vacant parcels and promotes development and landscaping.

- The City's 1988 Freeway Mitigation Bonds support projects to reduce the impact of freeways on neighborhoods and adjacent properties. The primary purpose of the project is to address noise and neighborhood stabilization. A portion of the bond fund is used to enhance landscaping, recreational trails, and other projects which can reduce particulates. In 1997/98, freeway landscaping upgrades beyond the ADOT standard on the Outerloop ($300,000) and Squaw Peak: Phase II ($412,000). In 1997/98 the Black Canyon/Maricopa Freeway Mitigation Plan is being developed to address freeway impacts on property within 1/4 mile of the freeway. It is anticipated that several hundred thousand dollars will be allocated in the 1998/99 Capital Improvement Program (CIP) Budget to upgrade freeway landscaping along the Black Canyon/Maricopa Freeway.

- The City is implementing an In-Fill Program which provides incentives to encourage development of single-family homes on vacant property in the central part of the City. The program assisted with the construction of approximately 450 homes during 1996 and 1997. The City also assesses impact fees on new development in the northern and southern peripheral areas of the City. Because these fees are not charged in other areas, they provide an incentive to locate development of vacant properties in the central portions of the City. (Resolution 18949, Measure 97-TC-14).

Measure 97-DC-10d: Prohibit Parking on Unpaved Surfaces

The Phoenix City Code was recently amended to prohibit parking on areas which are not dust-free. This amendment is included in Measure 97-DC-8a and is repeated below.

- The Phoenix City Code, Chapter 39, Article II, Section 39-7, was amended in July 1997, to prohibit property owners from allowing vehicles to be parked on unpaved lots or any other surface which is not dust-free as defined in the City Zoning Code. The City Code also includes authority of the Neighborhood Services Department to issue citations to the property owner.

- The Phoenix City Code, Chapter 36, Article XI, Section 36-145, was amended in July 1997, to prohibit vehicle owners from parking on surfaces which are not dust-free as defined in the City Zoning Code. This amendment to the City Code includes the authority for the Police Department to issue citations to the vehicle owner, and to impound vehicles in violation of this Code.

Implementing Agency or City Department:
City of Phoenix, Neighborhood Services Department

Authority for Implementation:
Arizona Constitution, Article 13, Section 2
Phoenix Charter, Chapter 4, Section 2: Council Powers Enumerated
Phoenix City Code, Chapter 2, General Powers, Rights, and Liabilities
Phoenix City Code, Chapter 39, Article 2, Section 39-7: Neighborhood Preservation
Phoenix City Code, Chapter 36, Article XI, Division I, Section 36-145: Vehicles and Traffic
Maricopa County Rule 310: Open Fugitive Dust Sources

Implementation Schedule:
These projects are underway in 1997/98 fiscal year.

19006

Measure 97-DC-10 (Cont.)

Personnel and/or Funding:

Funding is allocated through the annual budget process.

Enforcement Program:

A.R.S., Section 49-406, grants the Maricopa County and the Arizona Department of Environmental Quality the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:

The City will submit annual progress reports to Maricopa County as requested.

19006

1998 SERIOUS AREA PARTICULATE PLAN FOR PM-10
Maricopa County Nonattainment Area

Measure 98-DC-12: PM-10-Efficient Street Sweepers

The City of Phoenix will assign staff to participate in the Maricopa Association of Governments (MAG) Feasibility Study for PM-10-Efficient Street Sweepers. The study will be conducted after the sweepers are certified by the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The City staff will attend meetings, assist in the design of the study, and provide assistance in reviewing draft reports. City staff will review the results of the study, and will prepare a report to Council regarding the recommendations as to whether the equipment is considered to be economically and technically feasible for any portion of the City's street sweeping program.

The City currently operates approximately 21 street sweepers and sweeps approximately 7,100 curb miles of city streets.

Responsible Department: Staff from the Street Transportation Department and the Office of Environmental Programs will participate in the MAG study and will work together to prepare the report and recommendations to the Council.

Authority for Implementation:
AZ Revised Statute, Section 9-240, General Powers of Councils.
Arizona Constitution, Article 13, Section 2.
Charter and Code of Phoenix AZ, Chapter II, General Powers, Rights, and Liabilities.
Phoenix Charter, Chapter 4, Section 2: Powers Enumerated.

Implementation Schedule: The schedule for implementing this measure is dependent upon the development of the certification standard and certification of PM-10-efficient street sweeping equipment by SCAQMD and CARB and the results of the MAG PM-10-Efficient Street Sweeping Test. The City staff recommendation to Council is expected to be completed within six months of the MAG Feasibility Study final report.

Level of Personnel and Funding: The measure will be implemented with existing staff in the Street Transportation Department and the Office of Environmental Programs.

The MAG has allocated $70,000 for the PM-10 Efficient Street Sweeping Test in the MAG FY 1999 Unified Planning Work Program and Annual Budget. The City of Phoenix staff will participate in the MAG street sweeping test.

Enforcement Program: AZ Revised Statute, Title 49, Section 406, grants Maricopa County and ADEQ the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program: The City will submit annual progress reports to Maricopa County as requested.

BACM Determination: This measure is considered to be one of the Best Available Control Measures for paved roads. The commitment to study the issue and to make recommendations to Council represents a technologically feasible option in the current equipment availability. A commitment to purchase the equipment is not technically feasible at this time because the PM-10 efficient sweeping technology has not been developed, certified, or tested in Arizona.

The stringent preventative programs to control dust from vacant lots, unpaved parking lots, and unpaved roads discussed in measures 98-DC-8, 98-DC-9, and 98-DC-10 are considered a more effective means in reducing emissions from paved roads. "Preventative measures are often more effective than mitigative measures when applied to public paved roads." (MAG Particulate Control Measures Feasibility Study. Volume 1, January 24, 1997, pp. 5-12.)

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97-DC-99 Additional Dust Control Measures

Measure 97-DC- 99a: Additional Dust Control Measures

Resolution #18949, approved by the Phoenix City Council on July 2, 1997, includes measures which the City of Phoenix intends to implement to address particulate emissions. The measures summarized below were defined in that Resolution.

- In the Fall of 1996, the City of Phoenix considered options for reducing particulates in the area near 19th Avenue and Lower Buckeye Road where PM-10 levels have been the highest. Based on that effort, the City allocated funding for paving and stabilizing unpaved roads and shoulders, dust control at the landfills and changes to the street sweeping schedule (Resolution #18949, Measure 97-DC-99).

- Resolution #18949 includes the purchase of four innovative crack seal systems designed specifically for the City of Phoenix. These systems replace the high pressure blowers with a vacuum system to clean street cracks prior to sealing. The Resolution also includes commitments to continue to monitor the development of PM-10 efficient street sweepers. (Resolution #18949, Measure 97-DC-5).

Measure 97-DC-99b: Continued Study of PM-10 Control Options

- The City will continue to work with the Arizona Department of Environmental Quality, Maricopa County, the Environmental Protection Agency and City Departments to identify the most cost effective programs to reduce particulate emissions. The primary focus of this study will continue to be the area in Central Phoenix near the Salt River where particulate levels are traditionally higher.

- The City will continue to work with Maricopa County and ADEQ to evaluate the effectiveness and environmental impacts of chemical dust suppressants for various applications.

Implementing City Department:

City of Phoenix, Office of Environmental Programs
Various City Departments

Authority for Implementation:

Arizona Constitution, Article 13, Section 2
Phoenix Charter, Chapter 4, Section 2: Council Powers Enumerated
Phoenix City Code, Chapter 2, General Powers, Rights, and Liabilities

Implementation Schedule:

Continued review of options to reduce particulate emissions is currently underway.

19006

Measure 97-DC-99 (Cont.)

Personnel and/or Funding:

- Funding is allocated through the annual budget process.

Enforcement Program:

A.R.S., Section 49-406, grants the Maricopa County and the Arizona Department of Environmental Quality the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:

The City will submit annual progress reports to Maricopa County as requested.

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19006

97-DC-99 Additional Dust Control Measures

Measure Description:

In the Fall of 1996, the City of Phoenix considered options for reducing particulates in the area near 19th Avenue and Lower Buckeye Road where PM-10 levels have been the highest. The following programs were approved for implementation and have been included in the Preliminary 1997/98 Budget.

Estimated Budget	Program
$ 500,000	One year pilot program to offer reduced fees/assessment to property owners who form improvement districts to pay for paving unpaved roads. Funding for this measure was approved on April 15, 1997. (Also Included in Measures 97-DC-3).
$ 300,000	Pave and stabilize unpaved shoulders and streets.
$ 733,000	Install dust controls at landfills: Pavement and a sprinkler system for the mulch processing area at the 27th Avenue Landfill; increased frequency of sweeping at the Skunk Creek and 27th Avenue Landfill; asphalt millings on service roads at the 19th Avenue and 27th Avenue Landfills, and a water truck and tower for the Skunk Creek Landfill.
$ 656,000	Increase the frequency of residential street sweeping to match the uncontained trash pick-up schedule.

Also, refer to City Council Resolution 18893, April 9, 1997, regarding the City's participation in the Regional Dust Control program to foster interagency cooperation to reduce particulate pollution.

Implementing City Department:

City of Phoenix, Public Works Department
City of Phoenix, Street Transportation Department

Authority for Implementation:

AZ Revised Statute, Section 9-240: General Powers of Councils
Charter and Code of Phoenix AZ, Chapter II, General Powers, Rights, and Liabilities

Implementation Schedule:

Programs are scheduled to begin implementation during 1997/98 and 1998/99 fiscal years.

Personnel and/or Funding:

Approximately $2,189,000 has been allocated as noted above.
Future funding is allocated through the annual budget process.

Enforcement Program:

AZ Revised Statute, Section 49-406 grants the Maricopa County and the ADEQ the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:

The City will submit annual progress reports to Maricopa County as requested.

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18949

REVISED MAG 1999 SERIOUS AREA PARTICULATE PLAN
Revised Measure 6

Measure Title: Strengthening and Better Enforcement of Fugitive Dust Control Rules (MAG Measure 98-DC-1). This revised commitment supercedes all previous commitments identified as the MAG 1997 and MAG 1999 Serious Area Particulate Plan for PM-10.

Measure Description: Achieve improved compliance with existing air pollution rules through the provision of additional inspection and enforcement personnel. Evaluate the effectiveness of rules and improve clarity.

Responsible Agency and Authority for Implementation: The Maricopa County Board of Supervisors is authorized by A.R.S. §49-479 to adopt rules for air pollution control and by A.R.S. §49-480 to establish, administer and enforce a program for air quality permits. The Board adopted rules establishing an air quality permit program and pursuant to A.R.S. §49-473, designated the Environmental Services Department to issue permits and administer and enforce the permit program. By operation of A.R.S. §49-471, the executive head of the department designated under A.R.S. §49-473 serves as the Air Pollution Control Officer. The Air Pollution Control Officer is specifically authorized to take the enforcement actions set forth in A.R.S.§§49-502, 49-511, 49-512 and 49-513.

Implementation Schedule: Implementation of an enhanced fugitive dust program includes public outreach/education, rule development, staffing, inspection frequency, policy development, enforcement plan development and performance measures. Specific commitments are described below: staffing under the caption, "Level of Personnel and Funding", the enforcement plan commitments are described under the caption, "Enforcement Program", and performance measures are described under the caption, "Monitoring Program".

Public Outreach/Education:

August 1998	Began offering Dust Control Training Course at Paradise Valley Community College
January 1, 1999	Earth Moving Permit Application Forms, Dust Control Plan Forms and "Pollution Prevention Guide for Construction" available on Web page
January—September 1999	Coordinated with EPA on notifications to vacant lot owners, unpaved parking lot owners, and cities and towns
December 1999—January 2000	Train inspection staff on case development
February 2000	Complete staff training manual containing checklists for documentation of important observations for citations. The checklists will include records review and describe appropriate actions regarding recordkeeping.
January—March 2000	Complete draft manual for government construction oversight—Initial project due from ASU sponsored by the partnership between MCESD, ADOT, MCDOT, ASU and private industry.
March 2000	Complete staff training on revised rule test methods.

November 2000	Meet with city staff and train city staff to prepare inspection reports and notices of violations based on MCESD staff training manual.

Increase Inspection Frequency Part I--Sources Not Requiring a Permit:

June 1999	Board adopted Rule 310.01that addressed vacant lots, unpaved parking lots and public unpaved roads.
April 2000	Develop inspection priorities for vacant lot and unpaved parking lot inspections considering lot size and number of sources. Larger lots will be inspected first and smaller lots in succeeding years. Department resources will be directed initially to areas that lack municipal programs.
January 2000	Department obtains copies of local government plans developed pursuant to A.R.S. §9-500.04 or 49-474.01 to stabilize targeted unpaved roads, alleys and stabilize unpaved shoulders on targeted arterials.
Annually thereafter	Review reports filed on those plans

Inspection Frequency Part II--Sources Requiring Permits:

June 1997	Scheduled weekend inspections randomly at least once a month.
July 1999	Proactively inspect sites larger than 10 acres 3 to 6 times per year. Proactively inspect sites less than 10 acres once within 30 days of project start date listed on the permit application form.
January 2000	Develop inspection priorities for permitted sources
March 2000	Revise Standard Operating Procedure and checklists for fugitive dust inspections to be consistent with revised rules.
March 2000	Provide a shortened complaint response time with a goal of 8 hours for high priority complaints. Maintain the current goal of 24 hours for all others.
September 2000	Conduct mid-year review of program to evaluate its progress and future needs.
September—January 2001	Draft Fugitive Dust Operating Plan to track progress and identify future needs.
March 2001	Review program to evaluate its effectiveness and potential future needs.

Evaluate and Revise Rule 310:

December 1999—February 2000	Revise earth moving application forms and dust control plans to be consistent with the revised rule and to improve program effectiveness.
December 1999—July 2001	Research and develop a standard(s) and test method(s) for earth moving sources, considering field research sponsored by EPA,

MAG 1997 PM-10 PLAN AND MAG 1998 CARBON MONOXIDE PLAN
Measure 7

Measure Title: Dust Control Plans. (MAG Measure 97-DC-2)

Measure Description: This measure involves requiring dust control plans for construction, demolition, land clearing, and industrial projects. Dust control plans are an element of Maricopa County's fugitive dust program described in Measure 97-DC-1. See Measure 97-DC-1 for descriptions of the program and its legal authority. Credit for the fugitive dust program including dust control plans will be taken under Measure 97-DC-1.

MAG Measure Title: PM-10 Efficient Street Sweepers (MAG Measure 98-DC-12) This revised commitment supercedes the previous commitment identified as the MAG 1999 Serious Area Particulate Plan for PM-10.

County Measure Description: This measure involves the use of PM-10 efficient street sweepers to reduce particulate emissions from paved roads. Presently, the South Coast Air Quality Management District is working with the California Air Resources Board (CARB) and Society of Automotive Engineers (SAE) to develop a test protocol for certification of PM-10 efficient street sweepers in response to CARB Rule 1186. The CARB standards of certification are not yet available.

Once the CARB certification standards are developed and PM-10 efficient street sweepers have been certified, the Maricopa Association of Governments (MAG) has agreed to coordinate a test assessing the applicability of the certified PM-10 efficient sweepers to specific conditions in the Maricopa County nonattainment area. The test may include, but not be limited to, an evaluation of operation parameters such as production rate, water usage (if applicable), transport speeds, and available literature on PM-10 efficient sweepers. The test would be conducted in high PM-10 concentration areas where a significant source of emissions is vehicle re-entrainment.

The Maricopa County Department of Transportation (MCDOT) will review the results of the MAG PM-10 Efficient Street Sweeping Test. If MCDOT determines that the PM -10 efficient street sweeping units are economically and technologically feasible, MCDOT will purchase, lease or contract to procure additional PM-10 efficient units to replace older equipment, as it is retired.

MCDOT independently purchased three interim technology PM-10 efficient sweepers and deployed in full time use for operational experience and short-term PM-10 improvements. The purchased sweepers passed the South Coast Air Quality Management District Certification Standards and were certified in 1999. Presently MCDOT owns five mobile street sweepers including the three PM-10 efficient street sweepers.

Responsible Agency and Authority for Implementation: This measure will be implemented by MCDOT. Legal authority for this action is provided under Arizona Revised Statutes §11-251 (General Powers of Board of Supervisors)

Implementation Schedule: The schedule for implementing this measure is dependent upon the development of the certification standard and certification of PM-10 efficient street sweeping equipment by CARB, SAE, and the South Coast Air Quality Management District: the results of the MAG PM-10 Efficient Street Sweeping Test; and the evaluation of the MAG PM-10 Efficient Street Sweeping Test by MCDOT. Therefore, a preliminary time line is provided.

December 1998 - Purchased of three interim technology PM-10 efficient sweepers to deploy in full time use for operational experience and short term PM-10 improvements.

By December 1999 - Development of Certification Standards and Certification of Equipment by CARB, SAE, and South Coast Air Quality Management District.

By December 2001 - MAG PM-10 Efficient Street Sweeping Test.

By December 2002 - Determination of economic and technological feasibility. If feasible, begin to procure additional PM-10 efficient street sweepers to replace older equipment as it is retired.

Level of Personnel and Funding: The Maricopa Association of Governments has allocated $70,000 for the PM-10 Efficient Street Sweeping Test in the MAG FY1999 Unified Planning Work Program and Annual Budget.

Enforcement Program: MCDOT will oversee the implementation of this measure. In addition, ARS §49-406 J. provides an approach for assurances that State and local committed measures will be adequately implemented.

Monitoring Program: MCDOT will track the progress made with the implementation of this measure. On an annual basis, MCDOT will provide MC Environmental Services Department with information on the progress made with implementation. Maricopa County is the entity responsible for reporting reasonable further progress to the U.S. Environmental Protection Agency.

Appendix C

CANDIDATE BACM/MSM CONTROL MEASURES FOR
SIGNIFICANT SOURCE CATEGORIES
FOR THE ARIZONA SALT RIVER PM_{10}
STUDY AREA

APPENDIX C

CANDIDATE BACM/MSM CONTROL MEASURES FOR SIGNIFICANT SOURCE CATEGORIES

Identified PM_{10} Best Available Control Measures/Most Stringent Measures		
Construction, Land Clearing, and Earthmoving		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Soil Specific Requirements for Use of Surfactants and Tackifiers		
Clark County, Nevada	Construction Activities Dust Control Handbook	• **Stabilize material or soil with, water, water and tackifier, or water and surfactant mixture, based on soil type, for the following operations: backfilling, clearing and grubbing, crushing, cut and fill, and trenching. Soil classified as having a low, moderate low, moderate high, or high emissions potential based on soil silt content and optimum moisture content [Clark County Construction Activities Dust Control Handbook]** • **An application for a dust control permit for a construction project of fifty (50) acres or more in area shall contain an actual soils analysis of the entire project.**
Requirement for Dust Control Monitor at Large Construction Sites		
Clark County, Nevada	AQR § 94.7.5	• **Dust control monitor required for projects with > 50 acres of actively disturbed area** • Requirement remains in place until less than 50 acres are actively disturbed and previously disturbed areas have long term stabilization in place.
Coachella Valley, California	Final 2002 Coachella Valley PM10 SIP, June 2002	**(Proposed) 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.**
Dust Control Class		
Clark County, Nevada	AQR § 94.7.6	**Require successful completion of a Clark County Department of Air Quality Management Dust Control Class at least once every three years for the following:** • **Construction site superintendent or other designated on-site representative of the project developer** • **All construction site supervisors and foremen** • **Water truck and water pull driver(s) for each construction project**
Site-Specific Dust Mitigation Plan and Permit Requirements		
Clark County, Nevada	AQR § 94.4.2	• **A dust control permit is required for soil disturbing or construction activities greater than or equal to 0.25 acre in overall area, mechanized trenching greater than or equal to 100 feet in length, or for mechanical demolition of any structure greater than or equal to 1,000 square feet.** • **Site specific, soil-specific, and phase-specific dust mitigation plan implementing best management practices required where disturbed area and/or construction site greater than or equal to 10 acres, trenching greater than 1 mile, demolition with explosives.**
Coachella Valley, California	Final 2002 Coachella Valley PM10 SIP, June 2002	Proposed revision to local dust control ordinance and AQMD Rule 403 and 403.1: • Currently, requires dust control plan before issuance of a grading permit for all earth-moving activities. However, a revised dust control ordinance is <u>proposed</u> to include a requirement for local jurisdiction approval of a dust control plan for any site that requires a building permit if the project has disturbed surfaces greater than 5,000 square feet (.115 acres). • Sources that are not required to obtain a local jurisdiction grading permit or building permit (flood control/water district projects, school districts, CalTrans, etc.) are subject to AQMD Rule 403 and 403.1

Identified PM_{10} Best Available Control Measures/Most Stringent Measures		
Construction, Land Clearing, and Earthmoving		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		requirements. In order to be consistent with the local dust control ordinance requirements, these activities are proposed to be required to obtain a dust control plan approved by the AQMD. The proposed thresholds are sites with more than one acre of disturbed surfaces, activities that import or export more than 100 cubic yards of material, or trenching activities greater than 100 feet in length. • 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). Proposed specific work practices to be incorporated into the revised dust control ordinance: • 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, and chemical stabilization with access restriction) required within 10 days for areas where construction activities are not scheduled for 30 days.
South Coast Air Quality Management District (SCAQMD)	Rule 403 and Rule 403 Implementation Handbook	1) A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source. (2) A person conducting active operations within the boundaries of the South Coast Air Basin shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type which is part of the active operation. Best Available Control Measures Land Clearing/Earth-Moving (Rule 403 Implementation Handbook) (A) Watering (pre-grading): (1) Application of water by means of trucks, hoses and/or sprinklers prior to conducting any land clearing; (2) Pre-application of water to depths of proposed cuts. (A-1) Watering (post-grading): (1) **In active earthmoving areas water should be applied at sufficient frequency and quantity to prevent visible emissions from extending more than 100 feet from the point of origin.** (A-2) Pre-grading planning: (1) Grade each phase separately, timed to coincide with construction phase; or (2) Grade entire project, but apply chemical stabilizers or ground cover to graded areas where construction phase begins more than 60 days after grading phase ends. (B) chemical stabilizers: (1) only effective in areas, which are not subject to daily disturbances. (2) Vendors can supply information on product application and required concentrations to meet the specifications established by the Rule. (C Wind fencing: (1) Three- to five-foot barriers with 50% or less porosity located adjacent to roadways or urban areas can be effective in reducing the amount of windblown material leaving a site. Must be implemented in conjunction with either measure (A-1) or (B). (D) Cover haul vehicles: (1) Entire surface area of hauled earth should be covered once vehicle is full. (E) Bedliners in haul vehicles: (1) When feasible, use in bottom-dumping haul vehicles. (4) A person shall not cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined,

Identified PM_{10} Best Available Control Measures/Most Stringent Measures		
Construction, Land Clearing, and Earthmoving		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. (H)(4) - This provision shall not apply if the dust control actions are implemented on a routine basis for each applicable fugitive dust source type. <u>High Wind Measure</u> (a) cease all active operations; or (b) apply water within 15 minutes to any soil surface which is being moved or otherwise disturbed.
Washoe County, Nevada	040.030 District Board of Health Regulations Governing Air Quality Management	1. Requires that reasonable precautions be taken to prevent the generation of dust. Reasonable precautions shall include one or more of the following, as required to control fugitive dust: cessation of operations, clean-up, sweeping, sprinkling, compacting, enclosure, chemical or asphalt sealing, and use of windscreens or snow fences. 2. Except when engaged in commercial agricultural operations, no person may disturb the topsoil by removing, altering, or overlaying the ground cover through scraping, burning, excavating, storing of fill, application of palliative, or any other method on any real property unless reasonable precautions are taken to prevent generation of dust during both the active development phases and thereafter if the property is to remain unoccupied, unused, vacant or undeveloped. For any project involving one (1) acre or more of unimproved surface area a Dust Control Plan must be submitted to, and approved by, the Control Officer prior to disturbing the topsoil as specified above, and/or paving, coating or otherwise applying any material, except water, to the surface. In the dust control plan, the Control Officer shall require use of palliatives, reseeding, or other means to minimize windblown dust, if determined necessary. For any proposed division of land, special use permit application or zone change, the Control Officer shall require the applicant to submit soils data and any other pertinent data for the area in which the development is proposed, if determined necessary. If a determination is made that disturbance or development of the site may cause the generation of dust, the Control Officer shall require one or more of the following: a. phased clearing of the land; b. the use of palliatives; c. the use of water; d. the use of snow fencing; e. the use of wind screens; f. reseeding g. controls on single lot development approved as a part of a land division subject to these regulations. After commencement of development if the approved elements of the dust control plan prove ineffective, the Control Officer shall require additional control measures to be instituted. Phasing will not be required as a control strategy after a project is under construction. In the case of subdivisions, condominiums and planned unit developments, a dust control plan must be submitted as a part of the final map approval process. If a development, which will involve the disturbance of more than one acre of land, requires a special use permit, the Control Officer shall require the dust control plan to be submitted and become a condition of the special use permit process.

Identified PM_{10} Best Available Control Measures/Most Stringent Measures		
Construction, Land Clearing, and Earthmoving		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		3. No person shall cause or permit the handling or storage of any material in a manner, which results or may result in the generation of dust.
Mohave Desert Air Quality Management District (MDAQMD), California	Rule 403-1(C) Rule 403-2(C)(3)	• Dust control plan for construction/demolition source, maintain natural topography to extent possible • Dust control plan for construction source disturbing 100 or more acres • Describe applicable dust control measures • Provide stabilized access to the site as soon as possible (prior to project completion) • Maintain natural topography to extent possible • Construct parking lots and paved roads first, as feasible. • Construct upwind portions of project first, where feasible.
Requirements for Limiting Visible Emissions		
Clark County, Nevada	AQR § 94.11.1 AQR § 94.11.2 AQR § 94.11.3	• **Limit visible emissions from all construction activities to 20 percent opacity; 50 percent opacity using the instantaneous method.** • **Limit visible dust plume from all construction activities to 100 yards, horizontally or vertically from the point of origin.** • Where dust control permit required but not issued or BACT not fully implemented, limit visible emissions from all to 20 percent opacity; 50 percent opacity using the instantaneous method; limit visible dust plume to less than 100 feet horizontally or vertically from the point of origin; or prohibit dust plume from crossing a property line.
SCAQMD, California	Rule 403(d)(1) Rule 403(f)(1)(A)	• **Prevent visible emissions from any active operation, open storage pile, or disturbed surface area from crossing the property line** • **For large operations, conduct watering as necessary to prevent visible dust emission from exceeding 100 feet in length in any direction**
Requirements for High Wind Conditions		
Clark County, Nevada	AQR § 94.9.3	**In the event there are wind conditions that cause fugitive dust emissions in excess of 20% opacity using the time averaged method of intermittent emissions method, in excess of 50% opacity using instantaneous method, or one hundred yard in length from the point of origin, in spite of the use of BACM, all construction activities that may contribute to these emissions shall immediately cease. Water trucks and water pulls shall continue to operate under these circumstances, unless poses a safety hazard [Clark County, AQR § 94.9.3].**
SCAQMD, California	Rule 403 Implementation Handbook	Rule 403 Implementation Handbook Best Available Control Measures - Land Clearing/Earth-Moving High Wind Measure (a) cease all active operations; or (b) apply water within 15 minutes to any soil surface which is being moved or otherwise disturbed.
SCAQMD, California	Rule 403.1(d) (applies only in the Coachella Valley)	Requires that additional dust mitigation measures be implemented for disturbed areas and storage and handling of bulk materials. Stabilization procedures shall include one or more of the following: (A) Application of water to at least 70 percent of the surface area of such bulk material deposits at least three times per day when there is evidence of wind driven fugitive dust; (B) Application of chemical dust suppressants in sufficient concentration so as to maintain a stabilized surface for a period of at least six months; (C) Installation of wind breaks of such design to reduce maximum wind gusts to less than 25 miles per hour in

Identified PM_{10} Best Available Control Measures/Most Stringent Measures		
Construction, Land Clearing, and Earthmoving		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		the area of the bulk material deposits.
Material Handling		
Clark County, Nevada	Construction Activity Dust Control Handbook – blasting, clearing and grubbing, crushing, screening, staging areas, trenching, truck loading, stockpiling, cut and fill	• **Stabilize surface soils where loaders, support equipment and vehicles will operate by either: 1. Pre-water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate; or 2. Apply and maintain a dust palliative on surface soils where loaders, support equipment and vehicles will operate** • **Stabilize material during loading – empty loader bucket slowly and keep loader bucket close to the truck to maximize the drop height while dumping. Based on soil type apply water; water and tackifier mixture; or water and surfactant mixture prior to loading and while loading.**

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Trackout Control		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	310.01 Fugitive Dust From Open Areas, Vacant Lots, Unpaved Parking Lots, And Unpaved Roadways	§306: In the event that erosion-caused deposition of bulk materials or other materials occurs on any adjacent paved roadway or paved parking lot, the owner and/or operator of the property from which the deposition eroded shall implement both of the following control measures. Exceedances of the opacity limit, due to erosion-caused deposition of bulk materials onto paved surfaces, shall constitute a violation of the opacity limit. a. Remove any and all such deposits by utilizing the appropriate control measures within 24 hours of the deposits' identification or prior to the resumption of traffic on pavement, where the pavement area has been closed to traffic; and b. Dispose of deposits in such a manner so as not to cause another source of fugitive dust.
Maricopa County	Rule 310.01	Limit visible emissions from all construction activities to 20 percent opacity
San JoaquinValley Unified Air Pollution Control District (SJVUAPCD)	Rule 8041	An owner/operator shall sufficiently prevent or cleanup carryout and trackout • The use of blower devices, or dry rotary brushes or brooms, for removal of carryout and trackout on public roads is expressly prohibited. • remove all visible carryout and trackout at the end of each workday. • Within urban areas, if carryout and trackout extends less than 50 feet from the nearest exit point of a site, the owner/operator shall remove all visible carryout and trackout at the end of each workday.
Clark Co., Nevada	AQR 94 & Construction Activities Dust Control Handbook	• Clean up mud and dirt track out at least once daily and when track out extends more than 50 feet • **Install and maintain trackout control devices at all access points where paved and unpaved access or travel routes intersect: (1) Install gravel pad(s) consisting of 1" to 3" rough diameter, clean, well graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by 3 inches deep, and, at minimum, 50' or the length of the longest haul truck, whichever is greater. Re-screen, wash, or apply additional rock in gravel pad to maintain effectiveness; or (2) Install and maintain wheel shakers; or (3) Install and maintain wheel washer.**
Washoe County, Nevada	District Board of Health Regulations Governing Air Quality Management 040.030 Dust Control	6. Paved entry aprons or other effective cleaning techniques (e.g., wheel washers), shall be required by the Control Officer, if determined necessary, to prevent tracking onto paved roadways. Paved entry aprons may include road sections of coarse aggregate or steel grate to "knock off" dirt which accumulates on the vehicle and/or vehicle wheels. Any material which is tracked onto a paved roadway must be removed (swept or washed) as quickly as safely possible. Exceptions to this provision may be made by the Control Officer for the construction, maintenance, and/or repair of paved roadways and for the application of de-icing and traction materials for wintertime driving safety.
Coachella Valley, CA	Final 2002 Coachella Valley PM10 SIP, June 2002	Proposed specific work practices to be incorporated into the revised dust control ordinance: • 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

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Trackout Control		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		(approximate width of two travel lanes) and at the conclusion of the work day.
SCAQMD, California	403(d)(5)	(5) Any person in the South Coast Air Basin shall: (A) prevent or remove within one hour the track-out of bulk material onto public paved roadways as a result of their operations; or (B) take at least one of the trackout control options listed below and: (i) prevent the track-out of bulk material onto public paved roadways as a result of their operations and remove such material at anytime track-out extends for a cumulative distance of greater than 50 feet on to any paved public road during active operations; and (ii) remove all visible roadway dust tracked-out upon public paved roadways as a result of active operations at the conclusion of each workday when active operations cease. <u>Track out control options:</u> (1) Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet. (2) Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Bulk Material Hauling and Transporting		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Clark County, Nevada	Construction Activities Dust Control Handbook – Truck Loading; Importing/Exporting Soil, Rock and Other Bulk Material	• **Ensure all loads are covered prior to leaving the construction site and traveling on public roadways.** • **Limit visible dust opacity from vehicular operations: apply water and limit vehicle speeds to 15 mph on the work site, or apply and maintain dust suppressant on haul roads.** • **Check bell-dump truck seals regularly and remove any trapped rocks to prevent spillage** • **Maintain 3-6 inches of freeboard to minimize spillage** • **Stabilize materials during transport on site by using tarps or other suitable enclosures on haul trucks or stabilize materials with water.** • **Clean wheels and undercarriage of haul trucks prior to leaving construction site.**
TCEQ	TAC §111.143. Materials Handling.	Applies in El Paso and portions of Harris and Nueces Counties: No person may cause, suffer, allow, or permit any material, except for abrasive material for snow and ice control, to be handled, transported, or stored without taking at least the following precautions to achieve maximum control of dust emissions to the extent practicable: (3) Application of water or suitable chemicals, or complete covering of materials contained in open-bodied trucks, trailers, or railroad cars transporting such materials which can create airborne particulate matter in areas where the general public has access. (A) Suitable wetting may be used as an alternative to covering in all areas except the City of El Paso. (B) Complete covering, at a minimum, is required in the City of El Paso.
Washoe County, Nevada	District Board of Health Regulations Governing Air Quality Management 040.030 Dust Control	5. Any vehicle operating on a paved roadway with a load of dirt, sand, or gravel susceptible to being dropped, spilled, leaked or otherwise escaping therefrom, must take one of the following control measures: a. Six (6) inches of freeboard is maintained within the bed of the vehicle. For the purposes of this regulation, "freeboard" means the vertical distance from the highest portion of the edge of the load to the lowest part of the rim of the truck bed. b. Materials contain enough moisture to control dust emissions from the point of origin to their final destination. Wherever possible, the use of dust suppressants must be applied in conjunction with the water. c. In the event that measures A or B are ineffective in preventing materials from escaping, tarps or other cargo covers shall be employed. This section does not prohibit a public maintenance vehicle from depositing sand on a paved roadway to enhance traction, or sprinkling water or other substances to clean or maintain a highway.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Open Areas and Vacant Lots		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	310.01 Fugitive Dust From Open Areas, Vacant Lots, Unpaved Parking Lots, And Unpaved Roadways	§ 301 Vehicle Use In Open Areas And Vacant Lots: require implementation of one of the following control measures for open areas and vacant lots 0.10 acre or larger (4,360 square feet) and have a cumulative of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles: a. Prevent motor vehicle and/or off-road vehicle trespassing, parking, and/or access, by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees, or other effective control measures. b. Uniformly apply and maintain surface gravel or chemical/organic stabilizers to all areas disturbed by motor vehicles and/or off-road vehicles. 302 Open Areas And Vacant Lots: require implementation of one of the following control measures within 60 calendar days following the initial discovery of the disturbance for open areas and vacant lots have 0.5 acre or more (21,780 square feet) of disturbed surface area and remain unoccupied, unused, vacant, or undeveloped for more than 15 days: a. Establish vegetative ground cover on all disturbed b. Apply a dust suppressant to all disturbed surface areas c. Restore all disturbed surface areas such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions. d. Uniformly apply and maintain surface gravel
Clark Co., Nevada	Clark County June 2001, PM10 SIP, Appendix L, p. L-11.	**SIP commitment to hire ten new enforcement department staff members to implement enforcement for "wind erosion – vacant land, unpaved parking and race tracks"**
Clark Co., Nevada	Section 90.2.1.1(a) & (b)	Owner/operator **required to implement controls for open areas and vacant lots 5,000 square feet or larger,** such as: • Prevent motor vehicle access and stabilize disturbed surface. • Stabilize disturbed surface greater than 5,000 square feet with gravel or dust palliatives
Coachella Valley, California	Final 2002 Coachella Valley PM10 SIP, June 2002	Proposed, revised dust control ordinance: 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. 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.
SCAQMD, California	403(d)(1)	Disturbed areas must be controlled to prevent visible emissions from crossing the property line. Rule 403 Implementation Handbook – Disturbed Surface Areas/Inactive Construction Site Best Available Control Measures (Q) chemical stabilization – (1) Most effective when used on areas where active operations have ceased; (2)Vendors can supply information on methods for application and required concentrations.

		(R Watering – (1) Requires frequent applications unless a surface crust can be developed. (S) Wind fencing – (1) Three- to five-foot barriers with 50% or less porosity adjacent to roadways or urban areas can be effective in reducing the amount of wind blown material leaving a site. Must be used in conjunction with either measure (Q), (R , or (T). (T) Vegetation – (1) Establish as quickly as possible when active operations have ceased. <u>High Wind Measures</u> a. apply chemical stabilizers (to meet the specifications established by the Rule); or b. apply water to all disturbed surface areas 3 times per day.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Paved Roads		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	1999 Serious Area PM10 Plan for the Maricopa County Nonattainment Area, pp. 7-158 & 7-271	**PM10 efficient street sweepers - allocate $3.8 million CMAQ funds to encourage the purchase and utilization of PM10 efficient street sweepers (50% street sweeper fleet turnover by 2006)** Frequent Routine Sweeping or Cleaning of Paved Roads - City of Phoenix conducts routine sweeping of residential and major streets. The street sweeping schedule will be changed to coordinate sweeping with the uncontained trash pick-up during the 1997-1998 fiscal year. The City will continue to consider new street sweeping equipment which may be designed to reduce particulate emissions and/or to increase sweeping efficiency. ADOT has responsibility for maintenance of facilities on the State Highway System. Street sweeping is accomplished through intergovernmental agreements, private contracts, and ADOT personnel. Sweeping is conducted in various frequencies.
Clark County, Nevada	AQR § 93.2.2; AQR § 93.2.2.1 AQR § 93.2.3	**1. After January 1, 2001, require purchase of PM-efficient street sweepers for paved road and paved parking lot sweeping.** **2. The use of dry rotary brushes and blower devices for the removal of dirt, rock, or other debris from a paved road or paved parking lot is prohibited without the use of sufficient wetting to limit the visible emissions to no greater than 20% opacity**
Clark County, Nevada	Clark County, June 2001, PM10 SIP, Appendix J	**Established Street Sweeping Frequency for Paved Roads** • **Clark County Public Works – All classes of roads are swept every 7 to 10 days** • **City of Las Vegas – all classes of roads are swept every 2 weeks. Problem areas, such as roads around active construction sites, are swept more frequently, typically once per week.** • **City of North Las Vegas – all roads are swept twice monthly** • **State of Nevada – All freeways in Clark County are swept once a week; All arterials under state jurisdiction in Clark County are swept once a month.**
SCAQMD, California	Rule 1186 (e)(1)(A)	**Any government or government agency which contracts to acquire street sweeping equipment or street sweeping services for routine street sweeping on public roads that it owns and / or maintains, where the contract date or purchase or lease date is January 1, 2000 or later, shall acquire or use only certified street sweeping equipment.**
Texas Commission on Environmental Quality (TCEQ)	TAC §111.147. Roads, Streets, and Alleys.	Applies in El Paso and portions of Harris and Nueces Counties. No person may cause, suffer, allow, or permit any public, industrial, commercial, or private road, street, or alley to be used without taking at least the following precautions to achieve control of dust emissions: (2) Removal from public thoroughfares, as necessary, of soil or other materials, except for sand applied for the specific purpose of snow or ice control. **In the City of El Paso, removal of soil shall be by mechanical sweepers or their equivalent at the rate of four times per year for all public thoroughfares within the city limits and six times per year or as necessary for public thoroughfares within the central business district**. For the purpose of this section, the central business district shall be defined as that area bordered by Loop 375 to the south, Santa Fe Street to the west, Missouri Street to the north, and Kansas Street to the east. The City of El Paso shall spot clean dirty roadways, and shall maintain street sweeping records for two years. Sand applied for the specific purpose of snow or ice control shall be removed as soon as such control is no longer necessary.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Unpaved Haul/Access Roads		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	Rules 310.01 and 316	Work practice requirements Implement one or more of the following controls: 1. Limit vehicle speed to 15 mph and limit vehicular trips to no more than 20 per day; 2. Apply water, so that the surface is visibly moist; 3. Pave; 4. Apply and maintain gravel, recycled asphalt, or other suitable material; 5. Apply a suitable dust suppressant Stabilization requirements • Ensure visible fugitive dust emissions do not exceed 20% opacity, and • Ensure silt loading is less than 0.33 oz/ft2, or silt content does not exceed 6 percent. • As an alternative to meeting the stabilization requirements, limit vehicle trips to no more than 20 per day per road and limit vehicle speeds to no more than 15 mph.
Clark County, Nevada	AQR 94 and Construction Activities Dust Control Handbook – Traffic – Unpaved Routes and Parking Areas	• **Limit visible dust opacity from vehicular operations by either limit vehicle speeds to 15 mph or apply and maintaining dust palliative on all vehicle travel areas.** • Stabilize all haul routes and maintain in a stabilized condition by applying water; dust palliative; gravel; or supplement dust palliative or aggregate applications with watering, if necessary. • Stabilize all off-road and parking areas and maintain in a stabilized condition by applying water; gravel; recycled asphalt (or other suitable material); dust palliative (designed for vehicle traffic). Recommendations: Use of bumps or dips for speed control is encourages. Apply paving as soon as possible to all future roadway areas for PEP categories other than “high”
TCEQ	Concrete Batch Plant Technical Guidance for Mechanical Sources, January 2001, Draft	Best Available Control Technology Analysis - Current control practices include: 6. 70 to 95% control of fugitive dust emissions from roads and traffic areas (watering, wet or dry sweeping acceptable. It is important to note that in certain locations, paving may be required). These levels are guidelines to help the applicant get an idea of what the TCEQ is currently considering as BACT; however, these control levels are subject to change.
TCEQ	Air Quality Standard Permit for Temporary Rock Crushers, February 2002	(1) General Requirements (G) Dust emissions from all in-plant roads and active work areas that are associated with the operation of the crusher shall be minimized at all times by at least one of the following methods: (i) covered with a material such as, but not limited to, roofing shingles or tire chips (when used in combination with (ii) or (iii) of this subsection); (ii) treated with dust-suppressant chemicals; (iii) watered; or (iv) paved with a cohesive hard surface that is maintained intact and cleaned.
TCEQ	February 2002, Standard Permit for Rock Crushing Plants, BACT Analysis	3. The implementation of best management practices to reduce fugitive dust emissions from roads and traffic areas (water, application of environmentally safe chemicals, wet or dry sweeping, in certain locations paving may be required) as stated in the Special Conditions of the permit.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Unpaved Haul/Access Roads		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
TCEQ	Air Quality Standard Permit For Hot Mix Asphalt Plants Effective Date July 10, 2003	(1) General Requirements (U) For a production rate of less than or equal to 300 tph, stockpiles and vehicle traffic areas (except for entrance and exit to the site) shall be located at least 25 feet from any property line. For a production rate of greater than 300 tph, stockpiles and vehicle traffic areas (except for entrance and exit to the site) shall be located at least 50 feet from any property line. In lieu of meeting the distance requirements for roads and stockpiles, the following shall occur: (i) roads and other traffic areas located less than the applicable distance requirement from the property line must be bordered by dust-suppressing fencing or barriers. The fencing or barriers shall be constructed to a height of at least 12 feet; and (ii) if any portion of a stockpile is located less than the applicable distance requirement from the property line, then the entire stockpile must be contained within a three-walled bunker which extends at least two feet above the top of the stockpile. **(3) Requirements Specific to Temporary Hot Mix Asphalt Plants** **(F) In order to maintain compliance with subsection (1)(H), emissions from all in-plant roads and traffic areas associated with the operation of the hot mix asphalt plant shall be minimized at all times by at least one of the following methods. In-plant roads and traffic areas shall be:** **(i) covered with a material such as, but not limited to, roofing shingles or tire chips (when used in combination with (ii) or (iii) of this subsection);** **(ii) treated with dust-suppressant chemicals;** **(iii) watered; or** **(iv) paved with a cohesive hard surface that is maintained intact and cleaned.** (4) Requirements Specific to Permanent Hot Mix Asphalt Plants (B) In order to maintain compliance with paragraph (1)(H), **all entry and exit roads and main traffic routes associated with the operation of the hot mix asphalt plant (including batch truck and material delivery truck roads) shall be paved with a cohesive hard surface to be maintained intact and cleaned. All batch trucks and material delivery trucks shall remain on paved surfaces when entering, conducting primary function, and leaving the property. All other traffic areas must comply with the control requirements listed in paragraph (3)(F).**
TCEQ	TAC §111.147. Roads, Streets, and Alleys.	Applies in El Paso and portions of Harris and Nueces Counties. No person may cause, suffer, allow, or permit any public, industrial, commercial, or private road, street, or alley to be used without taking at least the following precautions to achieve control of dust emissions: (**1) Application of asphalt, water, or suitable oil or chemicals on the following unpaved surfaces, except in the City of El Paso and the Fort Bliss Military Reservation, except as noted in §111.141, where the use of paving materials is the only acceptable method of dust control, unless otherwise specified:** **(A) Industrial Facility Roadways – all major in-plant roads and all truck or other heavy-duty vehicle pathways. Major in-plant roads shall be defined as those which are designed to accommodate two-way traffic and are at least 30 feet wide at least one point, measuring the distance from the edge of the undisturbed earth on either side of the established roadway.** The executive director, with the concurrence of the United States Environmental Protection Agency, may grant a waiver from the requirement to pave an

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Unpaved Haul/Access Roads		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		industrial facility roadway if the owner of the roadway demonstrates that the cost of paving is economically unreasonable compared to other methods of dust control specified in subsection (1). (B) Public Thoroughfares - all roads and streets to which the public has general access. (C) Commercial Roads - all roads which serve as access for more than 50 employees or as access to more than ten heavy-duty truck parking spaces. (D) Residential Roads - all roads which serve as access for more than 20 residences and/or apartment units. (E) Alleys - in the City of El Paso, alleys shall be paved at the rate of at least 15 miles per year. (F) Levee Roads - in the City of El Paso, all levee roads and access to such roads shall be controlled with the application of asphalt, or suitable oil or chemicals.
TCEQ	Air Quality Standard Permit for Concrete Batch Plants, Effective Date July 10, 2003	**(3) General Requirements** **(E) Dust emissions from all in-plant roads and traffic areas associated with the operation of the concrete batch plant must be minimized at all times by at least one of the following methods:** **1. covered with a material such as, but not limited to, roofing shingles or tire chips (when used in combination with (ii) or (iii) of this subsection);** **(ii) treated with dust-suppressant chemicals;** **(iii) watered; or** **(iv) paved with a cohesive hard surface that is maintained intact and cleaned.** (4) Additional Requirements for Concrete Batch and Specialty Batch Concrete, Mortar, Grout Mixing, or Pre-cast Concrete Products Plants (D)Except for incidental traffic, vehicles used for the operation of the concrete batch plant may not be operated within 25 feet of any property line, except for entrance and exit to the site. In lieu of meeting this distance requirement, roads and other traffic areas must be bordered by dust preventive fencing or other barrier along all traffic routes or work areas within the 25-foot specified buffer area. These borders shall be constructed to a height of at least 12 feet. (5) Additional Requirements for Temporary Concrete Plants (C) (iii) Stationary equipment, stockpiles, or vehicles used for the operation of the concrete batch plant (except for incidental traffic and the entrance and exit to the site) may not be located or operated, respectively, within the following specified distances from any property line: (iv) for those facilities with production rates less than or equal to 200 cubic yards per hour, at least 25 feet; and (v) for those facilities with production rates more than 200 and less than or equal to 300 cubic yards per hour, at least 50 feet. (D) In lieu of meeting the distance requirements for roads and stockpiles of (5)(C)(iii), the following may be followed: (i) roads and other traffic areas within the buffer distance must be bordered by dust suppressing fencing or other barrier along all traffic routes or work areas. These borders shall be constructed to a height of at least twelve (12) feet; and (ii) stockpiles within this buffer distance must be contained within a three-walled bunker which extends at least two (2) feet above the top of the stockpile.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Unpaved Haul/Access Roads		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		(6) Additional Requirements for Other Concrete Plants **(C) All entry and exit roads and main traffic routes associated with the operation of the concrete batch plant (including batch truck and material delivery truck roads) shall be paved with a cohesive hard surface that can be maintained intact and shall be cleaned. All batch trucks and material delivery trucks shall remain on paved surface when entering, conducting primary function, and leaving the property. Other traffic areas must comply with the control requirements of paragraph (3)(E).** (D) The following distance limitations must be met: (ii) stationary equipment, stockpiles, or vehicles used for the operation of the concrete batch plant (except for incidental traffic and the entrance and exit to the site) may not be located or operated, respectively, within the following specified distances from any property line: (iii) for those facilities with production rates less than or equal to 200 cubic yards per hour, at least 25 feet; and (iv) for those facilities with production rates more than 200 and less than or equal to 300 cubic yards per hour, at least 50 feet. (E) In lieu of meeting the distance requirements for roads and stockpiles of (5)(C)(ii), the following may be followed: (i) roads and other traffic areas within the buffer distance must be bordered by dust suppressing fencing or other barrier along all traffic routes or work areas. These borders shall be constructed to a height of at least 12 feet; and (ii) stockpiles within this buffer distance must be contained within a three-walled bunker which extends at least two feet above the top of the stockpile.
San Joaquin Valley Air Pollution Control District (SJVAPCD)	Rule 8071 Unpaved Vehicle/Equipment Traffic Areas	5.1 In addition to the requirements of this rule, a person shall comply with all other applicable requirements of Regulation VIII to limit Visible Dust Emissions (VDE) to 20% opacity. 5.1.1 On each day that 75 or more vehicle trips will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall limit VDE to 20% opacity from the unpaved vehicle/equipment traffic area by application and/or maintenance of at least one of the following control measures, or shall implement an APCO-approved Fugitive PM10 Management Plan as specified in Rule 8011 (General Requirements): 5.1.1.1. Watering; 5.1.1.2 Uniform layer of washed gravel; 5.1.1.3. Chemical/organic dust suppressants; 5.1.1.4. Vegetative materials; 5.1.1.5. Paving; 5.1.1.6. Any other method that effectively limits VDE to 20% opacity. 5.1.2 On each day that 100 or more vehicle trips will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall limit VDE to 20% opacity and comply with the requirements of a stabilized unpaved road by the application and/or maintenance of at least one of the following control measures, or shall implement an APCO-approved Fugitive PM10 Management Plan as specified in Rule 8011 (General Requirements): 5.1.2.1 Watering; 5.1.2.2 Chemical/organic stabilizers/suppressants in accordance with the manufacturer's specifications;

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Unpaved Haul/Access Roads		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		5.1.2.3 Roadmix; 5.1.2.4 Paving. 5.1.2.5 Any other method that results in a stabilized unpaved road surface.
Florida	Florida Administrative Code 62-296.414 Concrete Batching Plants.	The following requirements apply to new and existing emissions units producing concrete and concrete products by batching or mixing cement and other materials. This rule also applies to facilities processing cement and other materials for the purposes of producing concrete. (2) Unconfined Emissions. The owner or operator shall take reasonable precautions to control unconfined emissions from hoppers, storage and conveying equipment, conveyor drop points, truck loading and unloading, roads, parking areas, stock piles, and yards as required by Rule 62-296.320(4)(c), F.A.C. For concrete batching plants the following shall constitute reasonable precautions: (a) 1. Paving and maintenance of roads, parking areas, and yards. (a) 2. Application of water or environmentally safe dust-suppressant chemicals when necessary to control emissions (a) 3. Removal of particulate matter from roads and other paved areas under control of the owner or operator to mitigate reentrainment, and from building or work areas to reduce airborne particulate matter.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Stockpiles/Storage Piles		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	Rule 316	Work Practices **Owner/operator shall comply with both of the following:** **a. During stacking, loading, and unloading operations, apply water, as necessary, to maintain compliance with 20 % opacity limit;** and **b. When not conducting stacking, loading, and unloading operations, comply with one of the following work practices:** **(1) Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings;** **(2) Apply water to maintain a soil moisture content at a minimum of 12%;** **(3) Meet one of the stabilization requirements (visible crust; 100 cm/second threshold friction velocity; 50% flat vegetative cover; 30% standing vegetative cover,; 10% standing vegetative cover and 43 cm/second threshold friction velocity; 10% non-cover of non-erodible elements); or** **(4) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%.. If implementing this subsection, subsection 308.6(b)(4), the owner/operator must also implement either (2) or (3) above.** Control Measures Owner/operator must implement one of the following control measures: 1. **Maintain with at least 70% optimum moisture content; or** **2. Stabilize open storage piles at completion of activity by following any of the following work practices:** • **Water open storage piles to form a crust immediately at the completion of activity;** • **Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%.** • **Cover open storage piles with tarps, plastic, or other material such that the coverings will not be dislodged by wind.** Suggested additional control measures for contingency plans 1. Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate. 2. Remove material from the downwind side of the storage pile when safe to do so.
Clark County, Nevada	AQR 94.8.4 & 94.8.5 and Construction Activities Dust Control Handbook - Stockpiling	• Stockpiles located within one hundred (100) yards of occupied buildings shall not be constructed over eight (8) feet in height [AQR § 94.8.4]. • Stockpiles over eight (8) feet in height shall have a road bladed to the top to allow water truck access or shall have a sprinkler irrigation system installed, used and maintained [AQR § 94.8.4]. • To the extent possible, maintain stockpile to avoid steep sides.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Stockpiles/Storage Piles		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		• **Stabilize surface soils where support equipment and vehicles will operate by pre-watering and maintaining surface soils in a stabilized condition; or by applying and maintaining a dust palliative on surface soils** • Stabilize stockpile materials during handling by maintaining stockpile materials with at least 70% optimum moisture content or removing material from the downwind side of the stockpile, when safe to do so. • **Based on soil type apply water; water and tackifier mixture; or water and surfactant mixture during stacking, loading and unloading operations.** • Stabilize stockpiles at completion of activity by either watering stockpiles to form a crust immediately at the completion of activity; apply and maintain a dust palliative to all outer surfaces of the stockpiles; provide and maintain wind barriers on 3 sides of the pile, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and made of material with a porosity of 50% or less; or apply a cover or screen to stockpiles.
TCEQ	Air Quality Standard Permit for Temporary Rock Crushers, February 2002	(H) All stockpiles shall be sprinkled with water, dust-suppressant chemicals, or covered, as necessary, to minimize dust emissions. (I) Raw material and product stockpile heights shall not exceed 45 feet.
TCEQ	Air Quality Standard Permit For Hot Mix Asphalt Plants Effective Date July 10, 2003	(M) All stockpiles shall be sprinkled with water, dust-suppressant chemicals, or covered, as necessary, to minimize dust emissions.
TCEQ	Air Quality Standard Permit for Concrete Batch Plants, Effective Date July 10, 2003	(3)(F) All stockpiles shall be sprinkled with water, dust-suppressant chemicals, or covered, as necessary, to minimize dust emissions. (5) Additional Requirements for Temporary Concrete Plants **C (iii) Stationary equipment, stockpiles, or vehicles used for the operation of the concrete batch plant (except for incidental traffic and the entrance and exit to the site) may not be located or operated, respectively, within the following specified distances from any property line:** **(iv) for those facilities with production rates less than or equal to 200 cubic yards per hour, at least 25 feet; and** **(v) for those facilities with production rates more than 200 and less than or equal to 300 cubic yards per hour, at least 50 feet.** **(D) In lieu of meeting the distance requirements for roads and stockpiles of (5)C(iii), the following may be followed:** **(i) roads and other traffic areas within the buffer distance must be bordered by dust suppressing fencing or other barrier along all traffic routes or work areas. These borders shall be constructed to a height of at least twelve (12) feet; and (ii) stockpiles within this buffer distance must be contained within a three-walled bunker which extends at least two (2) feet above the top of the stockpile.** (6) Additional Requirements for Other Concrete Plants

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Stockpiles/Storage Piles		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		(D) The following distance limitations must be met: **(ii) stationary equipment, stockpiles, or vehicles used for the operation of the concrete batch plant (except for incidental traffic and the entrance and exit to the site) may not be located or operated, respectively, within the following specified distances from any property line:** **(iii) for those facilities with production rates less than or equal to 200 cubic yards per hour, at least 25 feet; and** **(iv) for those facilities with production rates more than 200 and less than or equal to 300 cubic yards per hour, at least 50 feet.** **(E) In lieu of meeting the distance requirements for roads and stockpiles of (5)C(ii), the following may be followed:** **(i) roads and other traffic areas within the buffer distance must be bordered by dust suppressing fencing or other barrier along all traffic routes or work areas. These borders shall be constructed to a height of at least 12 feet; and** **(ii) stockpiles within this buffer distance must be contained within a three-walled bunker which extends at least two feet above the top of the stockpile.**
TCEQ	February 2002, Standard Permit for Rock Crushing Plants, BACT Analysis	1. A minimum of 70% reduction of fugitive dust emissions from stockpiling of aggregate material (sufficient application of water by sprays or fog rings).
Florida	Florida Administrative Code 62-296.414 Concrete Batching Plants.	The following requirements apply to new and existing emissions units producing concrete and concrete products by batching or mixing cement and other materials. This rule also applies to facilities processing cement and other materials for the purposes of producing concrete. (2) Unconfined Emissions. The owner or operator shall take reasonable precautions to control unconfined emissions from hoppers, storage and conveying equipment, conveyor drop points, truck loading and unloading, roads, parking areas, stock piles, and yards as required by Rule 62-296.320(4)C, F.A.C. For concrete batching plants the following shall constitute reasonable precautions: (a) 4. Reduction of stock pile height or installation of wind breaks to mitigate wind entrainment of particulate matter from stockpiles.
Wisconsin	Wisconsin Administrative Code NR 415.04	(2) In addition to meeting the requirements of sub. (1), any direct or portable source located in an area identified in s. NR 415.035 (1); and any direct or portable source located near the areas whose aggregate fugitive dust emissions may cause an impact on the ambient air quality in the areas equal to or greater than an annual concentration of one microgram per cubic meter or a maximum 24–hour concentration of 5 micrograms per cubic meter, as determined by the analysis under ch. NR 401, shall meet the following RACT requirements: **(a) Storage piles having a material transfer greater than 100 tons in any year are subject to the following requirements:** **1. Storage piles of material having a silt content of 5% to 20% shall be treated with water, surfactants, stabilizers or chemicals; draped; or enclosed on a minimum of 3 sides. Access areas surrounding storage piles shall be watered, cleaned or treated with stabilizers as needed to prevent fugitive dust**

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Stockpiles/Storage Piles		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		from vehicle traffic. **2. Storage piles of materials having a silt content of 20% or more shall be completely enclosed or draped except any part being worked, loaded or unloaded. Access areas surrounding storage piles shall be watered, cleaned or treated with stabilizers as needed to prevent fugitive dust from vehicle traffic.**
SCAQMD	Rule 403 (d)(1) & (h)(2). Rule 403 Implementation Handbook, January 1999, pp. 6-4.	**1) A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source. Exemption for wind gusts exceeding 25 mph, high wind control measures are implemented. High wind measures for open storage piles - (a) apply water twice per hour; or (b) Install temporary coverings[SCAQMD Rule 403(d)(1) & (h)(2)].** (2) A person conducting active operations within the boundaries of the South Coast Air Basin shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type which is part of the active operation. BACM for Storage Piles (Rule 403 Implementation Handbook): (L) Wind sheltering - (1) enclose in silos; (2) Install three-sided barriers equal to height of material, with no more than 50 percent porosity. (M) Watering – (1) Application methods include: spray bars, hoses and water trucks; (2) Frequency of application will vary on site-specific conditions. (N) Chemical stabilizers – (1) Best for use on storage piles subject to infrequent disturbances (O) altering load-in/load-out procedures – (1) Confine load-in/load-out procedures to leeward (downwind) side of the material. Must be used in conjunction with either measure (L), (M), (N), or (P). (P) Coverings – (1) Tarps, plastic, or other material can be used as a temporary covering; (2) when used, these should be anchored to prevent wind from removing coverings. (4) A person shall not cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. (H)(4) - This provision shall not apply if the dust control actions are implemented on a routine basis for each applicable fugitive dust source type.
Bay Area Air Quality Management District	Best Available Control Technology (BACT) Guideline http://www.baaqmd.gov/pmt/bactworkbook/default.htm	Solid Material Storage – Enclosed: Achieved in Practice - **Vent to a baghouse w/ <0.01 gr/dscf; or water spray or adequate material moisture for wet material** Solid Material Storage – Open: Technologically Feasible/Cost Effective - **Enclosed storage**; Achieved in Practice - **Water spray with chemical suppressants**

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Non-stack: Material Handling		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	Maricopa County Rules 310.01 and 316	Work Practices during stacking, loading and unloading operations: An owner and/or operator must implement all of the following control measures: 1. Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping; 2. Implement either one of the following control measures: a. Spray material with water prior to stacking, loading and unloading, and while stacking, loading, and unloading, or b. Spray material with a dust suppressant other than water prior to stacking, loading and unloading, and while stacking, loading, and unloading.
TCEQ	Permit by Rule §106.144. Bulk Mineral Handling.	All bulk mineral product (except asbestos) handling facilities that operate in compliance with the following conditions of this section are permitted by rule. (1) **All material shall be transported in a closed conveying system and all exhaust air to the atmosphere shall be vented through a fabric filter having a maximum filtering velocity of 4.0 feet per minute (ft/min) with mechanical cleaning or 7.0 ft/min with automatic air cleaning.** (2) All permanent in-plant roads and vehicle work areas shall be watered, treated with dust-suppressant chemicals, oiled, or paved and cleaned as necessary to achieve maximum control of dust emissions. (3) The facility (including associated stationary equipment and stockpiles) shall be located at least 300 feet from any recreational area, school, residence, or other structure not occupied or used solely by the owner of the property upon which the facility is located.
SCAQMD	BACT Guidelines for Non-Major Polluting Facilities	Bulk Solid Material Handling – Other Dry Materials Handling (includes conveying, size reduction and classification) **Enclosed Conveyors and Baghouse**
SJVAPCD	Rule 8031 Bulk Materials (adopted November 15, 2001)	A. Handling/Storage Of Bulk Materials: A1 When handling bulk materials, apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20% opacity. A2 When storing bulk materials, comply with the conditions for a stabilized surface as defined in Rule 8011; or A3 Cover bulk materials stored outdoors with tarps, plastic, or other suitable material and anchor in such a manner that prevents the cover from being removed by wind action; or A4 Construct and maintain wind barriers sufficient to limit VDE to 20% opacity. If utilizing fences or wind barriers, control measure A1 shall also be implemented.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Non-stack: Material Handling		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Florida	FAC 62-296.711 Materials Handling, Sizing, Screening, Crushing and Grinding Operations.	(1) The emission limitations apply to the handling, sizing, screening, crushing, or grinding of the materials such as, but not limited to, cement, clinker, fly ash, coke, gypsum, shale, lime, sulfur, phosphatic materials, slag, and grain or grain products, including but not limited to the following types of operations: (a) Loading or unloading of materials to or from such containers as railcars, trucks, ships, and storage structures; (b) Conveyor systems other than portable conveyor systems; (c Storage of materials in storage structures, such as silos or enclosed bins, which have a storage capacity of fifty cubic yards or more; (d) crushing and/or grinding operations; (e) sizing and/or rescreening operations; (f) static drop transfer points where the discharge point and receiving point of the materials being handled are not moving in relationship to one another. The emission limitations do not apply to emissions from materials handling, sizing, screening, crushing and grinding operations governed by Rule 62-296.705, F.A.C., Phosphate Process Operations or Rule 62-296.704, F.A.C., Asphalt Concrete Plants. (2) Emission Limitations. (a) **No owner or operator of an emissions unit governed by Rule 62-296.711, F.A.C., shall cause, permit, or allow any visible emissions (five percent opacity) from such emissions unit** except that at the point where material is being discharged to the hold of a ship from a conveyor system. **When the conveyor and/or hatch covering is moved, an opacity of 10 percent will be allowed.** (b) If, in order to comply with the requirements of paragraph (a) above, it is necessary to **totally or partially enclose an operation and exhaust particulate laden gases through a vent or stack, emissions of particulate from such vent or stack shall not exceed 0.03 gr/dscf.**
TCEQ	Permit by Rule §106.148. Material Unloading.	Railcar or truck unloading of wet sand, gravel, aggregate, coal, lignite, and scrap iron or scrap steel (but not including metal ores, metal oxides, battery parts, or fine dry materials) into trucks or other railcars for transportation to other locations is permitted by rule, provided the following conditions of this section are met. (1) Bulk materials shall not be stored on-site. (2) Water sprays or the equivalent must be installed and used as necessary at material handling operations to achieve maximum control of dust emissions. (3) All permanent in-plant roads and vehicle work areas shall be watered, treated with dust-suppressant chemicals, oiled, or paved and cleaned as necessary to achieve maximum control of dust emissions.
TCEQ	TAC §111.143. Materials Handling.	Applies in El Paso and portions of Harris and Nueces Counties: No person may cause, suffer, allow, or permit any material, except for abrasive material for snow and ice control, to be handled, transported, or stored without taking at least the following precautions to achieve maximum control of dust emissions to the extent practicable: (1) Application of water or suitable chemicals or some other covering on materials stockpiles and other surfaces which can create airborne dusts. (2) Installation, maintenance, and proper use of hoods, fans, and filters to enclose, collect, and clean the emissions of dusty materials

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Non-stack: Material Handling		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Bay Area Air Quality Management District	Best Available Control Technology (BACT) Guideline http://www.baaqmd.gov/pmt/bactworkbook/default.htm	Solid Material Handling – Dry: Achieved in Practice - **Enclosure of size reduction and classification equipment, conveyors, and associated material transfer points and vent to baghouse(s0 w/ <0.01 gr/dscf**

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Concrete Batch		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	316 Nonmetallic mineral mining & processing § 303 Limitations – Concrete Plants and Bagging Operations	No person shall discharge or cause or allow to be discharged into the ambient air: § 303.1 Stack emissions exceeding 7% opacity. § 303.2 Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping directly into any screening operation, feed hopper or crusher. § 303.3 Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper or crusher.
TCEQ	Concrete Batch Plant Technical Guidance for Mechanical Sources, January 2001, Draft	**Best Available Control Technology Analysis - Current control practices include:** **1. All dry material storage silos equipped with fabric filter baghouses having a maximum outlet grain loading of 0.01 grains per dry standard cubic foot (gr/dscf).** **2. All storage silos equipped with audible or visual warning devices to prevent overloading.** **3. All aggregate material washed prior to delivery.** 4. At least 70% control of fugitive dust emissions from the stockpiling and handling of aggregate material (this can be achieved by sufficient application of water by sprays or fog rings). **5. At least 95% control of dust emissions from the weigh hopper, mixer, and/or truck drop point (usually achieved by a baghouse and suction shroud).** These levels are guidelines to help the applicant get an idea of what the TCEQ is currently considering as BACT; however, these control levels are subject to change.
TCEQ	Air Quality Standard Permit for Concrete Batch Plants, Effective Date July 10, 2003	(3) General Requirements **A) All cement/flyash storage silos and weigh hoppers shall be equipped with a fabric or cartridge filter or vented to a fabric or cartridge filter system.** (B) Fabric filters and collection systems shall meet all of the following: (i) any fabric or cartridge filter, any fabric or cartridge filter system, and any suction shroud shall be maintained and operated properly with no tears or leaks; **(ii) All filter systems (including any central filter system) shall be designed to meet at least 0.01 outlet grain loading (grains/dry standard cubic foot);** (iii) **all filter systems, mixer loading, and batch truck loading emissions control devices shall meet a performance standard of no visible emissions exceeding 30 seconds in any six-minute period** as determined using U.S. Environmental Protection Agency (EPA) Test Method (TM) 22; and (iv) **when cement or flyash silos are filled during non-daylight hours, the silo filter system exhaust shall be sufficiently illuminated to enable a determination of compliance with the visible emissions requirement** in (3)(B)(iii) of this permit. (C) Conveying systems for the transfer of cement/flyash shall meet all of the following: (i) **conveying systems to and from the storage silos shall be totally enclosed, operated properly, and maintained with no tears or leaks; and** **(ii) these systems, except during cement/flyash tanker connect and disconnect, shall meet a performance standard of no visible emissions exceeding 30 seconds in any six-minute period** as

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Concrete Batch		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		determined using EPA TM 22. (D) **A warning device shall be installed on each bulk storage silo. This device shall alert operators in sufficient time prior to the silo reaching capacity during loading operations,** so that the loading operation can be stopped prior to filling to such a level as to potentially adversely impact the pollution abatement equipment. (G) **Spillage of materials used in the batch shall be immediately cleaned up and contained or dampened so that dust emissions are minimized.** <u>4) Additional Requirements for Concrete Batch and Specialty Batch Concrete, Mortar, Grout Mixing, or Pre-cast Concrete Products Plants</u> (A) **Site production shall not exceed 30 cubic yards per hour**. (B) As an alternative to the requirement in paragraph (3)(A) of this section, the cement/flyash weigh hopper may be vented inside the batch mixer. (C) **Dust emissions at the batch mixer feed shall be controlled by one of the following:** **(i) a spray device which eliminates visible emissions;** **(ii) a pickup device delivering air to a fabric or cartridge filter;** **(iii) an enclosed batch mixer feed such that no visible emissions occur; or** **(iv) conducting the entire mixing operation inside the enclosed process building such that no visible emissions from the building occur during mixing activities.** <u>(5) Additional Requirements for Temporary Concrete Plants</u> A temporary concrete plant is one that occupies a designated site for not more than 180 consecutive days or supplies concrete for a single project, but no other unrelated projects. (A) Site **production shall be limited to no more than 300 cubic yards per hour**. (B) Dust control at the truck drop or mixing point shall comply with one of the following: (i) Facilities which **occupy a site for less than 180 consecutive days and have production rates less than 200 cy/hr may load rotary mix trucks through a discharge spout equipped with a water fog ring having low-velocity fog nozzles spaced to create a continuous fog curtain that minimizes dust emissions. If a water fog ring is used at the truck drop point, the visible emissions limitations (and associated compliance determination methods) of subsection (3)(B)(3) and (4) must be met.** (ii) **All other facilities must use a suction shroud and fabric filter /cartridge filter system. The suction shroud or other pickup device shall be installed at the batch drop point (drum feed for central mix plants) and vented to a fabric or cartridge filter system with a minimum of 4,000 actual cubic feet per minute of air and must meet subsection (3)(B).** (C) All of the following applicable distance limitations must be met. For concrete batch plants which supply concrete for a single public works project, the “property line” measurements for purposes of compliance with this standard permit and 30 TAC § 111.155 shall be made to the outer boundaries of the designated public property, roadway project and associated rights-of-way. (**i) The suction shroud baghouse exhaust or truck drop point shall be located at least 100 feet from any**

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Concrete Batch		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		property line. **(ii) For those facilities with a water fog ring, the truck drop point shall be a minimum of 300 feet from the nearest non-industrial receptor.** (6) Additional Requirements for Other Concrete Plants **(A) Site production shall be limited to no more than 300 cubic yard per hour.** **(B) A suction shroud or other pickup device shall be installed at the batch drop point (drum feed for central mix plants) and vented to a fabric or cartridge filter system with a minimum of 4,000 actual cubic feet per minute of air.** **(D) The following distance limitations must be met:** **(i) the suction shroud baghouse exhaust shall be at least 100 feet from any property line;**
Bay Area Air Quality Management District	Best Available Control Technology (BACT) Guideline for Concrete Batch http://www.baaqmd.gov/pmt/bactworkbook/default.htm	**< 5 cubic yards per batch** Achieved in Practice - **Water spray for aggregate handling, aggregate storage piles, and site road surfaces; and enclosure and venting of cement handling and storage to baghouse w/ <0.01 gr/dscf** **≥5 cubic yards per batch** Technologically Feasible/cost Effective - **Water spray w/ chemical suppressants for aggregate handling and storage piles; and paving of site road surfaces; and enclosure and venting of cement handling and storage to baghouse w/ ≤0.0013 gr/dscf** Achieved in Practice: Water spray for aggregate handling, aggregate storage piles, and site road surfaces; and enclosure and venting of cement handling and storage to baghouse w/ ≤0.01 gr/dscf
Florida	Florida Administrative Code 62-296.414 Concrete Batching Plants.	The following requirements apply to new and existing emissions units producing concrete and concrete products by batching or mixing cement and other materials. This rule also applies to facilities processing cement and other materials for the purposes of producing concrete. (1) Stack Emissions. Emissions from silos, weigh hoppers (batchers), and other enclosed storage and conveying equipment shall be controlled to the extent necessary to **limit visible emissions to 5 percent opacity**. (2) Unconfined Emissions. The owner or operator shall take reasonable precautions to control unconfined emissions from hoppers, storage and conveying equipment, conveyor drop points, truck loading and unloading, roads, parking areas, stock piles, and yards as required by Rule 62-296.320(4)(c), F.A.C. For concrete batching plants the following shall constitute reasonable precautions: (b) Use of spray bar, chute, or partial enclosure to mitigate emissions at the drop point to the truck.
SCAQMD	BACT Guidelines for non-major polluting facilities	Concrete batch plant Central mixed, < 5 cubic yards/batch – water spray Central mixed, ≥ 5 cubic yards/batch – baghouse for cement handling and adequate moisture in aggregate Transit-mixed – baghouse venting the cement weigh hopper and the mixer truck loading station; and adequate aggregate moisture
SCAQMD	2003 Air Quality Management Plan,	(Proposed) control measures that would establish prescriptive measures to control fugitive dust from area sources within aggregate facilities and cement plants as well as evaluate whether additional controls are

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Concrete Batch		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
	Final Appendix IV-A: Stationary Source Control Measure – Aggregate and cement manufacturing operations	necessary for the control of PM10 for sources at aggregate and cement manufacturing plant operations subject to Rules 404, 405, and 1112.1. Examples of fugitive dust control requirements include: 1. Pre-application of water prior to material extraction 2. Application of chemical dust suppressants or establishment of vegetative ground cover to inactive disturbed areas. **3. Chemical treatment or paving of internal haul roads** **4. Covering of materials conveyors and haul vehicles** **5. Use of enclosures or hooding material at transfer points and screen operations.** 6. **Installation of wheel washing systems where haul vehicles exit the site.**

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Asphalt Batch Plants		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	Rule 316 § 302 limitations - asphaltic concrete plants	No person shall discharge or cause or allow to be discharged into the ambient air: • Stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg/dscm) of particulate matter. • Fugitive dust emissions exceeding 20% opacity from any other affected operation or process source.
Florida	FAC 62-296.704 Asphalt Concrete Plants	(1)The emission limitations apply to any facility used to manufacture asphalt concrete by heating and drying aggregate and mixing with asphalt cements, excluding unloading and storage of raw materials. (2) Emission Limitations. No owner or operator of an asphalt concrete plant shall cause, permit, or allow the emission of particulate matter in excess of 0.06 gr/dscf, or visible emissions the density of which is greater than 20 percent opacity.
Bay Area Air Quality Management District	Best Available Control Technology (BACT) Guideline http://www.baaqmd.gov/pmt/bactworkbook/default.htm	Asphalt Batch Plant – Material Handling 1. Technologically Feasible/ Cost Effective - **Enclosure of conveyors, transfer points, size reduction and classification equipment, and vent to baghouse(s) w/ <0.01 gr/dscf; Water spray w/ chemical suppressants of storage piles; Paving of site road surfaces** 2. Achieved in Practice - **Water spray w/ chemical suppressants of materials on conveyors, transfer points, storage piles, and site road surfaces; Enclosure of size reduction and classification equipment and vent to a baghouse w/<0.01 gr/dscf** Asphalt (Hot Mix) Drum Mix Facilities 2. Achieved in Practice - **≤0.01 gr/dscf**
TCEQ	Air Quality Standard Permit For Hot Mix Asphalt Plants Effective Date July 10, 2003	This air quality standard permit authorizes the air emissions from the operation of hot mix asphalt plants that meet the conditions listed in section (1) and section (2) and either section (3) for temporary plant sites or section (4) for permanent plant sites. (1) General Requirements (A) For the purposes of this standard permit, a hot mix asphalt plant is defined as a facility that produces or will produce one or more of the following: standard hot mix asphalt, asphalt mixes made with Performance Grade (PG) binders, asphalt mixes made with crumb rubber, and pre-coat aggregate. (G) For all facilities that are authorized by this standard permit, aggregate materials (rock, sand, etc.) received at the plant site shall be used at that site and shall not be transported to another site unless the material is left from a temporary project and removed from the site when the plant vacates the site. The storage of raw aggregate materials at the site for use at other sites requires a separate authorization under 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification, 30 TAC Chapter 106, Permits by Rule, or other appropriate authorization. (H) Except for those periods described in 30 TAC § 101.201 Emissions Event Reporting and Recordkeeping Requirements and 30 TAC § 101.211 Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; **visible fugitive emissions from recycled asphalt product (RAP) breakers, screens, transfer points on belt conveyors, stockpiles, work areas and any in-plant roads associated with the facility shall not leave the property for a period exceeding 30 seconds in any six-minute period**

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Asphalt Batch Plants		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		as determined by U.S. Environmental Protection Agency (EPA) Test Method (TM) 22. **(I) The drum dryer exhaust shall be vented to, and controlled by, a properly sized fabric filter baghouse.** (J) **Lime and mineral fillers shall be transported and stored in a closed system and all exhaust air to the atmosphere shall be vented through a properly sized fabric filter. An operational overflow warning device shall be installed on each bulk storage silo to alert operators in sufficient time prior to the silo reaching capacity**. Any overfilling of the silo resulting in failure of the abatement system, or visible emissions in excess of the requirements of subsection(1)(D) of this standard permit, must be documented and reported following the requirements of 30 TAC §§ 101.201 or 101.211, as appropriate. (K) Fabric filters and collection systems shall meet all of the following requirements: (i) all fabric filter systems shall be maintained and operated properly with no tears or leaks; (ii) **before July 10, 2007 all drum dryer filter systems shall meet at least a front half outlet grain loading of 0.02 grains per dry standard cubic foot (gr/dscf) and a combined (front half and back half) total outlet grain loading of 0.04 gr/dscf;** **(iii) on and after July 10, 2007 all drum dryer filter systems shall meet at least a front half outlet grain loading of 0.01 grains per dry standard cubic foot (gr/dscf) and a combined (front half and back half) total outlet grain loading of 0.04 gr/dscf;** and (iv) **lime/mineral bulk storage silo(s) not vented to the drum dryer system shall vent to a fabric filter system designed to meet at least 0.01 outlet grain loading (combined front half and back half).** (L) Except for those periods described in 30 TAC §§ 101.201 and 101.211**, opacity of emissions from the lime silo fabric filter baghouse stack and/or the drum dryer stack shall not exceed 5 percent averaged over a six-minute period**, and according to EPA TM 9. (N) Fuel for dryers and hot oil heaters shall be either: (i) **pipeline sweet natural gas as defined in the 30 TAC Chapter 101, General Air Quality Rules, containing no more than 5 grains total sulfur and 0.2 grain hydrogen sulfide per 100 dscf;** **(ii) liquid petroleum gas;** **(iii) diesel fuel with a maximum sulfur content of 0.6 percent by weight;** **(iv) first-run No. 2 fuel oil with a maximum sulfur content of 0.6 percent by weight;** **(v) first-run No. 4 fuel oil with a maximum sulfur content of 0.6 percent by weight; or** **(vi) reclaimed industrial oil with a maximum sulfur content of 0.6 percent by weight**. Reclaimed industrial oil shall meet all requirements specified in 40 CFR Part 279, Standards for the Management of Used Oil, and not contain more than a specific amounts of the O) The maximum mix temperature, at the discharge point of the drum, shall not exceed 325 F except: (i) when a PG binder requires a higher mix temperature, in which case the maximum mix temperature shall not exceed 350 F; or (ii) when crumb rubber mix, produced in compliance with section (5) of this standard permit, requires a higher temperature, in which case the maximum mix temperature shall not exceed 375 F; or (iii) during periods of start-up or shutdown, not surpassing 20 minutes. (P) The following materials, added at the plant at no more than the maximum concentration, are authorized by this standard permit <u>Description</u> <u>Maximum Concentration</u> Hydrated Lime, Portland Cement, or Fly Ash Not Applicable

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Asphalt Batch Plants		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		Liquid Amine Antistrip Agents 2% by weight of liquid asphalt in the mix Styrene-Butadiene-Styrene 10% by weight of liquid asphalt in the mix Styrene-Butadiene Rubberized Latex 6% by weight of liquid asphalt in the mix RAP 50% displacement of aggregate (Q) Asphalt release agents that do not emit VOCs at ambient temperature, such as vegetable oil or surfactants, may be used. (R) **The owner or operator shall not operate more than one truck load out point at any time.** (S) **The hot mix asphalt plant, and all its associated facilities (silos, conveyors, screens, RAP crushers and equipment), shall be located a minimum distance to the property line. This minimum property line distance is determined by utilizing the following table (Attachment A).** If no site-specific data is available, a 0.5 volatility factor (-0.5) shall be used. (T) As an alternative to the distance requirements in (1)(S) of this a standard permit, a hot mix asphalt plant that restricts hours of operation of the truck load out to the period of time between one hour after sunrise and one hour before sunset and mix production and silo filling at the plant to a period of time between sunrise and one hour before sunset, the minimum distance to the property line shall be determined by using the following table (Attachment B). If no site-specific data is available, a 0.5 volatility factor (-0.5) should be used. (V) **The hot mix asphalt plant and all associated facilities shall be located at least 550 ft. from any concrete batch plant, or rock crusher located on the same site. Additionally, any hot mix asphalt plant and all associated facilities shall be located at least 1300 ft. from any other hot mix asphalt plant located on the same site. If either of these distances cannot be met, then the hot mix asphalt plant authorized under this standard permit shall not operate at the same time as the concrete batch plant, rock crusher, or other hot mix asphalt plant.** (4) Requirements Specific to Permanent Hot Mix Asphalt Plants (A) This standard permit authorizes not more than the following facilities (as defined in 30 TAC Chapter 116.10(4)): (i) cold feed bin(s); (ii) transfer conveyor(s); (iii) aggregate screen(s); (iv) a counter/parallel flow drum; (v) a RAP feed bin; (vi) a RAP conveyor; (vii) 90,000 gallons or less total asphalt binder storage in no more than three tanks with associated hot oil heaters; (viii) three, hot mix surge bin/storage silos; (ix) 90,000 gallons or less total fuel oil storage in no more than three tanks; (x) a liquid anti-strip tank (xi) a RAP breaker/crusher; (xii) a release agent application facility

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Asphalt Batch Plants		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		(xiii) a lime storage silo; (xiv) a mineral filler silo; and (xv) a fines storage silo. Equipment that is not a source of emissions does not require authorization.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Nonmetallic Mineral Processing		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
Maricopa County	316 Nonmetallic mineral mining & processing – Section 301 Limitations	No person shall discharge or cause or allow to be discharged into the ambient air: 301.1 Stack emissions exceeding 7% opacity and containing more than 0.02 gr/dscf of PM. **301.2 Fugitive dust emissions from any transfer point on a conveying system exceeding 7% opacity**. 301.3 Fugitive dust emissions exceeding 15% opacity from any crusher. 301.4 Fugitive dust emissions exceeding 10% opacity from any affected operation or process sources, excluding truck dumping directly into any screening operation, feed hopper or crusher. 301.5 Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper or crusher.
Clark County, Nevada	AQR Section 34 New Performance Standards for Nonmetallic Mineral Mining and Processing 34.2 Performance Standard	34.2.1 No owner or operator shall cause to be discharged into the atmosphere, from any grinding mill, screening equipment, bucket conveyor, belt conveyor, belt conveyor transfer point, bagging equipment, storage bin, enclosed truck and rail car loading station, any fugitive dust which exhibits greater than ten percent (10%) OPACITY for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. 34.2.2 No owner or operator shall cause to be discharged into the atmosphere from any crusher fugitive dust which exhibits greater than fifteen percent (15%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. 34.2.3 No owner or operator shall cause to be discharged into the atmosphere emissions from a stack or building vent which exhibits greater than seven percent (7%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period.
SCAQMD	BACT Guidelines for non-major polluting facilities	<u>Non-metallic mineral processing – except rock or aggregate</u> • baghouse for enclosed operations; water fog spray for open operations. This category includes conveying, size reduction, and classification. <u>Rock – aggregate processing</u> • baghouse venting jaw crushers, cone crushers, and material transfer points adjacent to and after these items; and water sprays at other material transfer points.
Bay Area Air Quality Management District	Best Available Control Technology (BACT) Guideline for rock and aggregate processing http://www.baaqmd.gov/pmt/bactworkbook/default.htm	1. Technologically feasible/cost effective - **Enclosure of jaw/cone crushers, screens, conveyors, and all material transfer points and vent to baghouse(s) w/ <0.01 gr/dscf; Water spray w/ chemical suppressants of storage piles and site road surfaces.** 2. Achieved in practice - **Enclosure of jaw/cone crushers, screens, and associated material transfer points and vent to baghouse(s) w/ <0.01 gr/dscf; Water spray of other transfer points, conveyors, storage piles, and site road surfaces**
TCEQ	February 2002, Standard Permit for Rock Crushing Plants, BACT Analysis	1. A minimum of 70% reduction of fugitive dust emissions from the crushing, conveying, and stockpiling of aggregate material (sufficient application of water by sprays or fog rings). 2. A minimum of 70% reduction of fugitive dust emissions from all vibrating screens.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Nonmetallic Mineral Processing		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
TCEQ	Air Quality Standard Permit for Temporary Rock Crushers, February 2002	This air quality standard permit authorizes crushing operations which meet all of the conditions listed in paragraph (1) and paragraph (2) for Tier I or paragraph (3) for Tier II. (1) General Requirements (A) For the purposes of this standard permit, a site is defined as one or more contiguous or adjacent properties which are under common control of the same person (or persons under common control). (B) When crushing concrete, the crusher and all associated sources (screens, transfer points on belt conveyors, material storage or feed bins, work areas that are only associated with the facility, or stockpiles**) shall be located at least 440 yards from any structure used as a single family or multifamily residence, school, or place of worship**. (C All screen sides shall be enclosed and all conveyors shall be covered with a half-moon or equivalent enclosure that covers the top of the conveyor to minimize emissions. (D) Except for those periods described in 30 TAC §§ 101.6 and 101.7, **no visible fugitive emissions shall leave the property from the crusher, associated sources, and in-plant roads associated only with the facility**. **Visible emissions shall be determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period as determined using EPA Test Method 22.** (5) Except for those periods described in 30 TAC §§ 101.6 and 101.7, opacity of emissions from any transfer point on belt conveyors or any screen shall not exceed 10 percent and from any crusher shall not exceed 15 percent, averaged over a six-minute period, and according to EPA TM 9. (F) Permanently mounted spray bars shall be installed at the inlet and outlet of all crushers, at all shaker screens, and at all material transfer points and used as necessary to maintain compliance with all commission regulations. (J) The crusher shall be equipped with a runtime meter. (O) **The rock crusher and all associated facilities operating under this standard permit shall neither locate nor operate on the same site as any other rock crusher.** (2) A Tier I crusher (portable rock crusher with a throughput of 125 tph or less) shall comply with paragraph (1) of this standard permit and all of the following: (A) The crusher shall not be located at a quarry or mine. C) The **crusher and all associated sources shall be located no less than 200 ft. from the nearest property line.** (D) The **equipment authorized under this paragraph shall be limited to one primary crusher, two conveyors, and two screens.** (E) The **rock crusher and all associated sources operating under this standard permit shall neither locate nor operate on the same site as any concrete batch plant or asphalt batch plant.** (F) **The crusher and associated sources (excluding stockpiles) shall not operate for more than 360 hours or 45 non-consecutive calendar days on site, whichever occurs first**. The owner or operator shall remove the crusher and associated equipment from the site within 24 hours of ceasing operation. The 24 hours allotted for the removal shall not be used as additional operational time above the 360 hours or 45 non-consecutive calendar days.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Nonmetallic Mineral Processing		
Agency	**Preliminary Identified Affected Rules**	**Requirements**
		(G) If the time periods listed in paragraph 2(F) have not been exhausted during any rolling 365 day period, the operator may return to the authorized site and operate for the remaining balance of time for that site. To return to the site, the operator shall notify the commission as described in paragraph 2(H). Once the operating hours (360) or calendar days (45) for the site have been exhausted and the site has been vacated, the owner or operator shall not use a standard permit to locate any rock crusher on the site for at least 365 days. (3) A Tier II crusher (portable rock crushers with a throughput of 250 tph or less) shall comply with paragraph (1) of this standard permit and all of the following: (B) **The crushers and all associated sources shall be located no less than 300 ft. from the nearest property line**. (C **The crushers and associated sources operating under this standard permit shall be located at least 550 ft. from any concrete batch plant or asphalt batch plant**. If this distance cannot be met, then the crusher authorized under this standard permit shall not operate at the same time as the concrete batch plant or asphalt batch plant. (D) The **equipment authorized under this paragraph shall be limited to one primary crusher, one secondary crusher, two screens and any associated conveyors**. (E) The **rock crushers and associated sources (excluding stockpiles) shall not operate for more than 1080 hours or 180 non-consecutive calendar days on site, whichever occurs first**.
Oklahoma DEQ	General Permit for Minor Source Nonmetallic Mineral Processing Facilities	• Facility-Wide Emissions Cap and Emissions Limitations - not to equal or exceed 100 TPY of any regulated pollutant, 10 TPY of any single HAP, or 25 TPY of all HAPs. • Facilities located in nonattainment areas are not eligible for general permit • Hourly PM Limits • Concentration Limitations for Engines • IC engines operated under this permit shall be fueled only with pipeline-quality natural gas or diesel with less than 4,000 ppm sulfur content. • 20% opacity limit • Reasonable precautions or measures to minimize fugitive dust emissions from the handling, transporting or disposition of any substance or material • Permittee shall not cause or permit the discharge of any visible fugitive dust emissions beyond the permittee's property line in such a manner as to damage or to interfere with the use of adjacent properties, or to cause or contribute to the violation of ambient air quality standards. • Fugitive road dust shall be controlled as needed to maintain by applying water and/or chemical spray to the road. • Water/chemical spray dust suppression systems on nonmetallic minerals processing equipment and transfer points must be operated on either a continuous or intermittent basis, depending on whether processed materials contain sufficient moisture such that operation of the plant does not cause a violation of applicable limitations.

Table 2: Controls Identified in Other State Implementation Plans or in Practice in Other States		
Industrial Stack and Non-stack: Ground Level Concentrations		
TCEQ	Rule §111.155. Ground Level Concentrations, Adopted June 16, 1989 Effective July 18, 1989	**No person may cause, suffer, allow, or permit emissions of particulate matter from a source or sources operated on a property or from multiple sources operated on contiguous properties to exceed any of the following net ground level concentrations:** **(1) Two hundred micrograms per cubic meter of air sampled, averaged over any three consecutive hours.** **(2) Four hundred micrograms per cubic meter of air sampled, averaged over any one-hour period.**

Agricultural Operations , Cropland and Non-cropland		
Arizona Department of Environmental Quality	AAC R18-2-610 and 611	**Commercial farmers in the Maricopa PM10 nonattainment area must implement at least one best management practice for each of the following categories:** **1) Cropland** **2) Noncropland** **3) Tillage and harvest activities**

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Appendix D

Commitments

City of Phoenix Resolution

Maricopa County Environmental Services Department Rule Revisions:

- BACM/MSM Revisions to Maricopa County Rule 310 ("Fugitive Dust") (Adopted April 7, 2004 by the Maricopa County Board of Supervisors);
- Proposed Draft BACM/MSM Revisions to Maricopa County Rule 310.01 ("Fugitive Dust from Open Areas, Vacant Lots, Unpaved Parking Lots, and Unpaved Roadways");
- Proposed Draft BACM/MSM Revisions to Maricopa County Rule 316 ("NonMetallic Mineral Processing");
- Proposed Draft BACM/MSM New Maricopa County Rule 325 ("Brick and Clay Processing");
- Proposed New Rule and Rule Revision Adoption Timeline

Maricopa Association of Governments (MAG) Resolutions from Maricopa County Municipalities on Enhancements to: **(Forthcoming)**

- Revised 1999/2000 MAG SIP Measures #45 and #46 Addressing Reduction of Particulate Matter from Unpaved Parking Lots and Vacant, Disturbed Lots;
- Revised 1999/2000 MAG SIP Measures #50 Addressing Purchase/Use of PM_{10}-Efficient Street-Sweepers;
- Revised 1999/2000 MAG SIP Measures #41, #40, and #70 Addressing Reduction of Particulates from Unpaved Roads and Alleys, Unpaved Shoulders on Targeted Arterials; and Curbing, Paving, or Stabilizing Shoulders on Paved Roads

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ADEQ
AIR QUALITY DIVISION
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City of Phoenix
OFFICE OF ENVIRONMENTAL PROGRAMS

July 6, 2004

Ms. Nancy Wrona, Deputy Director for Air Quality
AZ Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

Dear Ms. Wrona:

On June 16, 2004 the Phoenix City Council adopted the attached Resolution (#21114) which defines additional dust control measures offered by the City for inclusion in the Revised PM10 State Implementation Plan for the Salt River Area. As noted in the Resolution, the City of Phoenix agrees to proceed with a good faith effort to implement the measures identified in Exhibit A of the Resolution, subject to necessary funding approvals. Specific funding for each measure is identified in the Resolution, consistent with A.R.S. 49-496.

An electronic copy of this Resolution is available at the City Clerk's Document Search at: http://phoenix.gov/haht-bin/hsrun/payf/CCORPROD/ccImageHaht.htx;start=HS_searchPageIN

Please contact me at 602.261.8419 if you need additional information.

Sincerely,

Gaye Knight

Ms. Gaye Knight, MPA, MT
Environmental Program Specialist

cc: Stephen Wetherell

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RESOLUTION NO. 20114

A RESOLUTION STATING THE CITY'S INTENT TO IMPLEMENT MEASURES TO REDUCE AIR POLLUTION.

WHEREAS, the City of Phoenix is committed to implementing programs to reduce air pollution;

WHEREAS, the Maricopa County Nonattainment area continues to record violations of the federal particulate standard;

WHEREAS, Maricopa County has been designated as a Nonattainment Area for Particulate Pollution;

WHEREAS, the state of Arizona is responsible for developing a State Implementation Plan to address particulate pollution in the Maricopa County Area;

WHEREAS, Arizona Revised Statutes, Section 49-406(G) requires that each agency that commits to implement a control measure describe that commitment in a resolution, adopted by the governing body, which specifies its authority for implementing the measure as provided in statute, ordinance, or rule; a program for enforcement of the measures; and the level of personnel and funding allocated to the implementation of the measure;

WHEREAS, the City of Phoenix has previously committed to implement measures to reduce particulate pollution in Resolution Nos. 19141, 19006, 18949, 18893, 17909, 17424, and 17255;

WHEREAS, the Arizona Department of Environmental Quality has determined that particulate pollution continues to exceed the federal health standard;

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF PHOENIX as follows:

SECTION 1. That the Council of the City of Phoenix agrees to proceed with a good faith effort to implement the measures identified in Exhibit A, subject to necessary funding approvals.

PASSED by the Council of the City of Phoenix this 16th day of June, 2004.

MAYOR

ATTEST:

Vicky Miel City Clerk

APPROVED AS TO FORM:

City Attorney

REVIEWED BY:

City Manager

SLW:tks/165709
CM-961

CITY CLERK DEPT.
2004 JUN 14 AM 7:44

EXHIBIT A

Measure 04-DC-1: Street Sweeping and Other Controls for Road Dust

Develop and implement a process for identifying arterial and major collector street segments with excessive levels of dust. Examples of factors that may be used to identify targeted streets include: visible dust emissions, land use, traffic volume, heavy duty truck traffic, unpaved shoulders, air quality monitoring data, and other characteristics.

Based upon completion of the analysis, the City will implement paved road dust control measures which may include increased street sweeping frequency within the targeted areas, targeted use of PM-10 efficient sweepers, notifications to Maricopa County regarding track-out, and other dust control measures.

NOTE: See prior Measures 98-DC-12 and 97-DC-8a in Resolutions 19141 and 19006 respectively for other City commitments on similar particulate emissions sources.

Implementing Agency or City Department:
City of Phoenix, Street Transportation Department

Authority for Implementation:
Arizona Revised Statute, Section 9-240, General Powers of Council
Arizona Constitution, Article 13, Section 2
Phoenix Charter, Chapter 4, Section 2: Council Powers Enumerated
A.R.S., Section 28-626: Uniform Application of Laws Throughout State
A.R.S., Section 28-627: Powers of Local Authorities
Phoenix City Code, Chapter 2, General Powers, Rights, and Liabilities

Implementation Schedule:
Order initial sweepers during FY 2004-2005 budget cycle. Deployment upon delivery and operational readiness.

Personnel and/or Funding:
The 2004/05 budget includes $330,000 for the purchase of two sweepers. Additional funding may be allocated based upon future needs.

Enforcement Program:
A.R.S., Section 49-406, grants the Maricopa County and the Arizona Department of Environmental Quality the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:
The City will submit progress reports to State or County agencies upon request.

Measure 04-DC-2: Install Curb and Gutter

Install dust mitigation street improvements on approximately 0.8 mile of 43rd Avenue between Lower Buckeye Road and the Salt River depending on receipt of federal funding and approvals by the Arizona Department of Transportation (ADOT).

NOTE: See prior Measures 97-DC-8a and 97-DC-8b in Resolution 19006 for other City commitments on similar particulate emissions sources. Strategies may also include stabilization of disturbed soils where feasible.

Implementing Agency or City Department:
City of Phoenix, Street Transportation Department

Authority for Implementation:
Arizona Revised Statute, Section 9-240, General Powers of Council
Arizona Constitution, Article 13, Section 2
Phoenix Charter, Chapter 4, Section 2: Council Powers Enumerated
A.R.S., Section 28-626: Uniform Application of Laws Throughout State
A.R.S., Section 28-627: Powers of Local Authorities
Phoenix City Code, Chapter 2, General Powers, Rights, and Liabilities
Phoenix City Code, Chapter 32, Article II, Section 32-33; Street and Utility Improvement Requirements

Implementation Schedule:
Expected start of construction during FY 2004/05, based upon receipt of federal funds and ADOT approvals.

Personnel and/or Funding:
Expected obligation of authority for approximately $1.8M of 2003/04 federal funds.

Enforcement Program:
A.R.S., Section 49-406, grants the Maricopa County and the Arizona Department of Environmental Quality the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:
The City will submit progress reports to State or County agencies upon request.

Measure 04-DC-3: Reduce Particulate Emissions from Vacant Lands

Develop and implement a program to control vehicle trespass on City-owned vacant land to addresss particulate emissions and criminal activity. These lands may include dry river beds, washes, and other open areas where significant trespass occurs.

Measures to reduce trespass may include signs, increased Police enforcement, such as barriers, fences, berms or other measures. Measures may include stabilization of disturbed soils where feasible.

NOTE: see prior Measure 98-DC-10 in Resolution 19006 for other City commitments on similar particulate emissions sources.

Implementing Agency or City Department:
City of Phoenix, Parks and Recreation Department
City of Phoenix Police Department
City of Phoenix Office of Environmental Programs

Authority for Implementation:
Arizona Revised Statute, Section 9-240, General Powers of Council
Arizona Revised Statute, Section 13-1502-A1, Trespass
Arizona Constitution, Article 13, Section 2
Phoenix Charter, Chapter 4, Section 2: Council Powers Enumerated
A.R.S., Section 28-626: Uniform Application of Laws Throughout State
A.R.S., Section 28-627: Powers of Local Authorities
Phoenix City Code, Chapter 2, General Powers, Rights, and Liabilities
Phoenix City Code, Chapter 36, Sections 36-62 and 36-145; Driving and Parking on vacant lots

Implementation Schedule:
FY 2004-2005 budget cycle.

Personnel and/or Funding:
The 2004/05 budget includes $200,000 to address vehicle access and trespass on City-owned lands.

Enforcement Program:
A.R.S., Section 49-406, grants the Maricopa County and the Arizona Department of Environmental Quality the authority to enforce measures defined in the Nonattainment Area Plans.

Monitoring Program:
The City will submit progress reports to State or County agencies upon request.

NOTICE OF FINAL RULEMAKING
MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS
REGULATION III
RULE 310 – FUGITIVE DUST,
APPENDIX C - FUGITIVE DUST TEST METHODS,
APPENDIX F – SOIL DESIGNATIONS

PREAMBLE

1. Sections affected — **Rulemaking action**

Rule 310, all sections	Amend
Appendix C, section 3	Amend
Appendix F, all sections	New

2. Statutory authority for the rulemaking:

Authorizing statutes: Arizona Revised Statutes, Title 49, Chapter 3, Article 3, Sections 479 and 480 (A.R.S. § 49-479, A.R.S. § 49-480)

Implementing statute: Arizona Revised Statutes, Title 49, Chapter 1, Article 1, Section 112 (A.R.S. § 49-112)

3. The effective date of the rules:

Date of adoption: April 7, 2004

4. List of all previous notices appearing in the register addressing the proposed rules:

a. Notice of Rulemaking Docket Opening – Rule 310:
Volume #9 A.A.R. Issue #20, p. 1473, May 16, 2003

b. Notice of Rulemaking Docket Opening – Appendix C:
Volume #9 A.A.R. Issue #39, p. 4136, September 26, 2003

c. Notice of Rulemaking Docket Opening – Appendix F:
Volume #9 A.A.R. Issue #43, p. 4569, October 24, 2003

d. Notice of Proposed Rulemaking – Rule 310, Appendix C, Appendix F:
Volume #9 A.A.R. Issue #44, p. 4674, October 31, 2003

5. Name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Johanna M. Kuspert or Jo Crumbaker
Address: 1001 N. Central Ave, Suite 695 Phoenix, AZ 85004

Phone Number: 602-506-3476 or 602-506-6705
Fax Number: 602-506-6179
Email Address: jkuspert@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

6. An explanation of the rule, including the department's reasons for initiating the rules:

Rule 310, originally adopted in July 1988, is Maricopa County's rule for controlling fugitive dust emissions. Because Maricopa County is a serious nonattainment area for PM10, the Maricopa County Environmental Services Department (MCESD) helped develop a PM10 serious area nonattainment plan for the Arizona State Implementation Plan (SIP). The Environmental Protection Agency (EPA) approved the plan in April of 2002, contingent on the completion of three commitments by Maricopa County (See 65 Fed. Reg. 19964 (2000) and 67 Fed. Reg. 48717 (2002)). These revisions to Rule 310, Appendix C, and new Appendix F address the commitments.

Commitment #1: Maricopa County's first commitment was to "research and develop a standard(s) and test method(s) for earthmoving sources, considering our field research, that are enforceable and meet BACM requirements on stringency and source coverage." (65 Fed. Reg. 19964, 19980). The EPA requested this commitment to address its concern that the existing opacity standard and test method in Appendix C for earthmoving operations is not always sufficient to control construction site dust to BACM levels. Although the opacity test method was revised in the year 2000, the EPA believes that additional revisions are necessary to fully assure that fugitive dust is effectively controlled.

To meet this commitment, Maricopa County amended Appendix C of the Maricopa County Air Pollution Control Regulations, which outlines test methods used for fugitive dust observations. After much field research with the cooperation of the EPA and Clark County, Nevada, Maricopa County revised Section 3 of Appendix C by establishing test methods for non-continuous and continuous plumes from dust generating operations.

Commitment #2: Maricopa County's second commitment was to "research, develop and incorporate additional requirements for dust suppression practices/equipment for construction activities into dust control plans and/or Rule 310" (65 Fed. Reg. 19964, 19980). The second commitment addresses the EPA's concerns that dust control plans lack source-specific criteria for varying dust control measures. A specific example the EPA gives is that of a source engaged in grading or cut-and-fill earthmoving operations for a multi-acre project that chooses to comply with Rule 310 by applying water. Neither the rule nor the source's dust control plan establishes minimum criteria for the number and size of water trucks/water applications systems for any given

size construction site or a ratio of earthmoving equipment to water trucks. (65 Fed. Reg. 19964, 19980).

Maricopa County added new provisions to Rule 310, itself, and revised dust control plan forms and permit application forms to incorporate the proposed rule revisions and clarify the instructions and layout. In Rule 310, new requirements include:

- Dust control on all paved areas accessible to the public;
- The presence of water sources on-site at projects 1 acre or larger;
- Trackout control devices at sites two acres or larger; and
- Soil type statements for construction projects one acre or larger.

New Appendix F addresses the soil statements required to meet Commitment #2. The appendix contains soil type descriptions and a map of soil textures throughout Maricopa County. Regulated sources should provide soil test results but in the event soil test results are not available, the soil type map may be used as default information on permit applications. Maricopa County is currently developing a guidance document outlining what types of control measures should be used for various soil characteristics.

Secondly, to meet Commitment #2, Maricopa County revised dust control permit applications to more clearly request the information that is required in order to evaluate chosen control measures. With this information provided up front, Maricopa County expects to be able to approve or disapprove dust control plans based on whether specified control measures will be effective at each unique site. A dust generating operation will not be able to obtain an earthmoving permit until a satisfactory dust control plan is submitted and approved by the Environmental Services Department.

Commitment #3: Maricopa County's third commitment was to "revise the sample daily recordkeeping logs for new and renewed Rule 310 permits to be consistent with rule revisions and to provide sufficient detail documenting the implementation of dust control measures required by Rule 310 and the dust control plan. Distribute sample log sheets with issued permits and conduct outreach to sources." (65 Fed. Reg. 19964, 19980). This commitment addresses the EPA's concern that while Rule 310 currently contains acceptable recordkeeping requirements, a more specific recordkeeping requirement would help improve compliance.

To address this commitment, Maricopa County had, prior to this rulemaking, revised sample record keeping logs and made them widely available to regulated sources and the public. Additionally, in this rulemaking, Maricopa County clarified the recordkeeping requirements listed

in Rule 310, Section 500 to reflect the changes to the sample forms. Changes to Section 500 include providing examples of dust suppression activities for which recordkeeping is required.

Other revisions to Rule 310 and appendices improve clarity, fix typographical and formatting errors, and increase rule enforceability.

7. Demonstration of compliance with A.R.S. § 49-112:

Under A.R.S. § 49-479(c), a county may not adopt a rule that is more stringent than the rules adopted by the director of the Arizona Department of Environmental Quality (ADEQ) for similar sources unless it demonstrates compliance with the requirements of A.R.S. § 49-112. Under that statute:

> When authorized by law, a county may adopt a rule, ordinance, or other regulation that is more stringent than or in addition to a provision of this title or rule adopted by the director or any board or commission authorized to adopt rules pursuant to this title if all the following conditions are met:
>
> 1. The rule, ordinance or other regulation is necessary to address a peculiar local condition;
> 2. There is credible evidence that the rule, ordinance or other regulation is either:
>   (a) Necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible
>   (b) Required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the County rule, ordinance or other regulation is equivalent to federal statutes or regulations.

A.R.S. § 49-112 (A).

MCESD revised Rule 310, Appendix C, and Appendix F in order to address a peculiar local condition: The designation of Maricopa County as a serious nonattainment area for PM10. Maricopa County is the only serious nonattainment area for PM10 in Arizona; consequently stronger regulations must be adopted in this area to address a serious health threat. Because of this, the revision complies with A.R.S. § 49-112 (A)(1). Additionally because Rule 310 is part of the Arizona State Implementation Plan for the control of PM10, the regulation is federally enforceable and changes are required under 40 C.F.R. 51.120 (c)(102) to effect enforceable

commitments made by Maricopa County. Therefore the rule revisions are also made pursuant to A.R.S. § 49-112 (2).

8. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

a. Maricopa County Particulate Control Measure Feasibility Study, January 24, 1997
   Prepared by: Sierra Research, Inc. Sacramento, CA
b. San Joaquin Valley Particulate Control Final BACM Technological and Economic Feasibility Analysis, March 21, 2003
   Prepared by: Sierra Research, Inc. Sacramento, CA
c. Air Quality Regulations and Construction Activities Dust Control Handbook, Clark County Nevada Department of Air Quality Management

These publications are available at the Maricopa County Environmental Services Department building. See #4 above.

9. Summary of the economic, small business, and consumer impact:

Economic Impacts On Regulated Sources:

Collectively, construction site operations emissions (24.5%) and windblown emissions (2.5%) are the second largest contributor of PM10 emissions in the Phoenix area, according to the EPA's Technical Support Document/Notice Of Proposed Rulemaking regarding the revised 1999 Serious Area Particulate Plan for PM10. Sources of fugitive dust emissions at construction sites include land clearing, earthmoving, excavating, construction, demolition, material handling, bulk material storage and/or transporting operations, material trackout or spillage onto paved roads, and vehicle use and movement on site (e.g., the operation of any equipment on unpaved surfaces, unpaved roads, and unpaved parking areas). Windblown emissions from disturbed surface areas and inactive storage piles on construction sites are also a source of fugitive dust. Emission reductions in 2006, the PM10 attainment date, are estimated as 66% reduction from construction dust and 66% reduction from construction trackout.

Over the past 5 years, violations of the annual PM10 standard have occurred routinely at 3 sites: (1) an urban site heavily impacted by transportation sources, (2) an urban fringe site heavily impacted by fugitive dust sources such as construction and agriculture, and (3) a site heavily impacted by industrial sources. These primary contributors to elevated PM10 emissions can be found throughout the Maricopa County nonattainment area and collectively number in the thousands. Population exposure to elevated levels of PM10 is estimated to be from 78,000 to

163,000. 84% of Maricopa County's population lives in areas where 10% or less of the land is open.

The Maricopa Association Of Governments was designated to serve as the Regional Air Quality Planning Agency to develop plans to address PM10, carbon monoxide, and ozone. On January 14, 2002, the EPA took final action to approve the revised 1999 Serious Area Particulate Plan for PM10 for the Maricopa County nonattainment area. The revised 1999 Serious Area Particulate Plan for PM10 demonstrates attainment by December 31, 2006. As approved, the plan contains approximately 77 committed control measures from state and local governments. All of the commitments are at least best available control measures (BACM) and, at most, most stringent measures (MSM). The key measures in the revised 1999 Serious Area Particulate Plan for PM10 used for the attainment demonstration include: strengthening and better enforcement of fugitive dust control rules regarding construction dust - 19.1% PM10 reduction; strengthening and better enforcement of fugitive dust control rules regarding trackout and paved road dust – 9.7% PM10 reduction; reducing particulate emissions from unpaved roads and alleys- 5.8% PM10 reduction , and reducing particulate emissions from unpaved parking lots – 1.8% PM10 reduction.

Maricopa County helped develop the revised 1999 Serious Area Particulate Plan for PM10 and agreed to three commitments: (1) to research and develop a standard(s) and test method(s) for earthmoving sources, considering our field research, that are enforceable and meet BACM requirements on stringency and source coverage, (2) to research, develop and incorporate additional requirements for dust suppression practices/equipment for construction activities into dust control plans and/or Rule 310, and (3) to revise the sample daily recordkeeping logs for new and renewed Rule 310 permits to be consistent with rule revisions and to provide sufficient detail documenting the implementation of dust control measures required by Rule 310 and the dust control plan. Distribute sample log sheets with issued permits and conduct outreach to sources.

The revisions to Rule 310, Appendix C, and new Appendix F address these commitments:

Rule 310, Section 201: The definition of "area accessible to the public" has been revised to more closely match the existing definition of "public roadways" and to refer only to public roadways and retail parking lots. The revised definition of "area accessible to the public", as reflected in amendments adopted by the Board Of Supervisors during the Public Hearing on April 7, 2004, is the product of Maricopa County's collaboration with small businesses to design a definition that meets the needs of the regulated community while meeting Maricopa County's commitments in the Serious Area PM10 Plan.

Because of the expansion of the "public access" theory, dust generating operations may have increased areas in which they have to use certain dust control measures. Maricopa County predicts that the number of projects that will be newly affected by this change in terminology will be small. Additionally because of existing dust management requirements, it is expected that sources affected by this change have the necessary equipment to easily implement the new standard.

Rule 310, Section 304.6: An additional requirement for construction projects one acre or larger to disclose, in their dust control plans, what types of soil are present at the project site and what types of soil are to be imported, if necessary, onto the project site has been included in Rule 310. Many projects must test soil characteristics anyway in order to ensure the structural integrity of project designs and materials and/or to comply with the Arizona Pollutant Discharge Elimination System (AZPDES) program. Those projects that do not test soils may refer to the soil map in Appendix F as default information.

Rule 310 requires that activities on construction sites must meet a 20% opacity standard. Per the EPA's Technical Support Document/Notice Of Proposed Rulemaking regarding the revised 1999 Serious Area Particulate Plan for PM10, if research on the standards and test methods find problems with the existing opacity standard's enforceability, feasibility, or stringency for some or all earthmoving operations, Maricopa County must revise Rule 310 to modify the existing opacity test method to address the problems as warranted or adopt a new standard(s) and test method(s) to deal with any problems that cannot be addressed by modifying the opacity test method.

Maricopa County's commitment to research and develop standard(s) and test method(s) for earthmoving sources, considering the EPA's field research, that are enforceable and meet best available control measures (BACM) and most stringent measures (MSM) requirements on stringency and source coverage, addresses the EPA's concern that the existing opacity standard and test method for earthmoving operations may not always be sufficient to control construction site dust to BACM levels. By revising Appendix C, Maricopa County has revised the opacity test method to deal partially with this concern, but the EPA believes that additional standards/test methods are needed to fully assure that sources are effectively controlled. For example, it is unclear whether the test method can be effectively used when dust plumes are generated by heavy vehicles in "turn-around" areas that may be used only infrequently.

The EPA sponsored a field study in Phoenix to compare fugitive dust emissions from uncontrolled earthmoving activities and from earthmoving activities after water has been applied and to investigate various benchmarks for determining when an acceptable amount of dust control has

been achieved. The purpose of the project was (1) to investigate the relative reduction in PM10 fugitive dust emissions from uncontrolled earthmoving activities when soil moisture content is increased through application of water and (2) to evaluate control strategies associated with this reduction. The technical approach centered on PM10 dustiness testing of Maricopa County (Phoenix area) soil samples taken from active construction sites to determine the relationship between PM10 emission potential and moisture content of the soil. Ultimately, it was intended that the relationship would be converted to PM10 control efficiency as a function of moisture addition above the dry soil moisture levels.

Per the "Analysis Of Moisture Effects On Emissions From Construction Activities" prepared by Midwest Research Institute in July 2000, the results of the project revealed that the PM10 emission potential of soils that are representative of Maricopa County construction sites can be reduced substantially by increasing the moisture content. For example, doubling the moisture content of the dry soil can reduce emissions by approximately 90%. However, the dry soil found in the Maricopa County area is difficult to wet because of its hydrophobic nature. More than 2 weeks of continuous water application is required for penetration to a depth of several feet below the surface. Dry, spotty areas of un-watered soil in the path of large construction equipment can cause much of the dust problem. This condition is likely to occur if short-term watering is used as a means for raising soil moisture in areas where soil removal takes place. Summertime conditions are expected to produce challenging conditions for soil watering as a control method because of rapid soil drying. The soil moisture gradient is expected to be significantly higher under summer conditions; summer conditions quickly dry the uppermost soil layer, which is the most significant source of PM10. Therefore, more frequent water application will be required to achieve a control equivalent to that achieved in winter conditions.

Rule 310, Section 308: The requirement for trackout control devices from disturbed work areas that are 5 acres or larger has been modified to include disturbed work areas that are 2 acres or larger. The new threshold of 2 acres or larger, as reflected in amendments adopted by the Board Of Supervisors during the Public Hearing on April 7, 2004, is the product of Maricopa County's collaboration with small businesses and has been designed to meet the needs of the regulated community while meeting Maricopa County's commitments in the Serious Area PM10 Plan.

While requiring trackout control devices from disturbed work areas that are 2 acres or larger increases the number of work sites that must now install a trackout control device, Maricopa County anticipates that this requirement will be wholly or partially offset by reductions in other dust control costs. For example, a trackout control device can obviate or reduce the need for both manual and mechanical street sweeping and any other methods of keeping roadways clean.

Maricopa County concluded from field observations and from a review of enforcement actions that smaller sites frequently have trackout problems. Many of those sites resolve their trackout problems by installing trackout control devices. Further, changing the threshold for requiring a trackout control device for disturbed work areas that are 2 acres or larger corresponds with the threshold in similar regulations - Phase II of the National Pollutant Discharge Elimination System (NPDES) storm water program and the Storm Water Pollution Prevention Plan (SWPPP). Effective March 10, 2003, these regulations now also apply to construction sites from 1 to 5 acres in size.

Per the EPA's Technical Support Document/Notice Of Proposed Rulemaking regarding the revised 1999 Serious Area Particulate Plan for PM10, paved road dust (which also includes trackout from construction sites) is fugitive dust that is deposited on a paved roadway and then is re-entrained into the air by the action of tires grinding on the roadway. Emissions of paved road dust are proportional to vehicle miles traveled. Re-entrained road dust emission rates are not affected by vehicle speed but are affected by the silt loading on the road and amount of vehicle travel on a road. Where unpaved shoulders exist, the volume of heavy-duty truck traffic can affect emissions in that the wind currents created from truck undercarriages can pick up more fugitive dust from shoulders than other vehicles. Emissions rates are lower per mile traveled on more traveled roads than they are on roads that receive less traffic.

Paved road dust is one of the largest categories of PM10 emissions accounting for 39.1% of the total directly-emitted, non-windblown 1994 PM10 inventory and 20.4% of the 2006 pre-control total (including windblown) PM10 inventory. Total uncontrolled paved road dust emissions increase by almost 30% from 1995 to 2006 due to the increase in vehicle miles traveled.

Installing trackout control devise(s) minimizes street cleaning costs. According to vendor estimates, the cost (in terms of 1994 dollars per pound of PM10 reduced) of a high efficiency vacuum sweeper for street sweeping is $230,000. This high efficiency vacuum sweeper for street sweeping has only recently been developed and tested in communities on the West coast. The maintenance cost is estimated to be $30,000 per year, based on data collected in the report "Street Sweeping Study" prepared for the Coachella Valley Association Of Governments.

Installing trackout control device(s) meets regulatory requirements. The best available control measure (BACM) plan for the South Coast Air Quality Management District estimated (in terms of 1994 dollars per pound of PM10 reduced) the cost of constructing a paved access approach to be $8,496. This would cover a 0.055 acre area (i.e., 2,400 square feet) with a pavement thickness

of 2 inches and an 8-inch aggregate base. An additional cost element is the minor grading required to establish a smooth transition to the edge of the road pavement. In addition, the cost of reducing fugitive dust emissions by 70% on haul road use (20 trips per day) is estimated to be $9, 774 for a small industrial site with 0.6 miles of haul road. As emissions are generated only on days when the site is in operation, the average daily cost is measured on the basis of site operation days estimated to be 248 per year. This yields a cost of $39.41 per site per operating day and a daily reduction of 157.56 pounds of PM10.

Based on emissions inventory data collected by Engineering Science, the costs of implementing dust control plans for a 300-acre residential construction project is estimated to be $5,000. The plan review and enforcement costs are estimated to be $1,106 and $387, respectively. While the cost to clean-up trackout (i.e., the availability of equipment and manpower) is estimated to be $198.40-lb. spill – not including penalties incurred for violating dust control regulations.

The cost of a gravel bed trackout control device has been estimated by Clark County Department Of Air Quality Management as $500 to construct and $860 per year to maintain. Maintenance includes the periodic removal, screening, and replacement of the gravel to remove accumulated soil. The cleaning frequency depends on the ability of construction site water truck operators to keep disturbed soils moist enough to prevent visible dust plumes but dry enough to prevent mud from adhering to the wheels of on-highway vehicles leaving the site.

The newest trackout control device in use in serious PM10 nonattainment areas is a pipe grid system that shakes the accumulated dirt and mud from trucks leaving construction sites, according to a study conducted by San Joaquin Valley Unified Air Pollution Control District. The device consists of 2-inch diameter steel pipe welded in a ladder grid of 8-foot lengths. Three sections of grid are linked together in each of two lanes and appropriately spaced over a 2-inch thick bed of 1-inch aggregate with dimensions of 100-feet by 18-feet at the exit of an unpaved area. The cost of purchasing, shipping, and installing the control device is approximately $5,100. The pipe grid has a useful life of 8 years, which means that the annualized purchase and installation cost of the system is $958 per year. Periodically, the device needs to be removed and the aggregate screened and re-laid to remove accumulated dirt. The total of this maintenance cost and the annualized purchase and installation cost is $1,820 per year.

Rule 310, Section 308.7: The requirement for water sources to be operated on-site at sites that are one acre or larger has been retained, as reflected in amendments adopted by the Board Of Supervisors during the Public Hearing on April 7, 2004.

A qualification has been added to this requirement - water sources must be kept on-site at sites one acre or larger, unless a visible crust is maintained or the soil is sufficiently damp. If a source has the soil in a moist enough state to prevent dust from becoming dislodged, no changes would have to be made to its water source placement. Regardless, whether water sources are operated on-site, or a visible crust is maintained, or the soil is sufficiently damp, compliance with the 20% opacity standard is required.

Per the "Analysis Of Moisture Effects On Emissions From Construction Activities" prepared by Midwest Research Institute in July 2000, as the soil surface layer dries, re-watering will be necessary, focusing on areas with the maximum disturbance of the soil. For example, a haul road where scrapers are transporting soil from one location to another is usually the most important area to control to the highest degree because of construction equipment traveling several times a minute over the same haul road.

Per the EPA's Technical Support Document/Notice Of Proposed Rulemaking regarding the revised 1999 Serious Area Particulate Plan for PM10, establishing criteria for dust control is complicated by variations in soils, meteorological conditions, equipment size/use, project phase, and level of activity. All these factors can impact the amount of water needed to control fugitive dust on a particular site on a particular day, making it difficult to establish criteria that apply to all sites at all times. The need for specific criteria lessens, if a firm standard(s) is established to gauge source compliance. If Maricopa County incorporates additional standards/test methods into Rule 310 that increase the certainty of adequate control, this may lessen the necessity for detailed requirements on dust suppressant application and/or equipment. Even so, the EPA anticipates that some new requirements will be necessary to ensure adequate control, particularly for sites where soils tend to have low water permeability and during the driest seasons. In meeting this enforceable commitment, Maricopa County should evaluate adding, to Rule 310, a ratio of water truck equipment to earthmoving equipment and/or project size.

According to the Clark County Department Of Air Quality Management PM10 State Implementation Plan (SIP) dated June 2001, grading is the most dust-intensive phase of a construction project. Because of the unavailability of cost factors, cost analysis is based on cost effectiveness per acre or control of dust from grading operations. In "An Evaluation Of Incorporating Best Management Practices Into The Construction Activities Program" prepared for the Clark County Health District Board Of Health, Dames & Moore found that the cost of controlling dust during grading on a 40-acre parcel with soils categorized as "low" particulate emission potential would typically be $1,700 per day or $43 per acre per day. This cost is predicated on the application of 200,000 gallons of water. The water application rate and cost

would double for a parcel with soils classified as "high" particulate emission potential. Therefore, the cost per acre per day for controlling dust from grading operations ranges from $43 per acre per day to $86 per acre per day.

In a study conducted by San Joaquin Valley Unified Air Pollution Control District, the cost of watering an unpaved parking lot one acre in size or larger once per day, immediately prior to the commencement of parking activity, is estimated to be $68 per day.

Rule 310, Sections 502.1 and 502.2: Recordkeeping requirements have been clarified by adding more detail about what types of records must be kept. Regulated sources are already required to document all control measures implemented; the additional language does not add any new requirements, but rather simply clarifies the existing standard by giving examples. Therefore regulated sources will have no increased costs as a result of these proposed revisions.

Economic Impacts On County Resources:

The Air Quality Division of the Maricopa County Environmental Services Department has compliance and enforcement programs to handle fugitive dust emissions and has instituted an air quality enforcement policy. The purpose of the policy is to provide a consistent process for documenting air quality violations, notifying alleged violators, and initiating enforcement actions, to ensure that violations are addressed in a timely and appropriate manner. Over the years, Maricopa County has hired additional enforcement personnel and legal staff at the County Attorney's office to enforce the fugitive dust program. Maricopa County has begun to enforce Rule 310 more aggressively by taking more enforcement actions with monetary penalties, in order to make clear to the regulated community that compliance with Rule 310 should be a priority.

Health Costs:

Because Maricopa County is a serious nonattainment area for PM10, which these revisions address, it is imperative to consider the medical and social costs of failing to take steps toward the improvement of the air quality. Adverse health effects from air pollution result in a number of economic and social consequences, including:

1. Medical Costs – these include personal out-of-pocket expenses of the affected individual (or family), plus costs paid by insurance or Medicare, for example.
2. Work loss – this includes lost personal income, plus lost productivity whether the individual is compensated for the time or not. For example, some individuals may perceive no income loss because they receive sick pay, but sick pay is a cost of business and reflects lost productivity.
3. Increased costs for chores and care giving – these include special care giving and services that are not reflected in medical costs. These costs may occur because some health effects reduce the

affected individual's ability to undertake some or all normal chores, and she or he may require extra care.

4. Other social and economic costs – these include restrictions on or reduced enjoyment of leisure activities, increased discomfort or inconvenience, increased pain and suffering, anxiety about the future, and concern and inconvenience to family members.

Rule Impact Reduction On Small Businesses:

A.R.S. § 41-1055 requires Maricopa County to reduce the impact on small businesses by using certain methods when they are legal and feasible in meeting the statutory objectives of the rulemaking. A small business is defined in A.R.S. § 41-1001 as a "concern, including its affiliates, which is independently owned and operated, which is not dominant in its field and which employs fewer than one hundred full-time employees or which had gross annual receipts of less than four million dollars in its last fiscal year. For purposes of a specific rule, an agency may define small business to include more persons if it finds that such a definition is necessary to adapt the rule to the needs and problems of small businesses and organizations."

Each commitment made in the Serious Area PM10 Plan included an explanation of costs and funding. Since this rulemaking process is being conducted to fulfill commitments made in the Serious Area PM10 Plan, the economic ramifications should not exceed the economic ramifications described in the costs and funding information included in the Serious Area PM10 Plan. For example, in the “Final Report-Particulate Control Measure Feasibility Study”, Volume I and II, prepared for Maricopa Association Of Governments by Sierra Research, Inc., based on emission inventory data collected by Engineering Science, the costs of implementation for a typical 300-acre residential construction project would be $2,700 per project. The cost of preparing a dust control plan for such project is estimated to be $5,000. The dust control plan review and enforcement costs are estimated to be $1,106 and $387, respectively.

In addition, in its economic analysis of the final Phase II Storm Water Rule (i.e., construction activities-including other land-disturbing activities that disturb 1 acre or more are regulated under Phase II of the National Pollutant Discharge Elimination System (NPDES) storm water program and must implement best management practices (BMPs) to control storm water discharges), the EPA stated that the overall cost increases due to requiring operators of construction sites that disturb 1 acre to 5 acres to develop and implement storm water pollution prevention plans and to obtain permit coverage will be minor and that the potential benefits of these modifications outweigh the incremental costs. The EPA estimated that the total cost of these modifications for all permittees across the United States would be less than $5 million per year. Also, the EPA estimated that the average incremental cost per permit per year for the final Phase II Storm Water

Rule is $276. Because monitoring frequency is typically less frequent for small entities than large entities, the EPA expects the average incremental cost per permit per year to be even less than $276 for small businesses. Also, the EPA used a "sales test" to evaluate the potential severity of economic impact of compliance costs on small businesses. The analysis estimated compliance costs for three sizes of construction sites and then the EPA compared those costs with a representative sale price for three building categories. The site size categories were one, three, and five acres and they represented the amount of disturbed land on a work site. The three building categories were single-family home, multi-family residences, and commercial. The EPA assumed that all compliance costs were incurred by the building contractor. It was unlikely that the compliance costs – even if they exceeded 1% or 3% of sales for many construction businesses – would have a significant effect on these businesses, because costs will be passed on to the eventual purchaser of the property. Regardless of whether the compliance costs constitute a 1% or greater share of small building contractor sales, the EPA states that the impact of the final Phase II Storm Water Rule on contractors that build single-family detached residences will be minimal, because they are able to pass regulatory costs onto buyers.

Conclusion:

Maricopa County worked-with small businesses throughout the rulemaking process for Rule 310, Appendix C, and Appendix F. As a result of this collaboration, Maricopa County was able to design rule revisions that meet the needs of the regulated community while meeting Maricopa County's commitments in the Serious Area PM10 Plan. For example, the definition of "areas accessible to the public" has been revised to more closely match the existing definition of "public roadways" and to refer only to public roadways and retail parking lots, the threshold for sites on which a trackout control device is required has been revised to 2 acres or larger, and the threshold of 1 acre or larger for sites on which water sources must be present has been retained.

Because the changes to Rule 310, Appendix C, and Appendix F will essentially clarify requirements that already exist, there is only a minimal economic impact on regulated entities, Maricopa County resources, small business, and the public at large. Maricopa County anticipates that these costs may be offset by reduced costs in other areas or that the new requirements simply incorporate practices that are already put in place. It is also important to note that regulated sources may be encouraged by these revisions to use dust suppressants other than water in order to assure compliance with rule standards, and by doing so may save money in the long run.

10. Description of the changes between the proposed rules, including supplemental notices, and final rules:

The following changes were made in Rule 310, Appendix C, and Appendix F since the text of the proposed rules was published in the Notice Of Proposed Rulemaking on October 31, 2003. Some of these changes have been made in response to formal comments (see #11 below) and some of these changes have been made in response to Maricopa County's collaboration with small businesses, which are reflected in amendments adopted by the Board Of Supervisors during a Public Hearing on April 7, 2004. Where a change is shown and/or described that is the result of the Board Of Supervisors' amendments, it is noted.

These changes appear in the text of the final rules to be published in this Notice Of Final Rulemaking:

Section 201: As reflected in amendments adopted by the Board Of Supervisors, the originally proposed definition of "area accessible to the public" was deleted and "area accessible to the public" was re-defined to more closely match the existing definition of "public roadways" and to refer only to public roadways and retail parking lots.

Section 226: Deleted “roadway”.

Section 302.1: Returned the original text “shall not allow”.

Section 302.2(a): Returned the original text “shall not allow”.

Section 302.2(b): Changed second sentence to read: “If complying with this subsection, the owner and/or operator must include, in a Dust Control Plan, the maximum number of vehicle trips on the unpaved haul/access roads each day (including number of employees, earthmoving equipment, haul trucks, and water trucks)”. This change is consistent with the change made to Section 304.3(c).

Section 302.3: Added text from Appendix C, Section 2.2 as second sentence: “Should a disturbed open area and/or vacant lot or any disturbed surface area on which no activity is occurring contain more than one type of disturbance, soil, vegetation, or other characteristics, which are visibly distinguishable, the owner and/or operator shall test each representative surface separately for stability, in an area that represents a random portion of the overall disturbed conditions of the site, according to the appropriate test methods in Appendix C of these rules, and include or eliminate it from the total size assessment of disturbed surface area(s) depending upon test method results”.

Section 304.3(c): Changed section to read: "If complying with Section 302.2(b) of this rule, the Dust Control Plan must include the maximum number of vehicle trips on the unpaved haul/access roads each day (including number of employee vehicles, earthmoving equipment, haul trucks, and water trucks)". This change is consistent with the change made to Section 302.2(b).

Section 304.6: Deleted requirement to disclose shrink/swell potential in a Dust Control Plan, as reflected in amendments adopted by the Board Of Supervisors.

Section 307: Added "except for routine maintenance and repair under a block permit" to the first sentence. The first sentence reads: "For all sites with an earthmoving permit that are five acres or larger, except for routine maintenance and repair done under a block permit, the owner and/or operator shall erect and maintain a project information sign at the main entrance, this is readable by the public".

Section 308.3(a)(1): Changed threshold from one acre or larger to two acres or larger regarding installing a trackout control device on all work sites with a disturbed surface area, as reflected in amendments adopted by the Board Of Supervisors.

Section 308.3(b)(1): Deleted "or within 30 minutes".

Section 308.6(a): Deleted "during" and added "prior to and/or while conducting". Deleted "apply water, as necessary, to maintain compliance with Section 301 of this rule; and". Added "comply with one of the following work practices". Section 308.6(a) reads: "Prior to and/or while conducting stacking, loading, and unloading operations, comply with one of the following work practices:"

Section 308.6(a)(1): Added Section 308.6(a)(1) – "Spray material with water, as necessary; or". This control measure matches the control measure listed in Table 11.

Section 308.6(a)(2): Added Section 308.6(a)(2) – "Spray material with a dust suppressant other than water, as necessary". This control measure matches the control measure in Table 11.

Section 308.6(b): Deleted Section 308.6(b). Section 308.6(b) is already listed in Table 11, as a suggested additional control measure for contingency plans.

Section 308.6(c): Re-numbered Section 308.6(c) to original Section 308.6(b).

Section 308.7: Deleted threshold of ½ acre or larger and returned the original threshold of 1 acre or larger regarding operating a water application system on-site while conducting any earthmoving operation on disturbed surface areas, as reflected in amendments adopted by the Board Of Supervisors.

Table 11: In heading, changed "during" to "for". In Item (a)(1), added "as necessary", changed "and" to "and/or", and deleted "or". In Item (a)(2), added "as necessary" and changed "and" to "and/or". In Item (b), added (2) and (3) from Table 12. Item (b)(2) reads: "Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate" and Item (b)(3) reads: "Remove material from the downwind side of the storage pile when safe to do so".

Table 12: In title, added "When Not Conducting Stacking, Loading, And Unloading Operations". In Item (a)(2), changed "method as" to "methods" and changed "method" to "methods". In Item (b), deleted (1) and (2). Items (b)(1) and (b)(2) were added to Table 11.

Table 13: Deleted Item (a)(4), "spray material with water prior to loading and spray material with water while loading", because it is already listed in Table 11.

Table 17: In Item (a)(1), deleted "or within 30 minutes". In Item (b)(2), deleted "and".

Appendix C, Section 3.3.2(d): Added "discrete" to second sentence.

Appendix C, Section 3.3.2(e): Added "(e.g., vehicle traveled in front of path, plume doubled-over)" to end of last sentence.

Appendix C, Section 3.3.2(f): Deleted "unless any one reading is greater than 50% opacity".

Appendix C, Section 3.3.3(b)(2): Added "Readings can be taken for more than one piece of equipment within the discrete length of travel path within the 140° sector to the back" to the end of the last sentence.

Appendix C, Section 3.3.3(g): Deleted "unless any one reading is greater than 50% opacity".

Appendix F, Section 2: Deleted Soil Shrink/Swell Potential map, as reflected in amendments adopted by the Board Of Supervisors.

11. Summary of the comments made regarding the rules and the department's response to them:

Maricopa County Environmental Services Department, Air Quality Division has received written comments from 7 stakeholders regarding the revisions to Rule 310, Appendix C, and new Appendix F.

Comment #1:

Maricopa County's economic analysis is incomplete and lacks the discussion of the costs associated with trackout, carry-out, spillage, and/or erosion. The economic impact statement fails to address the economic effect of the new 50% opacity standard as observed in a single opacity reading, the requirement for the designation of texture of soil and shrink/swell potential in dust control plans, and the costs associated with activities on sites 1 acre or larger. Many smaller sites may find it to be substantially more expensive to install trackout control devices than the current measures they use to control dust. Maricopa County has extended the scope of the changes far beyond the commitments made to the EPA. The impact and implementation of the current rule should be assessed before re-writing the rule this extensively.

Response #1:

In this Notice Of Final Rulemaking, Maricopa County has better described the economic effects of the proposed rule revisions. Maricopa County agrees that addition analysis is necessary for the 50% opacity standard and has removed the proposal from this rulemaking. Also, per amendments adopted by the Board Of Supervisors, the requirement to include shrink/swell potential statements in dust control plans has been removed and the requirement to install trackout control devices at sites one acre or larger has been changed to two acres or larger.

Comment #2:

Before implementing the new 50% opacity standard, a complete evaluation and emission modeling effort must be performed to ensure the perceived reductions will attain the ambient air quality goal within the targeted area. The 50% opacity requirement provides an incentive to use 50% readings instead of timed readings. This practice will be subjective, since there is no method described in Rule 310 for the 50% opacity standard. Maricopa County should allow stakeholders additional time to review the efficacy and practicality of the 50% opacity single observation visual test method. The proposed test method requiring an observation of non-continuous dust plumes immediately following commencement of bulk loading/unloading, non-conveyorized screening, or trenching and one additional reading 5 seconds later is a significant change in the opacity standard. Such a dramatic departure from the current requirements should not be promulgated without any legal, technical, and economic analysis. Maricopa County has not demonstrated that such a stringent measure is practicably available in Maricopa County's particularly unique arid environment. The existing standard of 20% opacity averaged over (12) 15-second intervals is

reasonable and achievable. The multiple readings diminish the inherent subjectivity of opacity readings performed by human observation. Maricopa County should remove the 50% opacity standard from Rule 310.

Response #2:

Following the revisions to Rule 310 in 1999 and in 2000, the EPA expressed concern that the existing opacity standard and test method for earthmoving operations may not always be sufficient to control construction site dust to BACM levels. As a result, Maricopa County committed to revise Rule 310 and/or Appendix C to modify the existing opacity standard/test method or add an additional opacity standard(s)/test method(s) tailored to non-process fugitive dust sources that create intermittent plumes. The proposed test method requiring an observation of non-continuous dust plumes immediately following commencement of bulk loading/unloading, non-conveyorized screening, or trenching and one additional reading 5 seconds later better addresses the nature of the activities that last for less than 3 minutes. Although Maricopa County has conducted research to develop test methods that more accurately determine opacity compliance, an instantaneous reading was not part of that research. The current test method still requires an average of 12 readings to determine compliance and minimize subjectivity. While Clark County in Las Vegas, Nevada, adopted a 50% opacity standard as observed in a single opacity reading in 2003, Maricopa County agrees that all of the ramifications of the new opacity standard have not yet been examined. Consequently, Maricopa County has removed the 50% opacity standard from Rule 310. In future Rule 310 rulemakings, though, Maricopa County will reconsider the 50% opacity standard as a "most stringent measure" for meeting the PM10 plan.

Comment #3:

The combination of the removal of the requirement for opacity observations at 1 meter above the equipment creating the plume and the addition of an "initial fallout zone" that is not clearly defined will affect measurement consistency. Without the 1 meter requirement, results can vary significantly depending on where the observer takes the opacity reading, because any plume created tends to dissipate farther from the source. Maricopa County should reinsert the 1 meter height limit and should remove references to the "initial fallout zone".

Response #3:

Comments received during Rule 310 public workshops identified feasibility issues with several provisions of the proposed revisions to Rule 310 and Appendix C. In addition, during their review of Rule 310, the EPA identified changes that they believed impacted approvability of proposed provisions as BACM. Maricopa County revised Appendix C, Section 3 (Time Averaged Methods Of Visual Opacity Determination Of Emissions From Dust Generating Operations) not only to address its State Implementation Plan commitment "to modify Rule 310's existing opacity/test method or add an additional opacity standard(s)/test method(s), so that such standard(s) and/or test

method(s) better characterize fugitive dust source that create intermittent plumes", but also to address the EPA's concerns regarding intermittent sources and continuous sources.

Maricopa County reviewed field observations and concluded that not all heavy dust particles "fallout" at 1 meter but rather "fallout" occurs between 5 feet and 25 feet above the equipment creating the plume. For example, depending on the speed of a paddlewheel, a dense plume of materials with an opacity up to 100% is present at 1 meter above the equipment, as large materials are still falling out of the plume. Therefore, Maricopa County revised Rule 310 to include an "initial fallout zone" and defined "initial fallout zone" as that area where the heaviest particles drop out of the entrained fugitive dust plume. The fallout zone concept is similar to the steam plume concept in Method 9 and the visible emissions method used for abrasive blasting.

Comment #4:

The definition of "area accessible to the public" is too broad and could lead to enforcement problems on controlled sites. It may be more acceptable if Maricopa County would accept signage that designates an area as "No Public Access Allowed".

Response #4:

Per amendments adopted by the Board Of Supervisors, the originally proposed definition of "area accessible to the public" was deleted and "area accessible to the public" was revised to more closely match the existing definition of "public roadways" and to refer only to public roadways and retail parking lots.

Comment #5:

The commitment to research and develop a standard and test method(s) for earthmoving operations that would sufficiently control construction site dust to best available control measure (BACM) levels did not include a requirement that Maricopa County impose more stringent requirements on non-earthmoving operations. Therefore, Maricopa County should exclude fugitive dust generated from non-continuous emptying or "tipping" of filled waste containers (non-earthmoving operations) from the scope of this rulemaking.

Response #5:

The non-continuous emptying or "tipping" of filled waste containers may include dirt that is scooped-up with landfill waste. Dust generating operations include scraping/scooping up dirt and loading and unloading that dirt regardless of whether or not that dirt is mixed with landfill waste. Emptying or "tipping" of filled waste containers that include dirt is also considered to be an "intermittent activity" (for which the EPA expressed concern) and is subject to Rule 310. A review of Maricopa County inspections did not find instances when dumping into a landfill created

excessive emissions. However, the file review did reveal that trackout, covering/closing an active landfill face, and weed abatement can create emissions issues at a landfill.

Comment #6:

Maricopa County should more clearly define what sites need dust control permits and dust control plans. The "owner/operator" language needs to incorporate "any individual" involved in a dust generating activity, because it is unclear whether or not a party other than the "owner/operator" is regulated. Dust control measures are best managed and enforced by the individual contractors who work at a site not the site owner or operator who may not be present on a daily basis. Best available control measures (BACM) could require owners and operators to implement effective management measures that ensure contractors have the tools and training necessary to comply with dust control requirements.

Response #6:

When determining responsibility for compliance, Maricopa County looks to the party that has operational control over construction or operational plans and specifications, and/or the person who has the authority to control dust at a site. Most individual employees do not have the authority to implement dust control on their own. Maricopa County's enforcement policy allows Maricopa County to cite subcontractors, as well as general contractors, for violation(s) of Rule 310. The decision regarding whom to cite for a violation is made on a case-by-case basis considering the facts of the specific violation. Field inspectors have the authority to write violations that are subject to civil penalties for each day of violation.

Maricopa County agrees that owners and/or operators should implement effective management measures to ensure that contractors have the tools and training necessary to comply with dust control requirements. General contractors cannot rely on subcontractors to comply with all dust control requirements. General contractors must implement standard procedures with their subcontractors (i.e., prepare dust control procedures manuals and train project managers and superintendents). To help general contractors understand and develop such standard procedures, Maricopa County has:

- Collaborated with the Arizona Department Of Transportation and Maricopa County Department Of Transportation to develop a manual for government construction oversight.
- Conducted public outreach/education workshops to explain dust control measures and recordkeeping requirements.
- Met with and trained city staff to prepare inspection reports.

Comment #7:

By using the word "ensure" instead of "shall not allow", Maricopa County is putting unreasonable controls on the owner/operator. "Ensure" is unattainable, impractical, and outside the scope of Maricopa County's commitment to the EPA. Industry makes every effort to implement BACM throughout the active/inactive boundaries of the dust generating activity. However, as an industry, no matter what measures are taken, industry cannot guarantee that properties inaccessible, as well as accessible to the public, will not be circumvented by trespassers.

Response #7:

Maricopa County deleted "ensure" from Rule 310 and returned "shall not allow" to Rule 310.

Comment #8:

What influence does stabilization have on the requirement to ensure visible fugitive dust emissions do not exceed 20% opacity and to ensure silt loading is less than 0.33 oz/ft^2 or to ensure silt content does not exceed 6% on any unpaved haul/access road? A surface could be stabilized but breach this requirement, after testing the material.

Response #8:

Test methods are needed for owners, operators, Maricopa County, or other interested parties to make objective and consistent determinations about a source. A minimum standard and a corresponding test method are used to indicate whether a source poses a dust problem that needs to be controlled. A test method can also be used to determine whether a specific control applied to the source has successfully stabilized the surface as intended. Silt loading and silt content are two criteria for indicating when stabilization is adequate. Both criteria have been incorporated into Rule 310 from the Federal Implementation Plan (FIP), as required by the EPA.

Test methods can be used as evidence for Maricopa County when issuing an emissions violation to a source and as evidence for a source that the source is not violating an emissions standard when complaints are made.

The Federal Implementation Plan (FIP) requires owners/operators of unpaved roads and unpaved parking lots to comply with 2 standards – a 20% opacity standard and a silt content standard. Silt content is not to exceed 6% for unpaved roads and 8% for unpaved parking lots. According to the FIP, if a source passes the opacity standard but fails the silt content standard, or vice versa, it is not in compliance with the FIP. It may not be necessary to conduct the silt content test method, if the surface is kept damp enough to bind dirt particles such that a sample collected from the source would "stick". The silt content test method should not be done immediately following surface wetting, as this may not represent the most common condition of the source as it receives vehicle traffic.

Comment #9:

Maricopa County's commitments do not mandate requiring certain dust control plans to include the number of vehicles traveling on unpaved roads "each day". Providing the number of vehicles traveling on unpaved roads each day that a site is active would be an undue paperwork burden. Maricopa County should clarify Rule 310 to require individuals who use this provision to specify the maximum daily number of vehicles that would be used on-site during activities.

Response #9:

During the rulemaking process to adopt the February 16, 2000 version of Rule 310, the EPA explained in a letter dated November 29, 1999 that corrections to Rule 310 were necessary in order for the EPA to approve the rule in the State Implementation Plan. One of those corrections was that if an owner and/or operator of haul/access roads chose the control measure of limiting vehicle trips to 20 per day, then such owner and/or operator "must include in their dust control plan a complete list of all vehicles anticipated to be on-site at any time during the project (e.g., number of employee vehicles, earthmoving equipment, haul trucks, water trucks)". After discussions with the EPA and stakeholders, Maricopa County agreed to add the EPA's requested requirement without the requirement for a "complete list of all vehicles". In Rule 310, as adopted February 16, 2000, Maricopa County modified the EPA's requested requirement and added it to Section 304 (Elements Of A Dust Control Plan): "If complying with subsection 302.2(b) (Stabilization Requirements For Fugitive Dust Sources-Unpaved Haul/Access Roads) of this rule, must include the number of vehicles traveled on the unpaved haul/access roads (i.e., number of employee vehicles, earthmoving equipment, haul trucks, and water trucks)". For this rulemaking process, Maricopa County concurs that Rule 310 should specify the <u>maximum</u> daily number of vehicle trips on unpaved haul/access roads and has revised Rule 310 accordingly.

Comment #10:

Maricopa County should delete the language referencing "at least", beginning in Section 302.3 (Open Area And Vacant Lot Or Disturbed Surface Area) and continuing throughout Rule 310.

Response #10:

To Rule 310, Section 302.3, Maricopa County added the following sentence, from Appendix C, Section 2.2, to clarify "at least": "Should a disturbed open area and/or vacant lot or any disturbed surface area on which no activity is occurring contain more than one type of disturbance, soil, vegetation, or other characteristics, which are visibly distinguishable, the owner and/or operator shall test each representative surface separately for stability, in an area that represents a random portion of the overall disturbed conditions of the site, according to the appropriate test methods in Appendix C of these rules, and include or eliminate it from the total size assessment of disturbed surface area(s) depending upon test method results".

Comment #11:

Although Rule 310 applies to disturbed surface areas that exceed 0.1 acre, the term "disturbed surface area" is open to inconsistent interpretation and Maricopa County has not provided a technical, legal, or economic justification for expansively interpreting the definition of "disturbed surface area" to include work site preparation areas. "Disturbed surface areas" should be limited to the surface area that is actually trenched, excavated, or cleared for future development. Likewise, Maricopa County should exclude from Rule 310 worksite preparation areas and provide owners, operators, and subcontractors with sufficient notice that their activities require permits and plans.

Response #11:

The definition of "disturbed surface area" has been in Rule 310 since 1993. "Disturbed surface area" is defined as a portion of the earth's surface (or material placed thereupon) which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed native condition, thereby increasing the potential for the emission of fugitive dust. "Disturbed surface area" was intended to distinguish soil conditions not dust generating activities.

Rule 310 applies to dust generating activities of any size. Although only those activities that disturb surface areas of 0.10 acre are required to obtain a permit, a work site preparation area creates disturbed surface areas and must comply with Rule 310. Maricopa County has always maintained that work preparation areas must be included in the permit work site. As a result almost all applicants include these areas. To further address this issue, Maricopa County is revising the application instructions and guidance and will revise Rule 200 (Permit Requirements) in the near future.

Comment #12:

Maricopa County's conclusion that it "feels" that the provision requiring construction sites one acre or larger to include a statement disclosing soil types will have no economic impact is premature. Requiring onsite water systems, such as water trucks, on virtually all sites larger than ½ acre is a major expansion of the current rule and will directly impact small businesses. Until Maricopa County develops and makes available guidance outlining the types of control measures necessary, Maricopa County cannot know the economic impact of Rule 310. Also, one acre is much too small an area on which to require the inclusion of soil texture and shrink/swell potential in the dust control plan for construction projects. Maricopa County should change the size requirement to no less than 10 acres, as in the previous draft dated September 5, 2003. However, if Maricopa County retains this requirement, then Maricopa County should provide more suitable maps. The maps in Appendix F are so small that it is impractical to identify a specific acre.

Response #12:

Per amendments adopted by the Board Of Supervisors, the requirement to include shrink/swell potential statements in dust control plans has been removed; the requirement to include soil texture descriptions in dust control plans for sites one acre or larger remains. Also, per amendments adopted by the Board Of Supervisors, the requirement for water sources to be operated on-site at sites that are one acre or larger has been retained. Water sources were originally proposed to be on-site at projects ½ acre or larger.

One of the primary reasons for revising Rule 310 is to strengthen Rule 310 in accordance with the enforceable commitments made by Maricopa County as part of the approved PM10 State Implementation Plan. Maricopa County committed "to develop parameters that address various site conditions and are sufficient to ensure that Rule 310's performance standards are met more consistently". Rule 310 addresses this commitment by requiring owners and/or operators in areas where soil types are more conducive to the generation of dust to use more stringent fugitive dust control measures. While the EPA supported this concept, the EPA was concerned that the phrase "projects 10 acres or larger" was somewhat ambiguous and subject to differing interpretations that could complicate compliance/enforcement. The EPA contended that disclosing designated texture(s) of soil and their shrink/swell potential naturally present at or to be imported to a dust generating operation should be extended to smaller projects than 10 acres. The requirement to read soil types from a map (soil testing is not required) poses no additional burden to a source or project that is already required to develop a dust control plan. It is unclear why an owner and/or operator would not want to have soil type information for any project that is required to have a dust control plan.

Rule 310 is not the only regulation requiring construction sites to describe soil type(s) in a dust control plan. Construction activities (including other land-disturbing activities) that disturb one acre or more are regulated under Phase II of the National Pollutant Discharge Elimination System (NPDES) storm water program, a regulatory action which requires small municipalities and construction sites to implement best management practices to control storm water discharges. On March 10, 2003, new regulations came into effect that extended coverage to construction sites that disturb one acre to five acres in size, including smaller sites that are part of a larger common plan of development or sale. Sites disturbing five acres or more were regulated previously. Operators of regulated construction sites are required to develop and implement stormwater pollution prevention plans and to obtain permit coverage from an authorized state or from the EPA, if the state is not authorized by the EPA to issue NPDES permits. Arizona conforms to the federal NPDES. Since December 2002, the Arizona Department Of Environmental Quality (ADEQ) has administered the Arizona NPDES program as an approved NPDES program for discharges to

surface waters within Arizona. In response to Phase II of the NPDES program revisions, Arizona changed its Arizona NPDES program to regulate construction sites one acre or larger.

The Phase II NPDES rule regulates construction starts disturbing one to five acres of land. Specifically, small construction site owners or operators are required to plan and implement appropriate erosion and sediment control best management practices (BMPs). In estimating incremental costs attributable to the final rule, the EPA estimated that installing trackout control devices would cost $15.72 per square yard and developing control plans would cost $361.87 - $1,182.63. Also, the EPA estimated total average compliance costs for a Phase II construction site to be $2,143 for sites disturbing between one and two acres of land, $5,535 for sites disturbing between two and four acres of land, and $9,646 for sites disturbing between four and five acres of land.

Comment #13:

Maricopa County should assign the same block number, when Maricopa County renews block permits. Changing the block permit number, when the block permit is renewed, would require the project information sign to be changed when projects extend beyond the term of the original permit. Issuing the same block permit number at the time of renewal would eliminate this potential violation.

Response #13:

Over the next year, Maricopa County will examine what database changes are required in order to issue the same block permit number at the time of renewal.

Comment #14:

At the end of the first paragraph of Section 308 (Work Practices), Maricopa County should insert the following: “For the purpose of this section, a paved area accessible to the public does not include a paved area that has been designated as a trackout control device in an approved dust control plan”. Under this suggested revision, the exception for paved areas that have been designated as a trackout control device would allow Maricopa County the discretion, at the time of approving a dust control plan, to distinguish between suitable paved area trackout devices that are accessible to the public and those that are not suitable (i.e., shopping mall parking lots).

Response #14:

Per amendments adopted by the Board Of Supervisors, the originally proposed definition of "area accessible to the public" was deleted and "area accessible to the public" was revised to more closely match the existing definition of "public roadways" and to refer only to public roadways and retail parking lots.

Comment #15:

The work practices required when crossing a paved area accessible to the public will prevent legitimate uses of paved areas as trackout control devices merely because they are accessible to the public, regardless of the type or frequency of this public use. It is simply not reasonable to allow a threshold for exiting and provide no threshold for simply crossing a street. Maricopa County should repeat the requirements/language regarding installing, maintaining, and using a suitable trackout control device at all exits onto paved areas accessible to the public in the requirements/language regarding crossing a paved area accessible to the public. Or Maricopa County should merge the requirements and require cleanup for crossing roadways, if the trackout extends more than 50 feet.

Response #15:

To meet best available control measures (BACM), Maricopa County must proactively prevent trackout and not respond retroactively to trackout. Exiting onto paved areas accessible to the public is different from crossing a paved area accessible to the public. The work practices for exiting onto paved areas accessible to the public regard bulk material hauling (i.e., where 100 cubic yards of bulk materials are hauled on-site and/or off-site per day) and not recreational uses of parks. Per amendments adopted by the Board Of Supervisors, the originally proposed definition of "area accessible to the public" was deleted and "area accessible to the public" was re-defined to more closely match the existing definition of "public roadways" and to refer only to public roadways and retail parking lots. With this new definition, Maricopa County should be able to distinguish between suitable paved area trackout devices that are accessible to the public and those that are not suitable.

Comment #16:

Requiring contractors and material suppliers to perform sweeping no later than 30 minutes after trackout has occurred is not reasonable. There are numerous variables that could influence response time. Rule 310 should be tied-to a measurable basis for determining severity. Traffic count or time of day could be used to scale response time.

Response #16:

Maricopa County deleted “or within 30 minutes” from the requirement to clean up trackout, carry-out, spillage, and/or erosion when it extends a cumulative distance of 50 linear feet or more leaving the original text intact. One of the goals of Rule 310 is to prevent or minimize trackout. Rule 310 is tied-to a measurable basis for determining severity and uses the distance trackout extends as that measure. Past State Implementation Plans (SIPs) indicate that 35% - 40% of PM10 comes from re-entrained road dust. Construction trackout is a significant source of road dust.

Comment #17:

Maricopa County should clarify what is meant by "easement", where access by a permitted source is obtained for ingress/egress. There is confusion regarding who the responsible party is for activities occurring on the easement, utility right-of-way, and access roads for utilities.

Response #17:

Rights to ingress/egress arise from a variety of conveyances or agreements that are specific to a site or situation. Some conveyances or agreements for ingress/egress are not interests in real estate but are permits that can be terminated or modified by the party granting them and typically cannot be conveyed or assigned to someone else.

For activities occurring on the easement, utility right-of-way, or access roads for utilities, Maricopa County first looks to establish who has operational control over the activities causing the problems and approaches that individual first. The decision on who to hold responsible will depend upon the specifics of the particular situation. The following examples illustrate some possible outcomes in determining responsibility:

1. The first example is a construction site where utility employees are trenching across the utility's easement at one end of the site without watering. For this example, Maricopa County will hold the utility responsible for dust from trenching.

2. The second example is the same construction site, but this time the contractor's employees are driving across the easement to enter or leave the site and track dirt out into the street. In this example, Maricopa County may hold the contractor responsible for the trackout.

3. The third example is a batch plant that secured a permit to access a public paved road, and whose plant trucks are tracking dirt into the street as they cross the unimproved right-of-way. Maricopa County approaches the batch plant operator initially to gather specifics. While the right-of-way owner may be determined to be responsible, the batch plant operator will probably have to correct this situation depending on the terms in the ingress/egress agreement or permit. Many agreements are designed to hold the right-of way holder harmless for problems created by the batch plant seeking access.

Comment #18:

Why is Maricopa County telling industry how to conduct its business (i.e., during stacking, loading, and unloading operations, empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping)?

Response #18:

Maricopa County removed the requirement – during stacking, loading, and unloading operations, empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping – from the work practice standards and has retained it as a suggested control measure listed in Table 11 (Bulk Material Handling Operations-Work Practices For Stacking, Loading, And Unloading Operations).

Comment #19:

Table 11 (Bulk Material Handling Operations – Work Practices During Stacking, Loading, And Unloading Operations) will require the installation of additional water systems, which will add an estimated $60,000 for installation and $10,000 for maintenance per year, for solid waste transfer stations and landfills within Maricopa County. Maricopa County should closely evaluate its research data and identify those sources of fugitive dust that are the root cause of Maricopa County's concerns and that, when further controlled, will provide a benefit that justifies the costs. Also, Maricopa County made changes to Table 11 without stakeholder input and is prescribing how industry should conduct its business.

Response #19:

Collectively construction site operations emissions (24.5%) and windblown emissions (2.5%) are the second largest contributor of PM10 emissions in the Phoenix area, according to the EPA's Technical Support Document/Notice Of Proposed Rulemaking regarding the revised 1999 Serious Area Particulate Plan for PM10. Material handling and bulk material storage and/or transporting operations are included as sources of fugitive dust at construction sites. The tables in Rule 310 relate to Rule 310, Section 308 (Work Practices) which relate to dust control plans. Maricopa County agrees that Table 11 contains more stringent requirements than Maricopa County intended. As a result, Table 11 has been revised to reinsert the phrase "as necessary" and change the "and" to "and/or". Now, both Table 11 and Rule 310, Section 308.6 (Work Practices-Open Storage Piles) require using water as a dust control method only <u>as necessary</u> to maintain compliance with the 20% opacity limit in Rule 310. Even though industry must comply with Rule 310, industry has the flexibility to create its dust control plan(s) that best suit its business practices.

Comment #20:

Industry should not be required to cover all open storage piles with tarps, plastic, or other material. It is not practical as an everyday requirement. Maricopa County made this change without stakeholder input.

Response #20:

Industry is not required to cover all open storage piles with tarps, plastic, or other material as an everyday requirement. Covering open storage piles with tarps, plastic, or other material is one of four dust control options and applies when <u>not</u> conducting stacking, loading, and unloading

operations. Maricopa County added the phrase "when not conducting stacking, loading, and unloading operations" to Table 12 (Open Storage Piles), Item (a). With this addition, Table 12 matches the work practices for open storage piles, described in Rule 310, Section 308.6(b).

Comment #21:

In Table 13 (Bulk Material Hauling/Transporting – Within The Boundaries Of The Work Site When Crossing A Paved Area Accessible To The Public While Construction Is Underway), Maricopa County changed the language from "one of the following" to "all of the following" without stakeholder input.

Response #21:

In the original Rule 310, Table 1 (Source Type And Control Measures), control measures for bulk material hauling/transporting when on-site hauling/transporting within the boundaries of the work site when crossing a public roadway upon which the public is allowed to travel while construction is underway were listed with "and" at the end of each measure, implying that all of the control measures should be implemented. After discussions at public workshops, Maricopa County created individual tables for each dust generating operation source type listed in Table 1. In doing so, Maricopa County created Table 13 (Bulk Material Hauling/Transporting–Within The Boundaries Of The Work Site When Crossing A Paved Area Accessible To The Public While Construction Is Underway). As written in the Notice Of Proposed Rulemaking for Rule 310, the control measures listed in Table 13 were the same control measures listed in original Table 1. However, Table 13 did not have "and" at the end of each measure but included the introductory phrase "an owner and/or operator must implement all of the following control measures".

Comment #22:

In Table 18 (Weed Abatement By Discing And Blading), Maricopa County changed the language from "one of the following" to "all of the following" without stakeholder input.

Response #22:

In written comments received after the public workshop on September 18, 2003, the EPA stated that Table 18 was not consistent with Section 308.9 (Work Practices-Weed Abatement By Discing Or Blading) and that the last word in Item (a)(1) should be "and" and not "or", to avoid relaxing the State Implementation Plan (SIP). Consequently, in the Notice Of Proposed Rulemaking for Rule 310, Table 18 included the statement "an owner and/or operator must implement all of the following" and included "and" after "apply water while weed abatement by discing or blading is occurring".

Comment #23:

In Table 20 (Wind Event Control Measures – Dust Generating Operations), Maricopa County added the provision – apply water at least twice [once] per hour or apply water to maintain a soil moisture content at a minimum of 12% and construct fences or three-foot to five-foot wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of wind-blown material leaving the site – without stakeholder input.

Response #23:

In the original Rule 310, Table 2 (Source Type And Wind Event Control Measures), four control measures were listed for dust generating operations. Each measure was followed by "or", implying that one of the measures should be implemented. After discussions at public workshops, Maricopa County created individual tables for each source type listed in Table 2. In doing so, Maricopa County created Table 20 (Wind Event Control Measures-Dust Generating Operations). In the Notice Of Proposed Rulemaking for Rule 310, the four control measures listed in Table 20 were the same four control measures listed in original Table 2. However, Table 20 did not have "or" at the end of each measure but included the introductory phrase "an owner and/or operator must implement one of the following control measures".

Comment #24:

Appendix F (Soil Designations) creates a framework to impose measures that may not apply to specific site conditions. The maps are too small that it would be impractical to identify a specific acre on them. If Maricopa County believes it is necessary to require this information, then more suitable maps should be provided.

Response #24:

Soil type statement/descriptions are required to be included in dust control plans for sites one acre or larger. Shrink/swell potential statements were also required to be included in dust control plans for sites one acre or larger, but the requirement has been removed, per amendments adopted by the Board Of Supervisors.

Appendix F contains soil type descriptions and a map of soil textures throughout Maricopa County. Regulated sources should provide, in dust control plans, soil test results, but in the event soil test results are not available, the soil type maps may be used as default information on dust control permit/dust control plan applications. Maricopa County acknowledges the commenter's concerns and will continue to develop more suitable soils maps. Enforcement cases frequently reveal that soils are the culprit when trying to control dust. Knowing soils types before a dust generating activity occurs improves project planning and will allow more effective dust control measures to be implemented and maintained.

Comment #25:

A project sign erected on every jobsite larger than 5 acres stating pertinent information regarding that job is good on a project where the owner has selected a general contractor or builder, but many times the owner is clearing the site for a developer to come-in and start a project. Signs are expensive and timely. Some demolition projects will actually be completed before the sign is finished and ready to be installed. Maricopa County should allow smaller subcontractors to apply for a $50 "temporary" dust permit that will be valid for 30 days or less. This will increase revenues, due to the fact that currently a dust permit is issued for the entire project for a period of 12 months. A long-term dust control permit could then be issued at a later date for the entire project, once the owner/developer is selected with additional fees incorporated.

Response #25:

Most demolition projects are less than 5 acres and would not require a project sign. However, Maricopa County is not opposed to considering a "temporary" dust permit and/or a demolition permit. Maricopa County will have to revise Rule 200 (Permit Requirements) and Rule 280 (Fees), before instituting a "temporary" dust permit and/or a demolition permit. Until then, Maricopa County has been recommending that companies either close the permit at the completion of the project or change the permit into the contractor's name at the completion of demolition. Maricopa County has forms for both options.

12. Any other matters prescribed by the statute that are applicable to the specific department or to any specific rule or class of rules:

None

13. Incorporations by reference and their location in the rules:

None

14. Was this rule previously an emergency rule?

No

15. The full text of the rules follows:

Rule 310, Appendix C, and Appendix F

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 310

FUGITIVE DUST ~~SOURCES~~

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TABLE 1

Revised 07/13/88
Revised 07/06/93
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MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 310
FUGITIVE DUST ~~SOURCES~~

SECTION 100 - GENERAL

101 PURPOSE: No change

102 APPLICABILITY: The provisions of this rule shall apply to all dust generating operations except for those dust generating operations listed in Section 103. ~~:~~ ~~normal farm cultural~~

~~practices under Arizona Revised Statutes (A.R.S.) §49-457 and ARS §49-504.4 and open areas, vacant lots, unpaved parking lots, and unpaved roadways which are not located at sources that require any permit under these rules.~~

103 **EXEMPTIONS:** The following are exempt from the requirements of this rule: normal farm cultural practices under Arizona Revised Statutes (A.R.S.) §49-457 and §49-504.4, and open areas, vacant lots, unpaved parking lots, and unpaved roadways that are not located at sources that require any permit under these rules.

SECTION 200 - DEFINITIONS: For the purpose of this rule, the following definitions shall apply. See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule.

201 **AREA ACCESSIBLE TO THE PUBLIC** – Any retail parking lot or public roadway that is open to public travel primarily for purposes unrelated to the dust generating operation.

~~201~~ **202** **BULK MATERIAL -** Any material, including, but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter (i.e., aggregate base course (ABC)), earth, soil, dirt, mud, demolition debris, cotton, trash, cinders, pumice, rock, saw dust, feeds, grains, fertilizers, fluff (from shredders), and dry concrete~~, which~~ that are capable of producing fugitive dust ~~at an industrial, institutional, commercial, governmental, construction, and/or demolition site~~.

~~202~~ **203** **BULK MATERIAL HANDLING, STORAGE, AND/OR TRANSPORTING OPERATION -** The use of equipment, haul trucks, and/or motor vehicles, ~~such as~~ including, but not limited to, the loading, unloading, conveying, transporting, piling, stacking, screening, grading, or moving of bulk materials~~, which~~ that are capable of producing fugitive dust ~~at an industrial, institutional, commercial, governmental, construction, and/or demolition site~~.

~~204 CARRYOUT/TRACKOUT – Any and all bulk materials that adhere to and agglomerate on the exterior surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen onto a paved public roadway.~~

204 **CONTROL MEASURE -** A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of fugitive dust. Control measures include, but are not limited to:

204.1 Curbing~~.~~;

204.2 Paving~~.~~;

204.3 Pre-wetting~~.~~;

204.4 Applying dust suppressants~~.~~;

204.5 Physically stabilizing with vegetation, gravel, recrushed/recycled asphalt or other forms of physical stabilization~~.~~;

204.6 Limiting, restricting, phasing and/or rerouting motor vehicle access~~.~~;

204.7 Reducing vehicle speeds and/or number of vehicle trips~~.~~;

204.8 Limiting use of off-road vehicles on open areas and vacant lots~~.~~;

204.9 Utilizing work practices and/or structural provisions to prevent wind and water erosion onto paved ~~public roadways~~ areas accessible to the public;

204.10 Appropriately using dust control implements~~.~~;

204.11 Installing one or more grizzlies, gravel pads, and/or wash down pads adjacent to the entrance of a paved ~~public roadways.~~ area accessible to the public to control carry-out and trackout~~.~~;

204.12 Keeping open-bodied haul trucks in good repair, so that spillage may not occur from beds, sidewalls, and tailgates~~.~~;

204.13 Covering the cargo beds of haul trucks to minimize wind-blown dust emissions and spillage.

205 **DISTURBED SURFACE AREA –** No change

206 **DUST CONTROL IMPLEMENT –** No change

207 **DUST CONTROL PLAN -** A written plan describing all fugitive dust control measures.

208 **DUST GENERATING OPERATION -** Any activity capable of generating fugitive dust, including but not limited to, land clearing, earthmoving, weed abatement by discing or blading, excavating, construction, demolition, bulk material handling, storage and/or transporting operations, vehicle use and movement, the operation of any outdoor equipment, or unpaved parking lots. For the purpose of this rule, landscape maintenance ~~and/or~~ and playing on or maintaining a ~~ballfield~~ field used for non-motorized sports shall not be considered a dust generating operation. However, landscape maintenance shall not include grading, trenching, ~~nor~~ or any other mechanized surface disturbing activities performed to establish initial landscapes or to redesign existing landscapes.

209 **DUST SUPPRESSANT –** No change

210 **EARTHMOVING OPERATION –** No change

211 **FREEBOARD –** No change

212 **FUGITIVE DUST -** The particulate matter~~, which is~~ not collected by a capture system, ~~which~~ that is entrained in the ambient air, and ~~which~~ is caused from human and/or natural activities, such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. For the purpose of this rule, fugitive dust does not include particulate matter emitted directly from the exhaust of motor vehicles and other internal combustion engines, from portable brazing, soldering, or welding equipment, and from piledrivers, and does not include emissions from process and combustion sources that are subject to other rules in Regulation III (Control Of Air Contaminants) of these rules.

213 **GRAVEL PAD –** A layer of washed gravel, rock, or crushed rock ~~which~~ that is at least one inch or larger in diameter, that is maintained at the point of intersection of a paved ~~public roadway~~ area accessible to the public and a work site entrance to dislodge mud, dirt, and/or debris from the tires of motor vehicles and/or haul trucks, prior to leaving the work site.

214 **GRIZZLY –** No change

215 **HAUL TRUCK -** Any fully or partially open-bodied self-propelled vehicle including any non-motorized attachments, such as, but not limited to, trailers or other conveyances ~~which~~ that are connected to or propelled by the actual motorized portion of the vehicle used for transporting bulk materials.

~~216~~ ~~**INTERMITTENT SOURCE** – A fugitive dust generating operation and/or activity that lasts for a duration of less than six consecutive minutes.~~

~~217~~ **216** **MOTOR VEHICLE –** No change

~~218~~ **217** **NORMAL FARM CULTURAL PRACTICE –** No change

~~219~~ **218** **OFF-ROAD VEHICLE –** No change

~~220~~ **219** **OPEN AREAS AND VACANT LOTS -** Any of the following described in ~~subsection 220.1~~ Section 219.1 through ~~subsection 220.4~~ Section 219.4 of this rule. For the purpose of this rule, vacant portions of residential or commercial lots that are immediately adjacent and owned and/or operated by the same individual or entity are considered one ~~vacant~~ open area or vacant lot.

~~220.1~~ **219.1** An unsubdivided or undeveloped tract of land adjoining a developed or ~~a~~ partially developed residential, industrial, institutional, governmental, or commercial area.

~~220.2~~ **219.2** A subdivided residential, industrial, institutional, governmental, or commercial lot~~,~~ ~~which~~ that contains no approved or permitted buildings or structures of a temporary or permanent nature.

~~220.3~~ **219.3** A partially developed residential, industrial, institutional, governmental, or commercial lot.

~~220.4~~ **219.4** A tract of land, in the nonattainment area, adjoining agricultural property.

~~221~~ **220** **OWNER AND/OR OPERATOR** – The person responsible for obtaining an earthmoving permit under Rule 200, Section 305, or any person who owns, leases, operates, controls, or supervises a dust generating operation subject to the requirements of this rule.

~~222~~ **221** **PAVE –** No change

~~223~~ **222** **PUBLIC ROADWAYS** – No change

~~224~~ **223** **ROUTINE –** No change

~~225~~ **224** **SILT–** No change

225 **TRACKOUT/CARRYOUT –** Any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen or been deposited onto a paved area accessible to the public.

226 **TRACKOUT CONTROL DEVICE -** A gravel pad, grizzly, wheel wash system, or a paved area, located at the point of intersection of an unpaved area and a paved ~~roadway~~ area accessible to the public that controls or prevents vehicular trackout.

227 **UNPAVED HAUL/ACCESS ROAD –** No change

228 **UNPAVED PARKING LOT –** No change

229 **UNPAVED ROAD –** No change

230 **URBAN OR SUBURBAN OPEN AREA –** No change

231 **VACANT LOT –** No change

232 **VACANT PARCEL –** No change

233 **WIND-BLOWN DUST -** Visible emissions, from any disturbed surface area, ~~which~~ that are generated by wind action alone.

234 **WIND EVENT** – No change

235 **WORK SITE –** No change

SECTION 300 – STANDARDS

301 **OPACITY LIMITATION FOR ~~FUGITIVE DUST SOURCES~~ DUST GENERATING OPERATIONS:** The owner and/or operator of a ~~source engaging in dust generating operations~~ dust generating operation shall not allow visible fugitive dust emissions to exceed 20% opacity as tested by methods described in Appendix C of these rules.

301.1 **Wind Event:** Exceedances of the opacity limit that occur due to a wind event shall constitute a violation of the opacity limit. However, it shall be an affirmative defense in an enforcement action if the owner and/or operator demonstrates all of the following conditions:

a. All control measures required were followed and 1 or more of the control measures in ~~Table 2 were~~ Tables 20 & 21 was applied and maintained;

b. The 20% opacity exceedance could not have been prevented by better application, implementation, operation, or maintenance of control measures;

c. The owner and/or operator compiled and retained records, in accordance with Section 502 (Recordkeeping) of this rule; and

d. The occurrence of a wind event on the day(s) in question is documented by records. The occurrence of a wind event must be determined by the nearest Maricopa County Environmental Services Department Air Quality Division monitoring station, from any other certified meteorological station, or by a wind instrument that is calibrated according to manufacturer's standards and that is located at the site being checked.

301.2 No change

301.3 No change

302 STABILIZATION REQUIREMENTS FOR ~~FUGITIVE DUST SOURCES~~ DUST GENERATING OPERATIONS:

302.1 Unpaved Parking Lot: The owner and/or operator of any unpaved parking lot shall not allow visible fugitive dust emissions to exceed 20% opacity, and either:

a. Shall not allow silt loading equal to or greater than 0.33 oz/ft^2 ~~,~~, or

b. Shall not allow the silt content to exceed 8%.

302.2 Unpaved Haul/Access Road:

a. The owner and/or operator of any unpaved haul/access road (whether including at a work site that is under construction or at a work site that is temporarily or permanently inactive) shall not allow visible fugitive dust emissions to exceed 20% opacity, and either:

1. Shall not allow silt loading equal to or greater than 0.33 oz/ft^2; or

2. Shall not allow the silt content to exceed 6%.

b. The owner and/or operator of any unpaved haul/access road (including at a work site that is under construction or a work site that is temporarily or permanently inactive) ~~Shall,~~ shall, as an alternative to meeting the stabilization requirements for an unpaved haul/access road, limit vehicle trips to no more than 20 per day per road and limit vehicle speeds to no

more than 15 miles per hour. If complying with this subsection ~~302.2(b) of this rule~~, the owner and/or operator must include, in a Dust Control Plan, the maximum number of ~~vehicles traveled~~ vehicle trips on the unpaved haul/access roads each day (~~i.e.,~~ including number of employee vehicles, earthmoving equipment, haul trucks, and water trucks).

302.3 Open Area ~~and~~ And Vacant Lot ~~or~~ Or Disturbed Surface Area: The owner and/or operator of an open area ~~and~~ and/or vacant lot or any disturbed surface area on which no activity is occurring (~~whether~~ including at a work site that is under construction~~, at~~ or a work site that is temporarily or permanently inactive) shall meet at least 1 of the standards described in ~~subsection~~ Sections 302.3(a) through ~~subsection~~ 302.3(g) below, as applicable. Should a disturbed open area and/or vacant lot or any disturbed surface area on which no activity is occurring contain more than one type of disturbance, soil, vegetation, or other characteristics, which are visibly distinguishable, the owner and/or operator shall test each representative surface separately for stability, in an area that represents a random portion of the overall disturbed conditions of the site, according to the appropriate test methods in Appendix C of these rules, and include or eliminate it from the total size assessment of disturbed surface area(s) depending upon test method results. The owner and/or operator of such inactive disturbed surface area shall be considered in violation of this rule if ~~such inactive disturbed surface~~ the area is not maintained in a manner that meets at least 1 of the standards ~~described in subsection 302.3(a) through subsection 302.3(g)~~ listed below, as applicable.

a. Maintain a visible crust; ~~or~~

b. Maintain a threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher; ~~or~~

c. Maintain a flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%; ~~or~~

d. Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%; ~~or~~

e. Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements; ~~or~~

f. Maintain a percent cover that is equal to or greater than 10% for non-erodible elements; or

g. Comply with a standard of an alternative test method, upon obtaining the written approval from the Control Officer and the Administrator of the Environmental Protection Agency (EPA).

302.4 No change

303 DUST CONTROL PLAN REQUIRED:

303.1 The owner and/or operator of a dust generating operation shall submit to the Control Officer a Dust Control Plan with any permit applications that involve earthmoving operations with a disturbed surface area that equals or exceeds 0.10 acre, including both of the following situations:

a. When submitting an application for an earthmoving permit involving earthmoving operations that would equal or exceed 0.10 acre, and

b. Before commencing any routine dust generating operation at a site that has obtained or must obtain a Title V, Non-Title V, or general permit under Regulation II (Permits And Fees) of these rules.

Compliance with this section does not affect an owner and/or operator's responsibility to comply with the other standards of this rule. The Dust Control Plan shall describe all control measures to be implemented before, after, and while conducting any dust generating operation, including during weekends, after work hours, and on holidays.

~~303.1~~ **303.2** A Dust Control Plan shall, at a minimum, contain all the information described in Section 304 of this rule. The Control Officer shall approve, disapprove, or

conditionally approve the Dust Control Plan, in accordance with the criteria used to approve, disapprove or conditionally approve a permit. Failure to comply with the provisions of an approved Dust Control Plan is deemed to be a violation of this rule. Regardless of whether an approved Dust Control Plan is in place or not, the owner and/or operator of a ~~source~~ dust generating operation is still subject to all requirements of this rule at all times. In addition, the owner and/or operator of a source with an approved Dust Control Plan is still subject to all of the requirements of this rule, even if such owner and/or operator is complying with the approved Dust Control Plan.

~~303.2~~ **303.3** At least one primary control measure and one contingency control measure must be identified in the Dust Control Plan for all fugitive dust sources. Should any primary control measure(s) prove ineffective, the owner and/or operator shall immediately implement the contingency control measure(s)~~, which may obviate the requirement of submitting a revised Dust Control Plan.~~ If the identified contingency control measure is effective to comply with all of the requirements of this rule, the owner and/or operator need not revise the Dust Control Plan under Section 305 of this rule.

~~303.3 The following subsections, subsection 303.3(a) and subsection 303.3(b) of this rule, describe the permit applications with which a Dust Control Plan must be submitted.~~

~~a. If a person is required to obtain an Earthmoving Permit under Regulation II (Permits And Fees) of these rules, then such person must first submit a Dust Control Plan and obtain the Control Officer's approval of the Dust Control Plan before commencing any dust generating operation.~~

~~b. If a person is required to obtain or has obtained a Title V Permit, a Non Title V, or a General Permit under Regulation II (Permits And Fees) of these rules, then such person must first submit a Dust Control Plan and obtain the Control Officer's approval of the Dust Control Plan before commencing any routine dust generating operation.~~

303.4 A Dust Control Plan shall not be required for any of the following activities:

a. To play on or maintain a ~~ballfield~~ field used for non-motorized sports;

b. For landscape maintenance, which, for the purpose of this rule, does not include grading, trenching, nor or any other mechanized surface disturbing activities.;

c. To establish initial landscapes or to redesign existing landscapes of legally-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, city parks, and county regional parks, ballfields, camp sites, and playgrounds at camp sites; hiking paths, horse trails, and bicycle paths, ballfields, playgrounds at camp sites, and camp sites, which are used exclusively for purposes other than travel by motor vehicles, that are used exclusively for purposes other than travel by motor vehicles.; For (for the purpose of this rule, establishing initial landscapes or redesigning existing landscapes does not include grading, trenching, nor or any other mechanized surface disturbing activities).

304 ELEMENTS OF A DUST CONTROL PLAN: A Dust Control Plan shall contain, at a minimum, all of the following information:

304.1 Name Name(s), address(es), and phone numbers of person(s) responsible for the submittal and implementation of the Dust Control Plan and responsible for the dust generating operation.

304.2 A drawing, on at least 8½" x 11" paper, which that shows:

a. Entire project site/facility boundaries;,

b. Acres to be disturbed with linear dimensions;,

c. Nearest public roads;,

d. North arrow;, and

e. Planned exit locations onto paved public roadways areas accessible to the public.

304.3 Control measures, or a combination thereof, to be applied to all actual and potential fugitive dust sources dust generating operations, before, after, and while conducting

any dust generating operation, including during weekends, after work hours, and on holidays.

a. ~~At least one primary~~ All required control ~~measure~~ measures from Tables 1-21 and at least one contingency control measure must be identified, ~~from Table 1 of this rule,~~ for all ~~fugitive dust sources~~ dust generating operations. Should any primary control measure(s) prove ineffective, the owner and/or operator shall immediately implement the contingency control measure(s)~~,~~. ~~which may obviate the requirement of submitting a revised Dust Control Plan~~. If the identified contingency control measure(s) is effective to comply with all of the requirements of this rule, the owner and/or operator need not revise the Dust Control Plan under Section 305 of this rule.

b. Alternatively, a control measure(s) that is not listed in ~~Table 1~~ Tables 1-21 of this rule may be chosen, provided that such control measure(s) is implemented to comply with the standard(s) described in Section 301 and Section 302 of this rule, as determined by the corresponding test method(s), as applicable, and ~~must meet~~ meets other applicable standard(s) set forth in this rule.

c. If complying with ~~subsection~~ Section 302.2(b) (Stabilization Requirements For Fugitive Dust Sources-Unpaved Haul/Access ~~Roads~~ Road) of this rule, the Dust Control Plan must include the maximum number of ~~vehicles traveled~~ vehicle trips on the unpaved haul/access roads each day (~~i.e.,~~ including number of employee vehicles, earthmoving equipment, haul trucks, and water trucks).

304.4 Dust suppressants to be applied, including all of the following product specifications or label instructions for approved usage:

a. Method, frequency, and intensity of application~~.~~;

b. Type, number, and capacity of application equipment~~.~~; and

c. Information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application.

304.5 Specific surface treatment(s) and/or control measures utilized to control material trackout and sedimentation where unpaved and/or access points join paved ~~public roadways~~ areas accessible to the public.

304.6 For construction projects one acre or larger, except for routine maintenance and repair done under a block permit, a statement disclosing which of the four designated texture(s) of soil described in Appendix F of these rules is naturally present at or will be imported to the dust generating operation. The measured soil content at a particular site shall take precedence over any mapped soil types, and whenever soils have been tested at a particular site, the test results should be relied on rather than the map in Appendix F.

305 DUST CONTROL PLAN REVISIONS:

305.1 If the Control Officer determines that an approved Dust Control Plan has been followed, yet fugitive dust emissions from any ~~given fugitive dust source~~ dust generating operation still exceed standards in Section 301 and Section 302 of this rule, then the Control Officer shall issue a written notice to the owner and/or operator of ~~such source~~ the dust generating operation explaining such determination.

305.2 The owner and/or operator of ~~such source~~ a dust generating operation shall make written revisions to the Dust Control Plan and shall submit such revised Dust Control Plan to the Control Officer within three working days of receipt of the Control Officer's written notice, unless such time period is extended by the Control Officer, upon request, for good cause. During the time that such owner and/or operator is preparing revisions to the approved Dust Control Plan, such owner and/or operator must still comply with all requirements of this rule.

306 CONTROL MEASURES:

306.1 The owner and/or operator of a ~~source~~ dust generating operation shall implement control measures before, after, and while conducting ~~any dust generating~~ operations, including during weekends, after work hours, and on holidays~~.~~, ~~See~~ in accordance with ~~subsection~~ Section 304.3~~, Table 1, and Table 2~~ and Tables 1-21 of this rule.

306.2 For the purpose of this rule, any control measure that is implemented must ~~meet~~ achieve the applicable standard(s) described in ~~Section~~ Sections 301 and ~~in Section~~ 302 of this rule, as determined by the corresponding test method(s), as applicable, and must ~~meet~~ achieve other applicable standard(s) set forth in this rule.

306.3 Failure to comply with the provisions of Section 308 (Work Practices) of this rule, as applicable, and/or of an approved Dust Control Plan, is deemed a violation of this rule.

306.4 Regardless of whether a dust generating operation is in compliance with an approved Dust Control Plan, ~~is in place or not~~, or there is no approved Dust Control Plan, the owner and/or operator of a dust generating operation is still subject to all requirements of this rule at all times. ~~In addition, the owner and/or operator of a dust generating operation with an approved Dust Control Plan is still subject to all of the requirements of this rule, even if such owner and/or operator of a dust generating operation is complying with the approved Dust Control Plan.~~

307 PROJECT INFORMATION SIGN: For all sites with an earthmoving permit that are five acres or larger, except for routine maintenance and repair done under a block permit, ~~The~~ the owner and/or operator ~~of a source~~ shall erect and maintain a project information sign at the main entrance, that is ~~visible to~~ readable by the public~~, of all sites with an Earthmoving Permit that are five acres or larger~~. Such sign shall ~~be a minimum of four feet long by four feet wide,~~ have a white background, have black block lettering ~~which~~ that is at least four inches high, and shall contain at least all of the following information:

307.1 Project name and permit holder name~~; and~~ ,

307.2 Earthmoving Permit number~~;~~,

~~307.2~~ **307.3** Name and phone number of person(s) responsible for conducting the project~~;~~, and

~~307.3~~ **307.4** Text stating: "Dust Complaints? Call Maricopa County Environmental Services Department (insert the current/accurate phone number for the complaint phone line)."

308 WORK PRACTICES: When engaged in the following specific activities, the owner and/or operator of a ~~source~~ dust generating operation shall comply with the following work practices in addition to implementing, as applicable, the control measures described in ~~Table 1~~ Tables 1-21 of this rule. ~~Such work practices shall be implemented to meet the standards described in Section 301 and Section 302 of this rule.~~

308.1 Bulk Material Hauling Off-Site Onto Paved ~~Public Roadways~~ Areas Accessible to the Public: Not withstanding other sections of this rule, the owner and/or operator of a dust generating operation and the owner and/or operator of a haul truck shall do all of the following:

a. Load all haul trucks such that the freeboard is not less than three inches; ~~and~~

b. Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); ~~and~~

c. Cover all haul trucks with a tarp or other suitable closure; and

d. Before the empty haul truck leaves the site, clean the interior of the cargo compartment or cover the cargo compartment.

308.2 Bulk Material Hauling On-Site Within ~~The~~ the Boundaries ~~Of~~ of The Work Site: When crossing a ~~public roadway~~ paved area accessible to the public ~~upon which the public is allowed to travel~~ while construction is underway, the owner and/or operator of a dust generating operation shall do all of the following:

a. Load all haul trucks such that the freeboard is not less than three inches; ~~and~~

b. Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and

c. Install a suitable trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such work site.

Examples of trackout control devices are described in ~~Table 1 (Trackout 1J, 2J, 3J)~~ Table 17 of this rule.

308.3 ~~**Spillage,**~~ **Trackout,** **Carry-Out,** **Spillage, and/or** **Erosion,** ~~**And/Or Trackout:**~~ The owner and/or operator of a dust generating operation shall do all of the following:

a. Install, maintain and use a suitable trackout control device (~~Examples~~ examples of trackout control devices are described in ~~Table 1 (Trackout 1J, 2J, 3J)~~ Table 17 – Trackout Control of this rule) that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such ~~work site~~ operation at all exits onto ~~a~~ paved ~~public roadway~~ areas accessible to the public from both of the following:

(1) ~~From~~ all work sites with a disturbed surface area of ~~five acres~~ two acres or larger~~.~~, and

(2) ~~From~~ all work sites where 100 cubic yards of bulk materials are hauled on-site and/or off-site per day.

b. Clean up ~~spillage,~~ trackout, carry-out, spillage, and/or erosion, ~~and/or trackout~~ on the following time-schedule:

(1) Immediately, when ~~spillage,~~ trackout, carry-out, ~~and/or trackout~~ or spillage extends a cumulative distance of 50 linear feet or more; ~~or~~ and

(2) At the end of the workday, ~~when~~ for all other ~~spillage,~~ trackout, carry-out, spillage, and/or erosion ~~and/or trackout, are other than the spillage, carry-out, erosion, and/or trackout described above, in subsection 308.3(b)(1) of this rule~~.

308.4 **Unpaved Haul/Access Roads:** The owner and/or operator of a dust generating operation shall ~~Implement~~ implement ~~1~~ one or more control measure(s) described in ~~Table 1 (Unpaved Haul/Access Roads 1C through 5C)~~ Table 3 – Unpaved

Haul/Access Roads of this rule, before ~~engaging in the use of~~ using or ~~in the maintenance of~~ maintaining unpaved haul/access roads.

308.5 Easements, Rights-Of-Way, and Access Roads for Utilities (Electricity, Natural Gas, Oil, Water, and Gas Transmission) Associated with Sources that have a Non-Title V Permit, a Title V Permit, and/or a General Permit under These Rules: The owner and/or operator of a dust generating operation shall do at least one of the following:

a. Inside the PM_{10} nonattainment area, restrict vehicular speeds to 15 miles per hour and vehicular trips to no more than 20 per day per road; ~~or~~

b. Outside the PM_{10} nonattainment area, restrict vehicular trips to no more than 20 per day per road; or

c. Implement control measures, as described in ~~Table 1 (Unpaved Haul/Access Roads 1C through 5C)~~ Table 3 – Unpaved Haul/Access Roads of this rule.

308.6 Open Storage Piles: For the purpose of this rule, an open storage pile is any accumulation of bulk material with a 5% or greater silt content which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-96A or other equivalent method approved in writing by the Control Officer and the Administrator of EPA, that the silt content is less than 5%. The owner and/or operator of such dust generating operation shall comply with all of the following:

a. ~~During~~ Prior to and/or while conducting stacking, loading, and unloading operations, comply with one of the following work practices: ~~apply water, as necessary, to maintain compliance with Section 301 of this rule;~~ ~~and~~

(1) Spray material with water, as necessary; or

(2) Spray material with a dust suppressant other than water, as necessary.

b. When not conducting stacking, loading, and unloading operations, comply with one of the following work practices:

(1) Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings; ~~or~~

(2) Apply water to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98, or other equivalent methods ~~as~~ approved by the Control Officer and the Administrator of EPA. For areas ~~which~~ that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent methods approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content; ~~or~~

(3) Meet one of the stabilization requirements described in ~~subsection~~ Section 302.3 of this rule; or

(4) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%. If implementing this subsection, ~~subsection 308.6(b)(4)~~, the owner and/or operator must also implement either ~~subsection 308.6(b)(2)~~ Section 308.6(b)(2) or ~~subsection 308.6(b)(3)~~ Section 308.6(b)(3) above.

308.7 Soil Moisture ~~On Disturbed Surface Areas 1 Acre Or Larger~~: If water is the chosen control measure in an approved Dust Control Plan, the owner and/or operator of a dust generating operation shall operate a water application system on-site (e.g., water truck, water hose) while conducting any earthmoving operations on disturbed surface areas 1 acre or larger, unless a visible crust is maintained or the soil is sufficiently damp to prevent loose grains of soil from becoming dislodged.

308.8 Weed Abatement ~~By~~ by Discing ~~Or~~ or Blading: The owner and/or operator of a dust generating operation shall comply with all of the following during weed abatement procedures by discing or blading:

a. Apply water before weed abatement by discing or blading occurs; and

b. Apply water while weed abatement by discing or blading is occurring; and

c. Either:

(1) Pave, apply gravel, apply water, or apply a suitable dust suppressant, in compliance with ~~subsection~~ Section 302.3 of this rule, after weed abatement by discing or blading occurs; or

(2) Establish vegetative ground cover in sufficient quantity, in compliance with ~~subsection~~ Section 302.3 of this rule, after weed abatement by discing or blading occurs.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

401 DUST CONTROL PLAN POSTING: The owner and/or operator of ~~a source~~ an earthmoving operation shall post a copy of the approved Dust Control Plan in a conspicuous location at the work site, within on-site equipment, or in an on-site vehicle, or shall otherwise keep a copy of the approved Dust Control Plan available on-site at all times. The owner and/or operator of a ~~source~~ dust generating operation that has been issued a Block Permit shall not be required to keep a copy of the 8½" by 11" site drawing according to section 304.2 of this rule ~~plot plan, an element of a Dust Control Plan, on-site~~.

402 No change

SECTION 500 - MONITORING AND RECORDS

501 COMPLIANCE DETERMINATION: To determine compliance with this rule, the following test methods shall be ~~conducted~~ followed:

501.1 Opacity Observations:

a. **Dust Generating Operations:** Opacity observations of a source engaging in dust generating operations shall be conducted in accordance with Appendix C, Section 3 (Time Averaged Methods of Visual Opacity Determination of Emissions from Dust Generating Operations) ~~(Visual Determination Of Opacity Of Emissions From Sources For Time-Averaged Regulations) of these rules, except opacity observations for intermittent sources shall require 12 rather than 24 consecutive readings at 15 second intervals for the averaging time~~.

b. **Unpaved Parking Lot:** Opacity observations of any unpaved parking lot shall be conducted in accordance with Appendix C, Section 2.1 (Test Methods For Stabilization For Unpaved Roads And Unpaved Parking Lots) of these rules.

c. **Unpaved Haul/Access Road:** Opacity observations of any unpaved haul/access road (whether at a work site that is under construction or at a work site that is temporarily or permanently inactive) shall be conducted in accordance with Appendix C, Section 2.1 (Test Methods For Stabilization For Unpaved Roads And Unpaved Parking Lots) of these rules.

501.2 No change

502 RECORDKEEPING:

502.1 Any person who conducts dust generating operations that require a Dust Control Plan shall keep a daily written log recording the actual application or implementation of the control measures delineated in the approved Dust Control Plan (including records on any street sweeping, water applications, and maintenance of trackout control devices, gravel pads, fences, wind barriers, and tarps).

502.2 Any person who conducts dust generating operations ~~which~~ that do not require a Dust Control Plan shall compile and retain records (including records on any street sweeping, water applications, and maintenance of trackout control devices, gravel pads, fences, wind barriers, and tarps) that provide evidence of control measure

application, by indicating the type of treatment or control measure, extent of coverage, and date applied.

502.3 Upon verbal or written request by the Control Officer, the log or the records and supporting documentation shall be provided within 48 hours, excluding weekends. If the Control Officer is at the site where requested records are kept, records shall be provided without delay.

503 RECORDS RETENTION: No change

504 TEST METHODS ADOPTED BY REFERENCE: No change

~~**TABLE 1**~~

~~**SOURCE TYPE AND CONTROL MEASURES**~~
~~**Vehicle Use In Open Areas And Vacant Lots:**~~ ~~1A Restrict trespass by installing signs.~~ ~~2A Install physical barriers such as curbs, fences, gates, posts, signs, shrubs, and/or trees to prevent access to the area.~~
~~**Unpaved Parking Lots:**~~ ~~1B Pave.~~ ~~2B Apply and maintain gravel, recycled asphalt, or other suitable material, in compliance with subsection 302.1 of this rule.~~ ~~3B Apply a suitable dust suppressant, in compliance with subsection 302.1 of this rule.~~
~~**Unpaved Haul/Access Roads:** (The control measures listed below (1C-5C) are required work practices, per subsection 308.4 of this rule.)~~ ~~1C Limit vehicle speed to 15 miles per hour or less and limit vehicular trips to no more than 20 per day.~~ ~~2C Apply water, so that the surface is visibly moist and subsection 302.2 of this rule is met.~~ ~~3C Pave.~~ ~~4C Apply and maintain gravel, recycled asphalt, or other suitable material, in compliance with subsection 302.2 of this rule.~~ ~~5C Apply a suitable dust suppressant, in compliance with subsection 302.2 of this rule.~~
~~**Disturbed Surface Areas:**~~ ~~**Pre-Activity:**~~

1D Pre-water site to the depth of cuts.

2D Phase work to reduce the amount of disturbed surface areas at any one time.

During Dust Generating Operations:

3D Apply water or other suitable dust suppressant, in compliance with Section 301 of this rule.

4D Apply water as necessary to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98 or other equivalent as approved by the Control Officer and the Administrator of EPA. For areas which have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91(1998) or other equivalent approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content.

5D Construct fences or 3 foot - 5 foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas that reduce the amount of wind blown material leaving a site. If constructing fences or wind barriers, must also implement 3D or 4D above.

Temporary Stabilization During Weekends, After Work Hours, And On Holidays:

6D Apply a suitable dust suppressant, in compliance with subsection 302.3 of this rule.

7D Establish vegetative ground cover in sufficient quantity, in compliance with subsection 302.3 of this rule.

8D Restrict vehicular access to the area, in addition to either of the control measures described in 6D and 7D above.

Permanent Stabilization (Required Within 8 Months Of Ceasing Dust Generating Operations):

9D Restore area such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions, in compliance with subsection 302.3 of this rule.

10D Pave, apply gravel, or apply a suitable dust suppressant, in compliance with subsection 302.3 of this rule.

11D Establish vegetative ground cover in sufficient quantity, in compliance with subsection 302.3 of this rule.

Open Areas And Vacant Lots:

1E Restore area such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions.

2E Pave, apply gravel, or apply a suitable dust suppressant, in compliance with subsection 302.3 of this rule.

3E Establish vegetative ground cover in sufficient quantity, in compliance with subsection 302.3 of this rule.

Control measures 1F - 1M below are required work practices and/or methods designed to meet the work practices, per Section 308 (Work Practices) of this rule.

Bulk Material Handling Operations And Open Storage Piles:

During Stacking, Loading, And Unloading Operations:

1F Apply water as necessary, to maintain compliance with Section 301 of this rule; and

When Not Conducting Stacking, Loading, And Unloading Operations:

2F Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings; or

3F Apply water to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98, or other equivalent as approved by the Control Officer and the Administrator of EPA. For areas which have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91(1998) or other equivalent approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content; or

4F Meet the stabilization requirements described in subsection 302.3 of this rule; or

5F Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%. If implementing 5F, must also implement 3F or 4F above.

Bulk Material Hauling/Transporting:

When On-Site Hauling/Transporting Within The Boundaries Of The Work Site When Crossing A Public Roadway Upon Which The Public Is Allowed To Travel While Construction Is Underway:

1G Load all haul trucks such that the freeboard is not less than 3 inches when crossing a public roadway upon which the public is allowed to travel while construction is underway; and

2G Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and

3G Install a suitable trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such work site. Examples of trackout control devices are described in Table 1 (Trackout 1J, 2J, 3J) of this rule; and

When On-Site Hauling/Transporting Within The Boundaries Of The Work Site But Not Crossing A Public Roadway Upon Which The Public Is Allowed To Travel While Construction Is Underway:

4G Limit vehicular speeds to 15 miles per hour or less while traveling on the work site; or

5G Apply water to the top of the load such that the 20% opacity standard, as described in Section 301 of this rule, is not exceeded, or cover haul trucks with a tarp or other suitable closure.

Off-Site Hauling/Transporting Onto Paved Public Roadways:

6G Cover haul trucks with a tarp or other suitable closure; and

7G Load all haul trucks such that the freeboard is not less than 3 inches; and

8G Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and

9G Before the empty haul truck leaves the site, clean the interior of the cargo compartment or cover the cargo compartment.

Cleanup Of Spillage, Carry Out, Erosion, And/Or Trackout:

1H Operate a street sweeper or wet broom with sufficient water, if applicable, at the speed recommended by the manufacturer and at the frequency(ies) described in subsection 308.3 of this rule; or 2H Manually sweep-up deposits.
Trackout: 1J Install a grizzly or wheel wash system at all access points. 2J At all access points, install a gravel pad at least 30 feet wide, 50 feet long, and 6 inches deep. 3J Pave starting from the point of intersection with a paved area accessible to the public roadway and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
Weed Abatement By Discing Or Blading: 1K Pre-water site and implement 3K or 4K below. 2K Apply water while weed abatement by discing or blading is occurring and implement 3K or 4K below. 3K Pave, apply gravel, apply water, or apply a suitable dust suppressant, in compliance with subsection 302.3 of this rule, after weed abatement by discing or blading occurs; or 4K Establish vegetative ground cover in sufficient quantity, in compliance with subsection 302.3 of this rule, after weed abatement by discing or blading occurs.
Easements, Rights-Of-Way, And Access Roads For Utilities (Electricity, Natural Gas, Oil, Water, And Gas Transmission) Associated With Sources That Have A Non-Title V Permit, A Title V Permit, And/Or A General Permit Under These Rules: 1L Inside the PM_{10} nonattainment area, restrict vehicular speeds to 15 miles per hour and vehicular trips to no more than 20 per day; or 2L Outside the PM_{10} nonattainment area, restrict vehicular trips to no more than 20 per day; or 3L Implement control measures, as described in Table 1 (Unpaved Haul/Access Roads 1C through 5C) of this rule.
Earthmoving Operations On Disturbed Surface Areas 1 Acre Or Larger: 1M If water is the chosen control measure, operate water application system (e.g., water truck), while conducting earthmoving operations on disturbed surface areas 1 acre or larger.

TABLE 2

Note: Control measures in [brackets] are to be applied only to sources outside the nonattainment area.

SOURCE TYPE AND WIND EVENT CONTROL MEASURES
Dust Generating Operations: 1A Cease dust generating operations for the duration of the condition/situation/event when the 60-minute average wind speed is greater than 25 miles per hour. If dust generating operations are ceased for the remainder of the work day, stabilization measures must be implemented; or 2A Apply water or other suitable dust suppressant twice [once] per hour, in compliance with Section 301 of this

~~rule; or~~

~~3A Apply water as necessary to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98 or other equivalent as approved by the Control Officer and the Administrator of EPA. For areas which have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91(1998) or other equivalent approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content; or~~

~~4A Construct fences or 3 foot - 5 foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas that reduce the amount of wind-blown material leaving a site. If implementing 4A, must also implement 2A or 3A above.~~

~~**Temporary Disturbed Surface Areas (After Work Hours, Weekends, Holidays):**~~

~~1B Uniformly apply and maintain surface gravel or dust suppressants, in compliance with subsection 302.3 of this rule; or~~

~~2B Apply water to all disturbed surface areas three times per day. If there is any evidence of wind-blown dust, increase watering frequency to a minimum of four times per day; or~~

~~3B Apply water on open storage piles twice [once] per hour, in compliance with subsection 302.3 of this rule; or~~

~~4B Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings; or~~

~~5B Utilize any combination of the control measures described in 1B, 2B, 3B, and 4B above, such that, in total, these control measures apply to all disturbed surface areas.~~

Table 1

Vehicle Use In Open Areas And Vacant Lots

a. An owner and/or operator must implement one of the following control measures:

1. Restrict trespass by installing signs; or
2. Install physical barriers such as curbs, fences, gates, posts, signs, shrubs, and/or trees to prevent access to the area.

Table 2

Unpaved Parking Lots

a. An owner and/or operator must implement one of the following control measures:

1. Pave;
2. Apply and maintain gravel, recycled asphalt, or other suitable material, in compliance with Section 302.1 of this rule; or
3. Apply a suitable dust suppressant in compliance with Section 302.1 of this rule.

b. Suggested additional control measure for contingency plans:

1. Limit vehicle speeds to 15 m.p.h. on the site.

Table 3

Unpaved Haul/Access Roads

a. An owner and/or operator must implement one of the following control measures:

1. Limit vehicle speed to 15 m.p.h or less and limit vehicular trips to no more than 20 day;
2. Apply water, so that the surface is visibly moist in compliance with Section 302.2 of this rule;
3. Pave;
4. Apply and maintain gravel, recycled asphalt, or other suitable material, in compliance with Section 302.2 of this rule; or
5. Apply a suitable dust suppressant, in compliance with Section 302.2 of this rule.

Table 4

Open Areas And Vacant Lots

a. An owner and/or operator must implement one of the following control measures to comply with Section 302.3 of this rule:

1. Pave, apply gravel, or apply a suitable dust suppressant;
2. Establish vegetative ground cover in sufficient quantity; or
3. Restore area such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions.

Table 5

Disturbed Surface Areas – Pre-Activity Work Practices

a. Before activity begins, an owner and/or operator must implement one of the following control measures:

1. Pre-water site to depth of cuts, allowing time for penetration; or
2. Phase work to reduce the amount of disturbed surface areas at any one time.

Table 6

Disturbed Surface Areas – Work Practices During Operations

a. During operations, an owner and/or operator must implement one of the following control measures:

1. Apply water or other suitable dust suppressant, in compliance with Section 301 of this rule;
2. Apply water as necessary to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98 or other equivalent method as approved by the Control Officer and the Administrator of EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent method approved by the

Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content; or

3. Implement (a)(1) or (a)(2) above and construct fences or three-foot to five-foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of windblown material leaving a site.

b. Suggested additional control measure for contingency plans:

1. Limit vehicle speeds to 15 m.p.h on the work site.

Table 7

Disturbed Surface Areas – Temporary Stabilization (Up To 8 Months)

During Weekends, After Work Hours, And On Holidays

a. An owner and/or operator must implement one of the following control measures to comply with Section 302.3 of this rule:

1. Pave, apply gravel, or apply a suitable dust suppressant;
2. Establish vegetative ground cover in sufficient quantity; or
3. Implement (a)(1) or (a)(2), above, and restrict vehicular access to the area.

Table 8

Disturbed Surface Areas – Permanent Stabilization

(Required Within 8 Months Of Ceasing Dust Generating Operations)

a. An owner and/or operator must implement one of the following control measures to comply with Section 302.3 of this rule:

1. Pave, apply gravel, or apply a suitable dust suppressant;
2. Establish vegetative ground cover in sufficient quantity; or
3. Restore area such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions.

Table 9

Blasting Operations

a. An owner and/or operator must implement all of the following control measures:

1. In wind gusts above 25 m.p.h., discontinue blasting; and
2. Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.

Table 10

Demolition Activities

a. An owner and/or operator must implement all of the following control measures:

1. Stabilize demolition debris. Apply water to debris immediately following demolition activity; and
2. Stabilize surrounding area immediately following demolition activity. Water all disturbed soil surfaces to establish a crust and prevent wind erosion of soil.

b. Suggested additional control measure for contingency plans:

1. Thoroughly clean blast debris from paved and other surfaces following demolition activity.

Table 11

Bulk Material Handling Operations

Work Practices For Stacking, Loading, And Unloading Operations

a. An owner and/or operator must implement one of the following control measures:

1. Spray material with water, as necessary, prior to stacking, loading, and unloading, and/or while stacking, loading, and unloading; or
2. Spray material with a dust suppressant other than water, as necessary, prior to stacking, loading, and unloading, and/or while stacking, loading, and unloading.

b. Suggested additional control measures for contingency plans:

1. Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
2. Remove material from the downwind side of the storage pile when safe to do so.
3. Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping.

Table 12

Open Storage Piles

When Not Conducting Stacking, Loading, And Unloading Operations

a. An owner and/or operator must implement one of the following control measures:

1. Cover open storage piles with tarps, plastic, or other material such that the coverings will not be dislodged by wind;
2. Apply water to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98, or other equivalent methods approved by the Control Officer and the Administrator of the EPA; or for areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent methods approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the soil moisture content;

3. Meet the stabilization requirements described in Section 302.3 of this rule; or

4. Implement (a)(2) or (a)(3), above, and construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%.

Table 13

Bulk Material Hauling/Transporting Within The Boundaries Of The Work Site

When Crossing A Paved Area Accessible To The Public While Construction Is Underway

a. An owner and/or operator must implement all of the following control measures:

1. Load all haul trucks such that the freeboard is not less than 3 inches when crossing a paved area accessible to the public while construction is underway;
2. Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and
3. Install a suitable trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such work site.

b. Suggested additional control measure for contingency plans:

1. Limit vehicle speeds to 15 m.p.h. on the work site.

Table 14

Bulk Material Hauling/Transporting When On-Site Hauling/Transporting

Within The Boundaries Of The Work Site But Not Crossing A Paved Area Accessible To The Public

a. An owner and/or operator must implement one of the following control measures:

1. Limit vehicular speeds to 15 m.p.h. or less while traveling on the work site;
2. Apply water to the top of the load in compliance with Section 301 of this rule; or
3. Cover haul trucks with a tarp or other suitable closure.

Table 15

Bulk Material Hauling/Transporting Off-Site Hauling/Transporting

Onto Paved Areas Accessible To The Public

a. An owner and/or operator must implement all of the following control measures:

1. Cover haul trucks with a tarp or other suitable closure;
2. Load all haul trucks such that the freeboard is not less than 3 inches;
3. Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and

4. Before the empty haul truck leaves the site, clean the interior of the cargo compartment or cover the cargo compartment.

Table 16

Clean Up Of Trackout, Carry Out, Spillage, And Erosion

a. An owner and/or operator must implement one of the following control measures:

1. Operate a street sweeper or wet broom with sufficient water, at the speed recommended by the manufacturer and at the frequency(ies) described in Section 308.3 of this rule; or
2. Manually sweep up deposits in compliance with Section 308.3 of this rule.

Table 17

Trackout Control

a. An owner and/or operator must implement all of the following control measures:

1. Immediately clean up trackout that exceeds 50 feet. All other trackout must be cleaned up at the end of the workday; and
2. In accordance with Section 308.3(a), prevent trackout by implementing one of the following control measures:
   - i. At all access points, install a grizzly or wheel wash system.
   - ii. At all access points, install a gravel pad at least 30 feet wide, 50 feet long, and 6 inches deep, in compliance with Section 213 of this rule.
   - iii. Pave starting from the point of intersection with a paved area accessible to the public and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.

b. Suggested additional control measures for contingency plans:

1. Clearly establish and enforce traffic patterns to route traffic over selected trackout control devices.
2. Limit site accessibility to routes with trackout control devices in place by installing effective barriers on unprotected routes.
3. Pave construction activity roadways as soon as possible.

Table 18

Weed Abatement By Discing Or Blading

a. An owner and/or operator must implement all of the following control measures:

1. Pre-water site;
2. Apply water while weed abatement by discing or blading is occurring; and
3. Stabilize area by implementing either one of the following:
   - i. Pave, apply gravel, apply water, or apply a suitable dust suppressant, in compliance with Section 302.3 of this rule, after weed abatement by discing or blading occurs; or

ii. Establish vegetative ground cover in sufficient quantity, in compliance with Section 302.3 of this rule, after weed abatement by discing or blading occurs.

b. Suggested additional control measures for contingency plans

1. Limit vehicle speeds to 15 m.p.h. during discing and blading operations.

Table 19

Easements, Rights-Of-Way, And Access Roads For Utilities (Electricity, Natural Gas, Oil, Water, And Gas Transmission) Associated With Sources That Have A Non-Title V Permit, A Title V Permit, And/Or A General Permit Under These Rules

a. An owner and/or operator must implement one of the following control measures:

1. Inside the PM10 nonattainment area, restrict vehicular speeds to 15 m.p.h. and vehicular trips to no more than 20 per day per road;
2. Outside the PM10 nonattainment area, restrict vehicular trips to no more than 20 per day per road; or
3. Implement control measures, as described in Table 3 (Unpaved Haul/Access Roads) of this rule.

Note: For Tables 20 & 21, control measures in [brackets] are to be applied only to dust generating operations outside the nonattainment area.

Table 20

Wind Event Control Measures-Dust Generating Operations

a. An owner and/or operator must implement one of the following control measures:

1. Cease dust generating operations for the duration of the condition/situation/event when the 60-minute average wind speed is greater than 25 m.p.h. and if dust generating operations are ceased for the remainder of the work day, stabilize the area;
2. Apply water or other suitable dust suppressant at least twice [once] per hour, in compliance with Section 301 of this rule;
3. Apply water as necessary to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98 or other equivalent method as approved by the Control Officer and the Administrator of EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent method approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content; or
4. Implement (a)(2) or (a)(3), above, and construct fences or three-foot to five-foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of wind-blown material leaving a site.

Table 21

Wind Event Control Measures-Temporary Disturbed Surface Areas

(After Work Hours, Weekends, Holidays)

a. An owner and/or operator must implement one of the following control measures:

1. Uniformly apply and maintain surface gravel or dust suppressants, in compliance with Section 302.3 of this rule;
2. Apply water to all disturbed surface areas 3 times per day. If there is any evidence of wind-blown dust, increase watering frequency to a minimum of 4 times per day;
3. Apply water on open storage piles at least twice [once] per hour, in compliance with Section 302.3 of this rule; or
4. Cover open storage piles with tarps, plastic, or other material such that wind will not remove the covering(s).

b. Suggested additional control measures for contingency plans:

1. Implement a combination of the control measures listed in (a)(1) through (a)(4), above.

Adopted 06/16/99
Revised 02/16/00

APPENDIX C
FUGITIVE DUST TEST METHODS

INDEX

MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS

APPENDIX C
FUGITIVE DUST TEST METHODS

1. No change

2. No change

3. TIME AVERAGED METHODS OF VISUAL OPACITY DETERMINATION ~~OF OPACITY~~ OF EMISSIONS FROM ~~SOURCES FOR TIME-AVERAGED REGULATIONS~~ DUST GENERATING OPERATIONS

3.1 Applicability – This method is applicable for the determination of opacity ~~determination of the opacity of emissions~~ of fugitive dust plumes from ~~sources of visible emissions for time averaged regulations~~ dust generating operations. A time-averaged regulation is any regulation that requires averaging visible emission data to determine the opacity of visible emissions over a specific time period.

3.2 No change

3.3 No change

3.3.1 No change

~~**3.3.2** Procedures For Fugitive Dust Emissions. These procedures are applicable for the determination of the opacity of fugitive dust emissions by a qualified observer. The qualified observer should do the following:~~

~~**a.** Position. Stand at a position at least 5 meters from the fugitive dust source in order to provide a clear view of the emissions with the sun oriented in the 140° sector to the back. Consistent as much as possible with maintaining the above requirements, make opacity observations from a position such that the line of sight is approximately perpendicular to the plume and wind direction. The observer may follow the fugitive dust plume generated by mobile earthmoving equipment, as long as the sun remains oriented in the 140° sector to the back. As much as possible, if multiple plumes are involved, do not include more than one plume in the line of sight at one time.~~

~~**b.** Field Records. Record the name of the site, fugitive dust source type (i.e., pile, material handling (i.e., transfer, loading, sorting)), method of control used, if any, observer's name, certification data and affiliation, and a sketch of the observer's position relative to the fugitive dust source. Also, record the time, estimated distance to the fugitive dust source location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), observer's position relative to the fugitive dust source, and color of the plume and type of background on the visible emission observation from when opacity readings are initiated and completed.~~

~~**c.** Observations. Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of sight. For storage piles, make opacity observations approximately 1 meter above the surface from which the plume is generated. The initial observation should begin immediately after a plume has been created above the~~

~~surface involved. Do not look continuously at the plume, but instead observe the plume momentarily at 15 second intervals. For fugitive dust from earthmoving equipment, make opacity observations approximately 1 meter above the mechanical equipment generating the plume.~~

~~**d.** Recording Observations. Record the opacity observations to the nearest 5% every 15 seconds on an observational record sheet. Each momentary observation recorded represents the average opacity of emissions for a 15 second period. If a multiple plume exists at the time of an observation, do not record an opacity reading. Mark an "x" for that reading. If the equipment generating the plume travels outside of the field of observation, resulting in the inability to maintain the orientation of the sun within the 140° sector or if the equipment ceases operating, mark an "x" for the 15 second interval reading. Readings identified as "x" shall be considered interrupted readings.~~

~~**e.** Data Reduction For Time Averaged Regulations. For each set of 12 or 24 consecutive readings, calculate the appropriate average opacity. Sets must consist of consecutive observations, however, readings immediately preceding and following interrupted readings shall be deemed consecutive and in no case shall two sets overlap, resulting in multiple violations.~~

3.3.2 To determine the opacity of non-continuous dust plumes caused by activities including, but not limited to, bulk material loading/unloading, non-conveyorized screening, or trenching with backhoes:

a. Position: Stand at least 25 feet from the dust generating operation in order to provide a clear view of the emissions with the sun oriented in the 140º sector to the back. Choose a discrete portion of the operation for observation, such as the unloading point, not the whole operation. Following the above requirements, make opacity observations so that the line of vision is approximately perpendicular to the dust plume and wind direction. If multiple plumes are involved, do not include more than one plume in the line of sight at one time.

b. Initial Fallout zone: The initial fallout zone within the plume must be identified. Record the distance from the equipment or path that is your identified initial fallout zone. The initial fallout zone is that area where the heaviest particles drop out of the entrained fugitive dust plume. Opacity readings should be taken at the maximum point of the entrained fugitive dust plume that is located outside the initial fallout zone.

c. Field Records: Note the following on an observational record sheet:

1. Location of dust generating operation, type of operation, type of equipment in use and activity, and method of control used, if any;

2. Observer's name, certification data and affiliation, a sketch of the observer's position relative to the dust generating operation, and observer's estimated distance and direction to the location of the dust generating operation;

3. Time that readings begin, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds); and

4. Color of the plume and type of background.

d. Observations: Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of vision. Make two observations per discrete activity, beginning with the first reading at zero seconds and the second reading at five seconds. The zero-second observation should begin immediately after a plume has been created above the surface involved. Do not look continuously at the plume but, instead, observe the plume briefly at zero seconds and then again at five seconds.

e. Recording Observations: Record the opacity observations to the nearest 5% on an observational record sheet. Each momentary observation recorded represents the average opacity of emissions for a 5-second period. Repeat observations until you have recorded at least a total of 12 consecutive opacity readings. The 12 consecutive readings must be taken within the same period of observation but must not exceed one hour. Observations immediately preceding and following interrupted

observations can be considered consecutive (e.g., vehicle traveled in front of path, plume doubled-over).

f. Data Reduction: Average 12 consecutive opacity readings together. If the average opacity reading equals 20% or lower, the dust generating operation is in compliance with the opacity standard described in Rule 310 of these rules.

3.3.3 To determine the opacity of continuous dust plumes caused by equipment and activities including but not limited to graders, trenchers, paddlewheels, blades, clearing, leveling, and raking

a. Position: Stand at least 25 feet from the dust generating operation to provide a clear view of the emissions with the sun oriented in the 140º sector to your back. Following the above requirements, make opacity observations so that the line of vision is approximately perpendicular to the dust plume and wind direction.

b. Dust Plume: Evaluate the dust plume generation and determine if the observations will be made from a single plume or from multiple related plumes.

1. If a single piece of equipment is observed working, then all measurements should be taken off the resultant plume as long as the equipment remains within the 140º sector to the back.

2. If there are multiple related sources, or multiple related points of emissions of dust from a particular activity, or multiple pieces of equipment operating in a confined area, opacity readings should be taken at the densest point within the discrete length of equipment travel path within the 140º sector to the back. Readings can be taken for more than one piece of equipment within the discrete length of travel path within the 140º sector to the back.

c. Initial Fallout Zone: The initial fallout zone within the plume must be identified. Record the distance from the equipment or path that is your identified initial fallout zone. The initial fallout zone is that area where the heaviest particles drop out of the entrained fugitive dust plume.

Opacity readings should be taken at the maximum point of the entrained fugitive dust plume that is located outside the initial fallout zone.

d. Field Records: Note the following on an observational record sheet:

1. Location of the dust generating operation, type of operation, type of equipment in use and activity, and method of control used, if any;

2. Observer's name, certification data and affiliation, a sketch of the observer's position relative to the dust generating operation, and observer's estimated distance and direction to the location of the dust generating operation; and

3. Time that readings begin, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds).

e. Observations: Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of vision. Make opacity observations at a point beyond the fallout zone. The observations should be made at the densest point. Observations will be made every 10 seconds until at least 12 readings have been recorded. Do not look continuously at the plume, but observe the plume momentarily at 10-second intervals. If the equipment generating the plume travels outside the field of observation or if the equipment ceases to operate, mark an "x" for the 10-second reading interval. Mark an "x" when plumes are stacked or doubled, either behind or in front, or become parallel to line of sight. Opacity readings identified as "x" shall be considered interrupted readings.

f. Recording Observations: Record the opacity observations to the nearest 5% on an observational record sheet. Each momentary observation recorded represents the average opacity of emissions for a 10-second period.

g. Data Reduction: Average 12 consecutive opacity readings together. If the average opacity reading equals 20% or lower, the dust generating

operation is in compliance with the opacity standard described in Rule 310 of these rules.

3.4 No Change

APPENDIX F – SOIL DESIGNATIONS

APPENDIX F
SOIL DESIGNATIONS

INDEX

MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS

APPENDIX F
SOIL DESIGNATIONS

1. SOIL DESCRIPTIONS

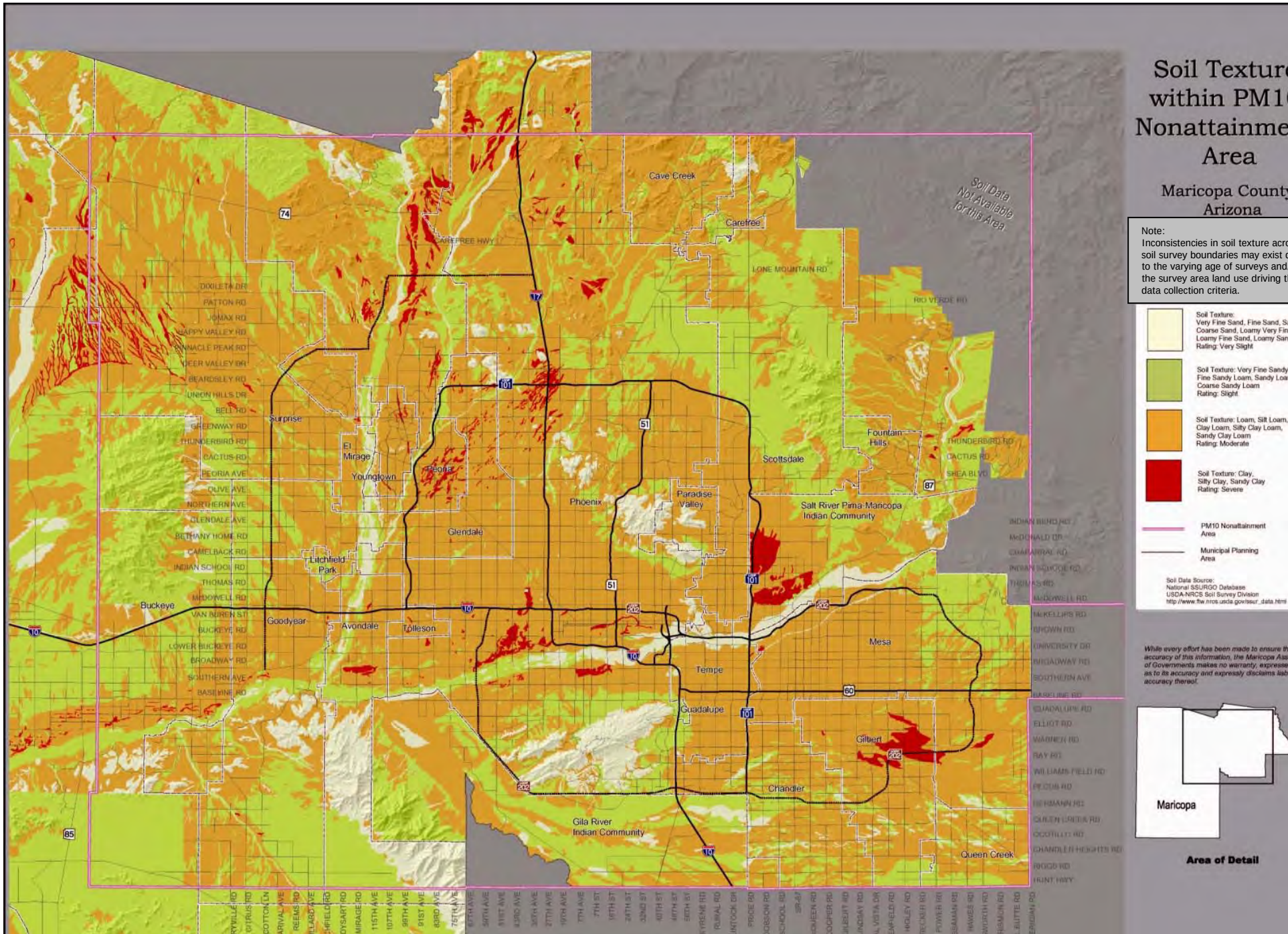
a. VERY SLIGHT SOIL TEXTURE – includes very fine sand, fine sand, sand, coarse sand, loamy very fine sand, loamy fine sand, loamy sand.

b. SLIGHT SOIL TEXTURE – includes very fine sandy loam, fine sandy loam, sandy loam, course sandy loam.

c. MODERATE SOIL TEXTURE – includes loam, silt loam, clay loam, silty clay loam, sandy clay loam.

d. SEVERE SOIL TEXTURE – includes clay, silty clay, sandy clay.

2. SOIL MAP


Soil Texture
within PM10
Nonattainme
Area
Maricopa County
Arizona
Note:
Inconsistencies in soil texture acro
soil survey boundaries may exist d
to the varying age of surveys and
the survey area land use driving t
data collection criteria.
Soil Texture:
Very Fine Sand, Fine Sand, Si
Coarse Sand, Loamy Very Fin
Loamy Fine Sand, Loamy San
Rating: Very Slight
Soil Texture: Very Fine Sandy
Fine Sandy Loam, Sandy Loa
Coarse Sandy Loam
Rating: Slight
Soil Texture: Loam, Silt Loam,
Clay Loam, Silty Clay Loam,
Sandy Clay Loam
Rating: Moderate
Soil Texture: Clay,
Silty Clay, Sandy Clay
Rating: Severe
PM10 Nonattainment
Area
Municipal Planning
Area
Soil Data Source:
National SSURGO Database
USDA-NRCS Soil Survey Division
http://www.ftw.nrcs.usda.gov/ssur_data.html
While every effort has been made to ensure th
accuracy of this information, the Maricopa Ass
of Governments makes no warranty, expresse
as to its accuracy and expressly disclaims liab
accuracy thereof.
Maricopa
Area of Detail
Soil Data
Not Available
for this Area
Cave Creek
Carefree
Fountain
Hills
Scottsdale
Paradise
Valley
Phoenix
Salt River Pima-Maricopa
Indian Community
Surprise
El
Mirage
Youngtown
Peoria
Glendale
Litchfield
Park
Buckeye
Goodyear
Avondale
Tolleson
Mesa
Tempe
Guadalupe
Gilbert
Chandler
Gila River
Indian Community
Queen Creek
CAREFREE HWY
LONE MOUNTAIN RD
RIO VERDE RD
THUNDERBIRD RD
CACTUS RD
SHEA BLVD
DIXILETA DR
PATTON RD
JOMAX RD
HAPPY VALLEY RD
PINNACLE PEAK RD
DEER VALLEY DR
BEARDSLEY RD
UNION HILLS DR
BELL RD
GREENWAY RD
THUNDERBIRD RD
CACTUS RD
PEORIA AVE
OLIVE AVE
NORTHERN AVE
GLENDALE AVE
BETHANY HOME RD
CAMELBACK RD
INDIAN SCHOOL RD
THOMAS RD
MCDOWELL RD
VAN BUREN ST
BUCKEYE RD
LOWER BUCKEYE RD
BROADWAY RD
SOUTHERN AVE
BASELINE RD
MCKELLIPS RD
BROWN RD
UNIVERSITY DR
BROADWAY RD
SOUTHERN AVE
BASELINE RD
GUADALUPE RD
ELLIOT RD
WARNER RD
RAY RD
WILLIAMS FIELD RD
PECOS RD
GERMANN RD
QUEEN CREEK RD
SCOTTSDALE RD
CHANDLER HEIGHTS RD
RIGGS RD
HUNT HWY

Contact Johanna M. Kuspert At 602-506-3476 Or By E-Mail At jkuspert@mail.maricopa.gov

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 310.01
FUGITIVE DUST FROM
OPEN AREAS, VACANT LOTS, UNPAVED PARKING LOTS, AND UNPAVED ROADWAYS

INDEX

306 EROSION-CAUSED DEPOSITION OF BULK MATERIALS ONTO PAVED SURFACES

307 EASEMENTS, RIGHTS-OF-WAY, AND ACCESS ROADS FOR UTILITIES (ELECTRICITY, NATURAL GAS, OIL, WATER, AND GAS TRANSMISSION)

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SECTION 500 - MONITORING AND RECORDS

501 STABILIZATION OBSERVATIONS

502 RECORDKEEPING

503 RECORDS RETENTION

Adopted 06/16/99

Revised 02/16/00

MARICOPA COUNTY

AIR POLLUTION CONTROL REGULATIONS

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 310.01
FUGITIVE DUST FROM
OPEN AREAS, VACANT LOTS, UNPAVED PARKING LOTS, AND UNPAVED ROADWAYS

SECTION 100 - GENERAL

101 **PURPOSE:** To limit the emission of particulate matter into the ambient air from open areas, vacant lots, unpaved parking lots, and unpaved roadways which are not regulated by Rule 310 (Fugitive Dust ~~Sources~~) of these rules and which do not require a permit nor a Dust Control Plan. The effect of this rule shall be to minimize the amount of fine particulate matter (PM_{10}) entrained into the ambient air as a result of the impact of human activities by requiring measures to prevent, reduce, or mitigate particulate matter emissions.

102 **APPLICABILITY:** The provisions of this rule shall apply to open areas, vacant lots, unpaved parking lots, and unpaved roadways which are not regulated by Rule 310 (Fugitive Dust ~~Sources~~) of these rules and which do not require a permit nor a Dust Control Plan. In addition, the provisions of this rule shall apply to any open area or vacant lot that is not defined as agricultural land and is not used for agricultural purposes according to Arizona Revised Statutes (ARS) §42-12151 and ARS §42-12152. The provisions of this rule shall not apply to normal farm cultural practices according to ARS §49-457 and ARS §49-504.4.

SECTION 200 - DEFINITIONS:

For the purpose of this rule, the following definitions shall apply. See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule.

201 **BULK MATERIAL -** Any material, including, but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter (i.e., aggregate base course (ABC)), dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, fluff (from shredders), and dry concrete, that are capable of producing fugitive dust.

~~202~~ ~~CHEMICAL/ORGANIC STABILIZER - Any non-toxic chemical or organic dust suppressant, other than water, which meets any specifications, criteria, or tests required by any Federal, State, or local water agency and is not prohibited for use by any applicable law, rule, or regulation.~~

~~203~~ **202** **COMMERCIAL FEEDLOTS AND/OR COMMERCIAL LIVESTOCK AREAS -** Any operation directly related to feeding animals, displaying animals, racing animals, exercising animals, and/or for any other such activity~~, for the primary purpose of livelihood~~.

~~204~~ **203** **CONTROL MEASURE -** A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of fugitive dust.

~~205~~ **204** **DISTURBED SURFACE AREA -** A portion of the earth's surface (or material placed thereupon) which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed native condition, thereby increasing the potential for the emission of fugitive dust. For the purpose of this rule, an area is considered to be a disturbed surface area until the activity that caused the disturbance has been completed and the disturbed surface area meets the standards described in ~~Section 501~~ Section 300 of this rule, as applicable.

~~206~~ **205** **DUST SUPPRESSANT -** Water, hygroscopic material, solution of water and chemical surfactant, foam, non-toxic chemical stabilizer, or any other dust palliative, which is not prohibited for ground surface application by the Environmental Protection Agency (EPA) or the Arizona Department of Environmental Quality (ADEQ), or any applicable law, rule, or regulation, as a treatment material for reducing fugitive dust emissions.

~~207~~ **206** **FUGITIVE DUST -** The particulate matter~~, which is~~ not collected by a capture system, ~~which~~ that is entrained in the ambient air and ~~which~~ is caused from human and/or natural activities, such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. For the purpose of this rule, fugitive dust does not include particulate matter emitted directly from the exhaust of motor vehicles and other internal combustion engines, from portable brazing, soldering, or welding equipment, and from piledrivers, and does not include emissions from process and combustion sources that are subject to other rules in Regulation III (Control Of Air Contaminants) of these rules.

~~208~~ **207** **MOTOR VEHICLE -** A self-propelled vehicle for use on the public roads and highways of the State of Arizona and required to be registered under the Arizona State Uniform Motor Vehicle Act, including any non-motorized attachments, such as but not limited to, trailers or other conveyances which are connected to or propelled by the actual motorized portion of the vehicle.

~~209~~ **208** **NORMAL FARM CULTURAL PRACTICE -** All activities by the owner, lessee, agent, independent contractor, and/or supplier conducted on any facility for the production of crops and/or nursery plants. Disturbances of the field surface caused by turning under stalks, tilling, leveling, planting, fertilizing, or harvesting are included in this definition.

~~210~~ **209** **OFF-ROAD VEHICLE -** Any self-propelled conveyance specifically designed for off-road use, including, but not limited to, off-road or all-terrain equipment, trucks, cars, motorcycles, motorbikes, or motorbuggies.

~~211~~ **210** **OPEN AREAS AND VACANT LOTS -** Any of the following described in ~~subsection 211.1~~ Section 210.1 through ~~subsection 211.4~~ Section 210.4 of this rule. For the purpose of this rule, vacant portions of residential or commercial lots that are immediately adjacent and owned and/or operated by the same individual or entity are considered one vacant open area or vacant lot.

~~211.1~~ **210.1** An unsubdivided or undeveloped tract of land adjoining a developed or a partially developed residential, industrial, institutional, governmental, or commercial area.

~~211.2~~ **210.2** A subdivided residential, industrial, institutional, governmental, or commercial lot~~, which~~ that contains no approved or permitted buildings or structures of a temporary or permanent nature.

~~211.3~~ **210.3** A partially developed residential, industrial, institutional, governmental, or commercial lot.

~~211.4~~ **210.4** A tract of land, in the nonattainment area, adjoining agricultural property.

~~212~~ **211** **OWNER AND/OR OPERATOR -** Any person who owns, leases, operates, controls, or supervises a fugitive dust ~~source~~ generating operation subject to the requirements of this rule.

~~213~~ **212** **PAVE -** To apply and maintain asphalt, concrete, or other similar material to a roadway surface (i.e., asphaltic concrete, concrete pavement, chip seal, or rubberized asphalt).

~~214~~ **213** **PUBLIC ROADWAYS** - Any roadways that are open to public travel.

~~215~~ **214** **UNPAVED PARKING LOT -** Any area larger than 5,000 square feet that is not paved and that is used for parking, maneuvering, or storing motor vehicles.

~~216~~ **215** **UNPAVED ROADWAY (INCLUDING ALLEYS) -** A road that is not paved and that is owned by Federal, State, county, municipal, or other governmental or quasi-governmental agencies. For the purpose of this rule, an unpaved roadway (including alleys) is not a horse trail, hiking path, bicycle path, or other similar path used exclusively for purposes other than travel by motor vehicles.

~~217~~ **216** **VACANT LOT -** The definition of vacant lot is included in Section 211 (Definition Of Open Areas And Vacant Lots) of this rule.

SECTION 300 - STANDARDS

301 **VEHICLE USE IN OPEN AREAS AND VACANT LOTS:** If open areas and vacant lots are 0.10 acre or larger and have a cumulative of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, then the owner and/or operator of such open areas and vacant lots shall implement one of the control measures described in ~~subsection~~ Section 301.1 of this rule within 60 calendar days following the initial discovery of vehicle use on open areas and vacant lots. For the purpose of this rule, such control measures shall be considered effectively implemented when the open areas and vacant lots meet one of the stabilization limitations described in ~~subsection~~ Section 301.2 of this rule. Use of or parking on open areas and vacant lots by the owner and/or operator of such open areas and vacant lots and/or landscape maintenance of such open areas and vacant lots shall not be considered vehicle use in open areas and vacant lots. For the purpose of this rule, landscape maintenance does not include grading, trenching, nor any other mechanized surface disturbing activities performed to establish initial landscapes or to redesign existing landscapes.

301.1 Control Measures:

a. Prevent motor vehicle and/or off-road vehicle trespassing, parking, and/or access, by installing ~~barriers, curbs, fences, gates, posts, signs, shrubs, trees, or other effective control measures.~~ one or a combination of the control measures described in Section 301.1(a) of this rule. Once vehicular traffic has been restricted from an open area or a vacant lot, such open area or vacant lot is no longer subject to the requirements of Section 301 of this rule, but rather such open area and vacant lot is subject to the requirements of Section 302 (Open Areas And Vacant Lots) of this rule.

1. Barriers;

2. Curbs;

3. Fences;

4. Gates;

5. Posts;

6. Signs written in English and Spanish and including a reference to Arizona Revised Statutes (A.R.S.) §13-1502-A1;

7. Shrubs;

8. Trees; or

9. Other effective control measure.

b. Uniformly apply and maintain surface gravel or ~~chemical/organic stabilizers~~ a dust suppressant to all areas disturbed by motor vehicles and/or off-road vehicles in compliance with one of the stabilization limitations described in ~~subsection~~ Section 301.2 of this rule.

c. Apply and maintain an alternative control measure approved in writing by the Control Officer and the Administrator of the ~~Environmental Protection Agency (EPA)~~ EPA.

301.2 Stabilization Limitations:

a. A visible crust shall be implemented, as determined by Appendix C, Section 2.3 (Test Methods For Stabilization-Visible Crust Determination) (The Drop Ball/Steel Ball Test) of these rules; or

b. A threshold friction velocity (TFV) corrected for non-erodible elements of 100 cm/second or higher shall be implemented, as determined by Appendix C, Section 2.4 (Test Methods For Stabilization-Determination Of Threshold Friction Velocity (TFV)) (Sieving Field Procedure) of these rules; or

c. Flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50% shall be implemented, as determined by Appendix C, Section 2.5 (Test Methods For Stabilization-Determination Of Flat Vegetative Cover) of these rules; or

d. Standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30% shall be implemented, as determined by Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules; or

e. Standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements shall be implemented, as determined by Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules; or

f. A percent cover that is equal to or greater than 10% for non-erodible elements shall be implemented, as determined by Appendix C, Section 2.7 (Test Methods For Stabilization-Rock Test Method) of these rules; or

g. An alternative test method approved in writing by the Control Officer and the Administrator of the ~~Environmental Protection Agency (EPA)~~ EPA shall be implemented.

302 OPEN AREAS AND VACANT LOTS: If open areas and vacant lots have 0.5 acre or more of disturbed surface area and remain unoccupied, unused, vacant, or undeveloped for more than 15 days, then the owner and/or operator of such open areas and vacant lots shall implement one of the control measures described in ~~subsection~~ Section 302.1 of this rule within 60 calendar days following the initial discovery of the disturbance on the open areas and vacant lots. For the purpose of this rule, such control measures shall be considered effectively implemented when the open areas and vacant lots meet one of the stabilization limitations described in ~~subsection~~ Section 302.2 of this rule.

302.1 Control Measures:

a. Establish vegetative ground cover on all disturbed surface areas within 60 calendar days following the initial discovery of the disturbance. Such control measure(s) must be maintained and reapplied, if necessary, until the disturbed surface areas are stabilized, in compliance with one of the stabilization limitations described in ~~subsection~~ Section 302.2 of this rule. Stabilization shall be achieved, per this control measure, within eight months after the control measure has been implemented.

b. Apply a dust suppressant to all disturbed surface areas, in compliance with one of the stabilization limitations described in ~~subsection~~ Section 302.2 of this rule.

c. Restore all disturbed surface areas within 60 calendar days following the initial discovery of the disturbance, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions. Such control measure(s) must be maintained and reapplied, if necessary, until the disturbed surface areas are stabilized, in compliance with one of the stabilization limitations described in ~~subsection~~ Section 302.2 of this rule. Stabilization shall be achieved, per ~~this~~ such control measure, within eight months after ~~the~~ such control measure has been implemented.

d. Uniformly apply and maintain surface gravel, in compliance with one of the stabilization limitations described in ~~subsection~~ Section 302.2 of this rule.

e. Construct wind barriers 3-feet to 5-feet high with 50% or less porosity.

~~e.~~ **f.** Apply and maintain an alternative control measure approved in writing by the Control Officer and the Administrator of the ~~Environmental Protection Agency (EPA)~~ EPA.

302.2 Stabilization Limitations:

a. A visible crust shall be implemented, as determined by Appendix C, Section 2.3 (Test Methods For Stabilization-Visible Crust Determination) (The Drop Ball/Steel Ball Test) of these rules; or

b. A threshold friction velocity (TFV), corrected for non-erodible elements of 100 cm/second or higher, shall be implemented, as determined by Appendix C, Section 2.4 (Test Methods For Stabilization-Determination Of Threshold Friction Velocity (TFV)) (Sieving Field Procedure) of these rules; or

c. Flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50% shall be implemented, as determined by Appendix C, Section 2.5 (Test Methods For Stabilization-Determination Of Flat Vegetative Cover) of these rules; or

d. Standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30% shall be implemented, as determined by Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules; or

e. Standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements shall be implemented, as determined by Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules; or

f. A percent cover that is equal to or greater than 10% for non-erodible elements shall be implemented, as determined by Appendix C, Section 2.7 (Test Methods For Stabilization-Rock Test Method) of these rules; or

g. An alternative test method approved in writing by the Control Officer and the Administrator of the EPA shall be implemented.

303 UNPAVED PARKING LOTS: The owner and/or operator of an unpaved parking lot shall implement one of the control measures described in ~~subsection~~ Section 303.1 of this rule. For the purpose of this rule, the owner and/or operator of an unpaved parking lot on which vehicles are parked no more than 35 days per year, excluding days on which ten or fewer vehicles enter, shall implement either the control measure described in ~~subsection~~ Section 303.1(b) or ~~subsection~~ Section 303.1(c) ~~below~~ of this rule for the duration of time that over 100 vehicles enter and/or park on such unpaved parking lot. In addition, for the purpose of this rule, such control measures

shall be considered effectively implemented when the unpaved parking lot meets the stabilization limitation described in ~~subsection~~ Section 303.2 of this rule.

303.1 Control Measures:

a. Pave.

b. Apply dust suppressants, in compliance with the stabilization limitation described in ~~subsection~~ Section 303.2 of this rule.

c. Uniformly apply and maintain surface gravel, in compliance with the stabilization limitation described in ~~subsection~~ Section 303.2 of this rule.

303.2 Stabilization Limitation: For the purpose of this rule, control measures shall be considered effectively implemented when stabilization observations for fugitive dust emissions from unpaved parking lots do not exceed 20% opacity and do not equal or exceed 0.33 oz/ft^2 silt loading, or do not exceed 8% silt content, as determined by Appendix C, Section 2.1 (Test Methods For Stabilization-For Unpaved Roads And Unpaved Parking Lots) of these rules.

304 UNPAVED ROADWAYS (INCLUDING ALLEYS): If a person allows 150 vehicles or more per day to use an unpaved roadway (including alleys) in the nonattainment area, then such person shall first implement one of the best available control measures described in ~~subsection~~ Section 304.1 of this rule. ~~Existing unpaved roadways (including alleys) with vehicular traffic of 250 vehicles or more per day must be stabilized by one of the best available control measures described in subsection 304.1 of this rule by June 10, 2000. Existing unpaved roadways (including alleys) with vehicular traffic of 150 vehicles or more per day must be stabilized by one of the best available control measures described in subsection 304.1 of this rule by June 10, 2004.~~ For the purpose of this rule, the best available control measures shall be considered effectively implemented when the unpaved roadway (including alleys) complies with ~~subsection~~ Section 304.3 of this rule.

304.1 Best Available Control Measures:

a. Pave.

b. Apply dust suppressants, in compliance with the stabilization limitation described in ~~subsection~~ Section 304.3 of this rule.

c. Uniformly apply and maintain surface gravel, in compliance with the stabilization limitation described in ~~subsection~~ Section 304.3 of this rule.

304.2 Implementation Of Best Available Control Measures: For the purpose of this rule, best available control measures shall be considered effectively implemented, under the following conditions:

a. The unpaved roadway (including alleys) meets the stabilization limitation described in ~~subsection~~ Section 304.3 of this rule; and, where applicable,

b. Existing unpaved roadways (including alleys) are stabilized according to the following schedule:

(1) Roadways with vehicular traffic of 250 vehicles or more per day are stabilized by ~~June 10, 2000~~.

(2) Roadways with vehicular traffic of 150 vehicles or more per day are stabilized by ~~June 10, 2004~~.

304.3 Stabilization Limitation: For the purpose of this rule, control measures shall be considered effectively implemented when stabilization observations for fugitive dust emissions from unpaved roadways (including alleys) do not exceed 20% opacity and do not equal or exceed 0.33 oz/ft^2 silt loading, or do not exceed 6% silt content, as determined by Appendix C, Section 2.1 (Test Methods For Stabilization-For Unpaved Roads And Unpaved Parking Lots) of these rules.

305 COMMERCIAL FEEDLOTS AND/OR COMMERCIAL LIVESTOCK AREAS: The owner and/or operator of any commercial feedlot and/or commercial livestock area shall implement one of the control measures described in ~~subsection~~ Section 305.1 of this rule.

305.1 Control Measures:

a. Apply dust suppressants, in compliance with the stabilization limitation described in ~~subsection~~ Section 305.2 of this rule.

b. Uniformly apply and maintain surface gravel, in compliance with the stabilization limitation described in ~~subsection~~ Section 305.2 of this rule.

c. Install shrubs and/or trees within 50 feet to 100 feet of animal pens, in compliance with the stabilization limitation described in ~~subsection~~ Section 305.2 of this rule.

305.2 Stabilization Limitation: No fugitive dust plume emanating from commercial feedlots and/or commercial livestock areas shall exceed 20% opacity, as determined by Appendix C, Section 3 (Visual Determination Of Opacity Of Emissions From Sources For Time-Average Regulations) of these rules.

306 EROSION-CAUSED DEPOSITION OF BULK MATERIALS ONTO PAVED SURFACES: In the event that erosion-caused deposition of bulk materials or other materials occurs on any adjacent paved roadway or paved parking lot, the owner and/or operator of the property from which the deposition eroded shall implement both of the control measures described in ~~subsection~~ Section 306.1 of this rule. Such control measures shall be considered effectively implemented when the deposition meets the stabilization limitation described in ~~subsection~~ Section 306.2 of this rule. Exceedances of the opacity limit, due to erosion-caused deposition of bulk materials onto paved surfaces, shall constitute a violation of the opacity limit.

306.1 Control Measures:

a. Remove any and all such deposits by utilizing the appropriate control measures within 24 hours of the deposits' identification or prior to the resumption of traffic on pavement, where the pavement area has been closed to traffic; and

b. Dispose of deposits in such a manner so as not to cause another source of fugitive dust.

306.2 Stabilization Limitation: For the purpose of this rule, control measures shall be considered effectively implemented when stabilization observations for fugitive dust emissions from erosion-caused deposition of bulk materials onto paved surfaces do not exceed 20% opacity, as described in Appendix C, Section 2.1 (Test Methods For Stabilization-For Unpaved Roads And Unpaved Parking Lots) of these rules.

307 EASEMENTS, RIGHTS-OF-WAY, AND ACCESS ROADS FOR UTILITIES (ELECTRICITY, NATURAL GAS, OIL, WATER, AND GAS TRANSMISSION): If a person allows 150 vehicles or more per day to use an easement, right-of-way, and access road for utilities (electricity, natural gas, oil, water, and gas transmission) in the nonattainment area, then such person shall first implement one of the control measures described in ~~subsection~~ Section 307.1 of this rule. For the purpose of this rule, the control measures shall be considered effectively implemented, when the easement, right-of-way, and access road for utilities (electricity, natural gas, oil, water, and gas transmission) complies with ~~subsection~~ Section 307.2 of this rule.

307.1 Control Measures:

a. Pave.

b. Apply dust suppressants, in compliance with the stabilization limitation described in ~~subsection~~ Section 307.2 of this rule.

c. Uniformly apply and maintain surface gravel, in compliance with the stabilization limitation described in ~~subsection~~ Section 307.2 of this rule.

307.2 Stabilization Limitation: For the purpose of this rule, control measures shall be considered effectively implemented when stabilization observations for fugitive dust emissions from easements, rights-of-way, and access roads for utilities (electricity, natural gas, oil, water, and gas transmission) do not exceed 20% opacity and do not equal or exceed 0.33 oz/ft^2 silt loading, or do not exceed 6% silt content, as determined by Appendix C, Section 2.1 (Test Methods For Stabilization-For Unpaved Roads And Unpaved Parking Lots) of these rules.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS (NOT APPLICABLE)

SECTION 500 - MONITORING AND RECORDS

501 STABILIZATION OBSERVATIONS:

501.1 Stabilization observations for unpaved parking lots and/or unpaved roadways (including alleys) shall be conducted in accordance with Appendix C, Section 2.1 (Test Methods For Stabilization-For Unpaved Roads And Unpaved Parking Lots) of these rules.

501.2 Stabilization observations for an open area and vacant lot shall be conducted in accordance with the following:

a. Appendix C, Section 2.3 (Test Methods For Stabilization-Visible Crust Determination) (The Drop Ball/Steel Ball Test) of these rules; or

b. Appendix C, Section 2.4 (Test Methods For Stabilization-Determination Of Threshold Friction Velocity (TFV)) (Sieving Field Procedure) of these rules, where the threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements is 100 cm/second or higher; or

c. Appendix C, Section 2.5 (Test Methods For Stabilization-Determination Of Flat Vegetative Cover) of these rules, where flat vegetation cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) is equal to at least 50%; or

d. Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules, where standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) is equal to or greater than 30%; or

e. Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules, where the standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) is equal to or greater than 10% and where the threshold friction velocity, corrected for non-erodible elements, is equal to or greater than 43 cm/second; or

f. Appendix C, Section 2.7 (Test Methods For Stabilization-Rock Test Method) of these rules where a percent cover is equal to or greater than 10% for non-erodible elements.

g. An alternative test method approved in writing by the Control Officer and the Administrator of the EPA.

502 RECORDKEEPING: Any person subject to the requirements of this rule shall compile and retain records that provide evidence of control measure application (i.e., receipts and/or purchase

records). ~~The records should~~ Such person shall describe, in the records, the type of treatment or control measure, extent of coverage, and date applied. Upon verbal or written request by the Control Officer, such person shall provide the records and supporting documentation ~~shall be provided~~ within 48 hours, excluding weekends. If the Control Officer is at the site where requested records are kept, ~~records shall be provided~~ such person shall provide the records without delay.

503 RECORDS RETENTION: Copies of the records required by Section 502 (Recordkeeping) of this rule shall be retained for at least one year.

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 316

NONMETALLIC MINERAL ~~MINING AND~~ PROCESSING

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Adopted 07/06/93

Revised 04/21/99

MARICOPA COUNTY

AIR POLLUTION CONTROL REGULATIONS

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 316

NONMETALLIC MINERAL ~~MINING AND~~ PROCESSING

SECTION 100 - GENERAL

101 PURPOSE: To limit the emission of particulate matter into the ambient air from any nonmetallic ~~mining operation~~ mineral processing plant or rock product processing plant.

102 APPLICABILITY: The provisions of this rule shall apply to any commercial and/or industrial nonmetallic mineral ~~mining~~ processing plant operation and/or rock product processing plant operation. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Source Performance Standards. In such case, the more stringent standard shall apply.

SECTION 200 - DEFINITIONS: For the purpose of this rule, the following definitions shall apply~~:~~. See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule.

201 AFFECTED OPERATION - An operation that excavates and processes nonmetallic minerals or that is related to such processing and process sources including, but not limited to, crushers, grinding mills, screening equipment, conveying systems, elevators, transfer points, bagging operations, storage bins, enclosed truck and railcar loading stations, and truck dumping.

202 APPROVED EMISSION CONTROL SYSTEM - A system for reducing particulate emissions, consisting of collection and/or control devices which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practice.

203 **AREA ACCESSIBLE TO THE PUBLIC** - Any retail parking lot or public roadway that is open to public travel primarily for the purposes unrelated to the dust generating operation/nonmetallic mineral processing plant, asphaltic concrete plant, and/or concrete plant and bagging operation.

~~203~~ **204** **ASPHALTIC CONCRETE PLANT/ASPHALT PLANT** - Any facility used to manufacture asphaltic concrete by mixing graded aggregate and asphaltic cements.

~~204~~ **205** **BAGGING OPERATION** - The mechanical process by which bags are filled with nonmetallic minerals.

~~205~~ **206** **BELT CONVEYOR** - A conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

207 **BULK MATERIAL** - Any material, including, but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter (i.e., aggregate base course (ABC)), dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, fluff (from shredders), and dry concrete, that are capable of producing fugitive dust.

208 **CENTRAL MIX CONCRETE PLANT** - **Cement and aggregate combined through a hopper that funnels into a central mixer. If a central mixer is used, then the system is called a wet batch. If the cement and aggregate go directly to a ready-mix truck, then the system is called a dry batch. ("Concrete Batch Plants", Compliance Assistance Program, California EPA, Air Resources Board, Compliance Division, October 1994).**

209 **CERTIFIED METHOD 9 OBSERVER** - An observer certified to determine opacity as visible emissions in accordance with the provisions of the Environmental Protection Agency (EPA) Method 9 as specified in 40 CFR, Part 60, Appendix A.

~~206~~ **210** **CONCRETE PLANT** - Any facility used to manufacture concrete by mixing water, aggregate, and cement.

~~207~~ **211** **CONVEYING SYSTEM** - A device for transporting materials from one piece of equipment or location to another location within a facility. Conveying systems include, but are not limited to, feeders, belt conveyers, bucket elevators and pneumatic systems.

~~208~~ **212** **CRUSHER** - A machine used to crush any nonmetallic minerals, including, but not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

213 **DISTURBED SURFACE AREA** - A portion of the earth's surface (or material placed thereupon) which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed native condition, thereby increasing the potential for the emission of fugitive dust.

~~209~~ **214** **DRY MIX CONCRETE PLANT -** Any facility used to manufacture a mixture of aggregate and cements without the addition of water.

215 **DUST SUPPRESSANT** - Water, hygroscopic material, solution of water and chemical surfactant, foam, non-toxic chemical stabilizer, or any other dust palliative, which is not prohibited for ground surface application by the EPA or the Arizona Department of Environmental Quality (ADEQ), or any applicable law, rule, or regulation, as a treatment material for reducing fugitive dust emissions.

~~210~~ **216** **ENCLOSED TRUCK OR RAILCAR LOADING STATION -** That portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

217 **FABRIC FILTER BAGHOUSE** - Tube-shaped filter bags/Long small-diameter fabric tubes referred to as "bags" arranged in parallel flow paths designed to separate particles and flue gas.

218 **FUGITIVE DUST CONTROL MEASURE** - A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of fugitive dust.

219 **FUGITIVE DUST CONTROL MASTER** - A person with the authority to expeditiously employ sufficient fugitive dust control measures to ensure compliance with Rule 316 of these rules at an active operation.

~~211~~ **220** **FUGITIVE DUST EMISSION -** Particulate matter ~~that is~~ not collected by a capture system ~~and~~ that is ~~released to and suspended~~ entrained in the ambient air~~.~~ and is caused from human and/or natural activities.

~~212~~ **221** **GRINDING MILL -** A machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

222 **HAUL TRUCK** - Any fully or partially open-bodied self-propelled vehicle including any non-motorized attachments, such as, but not limited to, trailers or other conveyances that are connected to or propelled by the actual motorized portion of the vehicle used for transporting bulk materials.

223 **MOTOR VEHICLE** - A self-propelled vehicle for use on the public roads and highways of the State of Arizona and required to be registered under the Arizona State Uniform Motor Vehicle Act, including any non-motorized attachments, such as but not limited to, trailers or other conveyances which are connected to or propelled by the actual motorized portion of the vehicle.

224 **NEW** - Any location of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule that has not been mined or excavated by that nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule prior to **xxx xx**, 2004. **(Handout "Draft Fenceline Distance Language For Haul Roads-Proposed Addition To Rule 316" dated May 20, 2004).**

NEW FACILITY - A source for which construction commenced after the EPA first proposed a relevant emission standard. "Commenced" means that an operator has undertaken a continuous program of construction, reconstruction, modification, or has entered into contractual obligation to undertake and complete such a program. "Construction" also has a particular meaning. The EPA defined it as the fabrication, erection, or installation of an affected facility. Therefore, for nonmetallic mineral processing facilities, a new source is a facility at which construction was commenced after August 31, 1983. (Colorado Department Of Public Health And Environment, "Nonmetallic Mineral Processing Plants - Report" dated March 13, 1998).

NEW FACILITY - A facility that has not started operation as of October 1, 2004 (South Coast - Draft Rule 1157 dated July 16, 2004).

NEW SOURCE - For Subpart OOO, a source that was constructed or modified on or after August 31, 1983; new sources are subject to Subpart OOO requirements. (Colorado Department Of Public Health And Environment, "Nonmetallic Mineral Processing Plants - Report" dated March 13, 1998).

NEW SOURCE - Any source that is not an existing source. (Rule 100, Section 200.67).

~~213~~ 225 **NONMETALLIC MINERAL -** Any of the following minerals or any mixture of which the majority is any of the following minerals:

~~213.1~~ **225.1** Crushed and broken stone, including limestone, dolomite, granite, rhyolite, traprock, sandstone, quartz, quartzite, marl, marble, slate, shale, oil shale, and shell.

~~213.2~~ **225.2** Sand and gravel.

~~213.3~~ **225.3** Clay including kaolin, fireclay, bentonite, fuller's earth, ball clay, and common clay.

~~213.4~~ **225.4** Rock salt.

~~213.5~~ **225.5** Gypsum.

~~213.6~~ **225.6** Sodium compounds, including sodium carbonate, sodium chloride, and sodium sulfate.

~~213.7~~ **225.7** Pumice.

~~213.8~~ **225.8** Gilsonite.

~~213.9~~ **225.9** Talc and pyrophyllite.

~~213.10~~ **225.10** Boron, including borax, kernite, and colemanite.

~~213.11~~ **225.11** Barite.

~~213.12~~ **225.12** Fluorspar.

~~213.13~~ **225.13** Feldspar.

~~213.14~~ **225.14** Diatomite.

~~213.15~~ **225.15** Perlite.

~~213.16~~ **225.16** Vermiculite.

~~213.17~~ **225.17** Mica.

~~213.18~~ **225.18** Kyanite, including andalusite, sillimanite, topaz, and dumortierite.

~~213.19~~ **225.19** Coal.

~~214~~ **226** **NONMETALLIC MINERAL PROCESSING PLANT -** Any facility utilizing any combination of equipment or machinery that is used to mine, excavate, separate, combine, crush, or grind any nonmetallic mineral, including, but not limited to: lime plants, coal fired power plants, steel mills, asphalt plants, concrete plants, Portland cement plants, and sand and gravel plants. Rock Product Processing Plants are included in this definition.

227 **OPEN AREAS AND VACANT LOTS** - Any of the following described in Section 227.1 through Section 227.4 of this rule. For the purpose of this rule, vacant portions of residential or commercial lots that are immediately adjacent and owned and/or operated by the same individual or entity are considered one open area or vacant lot.

227.1 An unsubdivided or undeveloped tract of land adjoining a developed or partially developed residential, industrial, institutional, governmental, or commercial area.

227.2 A subdivided residential, industrial, institutional, governmental, or commercial lot that contains no approved or permitted buildings or structures of a temporary or permanent nature.

227.3 A partially developed residential, industrial, institutional, governmental, or commercial lot.

227.4 A tract of land, in the nonattainment area, adjoining agricultural property.

228 **OPEN STORAGE PILE -** Any accumulation of bulk material with a 5% or greater silt content which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-96A or other equivalent method approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA), that the silt content is less than 5%.

~~215~~ ~~PARTICULATE MATTER – Any material, except uncombined water, which has a nominal aerodynamic diameter smaller than 100 microns (micrometers), and which exists in a finely divided form as a liquid or solid at actual conditions.~~

~~216~~ **229** **PARTICULATE MATTER EMISSIONS -** Any and all finely divided solid or liquid materials other than ~~uncombined~~ condensed water released to the ambient air as measured by the applicable state and federal test methods.

230 **PAVE** - To apply and maintain asphalt, concrete, or other similar material to a roadway surface (i.e., asphaltic concrete, concrete pavement, chip seal, or rubberized asphalt).

231 **PNEUMATIC PRESSURE CONTROL SYSTEM/PNEUMATIC CONTROL SYSTEM - Systems in which loads are moved in the proper sequence, at the correct time, and at the desired speed through use of valves that control the direction of air flow, regulate actuator speed, and respond to changes in air pressure. (Coastal Training Technologies Corp., Workbook: Pneumatic Control Valves).**

232 **PORTLAND CEMENT PLANT** - Any facility that manufactures Portland Cement using either a wet or dry process.

~~217~~ **233** **PROCESS -** One or more operations including those using equipment and technology in the production of goods or services or the control of by-products or waste.

~~218~~ **234** **PROCESS SOURCE -** The last operation of a process or a distinctly separate process which produces an air contaminant and which is not a pollution abatement operation.

235 **PUBLIC ROADWAYS** - Any roadways that are open to public travel.

~~219~~ **236** **SCREENING OPERATION -** A device that separates material according to its size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize material on the mesh surfaces (screens).

~~220~~ **237** **STACK EMISSIONS -** The particulate matter emissions that are released to the atmosphere from a capture system through a building vent, stack or other point source discharge.

~~221~~ **238** **STORAGE BIN -** A facility enclosure, hopper, silo or surge bin for the storage of nonmetallic minerals prior to further processing or loading.

239 **TRACKOUT** - Any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen or been deposited onto a paved area accessible to the public.

240 **TRACKOUT CONTROL DEVICE -** A gravel pad, grizzly, wheel wash system, rumble grates, or a paved area, located at the point of intersection of an unpaved area and a paved area accessible to the public that controls or prevents vehicular trackout.

~~222~~ **241** **TRANSFER POINT -** A point in a conveying operation where nonmetallic mineral is transferred from or to a belt conveyor except for transfer to a stockpile.

~~223~~ **242** **TRUCK DUMPING -** The unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include, but are not limited to, trucks, front end loaders, skip hoists, and railcars.

243 **UNPAVED HAUL/ACCESS ROAD** - Any on-site unpaved road used by commercial, industrial, institutional, and/or governmental traffic.

244 **URBAN OR SUBURBAN AREA** - The definition of urban or suburban open area is included in Section 227 (Definition Of Open Areas And Vacant Lots) of this rule.

~~224~~ **245** **VENT -** An opening through which there is mechanically or naturally induced air flow for the purpose of exhausting air carrying particulate matter.

246 **WET MIX CONCRETE PLANT - The definition of wet mix concrete plant is included in Section 208 (Definition Of Central Mix Concrete Plant/Central Mixer/Wet Batch) of this rule.**

247 **WET PLANT - The definition of wet plant is included in Section 208 (Definition Of Central Mix Concrete Plant/Central Mixer/Wet Batch) of this rule.**

248 **WIND-BLOWN DUST** - Visible emissions, from any disturbed surface area, that are generated by wind action alone.

249 **WIND EVENT -** When the 60-minute average wind speed is greater than 25 miles per hour.

SECTION 300 - STANDARDS

301 ~~LIMITATIONS~~ **NONMETALLIC MINERAL PROCESSING PLANTS - PROCESS EMISSION LIMITATIONS:** ~~No person~~ The owner and/or operator of a nonmetallic mineral processing plant shall not discharge or cause or allow to be discharged into the ambient air:

301.1 Stack emissions exceeding 7% opacity and containing more than 0.02 grains/dry standard cubic foot (gr/dscf) (50 mg/dscm)**/0.05 gr/dscf (per the EPA's comments/NSPS)** of particulate matter. **Such stack emissions shall be vented to a properly sized fabric filter baghouse.**

301.2 Fugitive dust emissions from any transfer point on a conveying system exceeding 7% opacity.

301.3 Fugitive dust emissions exceeding 15% opacity from any crusher.

301.4 Fugitive dust emissions exceeding **10% opacity from any affected operation or process source (per the EPA's comments, should be 20% opacity)**, excluding truck dumping, directly into any screening operation, feed hopper, or crusher.

301.5 Fugitive dust emissions exceeding 20% opacity from truck dumping, directly into any screening operation, feed hopper, or crusher.

302 ~~LIMITATIONS~~ **ASPHALTIC CONCRETE PLANTS - PROCESS EMISSION LIMITATIONS:** ~~No person~~ The owner and/or operator of an asphaltic concrete plant shall not discharge or cause or allow to be discharged into the ambient air:

302.1 Stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg/dscm) of particulate matter.

302.2 Fugitive dust emissions exceeding 20% opacity from any other affected operation or process source.

303 ~~LIMITATIONS CONCRETE PLANTS AND BAGGING OPERATIONS:~~ **CONCRETE PLANTS AND BAGGING OPERATIONS - PROCESS EMISSION LIMITATIONS:** ~~No person~~ The owner and/or operator of a concrete plant and bagging operation shall not discharge or cause or allow to be discharged into the ambient air:

303.1 Stack emissions exceeding 7% opacity **(per the EPA's comments, a 7% opacity is not compatible with 0.01 gr/dscf standard. A 5% opacity standard should be achievable at 0.01 gr/dscf. See also Section 306.10(a)(2) of this rule).**

303.2 Fugitive dust emissions exceeding **10% opacity from any affected operation or process source (per the EPA's comments, should be 20% opacity)**, excluding truck dumping, directly into any screening operation, feed hopper, or crusher.

303.3 Fugitive dust emissions exceeding 20% opacity from truck dumping, directly into any screening operation, feed hopper, or crusher.

303.4 **Visible emissions exceeding 30 seconds/45 seconds/1 minute in any six-minute period, for all filter systems, mixer loading, and batch truck loading emission control devices.**

304 ~~LIMITATIONS~~ **OTHER ASSOCIATED OPERATIONS:** All other ~~activities~~ operations not specifically listed in Sections 301, 302, or 303 of this rule associated with the ~~mining and~~ processing of nonmetallic minerals shall, at a minimum, meet the provisions of Rule 310 of these rules.

305 ~~REQUIREMENT FOR~~ **AIR POLLUTION CONTROL EQUIPMENT AND APPROVED EMISSION CONTROL SYSTEM (ECS)** ~~MONITORING EQUIPMENT: For the purposes of this rule, an emission control system (ECS) is a system for reducing emissions of particulates, consisting of~~

~~both collection and control devices, which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practices.~~

305.1 Operation And Maintenance (O&M) Plan Requirements For ECS:

a. An owner ~~or~~ and/or operator of a ~~facility~~ nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for any ECS, any other emission processing equipment, and any ECS monitoring devices that are used pursuant to this rule or to an air pollution control permit.

b. The owner ~~or~~ and/or operator of a ~~facility~~ nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall submit to the Control Officer for approval the O&M Plan(s) of each ECS and of each ECS monitoring device that is used pursuant to this rule.

c. The owner ~~or~~ and/or operator of a ~~facility~~ nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation shall comply with all the identified actions and schedules provided in each O&M Plan.

305.2 Providing And Maintaining ECS Monitoring Devices: An owner ~~or~~ and/or operator of a ~~facility~~ nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation operating an ECS pursuant to this rule shall install, maintain, and calibrate monitoring devices described in the O&M ~~Plan~~ Plan(s). The monitoring devices shall measure pressures, rates of flow, and/or other operating conditions necessary to determine if the control devices are functioning properly.

305.3 O&M Plan Responsibility: An owner ~~or~~ and/or operator of a ~~facility~~ nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation that is required to have an O&M Plan pursuant to ~~subsection 305.1~~ Section 305.1 of this rule must fully comply with all O&M Plans that the owner ~~or~~ and/or operator has submitted for approval, even if such O&M Plans have not yet been approved, unless notified in writing by the Control Officer.

306 FUGITIVE DUST EMISSION LIMITATIONS AND FUGITIVE DUST CONTROL MEASURES: An owner and/or operator of a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall comply with the following emission limitations and/or shall implement the following fugitive dust control measures, as applicable**, in accordance with the test methods described in Sections 502.2 and 502.3 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules:**

306.1 Wind Event: An owner and/or operator of a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall not cause or allow fugitive dust emissions from any active operation, open storage pile, or disturbed surface area associated with a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule such that the presence of such fugitive dust emissions remain visible in the atmosphere beyond the property line of the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule. This standard does not apply during a wind event and if the following high wind fugitive dust control measures are implemented, as applicable:

a. For an active operation, implement one of the following:

1. Cease active operation for the duration of the wind event and, if active operation is ceased for the remainder of the work day, stabilize the area;

2. Apply water or other suitable dust suppressant other than water at least twice per hour, if active operation is located inside/within the PM_{10} nonattainment area;

3. Apply water as necessary to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98 or other equivalent method as approved by the Control Officer and the Administrator of the EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent method approved by the Control Officer and the Administrator of the EPA, maintain at least 70% optimum soil moisture content; or

4. Implement Section 306.1(a)(2) or Section 306.1(a)(3) and construct fences or three-foot to five-foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of wind-blown dust leaving the site.

b. For an open storage pile, implement one of the following:

1. Apply water twice per hour, if open storage pile is located inside/within the PM_{10} nonattainment area; or

2. Cover open storage pile with tarps, plastic, or other material such that wind will not remove the covering.

c. For a disturbed surface area, implement one of the following:

1. Uniformly apply and maintain surface gravel or a dust suppressant other than water; or

2. Apply water to all disturbed surface areas three times per day. If there is any evidence of wind-blown dust, increase watering frequency to a minimum of four times per day.

306.2 **Certified Method 9 Observer:** The owner and/or operator of a crushing and screening facility, an asphaltic concrete plant, and/or a concrete plant and bagging operation shall have on-site or have available on-site within 30 minutes a Certified Method 9 Observer. Such Certified Method 9 Observer shall conduct routine surveillance, recordkeeping, and reporting to ensure compliance with visible emission requirements. Such Certified Method 9 Observer shall have authority to implement fugitive dust control measures, deploy resources, and shutdown or modify activities as needed.

306.3 **Fugitive Dust Control Master:** The owner and/or operator of a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this **rule with a rated or permitted capacity of 50 tons or more per hour of material/150 tons or more per hour of material (per 40 CFR 60, Subpart OOO)** shall have in place a Fugitive Dust Control Master or his designee, who shall meet all of the following qualifications:

a. Be authorized by the owner and/or operator of the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule to conduct routine inspections, recordkeeping, and reporting to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with this rule.

b. Be authorized by the owner and/or operator of the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule to install, maintain, and use fugitive dust control measures, deploy resources, and shutdown or modify activities as needed.

c. Be on-site or be available on-site within 30 minutes at the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule.

d. Be issued a valid Certificate Of Completion of the Maricopa County Fugitive Dust Control Class.

e. Be certified to determine opacity as visible emissions in accordance with the provisions of the EPA Method 9 as specified in 40 CFR, Part 60, Appendix A.

306.4 **Operational Overflow Warning System/Device:** The owner and/or operator of an asphaltic concrete plant and/or a concrete plant and bagging operation shall install an audible or visual operational overflow warning system/device on each **bulk storage silo/**storage silo to alert operators in sufficient time prior to the **bulk storage silo/**storage silo reaching capacity during loading operations**, so that the loading operation can be stopped prior to filling to such a level as to potentially adversely impact the pollution abatement equipment.**

306.5 **Open Storage Piles And Material Handling:** The owner and/or operator of a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall implement all of the following fugitive dust control measures, as applicable:

a. Prior to and/or while conducting stacking, loading, and unloading operations, implement one of the following fugitive dust control measures:

1. Spray material with water, as necessary; or

2. Spray material with a dust suppressant other than water, as necessary.

b. When not conducting stacking, loading, and unloading operations, implement one of the following fugitive dust control measures:

1. Cover all open storage piles with tarps, plastic, or other material to prevent wind from removing the covering;

2. Apply water to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98, or other equivalent methods approved by the Control Officer and the Administrator of the EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent methods approved by the Control Officer and the Administrator of the EPA, maintain at least 70% of the optimum soil moisture content;

3. Meet one of the following stabilization requirements:

i. Maintain a visible crust;

ii. Maintain a threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher;

iii. Maintain a flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%;

iv. Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%;

v. Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements;

vi. Maintain a percent cover that is equal to or greater than 10% for non-erodible elements; or

vii. Comply with a standard of an alternative test method, upon obtaining the written approval from the Control Officer and the Administrator of the EPA; or

4. Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%. If complying with this work practice, the owner and/or operator of the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall also comply with the silt loading standards in Section 306.5(b)(2) of this rule or the stabilization requirements in Section 306.5(b)(3) of this rule.

c. When installing an open storage pile for a new nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule, the owner and/or operator shall implement all of the following fugitive dust control measures:

1. Install the open storage pile(s) at least 25 feet from the property line.

2. Limit the height of the open storage pile(s) to less than 45 feet.

d. **When installing an open storage pile for an existing or a new nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule, if such open storage pile will be constructed over eight feet high, then the owner**

and/or operator shall install a road that is bladed to the top of such open storage pile to allow water truck access or shall install, use, and maintain a sprinkler irrigation system.

306.6 **Surface Stabilization Where Support Equipment And Vehicles Operate:** The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall stabilize surface soils where support equipment and vehicles will operate by implementing one of the following fugitive dust control measures:

a. Pre-water **surface soils where support equipment and vehicles will operate, such that fugitive dust emissions do not exceed 20% opacity as tested by methods described in Appendix C (Fugitive Dust Test Methods) of these rules; or**

b. Apply and maintain a dust suppressant other than water**, such that fugitive dust emissions do not exceed 20% opacity as tested by methods described in Appendix C (Fugitive Dust Test Methods) of these rules**.

306.7 **Unpaved Haul/Access Roads:** The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall implement all of the following fugitive dust control measures, as applicable:

a. **Fugitive Dust Emissions:** The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall not discharge or cause or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity from unpaved haul/access roads and one of the following:

1. Silt loading equal to or greater than 0.33 oz/ft^2; or

2. Silt content exceeding 6%.

b. **Paving Entries And Exits:** The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall pave or cover with a

cohesive hard surface (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water) all entries and exits associated with the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule. The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall not be required to pave or cover with a cohesive hard surface (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water) all entries and exits associated with the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule, if paving or covering with a cohesive hard surface (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water) all entries and exits associated with the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule is **prohibited/technically infeasible or unreasonable (infeasible and unreasonable to consider the stabilization of roads and shoulders leading to the access point; determination made as part of Dust Control Plan).**

c. **Restricting Trucks To Paved Surfaces:** The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall require all trucks that enter and exit the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule to remain on paved surfaces or cohesive hard surfaces (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water).

d. **In-Plant Traffic On Unpaved Roads:** The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall implement one of the following fugitive dust control measures:

1. Apply water;

2. Apply a dust suppressant, other than water;

3. Pave or apply a cohesive hard surface (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water), so that fugitive dust emissions do not exceed 20% opacity and one of the following:

(i) Silt loading is not equal to or greater than 0.33 oz/ft^2; or

(ii) Silt content does not exceed 6%; or

4. Cover with a material such as, but not limited to, roofing shingles or tire chips in combination with Section 306.7(d)(1) or Section 306.7(d)(2).

e. **Unpaved On-Site Haul Roads:** The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall implement all of the following fugitive dust control measures:

1. Limit vehicle speed to 10 m.p.h. or less.

2. Install adequately spaced speed bumps or dips.

3. Apply water, so that fugitive dust emissions do not exceed 20% opacity and one of the following:

(i) Silt loading is not equal to or greater than 0.33 oz/ft^2; or

(ii) Silt content does not exceed 6%.

f. **Trackout:** The owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall implement all of the following fugitive dust control measures:

1. At all exits onto paved areas accessible to the public, install, maintain, and use a suitable trackout control device, including, but not limited to, a wheel washer or rumble grate **(as determined through Dust Control Plan and considering access point stabilization)**, that controls and

prevents trackout and/or removes particulate matter from tires and exterior surfaces of haul trucks and/or motor vehicles that traverse such nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule.

2. Clean up trackout immediately, when trackout extends a cumulative distance of **25 linear feet or more (Standard is from South Coast - Rule 1157) from all exits onto paved areas accessible to the public**. Clean up trackout at the end of the workday for all other trackout.

3. Restrict all traffic associated with the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule to exit the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule only after having crossed a trackout control device.

g. **Unpaved Roads At Temporary Plants:** An owner and/or operator of a temporary nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule (occupies a designated site for not more than 180 consecutive days) shall not be required to pave or cover with a cohesive hard surface (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water) all entries and exits associated with the temporary nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule but shall implement one of the following fugitive dust control measures:

1. Apply water, so that fugitive dust emissions do not exceed 20% opacity and one of the following:

(i) Silt loading is not equal to or greater than 0.33 oz/ft^2; or

(ii) Silt content does not exceed 6%; or

2. Apply a dust suppressant other than water.

h. **Unpaved Roads At New Plants:** The owner and/or operator of a new nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall maintain a minimum distance of 25 feet from the property line for unpaved roads associated with the nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule.

306.8 **Pad Construction For Processing Equipment: The owner and/or operator of a new nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and bagging operation, and/or any other associated operation subject to this rule shall implement fugitive dust control measures during the construction of pads for processing equipment and shall identify, in the Dust Control Plan, such fugitive dust control measures.**

306.9 **Crushing And Screening Facilities:** In addition to complying with the fugitive dust emission limitations and/or implementing fugitive dust control measures described in Sections 306.1, 306.2, 306.3, 306.4, 306.5, 306.6, 306.7, and 306.8 of this rule, as applicable, the owner and/or operator of a crushing and screening facility shall implement all of the following fugitive dust control measures:

a. Enclose sides of all **shaker** screens.

b. Permanently mount watering systems (e.g., spray bars or an equivalent control) on:

1. Inlet and outlet of all crushers;

2. **Inlet and** outlet of all **shaker** screens; and

3. **Outlet of all** material transfer points, **excluding wet plants**.

306.10 **Concrete Plants And Bagging Operations:** In addition to complying with the fugitive dust emission limitations and/or implementing fugitive dust control measures described in Sections 306.1, 306.2, 306.3, 306.4, 306.5, 306.6, 306.7, and 306.8 of this rule, as applicable, the owner and/or operator of a concrete plant and bagging operation shall implement all of the following fugitive dust control measures, as applicable:

a. **Cement And Fly-Ash Silo Controls:**

1. Install on all existing cement and fly-ash silos a properly sized fabric filter baghouse.

2. Install on all new cement and fly-ash silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf **(per the EPA's comments, a 7% opacity is not compatible with 0.01 gr/dscf standard. A 5% opacity standard should be achievable at 0.01 gr/dscf. See also Section 303.1 of this rule).**

b. **Batch Mix/Mixer Feed Controls/Mixer Loading Stations:** Implement one of the following fugitive dust control measures:

1. **Install a rubber fill tube;**

2. Install a water spray/**Install a spray device that eliminates visible emissions**;

3. Install a properly sized fabric filter baghouse or delivery system/**Install a pickup device delivering air to a fabric or cartridge fitler**;

4. **Enclose batch mix/mixer feed/mixer loading station such that no visible emissions occur; or**

5. Conduct batch **mix/mixer** feed controls/**entire mixing operation/mixer loading station** in an enclosed process building such that no visible emissions from the building occur during the mixing activities.

c. **Cement Silo Filling Processes/Loading Operations Controls:** Install on all cement silo filling processes/**loading operations** a **pneumatic pressure control system/pneumatic control system that discontinues the loading process if excessive pressure is being used to load the cement silo/**designed to shut-off cement silo filling processes/**loading operations**, if pressure from delivery truck is excessive.

d. **Spilled Materials:** Immediately clean up or control with water or a dust suppressant other than water any spillage of materials/**Immediately clean up and contain or dampen so that dust emissions are minimized, any spillage of materials used in the batch. South Coast's draft Rule 1157 dated July 16, 2004 reads: The operator of a facility shall remove any single spillage of materials with a surface area greater than 25 square feet within one hour of spillage, if such spillage locates on: (i) any internal paved roads or (ii) any internal unpaved roads and areas that are used by trucks and/or front-end loaders for loading, unloading, and/or transferring activities. The operator of a facility shall remove any single spillage of materials that has a surface area between 9 square feet and 25 square feet or does not occur on areas described in (i) and (ii), by the end of each day.**

306.11 **Asphaltic Concrete Plants:** In addition to complying with the fugitive dust emission limitations and/or implementing fugitive dust control measures described in Sections 306.1, 306.2, 306.3, 306.4, 306.5, 306.6, 306.7, and 306.8 of this rule, as applicable, the owner and/or operator of an asphaltic concrete plant shall implement all of the following fugitive dust control measures, as applicable:

a. **Drum Dryer Controls:** Control and vent exhaust from all drum dryers to a properly sized fabric filter baghouse**, with an opacity limit of not greater than 5% over a 6-minute period.**

b. **Bulk Storage Silo Controls:**

1. Install on all existing bulk storage silos a properly sized fabric filter baghouse**, with an opacity limit of not greater than 5% over a 6-minute period.**

2. Install on all new bulk storage silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf**, with an opacity limit of not greater than 5% over a 6-minute period.**

c. **Fugitive Dust Emissions - Non-Rubberized Asphaltic Concrete Plants:** **Do not discharge or cause or allow to be discharged into the ambient air stack emissions exceeding 5% opacity and containing more than 0.04 gr/dscf (90 mg**

mg/dscm) of particulate matter over a 6-minute period for non-rubberized asphaltic concrete plants.

d. **Fugitive Dust Emissions - Rubberized Asphaltic Concrete Plants:** **Do not discharge or cause or allow to be discharged into the ambient air stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg mg/dscm) of particulate matter over a 6-minute period for rubberized asphaltic concrete plants (when using rubberized asphalt only).**

e. **Fugitive Dust Emissions At Night: (Address opacity at night. 20% opacity might be difficult to meet at night).**

307 **DUST CONTROL PLAN:** The owner and/or operator of a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall submit to the Control Officer a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 306 of this rule/as required by Section 306 of this rule and/or as required in order to prevent fugitive dust emissions from exceeding 20% opacity. The Dust Control Plan shall, at a minimum, contain all the information described in Rule 310 (Fugitive Dust) of these rules. All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 (Fugitive Dust) of these rules.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

401 ~~O&M PLAN~~ **COMPLIANCE SCHEDULE:** ~~Any owner or operator of a facility employing an ECS device as of April 21, 1999 to meet the requirements of this rule, shall file, by October 18, 1999, an O&M Plan with the Control Officer in accordance with subsection 501.3 of this rule.~~ The newly amended provisions of this rule shall become effective upon adoption and the following schedule applies:

401.1 **O&M Plan:** When complying with Section 305 of this rule, an O&M Plan shall be submitted to the Control Officer by May 31, 2005 or three months after rule adoption, whichever comes first.

401.2 **Dust Control Plan:** When complying with Section 307 of this rule, a Dust Control Plan shall be submitted to the Control Officer by May 31, 2005 or three months after rule adoption, whichever comes first.

401.3 **Pneumatic Pressure Control System/Pneumatic Control System:** When complying with Section 306.10(c) of this rule, a pneumatic pressure control system/pneumatic control system shall be installed by August 31, 2005 or six months after rule adoption, whichever comes first.

401.4 **Operational Overflow Warning System/Device:** When complying with Section 306.4 of this rule, an operational overflow warning system/device shall be installed by August 31, 2005 or six months after rule adoption, whichever comes first.

401.5 **Fugitive Dust Control Master:** When complying with Section 306.3 of this rule, a Fugitive Dust Control Master shall be in place by August 31, 2005 or six months after rule adoption, whichever comes first.

401.6 **Certified Method 9 Observer:** When complying with Section 306.2 of this rule, a Certified Method 9 Observer shall be in place by August 31, 2005 or six months after rule adoption, whichever comes first.

401.7 **Surface Stabilization And/Or Paving:** When complying with Section 306.6 and/or Section 306.7 of this rule, surface stabilization and/or paving shall be completed by August 31, 2005 or six months after rule adoption, whichever comes first.

SECTION 500 - MONITORING AND RECORDS

501 **RECORDKEEPING AND REPORTING:** Any ~~person~~ owner and/or operator of a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall comply with the following requirements. Records shall be retained for 5 years and shall be made available to the Control Officer upon request.

501.1 Operational information required by this rule shall be kept in a complete and consistent manner on-site and be made available without delay to the Control Officer upon request.

501.2 Records of the following process and operational information, as applicable, are required:

a. **General Data:** Daily records shall be kept for all days that a ~~plant~~ nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation is actively operating. Records shall include all of the following: ~~hours of operation; type of batch operation (wet, dry,~~

~~central); throughput per day of basic raw materials including sand, aggregate, cement, (tons/day); volume of concrete and asphaltic concrete produced per day; volume of aggregate mined per day (cu. yds./day); composition of a cubic yard of concrete produced (percent cement, sand, aggregate, admixture, water, fly ash, etc.); composition of a cubic yard of asphaltic concrete produced (percent cement, sand, aggregate, gypsum, admixture, water, fly ash, etc.); amount of each basic raw material including sand, aggregate, cement, fly ash delivered per day (tons/day).~~

1. Hours of operation;

2. Type of batch operation (wet, dry, central);

3. Throughput per day of basic raw materials including sand, aggregate, cement (tons/day);

4. Volume of concrete and asphaltic concrete produced per day;

5. Volume of aggregate mined per day (cubic yards/day);

6. **Composition of a cubic yard of concrete produced (percent cement, sand, aggregate, admixture, water, fly ash) (Stakeholders have asked us to delete this requirement. Requirement doesn't seem to be in NSPS);**

7. **Composition of a cubic yard of asphaltic concrete produced (percent cement, sand, aggregate, gypsum, admixture, water, fly ash) (Stakeholders have asked us to delete this requirement. Requirement doesn't seem to be in NSPS); and**

8. **Amount of each basic raw material including sand, aggregate, cement, fly ash delivered per day (tons/day) (Stakeholders have asked us to delete this requirement. Requirement doesn't seem to be in NSPS).**

b. **Additional Data For Dry Mix Concrete Plants:** ~~The number of bags of dry mix produced per day; weight (size) of bags of dry mix produced per day; kind and amount of fuel consumed in dryer (cu. ft./day or gals./day); kind and amount of any~~

~~back-up fuel (if any).~~ Daily records shall be kept for all days that a dry mix concrete plant is actively operating. Records shall include all of the following:

1. Number of bags of dry mix produced;

2. Weight (size) of bags of dry mix produced;

3. Kind and amount of fuel consumed in dryer (cubic feet/day or gallons/day); and

4. Kind and amount of any back-up fuel, if any.

c. Control And Monitoring Device Data: ~~Baghouse records shall include dates of inspection, dates and designation of bag replacement, dates of service or maintenance, related activities, static pressure gauge (manometer) hourly readings. Scrubber records shall include dates of service or maintenance related activities; the scrubbing liquid flow rate; the pressure or head loss; and/or any other operating parameters which need to be monitored to assure that the scrubber is functioning properly and operating within design parameters. Records of time, date and cause of all control device failure and down time shall also be maintained.~~ Daily records shall be kept for all days that control and monitoring devices are actively operating. Records shall include all of the following:

1. For a fabric filter baghouse:

i. Date of inspection;

ii. Date and designation of bag replacement;

iii. Date of service or maintenance related activities;

iv. Static pressure gauge (manometer) readings; and

v. Time, date, and cause of fabric filter baghouse failure and/or down time, if applicable.

2. For a scrubber:

1. Date of service or maintenance related activities;

2. Liquid flow rate;

3. Pressure or head loss;

4. Other operating parameters that need to be monitored to assure that the scrubber is functioning properly and operating within design parameters; and

5. Time, date, and cause of scrubber failure and/or down time, if applicable.

501.3 ECS O&M Plan Records: An owner ~~or~~ and/or operator of a ~~facility~~ a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall maintain ~~a record of the periods of time than an approved ECS is used to comply with this rule. Key system parameters, such as flow rates, pressure drops, and other conditions necessary to determine if the control equipment is functioning properly, shall be recorded in accordance with the approved O&M Plan. The records shall account for any periods when the control system was not operating. The owner or operator of a facility shall also maintain results of the visual inspection and shall record any corrective action taken, if necessary.~~ all of the following records in accordance with an approved O&M Plan:

a. Periods of time that an approved ECS is operating to comply with this rule;

b. Periods of time that an approved ECS is not operating;

c. Flow rates;

d. Pressure drops;

e. Other conditions necessary to determine if the approved ECS is functioning properly;

f. Results of visual inspections; and

g. Correction action taken, if necessary.

501.4 **Dust Control Plan Records:** An owner and/or operator of a nonmetallic mineral processing plant, an asphaltic concrete plant, a concrete plant and bagging operation, and/or any other associated operation subject to this rule shall, when complying with Section 306 of this rule, compile, maintain, and retain Dust Control Plan records as described in Rule 310 (Fugitive Dust) of these rules.

502 **COMPLIANCE DETERMINATION/TEST METHODS ADOPTED BY REFERENCE:** The test methods for those subparts of 40 Code Of Federal Regulations (CFR) Part 60, Appendix A, adopted as of ~~July 1, 1998~~ July 1, 2003, as listed below, are adopted by reference as indicated. This adoption by reference includes no future editions or amendments. Copies of test methods referenced in Section 502 of this rule are available at the Maricopa County Environmental Services Department, 1001 North Central Avenue, Phoenix, Arizona, 85004-1942. When more than one test method is permitted for a compliance determination, then an exceedance of the limits established in this rule, determined by any of the applicable test methods, constitutes a violation of this rule.

502.1 **Grain Loading:** Particulate matter and associated moisture content shall be determined using the applicable EPA Reference Methods 1 through 5, 40 CFR Part 60, Appendix A.

502.2 **Opacity Determination:** Opacity observations to measure the opacity of visible emissions shall be conducted in accordance with the techniques specified in EPA Reference Method 9, 40 CFR Part 60, Appendix A, except the opacity observations for intermittent visible emissions shall require 12 (rather than 24) consecutive readings at 15-second intervals.

502.3 **Stabilization Determination:** Stabilization determinations shall be determined using the following test methods in accordance with Appendix C (Fugitive Dust Test Methods) of these rules:

a. ASTM Method D2216-98 ("Standard Test Method For Laboratory Determination Of Water (Moisture) Content Of Soil And Rock By Mass"), 1998 edition.

b. ASTM Method D1557-91 (1998) ("Test Method For Laboratory Compaction Characteristics Of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)"), 1998 edition.

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 325

BRICK AND STRUCTURAL CLAY PRODUCTS (BSCP) MANUFACTURING

INDEX

MARICOPA COUNTY

AIR POLLUTION CONTROL REGULATIONS

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 325

BRICK AND STRUCTURAL CLAY PRODUCTS MANUFACTURING

SECTION 100 – GENERAL

101 PURPOSE: To limit particulate matter emissions from the use of tunnel kilns for curing in the brick and structural clay product manufacturing processes.

102 APPLICABILITY: This rule applies to any existing tunnel kiln, used in the commercial and industrial brick and structural clay product manufacturing processes with a capacity of more than 1 ton per hour but less than 10 tons per hour. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Sources Performance Standards (NSPS). In such cases, the most stringent standard shall apply.

103 EXEMPTIONS: Kilns that are used exclusively for research and development and are not used to manufacture products for commercial sale, except in a de minimis manner, are not subject to this rule.

SECTION 200 – DEFINITIONS: See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule. For the purpose of this rule, the following definitions shall apply:

201 BRICK AND STRUCTURAL CLAY PRODUCTS (BSCP) MANUFACTURING FACILITY- A site that manufactures brick (including,

but not limited to: face brick, structural brick and brick pavers) ; claypipe; roof tile; extruded floor and wall tile; and/or other extruded, dimensional, clay products. Brick products manufacturing facilities typically process raw clay and shale, form the processed materials into bricks or shapes, and dry and fire the bricks or shapes.

202 CONTINUOUS KILN – A heated chamber that heats dense loads uniformly and efficiently, and can be used without interruption for high volume production. Continuous kilns are kilns that perform well in the consistent high production of wares. Continuous kilns include tunnel kilns, roller kilns and sled kilns, decorating kilns and pusher slab kilns.

203 KILN FEED – All materials except fuel entering the tunnel kiln, including raw feed and recycle dust, measured on a dry basis.

204 RESEARCH AND DEVELOPMENT KILN- Any kiln whose purpose is to conduct research and development for new processes and products and is not engaged in the manufacture of commercial products for sale.

205 TUNNEL KILN – Any continuous kiln that is used to fire brick and structural clay products. Tunnel kilns may have two process streams, including a process stream that exhausts directly to the atmosphere or to an Air Pollution Control Device, and a process stream in which the kiln exhaust is ducted to a sawdust dryer where it is used to dry sawdust before being emitted to the atmosphere.

SECTION 300 – STANDARDS:

301 OPACITY LIMITATIONS FOR TUNNEL KILNS SUBJECT TO THIS RULE- No person shall discharge into the ambient air form any single source of emissions any air contaminant, other than uncombined water, in excess of 20 % opacity.

302 LIMITATIONS FOR TUNNEL KILNS AT BRICK AND STRUCTURAL PRODUCT (BSCP) MANUFACTURING FACILITIES - No owner or operator shall emit more than 0.42 lbs. of particulate matter per ton of fired product from a tunnel kiln with a capacity of more than 1 ton per hour of kiln feed but less than 10 tons per hour of kiln feed.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: Any owner or operator of a kiln subject to this rule shall be in full compliance by (24 months after the adoption of this rule).

SECTION 500 - MONITORING AND RECORDS

501 COMPLIANCE DETERMINATION: Compliance shall be demonstrated through measurement of particulate matter concentration by performance of the test methods listed in Section 503 no later than (18 months after the adoption of this rule).

502 RECORDKEEPING / RECORDS RETENTION: The owner or operator of any kiln subject to this rule shall comply with the following requirements and keep records for a period of 5 years:

502.1 Daily records of kiln feed fired and hours of operation.

502.2 Monthly records of material delivered to the site for processing in the tunnel kiln and the amount of product produced reported in tons.

503 TEST METHODS: The Environmental Protection Agency (EPA) test methods as they exist in the Code of Federal Regulations (CFR) (July 1, 2003), as listed below, are adopted by reference. These adoptions by reference include no future editions or amendments. Copies of test methods referenced in this section of this rule are

available at the Maricopa County Environmental Services Department, 1001 North Central Avenue, Suite 201, Phoenix, Arizona, 85004 -1942.

503.1 EPA Reference Method 9 ("Visual Determination of the Opacity of Emissions from Stationary Sources"), (40 CFR 60, Appendix A).

503.2 EPA Reference Method 5 ("Determination of Particulate Emissions from Stationary Sources") (40 CFR 60, Appendix A) and possibly, if requested by the Control Officer, EPA Reference Method 202 ("Determination of Condensable Particulate Emissions from Stationary Sources"), (40 CFR 51, Appendix A).

MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT
TIMELINE FOR ADOPTION OF PROPOSED REVISIONS TO RULES 310.01 AND 316, AND ADOPTION OF NEW RULE 325

June 04, 2004	Docket opening for MCESD Rule 310.01, *Fugitive Dust from Open Areas, Vacant Lots, Unpaved Parking Lots, and Unpaved Roadways,* and Rule 316, *Non-Metallic Mineral Mining and Processing.*
July 1, 2004	First stakeholder workshop for Rule 316.
July 8, 2004	First stakeholder workshop for Rule 310.01.
August 5, 2004	Second pubic workshop for Rule 316.
August 12, 2004	Second public workshop for Rule 310.01; and First public workshop for proposed new Rule 325, *Brick Manufacturing*
September 23, 2004	Second public workshop for proposed new Rule 325
November 4, 2004	MCESD oral proceeding to set public hearing dates for adoption of proposed revisions to Rules 310.01 and 316
December 9, 2004	MCESD oral proceeding to set public hearing date for adoption of proposed new Rule 325
February 16, 2005	MCESD Board of Supervisors public hearing to adopt proposed revisions to Rules 310.01 and 316
March 2, 2005	MCESD Board of Supervisors public hearing to adopt proposed new Rule 325
April 2005	MCESD implements controls that do not require capital expenditures or contract or bid amendments.
August 2005 – February 2006	MCESD implements controls that require capital expenditures.

Appendix E

DRAFT 2004 PM_{10} MILESTONE REPORT

IMPLEMENTATION STATUS OF *REVISED MAG 1999 SERIOUS AREA PARTICULATE PLAN FOR PM_{10} FOR THE MARICOPA COUNTY NONATTAINMENT AREA*
(February 16, 2000)

For

PM_{10} CONTROL MEASURES RELEVANT TO NAAQS ATTAINMENT IN THE PHOENIX, ARIZONA SALT RIVER STUDY AREA

DRAFT
SYNOPSIS OF 1999 MAG SIP COMMITTED CONTROL MEASURES For
SALT RIVER PM_{10} STATE IMPLEMENTATION PLAN REVISION REVIEW

1999 MAG SIP COMMITTED MEASURES **Applicable to Primary and Secondary Paved Roads**	
NEW MEASURES	MEASURE DESCRIPTION
#44 – NO CREDIT TAKEN	**Vacuum Systems for Crack Seal Operations**: Arizona Legislature passed SB 1427, which requires cities, towns, and counties in Area A to acquire or utilize vacuum systems or other dust removal technology to reduce particulates attributable to conventional crack sealing operations, as existing equipment is retired, beginning January 1, 1999 (A.R.S. § 9-500.04 or 49-474.01). No commitments to this measure in 1999 MAG SIP.
#50	**Purchase/Use of PM_{10}-Efficient Street-Sweepers**: All participating jurisdictions made commitments to review the results of the MAG PM_{10}-efficient street sweeping test to evaluate the technological and economic feasibility of potential purchase, lease, contract, of PM_{10}-efficient street sweepers, dependent upon certification of PM_{10}-efficient street sweepers by CARB, SAE, and SCAQMD and results from MAG PM_{10}-efficient street sweeping test.
EXISTING MEASURES	MEASURE DESCRIPTION
#71 – NO CREDIT TAKEN	**Frequent, Routine Sweeping/Cleaning of Pavement**: Jurisdictions made various commitments: one jurisdiction commits to coordinating street sweeping with uncontained trash pick-up; six jurisdictions committed to a specific or improved, sweeping schedule; twelve jurisdictions made no new commitments, or committed to enforcement of current controls.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR PRIMARY AND SECONDARY PAVED ROADS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
AVONDALE: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - Coordinating sweep schedule with uncontained trash pick-up, FY 1997-1998		
Owns one street-sweeper, contracts for others; conducts routine sweeping of residential and major streets	No data	
APACHE JUNCTION		
No data	No data	City currently owns two PM_{10}-efficient street-sweepers, and sweeps streets once a month.
BUCKEYE: 1997/1998 COMMITMENTS - #50, #71 - No enhanced commitments		
Sweeps streets on routine basis	No data	
CAREFREE: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility, and consider purchase, lease, or contract of PM_{10}-efficient street sweepers. #71 – No enhanced commitments		
Contracts to have one mile of streets swept bi-weekly	No data	Town contracts to have one mile of streets swept bi-monthly; wash crossings, intersections, and other areas are cleaned on an as-needed basis.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR PRIMARY AND SECONDARY PAVED ROADS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
CAVE CREEK: 1997/1998 COMMITMENTS - #50, #71 - No enhanced commitments		
Owns two water trucks used to flush streets, rents sweepers; sweeps paved roads twice a year	No data	Town currently contracts with C&S Street Sweeping for sweeping services. Town sweeps major roads twice a year, but hopes to extend service to additional roads, and increase frequency to accommodate quarterly sweeping.
CHANDLER: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - Committed to its recently enhanced sweeping schedule, currently implemented		
Owns five street-sweepers; sweeping residential streets once per month, arterial streets every 14 days. City code requires developers to keep streets clean of construction debris, charges developers refundable street cleanup fee and may levy an assessment against it to cover the costs of cleanup.	No data	City has replaced its fleet of eight street-sweepers with eight PM_{10}-efficient units. All primary and secondary arterials are swept once every 14 days; residential streets are swept once every 30 days. Trouble areas are swept in response to complaints, as necessary.
EL MIRAGE: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - No enhanced commitments		
Contracts with vendor for quarterly street-sweeping service; sweeps 9.5 miles of streets each year, public streets swept quarterly.	No data	
FOUNTAIN HILLS: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - No enhanced commitments		
Owns one street sweeper which will be replaced by December 1998; ongoing program to sweep streets to keep roadways free of sand and debris.	No data	Town replaced its old street-sweeper in 1998 with an Athey mobile sweeper, and has proposed to purchase a PM_{10}-efficient sweeper in the town budget for fiscal year 2005-2006. Town sweeps its street every weekday.
GILBERT: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - No enhanced commitments		
Owns three street sweepers (including two Athey mobile sweepers); sweeps once per month, downtown streets are swept once per week. Continued enforcement of dust nuisance regulations.	No data	Town owns and operates four PM_{10}-efficient street-sweepers. Town sweeps arterials, collectors, and residential streets at least once monthly.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR PRIMARY AND SECONDARY PAVED ROADS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
GLENDALE: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - No enhanced commitments		
Owns eight street-sweepers; city currently uses mechanical broom sweepers to sweep streets.	No data	City purchased seven PM_{10}-efficient street-sweepers, one is rarely used, due to operational problems. City neither rents additional sweepers, nor contracts for sweeping. Arterial and half mile streets are swept every two weeks; residential streets are swept every four weeks.
GOODYEAR: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 – No enhanced commitments		
Owns one street-sweeper, contracts for other sweepers; city currently sweeps on daily basis using mechanical broom sweeper.	No data	City currently owns four PM_{10}-efficient street-sweepers. Two sweepers are scheduled to be replaced in 2005-2006 fiscal year. City has two sweeper operators. Sweeping is scheduled on days not scheduled for sanitation pick up. Entire city is swept every three weeks.
MESA: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - Considering an ordinance requiring use of PM_{10}-efficient street sweepers on private property.		
Owns five street sweepers for residential streets, contracts for arterial street sweeping; city currently conducts periodic sweeping (including water spraying) of residential and major arterials.	No data	City currently owns five street-sweepers, of which three are PM_{10}-efficient, for sweeping residential streets; City currently sweeps residential streets every six weeks. City contracts for arterial street-sweeping; and sweeps arterials every two weeks.
PARADISE VALLEY: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - Considering sweeping every street every six weeks		
Owns three sweepers, no leases, no contracts; city currently sweeps every street every three months.	No data	Town currently owns two PM_{10}-certified street-sweepers. Town sweeps all major arterials once per month; all minor arterials, twice per month; and all residential streets, once every three months.

DRAFT
SYNOPSIS OF 1999 MAG SIP COMMITTED CONTROL MEASURES For
SALT RIVER PM_{10} STATE IMPLEMENTATION PLAN REVISION REVIEW

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR PRIMARY AND SECONDARY PAVED ROADS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
PEORIA: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - Implementing a bi-weekly sweeping schedule by January 5, 1998		
City sweeps on monthly basis.	City owned five street-sweepers, two of which were PM_{10}-efficient. City swept 391 centerline miles of streets. City has swept its downtown streets on a bi-weekly schedule since January 1998. Street-sweeping frequency on all residential and collector streets was every seven weeks in 2001. City swept all arterial streets every five weeks.	Over the last three years, the City has converted its entire fleet to PM_{10}-efficient street-sweepers. As of 2004, City owns five PM_{10}-efficent street-sweepers: two Bearcat sweepers, and three Centurion sweepers. City changes its sweeping schedules to adjust to ongoing City growth. Currently, City sweeps 437 centerline miles of public streets. City has increased the frequency of sweeping on all residential and collector streets to every five weeks. City has increased sweeping on all arterial streets every four weeks.
PHOENIX: 1997/1998 COMMITMENTS - #50 - Participating in MAG Feasibility Study and will prepare Council recommendations within six months of completion of MAG Feasibility Study final report. #71 - Committed to coordinating sweeping with uncontained trash pick-up in FY 1997-1998		
Owns 21 street sweepers, sweeping approximately 7,100 curb miles of city streets; currently conducts routine sweeping of residential and major streets.	No data	City owns 34 street-sweepers, 32 of which are PM_{10}-compliant. City sweeps 1,730 curb miles of arterials and high-volume collector streets, and sweeps all major arterial and collector streets once every 14 days, and conducts routine sweeping of residential streets.
QUEEN CREEK: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - Committed to sweeping all curb and gutter streets four times yearly, including additional 12 lane-mile passes of sweeping per year, implemented no later than January 1, 1998; will assign one person to manage contract administration and inspection		
Owns no sweepers, leases none, and currently selecting a contractor for sweeping.	Still contracts for sweeping services.	Town currently contracts a non-PM_{10}-efficient street-sweeper for routine street-sweeping, but has received MAG approval for CMAQ funds to purchase a PM_{10}-efficient sweeper in February 2004. Purchase has been budgeted. Town sweeps 15 miles of streets with curb and gutter once a month.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR PRIMARY AND SECONDARY PAVED ROADS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
SCOTTSDALE: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 – No enhanced commitments		
Owns six sweepers, two of which are vacuum units; currently sweeps all curbed miles of residential, commuter, and downtown streets according to schedule: 52 times per year (commuter); 104 times per year (downtown); 18.5 times per year (residential).	No data	City owns two pre-PM_{10}-efficient Tymco Regenerative Air sweepers; two PM_{10}-efficient Tymco Regenerative Air sweepers; and three PM_{10}-efficient Air Bear Broom sweepers. City sweeps arterial and commercial streets weekly (52 times per year), downtown business area three times per week (156 times per year), and residential areas 18 times per year.
SURPRISE: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 – No enhanced commitments		
Owns one Elgin "Crosswind" vacuum-based street sweeper cleans all city-owned streets bi-monthly; currently sweeps once every ten days; heavily-traveled arterials adjacent to new construction will be swept more frequently.	No data	City added two new sweepers to its current fleet, for a total of four PM_{10}-certified sweepers. City sweeps every four weeks for arterials, and every six weeks for collectors. City is considering adding contractual sweeping services to increase frequency of residential sweeping.
TEMPE: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 – No enhanced commitments		
Owns seven sweepers; city routinely sweeps all streets.	No data	City currently owns 6 PM_{10}-efficient street-sweepers, and two non-PM_{10}-efficient sweepers. City currently has five arterials, ten collectors, and 40 residential streets. Since January 1, 2002, City has swept 12 lane miles of arterials every seven to eight days; six lane miles of collectors every seven to eight days; and 40 lane miles of residential streets every seven to eight days. City currently maintains 1,241 paved lane miles.
TOLLESON: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 - Committed to sweeping frequency on the 15.3 miles of road in Tolleson corporate limits, considering vacuuming		
Owns one street sweeper; city zoning ordinance (Article VI) requiring street sweeping.	No data	City owns one Schwarz 8000 MAG-approved street-sweeper and sweeps three times per year.
WICKENBURG: 1997/1998 COMMITMENTS - #50 - Purchasing a new street-sweeper #71 - No enhanced commitments		
City sweeps all paved streets in jurisdiction.	No data	No data

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR PRIMARY AND SECONDARY PAVED ROADS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
YOUNGTOWN: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 – No enhanced commitments		
Owns one sweeper, may contract for PM_{10}-efficient street sweeper to sweep 13.25 miles of streets; Town sweeps paved streets monthly.	No data	
MARICOPA ASSOCIATION OF GOVERNMENTS (MAG): 1997/1998 COMMITMENTS - #50 - For each fiscal year CMAQ funds are allocated for sweepers, MAG will solicit requests for funding of PM_{10}-certified units from entities in the nonattainment area identifying: the number of centerline miles to be swept, expected frequency of sweeping, and average daily traffic. The data will be collected by facility type for roads to be swept with the PM_{10}-certified units and MAG will estimate the emissions reduction for each sweeper requested and rank requests in priority order of effectiveness for consideration for CMAQ funds. #71 – No enhanced commitments		
In 1998, 1,521 street-sweepers were in use; as of 2001, 38 PM_{10}-efficient street-sweepers had been purchased.	As of November 2001, MAG has purchased a total of 38 PM_{10} - efficient street sweepers from CMAQ and local funds (21 sweepers purchased in fiscal year 2001). MAG coordinated the PM_{10}-Efficient Street Sweeping Test in 2001, and was approved in December 2001. As of March 2002, a total of $10.9 million in CMAQ funds has been authorized or programmed in TIPs to purchase PM_{10}-efficient street sweepers, $5.2 million above previous commitment.	As of March 2004, MAG has purchased 63 PM_{10}-efficient street-sweepers from CMAQ and local funds (7 sweepers purchased in fiscal year 2002 and 24 sweepers purchased in fiscal year 2003). For fiscal year 2004, 11 sweepers have been approved for purchase through March 2004 and an additional 5 sweepers may be purchased if approved by the MAG Regional Council at the end of June 2004. As of November 2003, a total of $12.5 million in CMAQ funds has been authorized or programmed in TIPs to purchase PM_{10}-efficient street-sweepers, $6.8 million above previous commitment.
MARICOPA COUNTY: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. #71 – No enhanced commitments		
MCDOT owns five mobile street sweepers including three interim-technology PM_{10}-efficient units; MCDOT will purchase, lease, or contract additional, as necessary	No data	MCDOT currently owns six street sweepers, four PM_{10}-efficient street sweepers, and two conventional sweepers. MCDOT also contracts services for two additional PM_{10} street sweepers.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR PRIMARY AND SECONDARY PAVED ROADS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
ARIZONA DEPARTMENT OF TRANSPORTATION: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. Committed to participating in MAG Street Sweeper Stakeholder Committee, and with the MAG street sweeper test. #71 - Committed to increasing contracted curb miles swept and an increased commitment to litter removal.		
ADOT owns three sweepers, and has three other sweepers on contract. Currently, ADOT contracts for metro-Phoenix area an annual 30,000 curb miles to be swept in various frequencies. ADOT District Maintenance supplements sweeping, as necessary. ADOT has responsibility for maintaining facilities in the state highway system, in accordance with A.R.S. § 28-104. Three current mechanisms: (1) municipal intergovernmental agreements with ADOT; (2) ADOT contracts with private sector for maintenance; and (3) ADOT ad hoc sweeping by ADOT personnel using state-owned equipment.	No data	**Commitment #71 -** ADOT has increased the curb miles swept, yearly. **Miles Swept By Fiscal Year:** (01-02) - 41,089 curb miles (02-03) - 46,573 curb miles (03-04) - 55,036 curb miles ADOT has weekly and bi-weekly sweeping routes tracking located in PECOS database by program and activity codes. Program 150—Roadside and Program 910--Contract Maintenance, is where records are kept for litter pick up and sweeping. ADOT currently sweeps paved access roads (on and off ramps) on a biweekly schedule of **327.4 curb miles** or **654.8 curb miles** per week. ADOT currently sweeps freeways, ramps or stacks weekly this includes **68.21 curb miles** of ramps/stacks and **871.95 curb miles** of highways per week. Information on ADOT's current Sweeping Program can be found under Contract number T00-11-00024. **Litter Removal -** In addition to ADOT issuing permits for voluntary litter pick up programs, ADOT has dedicated maintenance staff to perform litter removal and emergency sweeping as needed. Sponsored program includes three contractors servicing **181 miles 26 times per year**. The contractors performing this work are.... Adopt A Highway Litter Removal Service Of America Arizona Highway Adoption Company Adopt A Highway Volunteer program has **123 miles being serviced on average 2 times per year**. **Commitment #50 Next Page**

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR PRIMARY AND SECONDARY PAVED ROADS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
ARIZONA DEPARTMENT OF TRANSPORTATION: 1997/1998 COMMITMENTS - #50 - Committed to review MAG PM_{10}-efficient street sweeping test results, evaluate technological/economic feasibility by December 2002, and purchase, lease, or contract PM_{10}-efficient street sweepers, as older equipment retired. Committed to participating in MAG Street Sweeper Stakeholder Committee, and with the MAG street sweeper test. #71 - Committed to increasing contracted curb miles swept and an increased commitment to litter removal.		
ADOT owns three sweepers, and has three other sweepers on contract. Currently, ADOT contracts for metro-Phoenix area an annual 30,000 curb miles to be swept in various frequencies. ADOT District Maintenance supplements sweeping, as necessary. ADOT has responsibility for maintaining facilities in the state highway system, in accordance with A.R.S. § 28-104. Three current mechanisms: (1) municipal intergovernmental agreements with ADOT; (2) ADOT contracts with private sector for maintenance; and (3) ADOT ad hoc sweeping by ADOT personnel using state-owned equipment.	No data	**Commitment #50 -** ADOT contracts out sweeping jobs, information on equipment used is provided in Contract ADOT owns 2 street sweepers new replacement sweepers have not been purchased at this time. The types of sweepers that ADOT uses are the: 1. MOBIL Mechanical Broom Sweepers - Model M8A, Twin Engine, Hi Dump Broom Sweepers, originally manufactured by Athey Products Co., which was acquired by the Elgin Sweeper Company, a division of Allied Signal Corporation. Elgin no longer manufactures any Mobil Sweepers, although from a safety prospective, these machines are the safest machines available to us when we sweep the very narrow left hand shoulder of HOV lanes on the Phoenix area freeway system. 2. TYMCO Broom Assisted Vacuum Sweepers - Model 600BAH, manufactured by Tymco, Inc. in Waco, Texas. These machines meet PM10 requirements and are also used by Maricopa County DOT for the in-house street sweeping they do throughout Maricopa County. All of ADOT's sweepers have functioning on-board water systems for dust suppression.

DRAFT
SYNOPSIS OF 1999 MAG SIP COMMITTED CONTROL MEASURES For
SALT RIVER PM_{10} STATE IMPLEMENTATION PLAN REVISION REVIEW

1999 MAG SIP COMMITTED MEASURES **Applicable to Unpaved Roads and/or Shoulders**	
NEW MEASURES	MEASURE DESCRIPTION
#43 – NO CREDIT TAKEN	**Use of Petroleum Products for Public Road and Street Maintenance** (1998): The Arizona Legislature passed SB 1427, which allows use of petroleum-based or non-petroleum-based products in the maintenance/repair of unpaved roads, alleys and **shoulders** identified pursuant to A.R.S. § 9-500.04 or 49-474.01. No commitments to this measure in 1999 MAG SIP.
#42 – NO CREDIT TAKEN	**Low Speed Limit for Unpaved Roads** (1998): The Arizona Legislature passed Senate Bill 1427 allowing local authorities to decrease the speed limit to not less than 15 miles per hour on an unpaved street or road within any district in its jurisdiction if the local authority determines that the limit is necessary to achieve or maintain the NAAQS, pursuant to A.R.S. § 28-703. No commitments to this measure in 1999 MAG SIP.
#41	**Reduce Particulate Emissions from Unpaved Shoulders on Targeted Arterials** (1998): Senate Bill 1427 requires cities, towns, and counties in Area A to develop and implement plans to stabilize targeted unpaved roads, alleys, and **stabilize unpaved shoulders** on targeted arterials beginning January 1, 2000. Plans are required to address performance goals, criteria for targeting the roads, alleys, and shoulders, a schedule for implementation, funding options, and reporting requirements (A.R.S. § 9-500.04, and 49-474.01).
#40	**Reduce Particulate Emissions from Unpaved Roads and Alleys** (1998): The Arizona Legislature passed SB 1427, which requires cities, towns, and counties in Area A to develop and implement plans to stabilize targeted unpaved roads, alleys and **stabilize unpaved shoulders** on targeted arterials beginning January 1, 2000. The plans are required to address performance goals, a schedule for implementation, funding options, and reporting requirements (A.R.S. § 9-500.04, and 49-474.01).
EXISTING MEASURES	MEASURE DESCRIPTION
#70	**Curbing, Paving, or Stabilizing Shoulders on Paved Roads (Includes Painting Stripe on Outside of Travel Lane)**

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
APACHE JUNCTION: 1997/1998 COMMITMENTS – No enhanced commitments.		
No data	No data	Five miles of curbing added since 1997; one mile of shoulders stabilized. No alleys or access points were paved or stabilized.
AVONDALE: 1997/1998 COMMITMENTS - #41 – Committed to September 30, 1999 implementation of provisions of SB 1427. #70 – Continuing to paint edgelines along roadways with unpaved shoulders on arterials and other streets where appropriate. #40 - City will participate in a regional program to assist in the reduction of particulate pollution, providing dust-proof treatments to any public street within a nonattainment area which is unpaved or for which alternate dust control or graveling measures have not been approved.		
City ordinance requires this measure. City zoning ordinances currently require paving for all off-road parking; all single-family residential and duplex parking areas; require all residential, commercial, and industrial developments have paved roads, curbs, and driveways.	City applied 29 miles of curbing; two miles of road millings; and stabilized seven miles of alleys.	

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
BUCKEYE: 1997/1998 COMMITMENTS - #41, #40, #70 - Town in process of five-year street-paving program, which includes curbs, gutters, and driveway entrances for all existing uses.		
Town Development Code currently requires paving for all areas traveled by vehicles. All roads, driveways, and parking areas must include paving and curbs.	Town constructed 3.25 Miles of curbing and gutters on new and existing roads.	
CAREFREE: 1997/1998 COMMITMENTS - #41, #40, #70 - Commits to enforcing current ordinances; Town Subdivision Ordinance requires new roads and shoulders within the Town to be paved with asphalt, concrete, or the equivalent including gravel.		
Town has three miles of unpaved (graveled) roads (< 150 ADT). All road shoulders within jurisdiction are paved or graveled.	Town constructed approximately one mile of curbing in 2001.	Town has three miles of unpaved, graveled roads. Dust control is applied on an as-needed basis. Funds have been budgeted to pave two miles of the roads in the fall of 2004. Town has approximately 5.5 miles of arterial streets; the eleven miles of shoulders are stabilized on an as-needed basis. Town has no unpaved alleys. Town has two gravel access points from the two gravel parking lots. Unpaved residential access points are stabilized with gravel.
CAVE CREEK: 1997/1998 COMMITMENTS - #41, #40, #70 - Town indicates that remaining 25 percent of roads to be striped in FY 1998. Also, a new program for stabilizing paved road shoulders with lignin was implemented in 1998: All dirt roads after 1998 receive application of recycled asphalt or gravel, mixed and bound with lignosulfonate during regularly-scheduled grading cycles.		
Town indicates that 75 percent of all paved roads were restriped in 1996, by the end of 1998, over ten miles of unimproved dirt roads had been improved to include application of recycled asphalt or gravel, mixed and bound with lignosulfonate.	All unpaved roads are graveled and are low ADT.	Town has approximately 43 miles of paved roadway and 45 miles of unimproved roadway. Town grades and stabilizes unimproved roadways with Dustac solution an average of once every two months, and plans to pave five miles of roadway per year. Town currently has about one and one-half to two miles of curbing along both sides of Cave Creek Road. All Town subdivisions currently have either Maricopa Edge or Ribbon curbing. Town has not stabilized any shoulders, nor has stabilized any alleys. Town estimates that approximately 70 percent of residences in jurisdiction have unpaved private access roads that empty onto paved public roads. Town currently requires driveways to meet the emergency services requirement of paving road grades greater than 12 percent. Town also requires the flatter grades to add a minimum of four inches of 3/8 minus, decomposed granite for dust control.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
CHANDLER: 1997/1998 COMMITMENTS - #41 - City committed to allowing natural vegetation to grow on all unpaved shoulders, conducting routine shoulder maintenance by mowing, rather than discing and blading. City also commits to implementing the provisions of SB 1427. #70 - City will evaluate any newly-annexed county roads to determine the appropriateness of striping outside the travel lane. #40 - Committed to continuing program of dust-proofing city-owned alleys, applying millings to another five to seven miles in the next 12 months, based on availability of asphalt milling material. Committed to paving all city-owned, public roads identified by June 10, 2000. SB 1427 commitments do not apply to unpaved roads and alleys located on an industrial facility, or construction or earth-moving activity on sites that have an approved permit issued by Maricopa County.		
City requires any newly-constructed street to include curbing and shoulder paving. City has: reconstructed 7.5 miles of alleys over the past four years, using six inches of ABC gravel for base and surface; applied asphalt milling to 31 miles of city-owned alleys.	City improved 4.3 miles of shoulder; developed standards requiring all roads to have full curb and gutters; 0.85 Miles of roads paved; 37 miles of alleys stabilized with millings; identified four sections of city-owned unpaved public roadway (1.25 miles, < 250 ADT), which were paved by 2001.	Chandler currently has only one unpaved, city-owned, street; street is 0.75 mile long. All new development is required to have paved streets, curbs, and gutters. Existing unpaved shoulders are mowed rather than graded. All annexed areas are required to have plans in place to assure future pavement with curbs, and gutters.
EL MIRAGE: 1997/1998 COMMITMENTS - #41, #40, #70 - Committed to allowing natural vegetation to grow on unpaved shoulders, will require developers to install pavement, curb, gutter, sidewalks, and landscaping as development occurs. By June 1998, City will identify all shoulder areas requiring curbing, paving, stabilization, or striping, allow vegetation to grow, and stabilize where necessary. City committed to paving: one-half mile of currently unpaved roadways; and the one-quarter mile long roadway to the City's Wastewater Treatment Plant in 1999. El Mirage will require all developers to commit to stop track-out.		
1999 MAG SIP assumed that City would allow natural vegetation to grow on shoulders. City currently responsible for maintaining six miles of unpaved roadways within a large lot rural subdivision. City's current plans address 95 percent of all unpaved City roadways.	No data for 2001 1999 SIP assumed that City would pave 0.5 miles of unpaved roads, maintain 6 miles of unpaved roads, and allow natural vegetation to grow on paved road shoulders.	
FOUNTAIN HILLS: 1997/1998 COMMITMENTS - #41, #40, #70 - Committed to developing and implementing a plan requiring stabilization of unpaved shoulders of paved roads. Owners/operators of existing public unpaved roads with ADT ≥ 250 are required to pave, stabilize, or apply gravel to the unpaved shoulder part of the road. Committed to implementing the provisions of SB 1427: developing and implementing a plan requiring unpaved roads and shoulder stabilization (pave, chemically stabilize, or apply gravel) to unpaved roads with an ADT of 250 or greater. Approximately 2.4 miles-alleys will be evaluated and treatment will begin by January 1, 2000, continuing, as needed.		
Owners/operators of existing public unpaved roads with ADT ≥ 250 are required to pave, stabilize, or apply gravel to the unpaved shoulder part of the road.	Town stabilized 8.9 miles of shoulders using millings or gravel. (Out of 2.4 miles of alleys (0.15 is road that will remain untreated, since they lead to the Indian Reservation and will remain unused), 0.75 have been treated with millings, and is estimated that 0.25 to 0.50 miles will be treated in 2002.)	Existing total miles of paved roads in Fountain Hills is 187; all paved roads are constructed with a minimum of two lanes. Town has curbed 374 miles of paved roads. Town has stabilized, using millings or gravel, 8.9 linear miles of road shoulders (both sides of road). Town has approximately 0.25 miles of public unpaved alleys; these are inaccessible, due to lot configuration. Town verifies that all unpaved access points onto paved roads comply with Maricopa County dust control regulations.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
GILBERT: 1997/1998 COMMITMENTS - #41, #40, #70 - Committed to stabilizing unpaved shoulders with milled asphalt. Town commits to implementing the provisions of SB 1427. Continuing to evaluate methods and products available for dust control at unpaved access points, on unpaved shoulders, and on unpaved roads and alleys. Town to require paving of all unpaved access points with reclaimed asphalt, and will require paving during land development process. Town continuing to identify shoulders requiring treatment for dust control.		
Town currently requires, and will continue to require, developers to install pavement, curb, gutter, sidewalks, and landscaping. Town stated its commitment to reduce particulate emissions from unpaved shoulders in Resolution No. 1864 (November 1997). Committed to allowing natural vegetation to grow on unpaved shoulders. All Town and arterial collector streets in the public street system are paved. About 1.25 miles of local, single-lane streets are unpaved, but stabilized with milled asphalt and regarded and watered, monthly (ADT less than 120). Town commits $500 per mile in maintenance costs, monthly.	Town maintains 44.7 miles of unimproved shoulders using stabilization. Town paved 1.13 miles of roadway, and maintains 374,853 square feet of unpaved alleys, stabilized with asphalt millings.	All arterials and collector streets are paved. As of March 2004, Town had 1,745.4 lane miles of paved roads. Town Land Development code requires all new developments to install paved roads, curbs, and driveways (access points). In 2002, Town added 38 miles of paving; in 2003, Town added 8.9 miles of paving, and 0.6 miles through March 2004. Town maintains @75 miles of unpaved, stabilized shoulders. Town maintains 25 alleys totaling @5.4 miles – all stabilized. Town maintains 72 unpaved access points at Town-owned vacant lots, alleys, and undeveloped areas at municipal parks.
GLENDALE: 1997/1998 COMMITMENTS - #41, #40, #70 - Committed to implementing the provisions of SB 1427. City commits to paving existing unpaved arterial streets, should the City gain possession of them.		
City uses Scallop Street Improvement and Street Capital Improvement programs to fund installation of pavement, curbs, gutters, sidewalks, and landscaping improvements to existing streets; allows natural vegetation to grow to stabilize unpaved shoulders, where appropriate; and paints a roadway edgeline on existing arterial streets that do not have curb and gutter. City does not keep records on number of miles of curbing installed; Once a month, water applied to shoulders. City sprays to prevent weeds.	45 Curb miles are stabilized once a year; 100 percent of unpaved curb miles along arterial streets are stabilized. No information on installing curbs; 1.5 miles of roads paved (less than 150 ADT); unpaved segments of 23 miles of alleys paved.	All city-owned streets are currently paved. New City streets are paved during construction. Curbs, gutters, and sidewalks are installed on all public roads and streets when new streets are constructed. In addition, City installs curbs, gutter, and sidewalks on certain segments of existing arterial streets that previously lacked such feature. The City does not keep records on the total amount of curbing installed.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
GOODYEAR: 1997/1998 COMMITMENTS - #41, #40, #70 - Committed to implementing the provisions of SB 1427, developing a plan by April 30, 1999. All new roads will be required to provide paving with curb and gutter or to provide suitable dust suppressant. Committed to providing dust-proofing for any unpaved public street and for which current dust-proofing measures have not previously been approved. City will be required to post 15 mph speed limit signs on all private access ways as determined by Public Works Director. Speed limit on all unpaved roadways, private or public, will be posted at 15 mph.		
City currently requires installation of curbs, gutters, sidewalks and landscaping when arterial streets are improved; currently requires a painted edgeline on outside travel lanes of appropriate arterial streets with unpaved shoulders; shoulders are repaired as necessary with appropriate materials.	Once a month, water applied to shoulders; City sprays to prevent weeds. Those roads with shoulders owned by the County are not stabilized; 7.1 miles of unpaved roads paved; 5.3 miles of city alleys paved	City currently has 260.71 center lane miles of paved roads, and has installed 345,000 linear feet of curb and gutter to include new subdivisions and capital improvement projects. City stabilizes unpaved road shoulders through development and capital improvement projects. City grades and waters unpaved shoulders on a quarterly basis. City has 4.65 center lane miles of alleys, all of which are paved. All City unpaved access points are for construction use, only, and all are stabilized according to MAG standards to prevent trackout. The sites are monitored by off-site inspectors, and trackout is swept daily.
MESA: 1997/1998 COMMITMENTS - #41, #40, #70 - Committed to implementing the provisions of SB 1427. Committed to including $120,000 for an estimated ten miles of shoulder/access stabilization in the annual proposed budget for Council consideration, until all high priority unpaved shoulders are stabilized. Committed to continue to develop improvement districts to pave unpaved traffic surfaces; will work with other entities to prioritize air quality measures and eliminate particulate pollution at the sources. City will evaluate the legality and feasibility of installing 15 mph traffic signs on unpaved roads.		
City practice is to pave shoulders as arterial streets are repaved; an estimated 55 miles of unpaved shoulders remain in jurisdiction. City code currently requires paving and curbing for residential, commercial, or industrial areas under development, under City Code 9-6-4, and 9-8-3.	City stabilized 20 miles of shoulders and paved 19 miles of curbs; six miles of road; stabilized 12 miles of road; paved one mile of alleys; stabilized six miles of alleys,	In 2002, City stabilized 3.5 miles of shoulders, 15 miles of roads, and 38 miles of alleys. In 2003, City stabilized 1.25 miles of shoulders, 14 miles of roads, and 46 miles of alleys.
PARADISE VALLEY: 1997/1998 COMMITMENTS - #41, #40, #70 - Continuing to implement current ordinance requiring paving of all public streets.		
Town indicates that it has no arterial streets with unpaved shoulders, and no streets that are expected to become arterial streets have unpaved shoulders. Currently no unpaved public streets/alleys with ADT > 150.	Town paved 1.1 miles of roads.	Town has 140 miles of paved streets. Three linear miles (six lane miles) of unpaved private streets have been paved since the 2001 mliestone report. Town has added four miles of curbing (two linear miles) on both sides of the street. Town has stabilized 0.5 mile of street shoulders.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
PEORIA: 1997/1998 COMMITMENTS - #41 Committed to implementing the provisions of SB 1427, developing a plan by January 1, 1999. City will stabilize shoulders using existing maintenance staff at $12,200 per acre for gravel, and $40 per regulatory sign. #70 - Committed to identifying all shoulders or paved roads requiring curbing, paving, stabilization, or striping, and allow natural vegetation to grow on shoulder, as applicable. #40 – Committed to identifying all unpaved public roads for stabilizing or paving by January 1, 1999 (SB 1427).		
In 1998, City had 34.8 edge miles of arterials with unpaved shoulders (140 acres); 8.4 centerline miles of unpaved public roads; 3.3 miles of quasi-public unpaved roads. City Code Section 23-81 specifies that on or after March 31, 2000, any unpaved public street for which the Public Works Director has not approved alternative dust-proofing measures, must be paved or stabilized City Ordinance 98-20, after March 31, 2000, requires the posting of 15 mph speed limit signs on all private access ways as determined by Public Works Director	City installed curbs or gutters along 25.5 miles of unconfined shoulders, paved 3.9 miles of roadway, and graveled more than 300 dirt driveways.	City's original unpaved road inventory of 8.4 miles of public and 3.3 miles of quasi-public roads has been reduced to 4.53 miles of unpaved or untreated road surface. City's inventory has grown with the acceptable of more dirt roads into the public road system. In June 2004, City adopted a Capital Improvement Plan to pave or chip seal all the remaining untreated or partially-treated roadways open for public use, including funding mechanisms for achievement of each project. A major component of the City plan in 2005 is to apply seven miles of rubber chip seal. The partially-treated Carefree Road will be paved as a CMAQ grant project. City has reduced the original inventory of arterials with unpaved shoulders from 34.8 miles to 25.4 miles. On remaining shoulders, City applied ABC and/or allowed vegetation to remain, and no-parking signs were installed where needed for enforcement. Currently, City has 2.77 miles of alleys, all of which have been chip sealed for stabilization.
PHOENIX: 1997/1998 COMMITMENTS - #41, #70 – No enhanced commitments. City Council Resolution #18949, approved by Council July 2, 1997, committed to MAG SIP measures 97-DC-4 and 97-DC-99. [1998] – City funded a project to pave all public unpaved roads by June 10, 2000 (@ 80 miles), not including curb and gutter. City will pave @ 3.2 miles of unpaved streets, including curb and gutter, through Improvement District Program in FY 1998-1999. City committed to construction of 8.95 miles of curb and gutter on arterial streets with unpaved shoulders, through the 5-Year Arterial Street and Storm Drain.		
Pavement and curbs for existing unpaved roads continues through improvement districts. City installs curb and gutter on existing, major arterial streets without curb and gutter, through the five-year Arterial Street and Storm Drain Program; six miles of curb and gutter budgeted for FY 1997-1998. City Resolution No. 18949 (City zoning ordinance) requires that new roads serving multi-family, commercial, and industrial development include paving, curbs, and driveways consistent with municipal standards. City ordinance No. S-25438 requires paving of all unpaved roads.	City: paved 805.2 lane miles of road; added 800 lane miles of curbing; paved 107 lane miles of shoulders; stabilized 484 lane miles of shoulders; and paved 0.44 miles of alleys. In 2002, Phoenix to begin a 10-year program to treat all 600 miles of alleys using a budget appropriation of $2 million per year.	In 2002, City curbed 201.6 lane miles of shoulders (152 lane miles of new roads, and 49.6 lane miles of existing, unpaved shoulders). City stabilized 72 lane miles of shoulders, and stabilized 40 miles of alley. City has paved all dedicated, unpaved roads within its boundaries. In 2003, City curbed 96.7 lane miles of shoulders (72 lane miles of new roads, and 18.7 lane miles of existing, unpaved shoulders). Stabilized 78.4 lane miles of shoulders, and stabilized 146.9 alley miles. In 2003, City paved 1,137 unpaved access points.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
QUEEN CREEK: 1997/1998 COMMITMENTS - #41, #70 - Committed to implementing the provisions of SB 1427, expanding the Town's Wildflower program to vegetate the targeted unpaved shoulders, or agreeing with Maricopa County to apply dust stabilizers. #40 - Committed to identifying all public unpaved roads and alleys, paving one of its unpaved roads, and chip sealing the other by July 1, 1998.		
In 1997, Town had two unpaved roads. SIP assumed that Town would pave 0.5 miles and chip seal 0.25 miles of unpaved road.	Town paved 0.75 mile of unpaved, residential streets (equal to two lanes), and widened and paved an additional 900 feet of right-of-way (equal to one lane). Town paved 0.25 miles of road; added 2 miles of curbing (one side of road), since 1997. Town stabilized 2 miles of shoulders (one side of road), since 1997.	Town paved 3.2 miles of roads related to subdivision development. Town paved three miles of unpaved residential streets within Town's incorporated limits, but outside the Maricopa County PM_{10} Nonattainment Area. Town added 3.25 miles of curbing (one side of road), and 0.75 miles of curbing (both sides of road), since 2002. Town stabilized 3.25 miles of shoulders (one side of road), and 0.75 miles of shoulders (both sides of road), since 2002.
SCOTTSDALE: 1997/1998 COMMITMENTS - #41, #70 - Committed to implementing the provisions of SB 1427; additional miles of bike lanes (pavement of shoulders) are budgeted through 1999. #40 – No enhanced commitments.		
City indicates that since 1972, Scottsdale City Code, Section 47-24 has required that all streets and alleys be constructed to meet public improvements standards for subdivision streets (Section 47-36; Section 48-137). Street improvement standards typically require asphaltic concrete surfacing, aggregate base, Portland cement concrete, and curb and gutter. City uses painted edgelines along roadways with unpaved shoulders on arterials. Access roads must be paved with asphalt for a certain distance on unpaved roads. City zoning ordinance requires that new roads serving multi-family, commercial, and industrial development including paving, curbs, and driveways. City ordinance authorizes the General Manager of the Transportation Department to alter speed limits established by state law on city streets. Speed limit on all city alleys has been set at 15 mph.	City paved 4.0 miles of road and shoulders; stabilized 10.6 miles of road and shoulders; applied 3.3 miles of road millings; paved/stabilized 87 miles of alleys	City paved 13.8 miles of road (27.6 lane miles), and added 8.8 centerline miles with curbing on both sides. City removed a total of 46.5 miles of shoulders (23.25 centerline miles) from untreated inventory through the following measures: City paved 33.5 miles of shoulders, stabilized six miles of shoulders, provided curb and gutter for 7 miles of shoulders, and treated 37.1 miles of shoulders with native decomposed granite.
SURPRISE: 1997/1998 COMMITMENTS - #41, #70 - Developers will pave and curb approximately five miles of unimproved streets per year. In addition, five miles of unpaved shoulders will be stabilized by beginning of FY 1998. #40 – No enhanced commitments.		
City Resolution No. 97-29 (Paving, Vegetating and Chemically Stabilizing Unpaved Access Points, June 1997) covers City's commitment to paving shoulders.	City paved 3.25 miles of road; all shoulders have been graveled.	City uses water trucks on unpaved rural roads, at three to four-week intervals. City purchased one, new 1,000-gallon water truck in FY 2004 for particulate control in unpaved roads maintenance, and funded one, new 5,000-gallon water truck in FY2005 for particulate control in unpaved roads maintenance. City chip-sealed 170,400 square yards of previously-unpaved, rural roads. Surprise Municipal Code, Chapter 17.32, has defined landscape-easement design guidelines with a goal to reduce particulates in the air/improve air quality, and requires that all new development include paving of streets.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
TEMPE: 1997/1998 COMMITMENTS - #41, #70 – Committed to implementing the provisions of SB 1427. #40 - Committed to working with ADEQ to consider the impact of 15-mph speed limit on unpaved roads.		
City of Tempe Code requires paved roads and parking areas for any new construction; City of Tempe roads nearly 100 percent paved and curbed, with one mile of streets left to pave Chapter 30 of the Tempe City code requires all new roads serving residential, multi-family, commercial, and industrial development include paving, curb and gutter, and driveways consistent with City standards.	City added 5.6 miles of curbing; 0.94 miles of road paved; 128 miles of alley stabilized (each mile stabilized 2.5 times since 1997).	City has 156 miles of alleys that have been treated with aggregate; 1.8 miles of graveled streets; and 2.5 miles of uncurbed, paved roads. Since January 1, 2002, City has added 0 miles of pavement, and 0 miles of curbing. City has stabilized 0 miles of shoulders, but has reconstructed (paved) nine miles of alley, and stabilized three miles of alley with dust inhibitor.
TOLLESON: 1997/1998 COMMITMENTS - #41 - Committed to stabilize approximately four miles of unpaved shoulders on 91st and 99th Avenues from I-10 to Buckeye Road, using Soil Sement, and to implement the provisions of SB 1427. #70 - Committed to strengthen the enforcement of an existing city ordinance requiring curbing, gutter, and sidewalks on all city rights-of-way within residential, commercial, and industrial developments. #40 - City Resolution No. 794 committed City to a good faith effort to implement measures to reduce particulate matter from unpaved roads; committed to paving all unpaved City roads (0.5 miles) no later than June 10, 2000.		
City Resolution No. 794 indicates that City will put forth a good faith effort to implement measures to reduce particulate emissions from unpaved shoulders and unpaved access points on paved roads.	City paved 3.9 miles, and paved or stabilized 100 blocks of alleys. City indicated that there were no unpaved access points onto paved or stabilized roads in its jurisdiction.	City added 1.69 miles of paved road, 1.95 miles of curbing, and 7.5 miles of shoulder stabilization.
YOUNGTOWN: 1997/1998 COMMITMENTS - #41, #70, #40 - Committed to developing and implementing a plan requiring stabilization of unpaved shoulders of paved roads, and to implement the provisions of SB 1427. Owners/operators must have existing, unpaved roads and alleys (ADT > 250) stabilized, paved, or graveled by June 10, 2000 (@ seven miles).		
Town committed to continue to reconstruct roadways in accordance with its annual, and five-year plan, including the addition of curbs and gutters to existing streets. Project completion scheduled for May 1998.	Town stabilized eight miles of alleys.	
ADOT: 1997/1998 COMMITMENTS - #41, #70 - Curb and gutter projects are included in new Five-Year Highway Construction Program as part of new construction or reconstruction.		
A.R.S. § 28-104 and ADOT standard specifications require the rehabilitation and protection against erosion of all areas disturbed by construction, through seeding, sodding, mulching, and placement of other ground covers.		

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR UNPAVED ROADS AND/OR SHOULDERS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
MARICOPA ASSOCIATION OF GOVERNMENTS: 1997/1998 COMMITMENTS - #40 - On December 8, 1999, MAG Regional Council approved $7.85 million for paving projects to reduce fugitive dust from unpaved roads, including private unpaved roads that are publicly maintained within the jurisdiction of Maricopa County.		
The February 2000 MAG SIP assumed a reduction of approximately 240 miles of unpaved roads by 2006, and assumed about 74 percent completion in 2001 (184 miles).	The 2001 Milestone Report notes that approximately 787 miles of unpaved roads and alleys had been paved or stabilized by reporting jurisdictions by 2001, which surpassed the MAG SIP milestone requirements.	
MARICOPA COUNTY: 1997/1998 COMMITMENTS - #41 - MCDOT has two projects to pave a total of 12 miles of unpaved shoulders to create new bicycle lanes in the next year, and will treat an additional 100 miles of shoulders on existing arterial and collector roadways with high volume truck traffic by 2003. #70 - No enhanced commitments. #40 - County committed to stabilizing all County unpaved roads within the nonattainment area with ADT > 250 by June 10, 2000, and all County unpaved roads within the nonattainment area with ADT > 150 by June 2004 (20 percent per year). County committed to continuing the current roadway design standard requiring that all new subdivision roads and County constructed roads be paved. County commits to paving 60 miles of existing "courtesy grade" roads (ADT > 150) that meet criteria to become public highways, by September 2003.		
MCDOT currently requires pavement of all new access points to County paved roads to edge of right-of-way; MCDOT will pave existing access points when roadway is reconstructed or widened, and install curb and gutter designed as urban roadways. In 1999, MCDOT treated 10 miles of shoulders, testing dust suppressant	Maricopa County paved or stabilized over 390 miles of unpaved roads – 190 miles over and above the existing commitment. County roadway design standard requires that all new subdivision roads and County-built roads be paved. County stabilized 39 percent of 326 miles of arterial shoulders in County jurisdiction, to control dust. In 2001, Maricopa County paved 9.63 miles of unpaved roads, and paved 15.37 miles (of a total of 199.6 miles) of unpaved roads in the PM_{10} nonattainment area.	County stabilized approximately 127 miles (41 percent of 309 miles) of arterial shoulders under County jurisdiction in 2002, and approximately 185 miles (62 percent of 299 miles) of arterial shoulders in County jurisdiction and in the PM_{10} nonattainment area in 2003. Of the 185 miles, 105 were paved, curbed, and guttered, while approximately 80 miles of shoulders were stabilized. In 2002, County paved 12.89 miles (of a total of 184.1 miles) of unpaved roads in PM_{10} nonattainment area. In 2003, County applied first layer of pavement to 36.9 miles of unpaved roads in PM_{10} nonattainment area.

DRAFT
SYNOPSIS OF 1999 MAG SIP COMMITTED CONTROL MEASURES For
SALT RIVER PM_{10} STATE IMPLEMENTATION PLAN REVISION REVIEW

1999 MAG SIP COMMITTED MEASURES **Applicable to (Windblown) Alluvial, Agricultural, Disturbed Land, and Vacant Lots**	
NEW MEASURES	MEASURE DESCRIPTION
#45	**Reduce Particulate Emissions from Unpaved Parking Lots**
#46	**Reduce Particulate Emissions from Vacant, Disturbed Lots**
#48 – NO CREDIT TAKEN	**Dust Abatement and Management for State Lands**: In 1998, the Arizona Legislature passed Senate Bill 1427. The bill appropriated $200,000 from the Arizona General Fund to the Arizona Land Department for implementing a Dust Abatement and Management Plan to include measures to control particulate pollution on Arizona trust lands in Area A. The plan may include measures to close areas to illegal use by off-highway vehicles, closing roads that are used or illegal, and increasing the enforcement of no trespassing areas (§ 36 of SB 1427).
#49 – NO CREDIT TAKEN	**Agricultural Best Management Practices**: Senate Bill 1427, passed by the Arizona Legislature in 1998, includes Best Management Practices for Agriculture to reduce particulate emissions. The legislation established a Best Management Practices Committee for Regulated Agricultural Activities, appointed by the governor. By June 10, 2000, the Best Management Practices Committee will adopt by rule an agricultural general permit specifying best management practices for regulated agricultural activities to reduce PM_{10} particulate emissions.
EXISTING MEASURES	MEASURE DESCRIPTION
	None

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
APACHE JUNCTION – 1997/1998 COMMITMENTS – None		
No data	No data	No parking lots paved or stabilized
AVONDALE: 1997/1998 COMMITMENTS - #45, #46 – Committed to notification of all owners of unpaved parking lots that they must pave their lots by September 30, 1999, and will enforce Maricopa County Rule 310.		
City has estimated 500 acres of private, vacant lots – much in natural desert vegetation. Acreage that has been recorded consists of custom lots and undeveloped subdivisions in jurisdiction.	122,591 Square feet of parking lots paved; 203,360 square feet stabilized with millings	
CAREFREE: 1997/1998 COMMITMENTS - #45, #46 – Town commits to support of its zoning ordinance, which requires all new parking lots to be paved with asphalt, concrete, or gravel; no grading allowed on vacant lots until a building permit is issued.		
Town has four unpaved parking lots; all are graveled, and only one exceeds 5,000 square feet. There are no disturbed vacant lots in jurisdiction. Town zoning ordinance requires all parking lots to be paved with asphalt, concrete, or equivalent, including gravel. No grading allowed until a building permit has been issued.	All parking lots are maintained and will be paved once funds available. Town paved two public parking lots in 2001.	Town's February 2004 zoning ordinance prohibits grading without a zoning clearance and a building permit. The allowed, disturbed area can not be larger than the proposed improvements. (Public??) unpaved parking lots are prohibited. Town has no disturbed, vacant lots. Town has two, privately-owned, unpaved parking lots; both lots are stabilized with gravel.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
CAVE CREEK: 1997/1998 COMMITMENTS - #45, #46 – None		
No data	No data	Town currently has ordinances in place for the control of PM_{10} emissions from unpaved parking lots, and from vacant, disturbed lots/land. Town requires commercial businesses to pave or use stabilized, decomposed granite for dust control for new construction. Town has at least two paved or stabilized parking lots (39,000 square feet). Town has no data concerning vacant lots.
CHANDLER: 1997/1998 COMMITMENTS - #45 - City has adopted an ordinance requiring all parking areas to have a dust-free surface, applying to all parking areas, regardless of size. Provision does not apply to residential parking areas accommodating 10 or fewer vehicles. City plans to add two inspectors for enforcement of City ordinances. Ordinance does not apply to lots located on an industrial facility, or to construction or earthmoving activities on sites that have a permit approved by Maricopa County. #46 - City commits to adopting, no later than May 1999: a. an ordinance requiring owners/operators of vacant lots of 5,000 square feet or greater, disturbed by motor vehicles, to erect signs, fencing, or other barriers to prevent trespass; or apply surface gravel or stabilizers. b. an ordinance requiring owners/operators of vacant lots that remain undeveloped for more than 15 calendar days and where more than 0.50 acres has been disturbed, to establish ground cover, apply dust suppressant, restore to natural state, or apply gravel. City commits to adding two dust inspectors.		
Ordinances adopted. City ordinance requiring dust-free surfaces for all parking lots adopted. All City-owned, unpaved parking lots are dust-proofed.	Four new parking lots developed with dust control applied (215,000 square feet); 5, 066 dust control calls logged since December 1997. Chandler City Code §§ 30-2.4B., C., D., providing more stringent controls for dust from vacant, disturbed lots, adopted.	City has zoning requirements requiring all commercial and residential parking lots accommodating more than ten vehicles to be paved. Chandler city code excludes vehicles from vacant lots of 5,000 square feet or larger, and requires barriers and signage against trespassing. City code requires property owners with lots greater than one-half an acre to stabilize the surface, and to take actions to minimize dust during weed control, prevent trackout, and stabilize surfaces after weed abatement. Chandler city code requires that dust control and landscaping measures be taken on all portions of development projects that do not contain buildings. Chandler development plan approval criteria require all new parking lots for commercial, multi-family and industrial facilities to be paved with curbs and landscaping, and requires that all new roads serving residential, commercial or industrial development include paving, curbs, and landscaping. City code identifies generation of excess dust from public or private property by use of motor vehicles to be a public nuisance subject to enforcement.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
EL MIRAGE: 1997/1998 COMMITMENTS - #45, #46 – City commits to amendment, within eight months of the effective date of the FIP, or 60 days following lot disturbance, whichever is later, of Municipal Code, Chapter 13, Vehicles and Traffic to include language to manage dust control on vacant, disturbed lots, and of Municipal Code, Chapter 10, Health and Sanitation, Section 10-4-10, Weed Abatement; and of Municipal Code Section 10-1-1, Vegetation Maintenance.		
City previously paved all existing "high-use" City-owned parking lots. There are no other existing "high-use" unpaved commercial parking lots within the jurisdiction. City's zoning ordinance requires that all new parking lots be paved with materials suitable to controlling dust.	No data	
FOUNTAIN HILLS: 1997/1998 COMMITMENTS - #45 – Town will pave or stabilize all Town-owned parking lots, and all future Town-owned parking areas will be paved or surfaced with compliant material. Town uses a privately-owned lot as a special event parking area (@ 40 acres); this area is exempt from additional measures, due to infrequent use. #46 - Town indicates that it has adopted Town Code, Chapter 12-2, Traffic Control and Section 12-2-11, Operation of Vehicles on Vacant Lots, which prohibits vehicular use across any portion of a vacant lot. Town commits to approving ordinances restricting use of vacant areas and requiring dust suppression.		
Town enforces Town zoning ordinance § 7.03-A.2, which specifies that parking spaces must be surfaced with asphaltic concrete, pavement bricks or cement. Town of Fountain Hills currently has approximately more than 1,900 acres of underdeveloped, but developable, platted lots.	No authorized unpaved parking lots in town; 1900 acres of pristine desert exist at this time and ordinances and code prohibit disturbance without a development permit	Town does not have any unpaved parking lots that are authorized for public use. All future public or private parking areas will be paved or surfaced with compliant material per Town ordinances and Code guidelines. Town has approximately 1,700 acres of currently undeveloped, but developable, lots with native vegetation. Town ordinances and Code prohibit any land disturbance without a development permit. Town adopted a wash resolution policy that prohibits any motorized vehicular access.
GILBERT: 1997/19998 COMMITMENTS - #45 – Town will consider adopting an ordinance requiring existing private unpaved parking lots to be paved or dust-proofed, and will commit to a schedule in accordance with the June 10, 2000 implementation date. #46 - On February 17, 1998, Town adopted ordinance No. 1090, which amends section 62.5 of Municipal Code to prohibit operation of motor vehicles on unpaved or non-dust-proofed property.		
Existing permanent parking lots are either paved or dust-proofed.	MAG SIP assumed that all Town parking lots were either paved or stabilized, and that Town adopted an ordinance prohibiting disturbance of vacant lots.	All Town-owned parking lots are either paved or stabilized. Town Ordinance 1091 requires private parking lots used in connection with industrial or commercial property uses and which contain at least five parking spaces or have a gross area greater than 2,000 square feet, to be paved or dust-proofed. Town has adopted Ordinance 1090, Vehicles on Private Property. In 2002, 382 violations were written; in 2003, 244 violations were written. Through March 2004, 11 violations were written – mostly for vehicles marked "for sale," and parked on vacant lots. Town stabilizes 24 vacant lots totaling 5,638,841 square feet.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
GLENDALE: 1997/19998 COMMITMENTS - #45 – No enhanced commitments; #46 - City commits to enforcement of an existing provision prohibiting the operation of a motor vehicle on or across any portion of an existing vacant lot, unless lot is dustfree; and of an existing general nuisance ordinance, and will continue to support enforcement of Maricopa County Rule 310.		
Existing permanent parking lots are either paved or dust-proofed. City has a general nuisance ordinance that could be used to control activities on private property that causes dust problems, on a complaint basis. City requires new parking spaces be surfaced with concrete, asphalt, or paving blocks.	All city parking lots are paved or stabilized; dust emissions from vacant City lots that violate MCESD regulations will be resolved expeditiously	Progress on stabilization of vacant lots is unavailable. Information on pavement of public access points is unavailable. All city-owned parking lots are either paved or stabilized. Dust emissions from privately-owned, unpaved parking lots falls under Maricopa County fugitive dust regulations. (City continues to enforce Maricopa County's fugitive dust regulations, on a complaint basis, from both city-owned, and privately-owned, vacant lots.) All city-owned alleys are currently paved (a total of 23 miles). Public access points are paved based on MAG specifications when City builds or improves a street.)
GOODYEAR: 1997/19998 COMMITMENTS - #45, #46 – Committed to notification of all owners of unpaved parking lots that they must pave their lots by April 1999, and will enforce Maricopa County Rule 310. City adopted Resolution No. 97-594, supporting MCESD Rule 310.		
City does not have an ordinance in place to reduce particulate pollution; City has estimated that jurisdiction has approximately 320 acres of private, vacant lots.	City has no dirt parking lots – millings have been applied to all	All City parking lots are asphalt and adjacent to public facilities. City ordinances 6-1-2 and 6-2-2 document improvements and the use of unpaved parking and vacant lots. City code 13-2-12 enforces against operation of vehicles on vacant lots; in 2003-2004 fiscal year there were 103 recorded violations of the code. All City-owned vacant lots are slated for capital improvement facilities, such as a City Center, Corporate Yard, and parks.
MESA: 1997/19998 COMMITMENTS - #45, #46 – City budgeted $1 million to pave 21,500 square yards of Falcon Field, in FY 1997-1998. In 1999, Mesa submitted BACM commitments to reduce particulates from unpaved parking lots (97-DC-9). Also, Mesa adopted ordinance 3465, which requires that effective fugitive dust control measures be implemented on any unpaved parking lot greater than 5,000 square feet.		
All existing City of Mesa parking lots were paved in last three years, except for Falcon Field. City ordinance 3388 (1997) makes it unlawful to park or store vehicles in residence yards. City code § 11-16-2(E) requires pavement of parking and loading spaces, maneuvering areas, and driveways.	City's only unpaved parking lot at Falcon Field was paved; 10 acres of vacant lot (436,500 square feet) stabilized; City responded to 20 private vacant lot complaints and arranged with owners to reduce dust; all City-owned lots inspected for stabilization, monthly; two fulltime inspectors	All City-owned lots are inspected monthly for stabilization and treated, as necessary.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
PARADISE VALLEY: 1997/19998 COMMITMENTS - #45 – City commits to adopting, no later than June 10, 2000, an ordinance requiring that unpaved parking lots must be improved and maintained to MAG standards. #46 - Town commits to enforcement of existing regulations prohibiting grading and disturbance of a vacant lot.		
Existing ordinance requires that all parking lots, except for single family residences, be paved.	City paved two parking lots (88,000 square feet); City stabilized 14,549,040 square feet of vacant lots; 334 vacant lots were developed between 1997 and 2001, all a minimum of one acre.	Town stabilized the parking lot of the Goldwater Memorial (5,700 square feet). The Town ordinance in place for control of PM10 emissions from unpaved parking lots and vacant, disturbed lots/land, is Article 5-13, Sections 5-13-2, 5-13-3, and 5-13-4. Dust control plans must meet the requirements of Maricopa County Rule 310, regulating fugitive dust. Violators of Town ordinance 5-13 are referred to Maricopa County for prosecution. Town has referred three violations since 2001. Town has stabilized one vacant lot by constructing a memorial on the site (43,560 square feet). Town does not have any alleys to be paved or stabilized. Town has not paved or stabilized any unpaved access points onto paved roads or streets.
PEORIA: 1997/1998 COMMITMENTS - #45 – City commits to a good faith effort to implement measures to reduce particulates from unpaved parking lots, and will notify all owners of such lots that they must pave by April 1999. Also, City will require that all driveways including the dirt parking lot be paved.		
City has identified 62 lots which will require pavement or dust palliative.	No data	City notified owners of unpaved parking lots, and has required the stabilization of 5 of 23 commercial unpaved parking lots; City has no data concerning of the 1999 inventory of unpaved parking lots, in acres. Peoria Municipal Code, sections 23-75 through 23-78 address the pavement and stabilization of unpaved parking lots, vacant lots, unpaved roads, etc. City has recorded no violations of those code sections since 1999. City has required the stabilization of 30 of the 47 vacant lots (996.19 of 1,194.79 acres) documented in 1999.

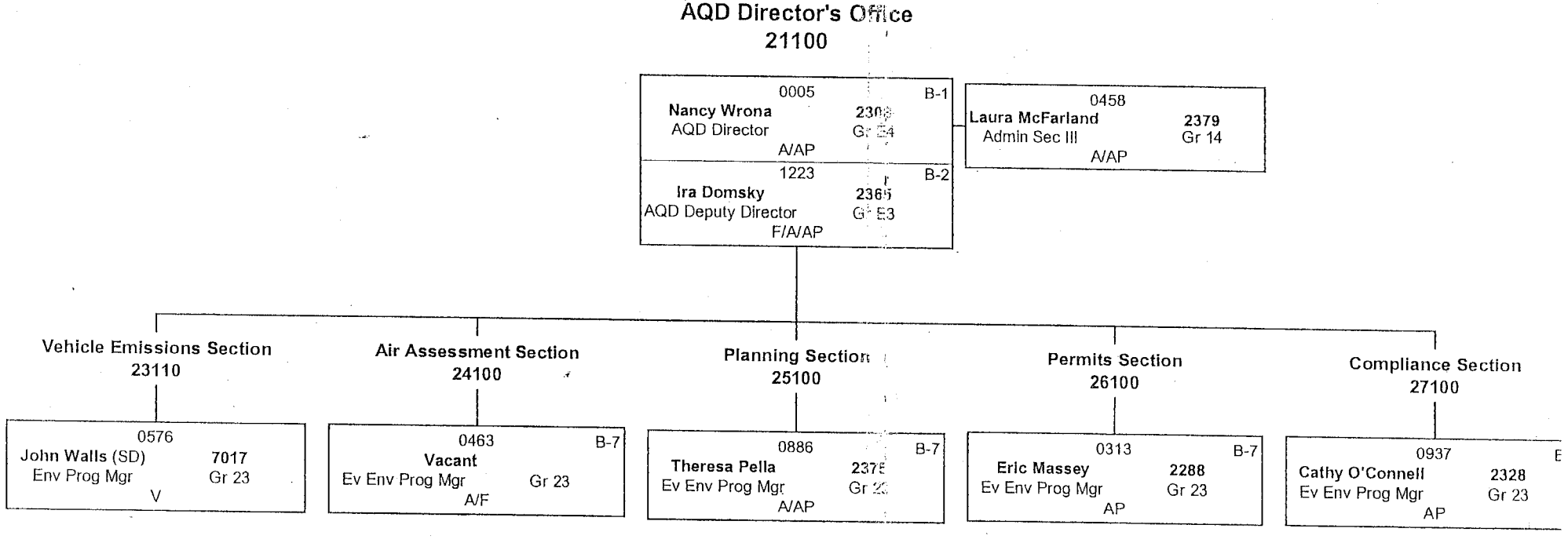
1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
PHOENIX: 1997/1998 COMMITMENTS - #45 – City commits to paving all unpaved or gravel parking lots, approximately five acres, at City-owned facilities. Paving is scheduled for FY 1998-1999. City of Phoenix ordinance S-25438 approved $5.8 million for stabilization of both City-owned vacant and parking lots. #46 - City commits to working with ADOT to help identify excess properties along freeways and expedite their sale. (City Council Resolution No. 19006) City recently amended: Phoenix City Code, Chapter 39, Article II, Section 39-7, prohibiting property owners from allowing vehicular traffic on unpaved lots or other disturbed surface; Phoenix City Code, Chapter 36, Article XI, Section 36-145, to prohibit vehicle owners from parking on disturbed surfaces. City funded a program to identify and stabilize City-owned vacant lots, including a lot inventory, computerized tracking and mapping system, site inspections, EPLA-approved testing of disturbed soils, stabilization products review, and stabilization services.		
Defined as Resolution 19006 (measure 97-DC-9b), city zoning ordinance requires paved parking for commercial parking lots with three or more spaces and dust-proofing for residential parking areas.	City paved 57 unpaved parking lots; 118 vacant lots stabilized (120.7 acres); City-owned lots are inspected and treated, as necessary	In 2002 and 2003 combined, City inspected 468 vacant lots, and treated 50. City's Neighborhood Services Department conducted 16,564 enforcement actions against vehicles on vacant lots, and police conducted 161 enforcement actions on vehicle owners. There are currently 159 developments in Phoenix with required paved parking. All City-owned parking lots are paved.
QUEEN CREEK: 1997/1998 COMMITMENTS - #45 – No enhanced commitments; #46 - Town commits to adopting an ordinance to reduce particulate emissions from vacant disturbed lots by requiring several dust control measures.		
Town of Queen Creek has identified all unpaved parking areas in jurisdiction and has determined that all existing parking areas in the jurisdiction were either paved, had gravel, or were approved for use with a dust palliative. Current zoning ordinance requires that all off-street parking areas be surfaced with permanent pavement.	Town has paved 12 parking lots since 1997. Town adopted a revised zoning ordinance in 1999. Town determined that all existing parking lots in the incorporated limits were either paved, had gravel applied to the lot, or an approved use permit with the stipulation that a use of a dust stabilizer was necessary.	Town paved two new Town-owned parking lots (totaling 35,725 square feet). Town has approved 12 new, paved, commercial parking lots constructed since 2001 Milestone Report.
SCOTTSDALE: 1997/1998 COMMITMENTS - #45 – City committed to evaluating two possible options for private unpaved parking lot owners who must meet FIP unpaved parking lot requirements, which affect lots greater than 5,000 square feet, exempting lots used fewer than 35 days per year. City committed to requesting @ $200,000 over two years to provide for paving public unpaved parking lots, assisting private lot owners, educating inspection staff, etc. #46 - City commits to continue to enforce current regulations prohibiting use of motor vehicles on disturbed surfaces, to continued enforcement of MCESD Rule 310, and to use of dust control options outlined in the Maricopa County Moderate PM_{10} Area FIP.		
City ordinances have required either paving or dust-proofing parking lot surfacing since 1969. City code requires that all public and private parking lots designed to accommodate at least six vehicles, be paved or dust-proofed.	City paved or dust-proofed three unpaved parking lots (73,000 square feet); City stabilized four vacant lots (559,750 square feet)	City paved or stabilized four parking lots (a total of 129,795 square feet), and three vacant lots (a total of 563,780 square feet). City reports that there are currently no City ordinances in place for the control of PM_{10} emissions from unpaved parking lots or from vacant, disturbed lots/land.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
SURPRISE: 1997/1998 COMMITMENTS - #45 – City will not issue a "Certificate of Occupancy" for any new commercial development if parking lot not paved. #46 - City commits to amendment of Municipal Code to include language requiring installation of signs and barriers where there is evidence of vehicular traffic on disturbed surfaces.		
City has paved all, existing, high-use parking lots. City's zoning ordinance requires that all new parking lots be paved, as developed.	No vacant lots stabilized	City paved 10.763 square yards of previously unpaved city-owned parking lots, and added other dust control measures (spread A/B and millings) on 7,500 square yards of unpaved "overflow" parking. City also paved 11,500 square yards of an unpaved connector (Greenway) at city expense. City management engaged in discussions regarding cooperative agreements with landowners in undeveloped areas to pave dirt roads. Surprise Municipal Code, Chapter 17.32 has defined landscape-easement design guidelines with a goal to reduce particulates in the air/improve air quality. and requires that all new development include paving of streets
TEMPE: 1997/1998 COMMITMENTS - #45 – Improved lots will continue to be maintained to endure dust not a problem. Current effort underway to combine existing nuisance ordinance and neighborhood enhancement ordinance to better facilitate enforcement and citation powers to provide support in meeting City's PM_{10} commitments. #46 - City of Tempe commits to adopt a fugitive dust ordinance patterned after MCESD Rule 310, including: required stabilization after 15 days vacant, or if disturbed by vehicular traffic, and weed abatement.		
City indicates that there are no existing unpaved public parking areas in Tempe.	City stabilized three unpaved parking lots (320,400 square feet); City of Tempe Code Compliance Division received fewer than 20 complaint calls per year, most result from construction activities, and are referred to MCESD	Since January 1, 2002, City has stabilized 101,600 square feet of vacant, disturbed lots with RAP (recycled asphalt product); paved 70,623 square feet of parking lots; and paved/stabilized 0 unpaved access points. For the period January 1, 2002, through June 1, 2004, MCESD has issued City 44 haul permits. City has no existing ordinances regulating PM_{10} emissions from unpaved parking lots, and vacant, disturbed lots/land.
TOLLESON: 1997/1998 COMMITMENTS - #45 – Resolution 794 requires that City proceed with good faith effort to implement measures to reduce particulate emissions from unpaved parking lots. #46 - City commits to amendment, by June 10, 2000, of City Ordinance No. 364, Section 9-3-4, Weeds, Bushes, Trees, and Other Vegetation, to include requirements in the EPA proposed FIP. Currently, the majority of vacant lots in Tolleson are farmed, bounded, or are about to undergo development.		
Tolleson indicates that there are currently no unpaved parking lots that exceed the FIP 5,000 square-foot standard requiring stabilization.	City of Tolleson paved or stabilized 90,000 square feet of unpaved parking lots; and stabilized 40,575 square feet of vacant lots. City has no unpaved parking lots.	City does not have any unpaved parking areas; has had no unpaved parking areas since the 2001 Milestone Report. City has two vacant lots that have been stabilized (combined size is 14,025 square feet).

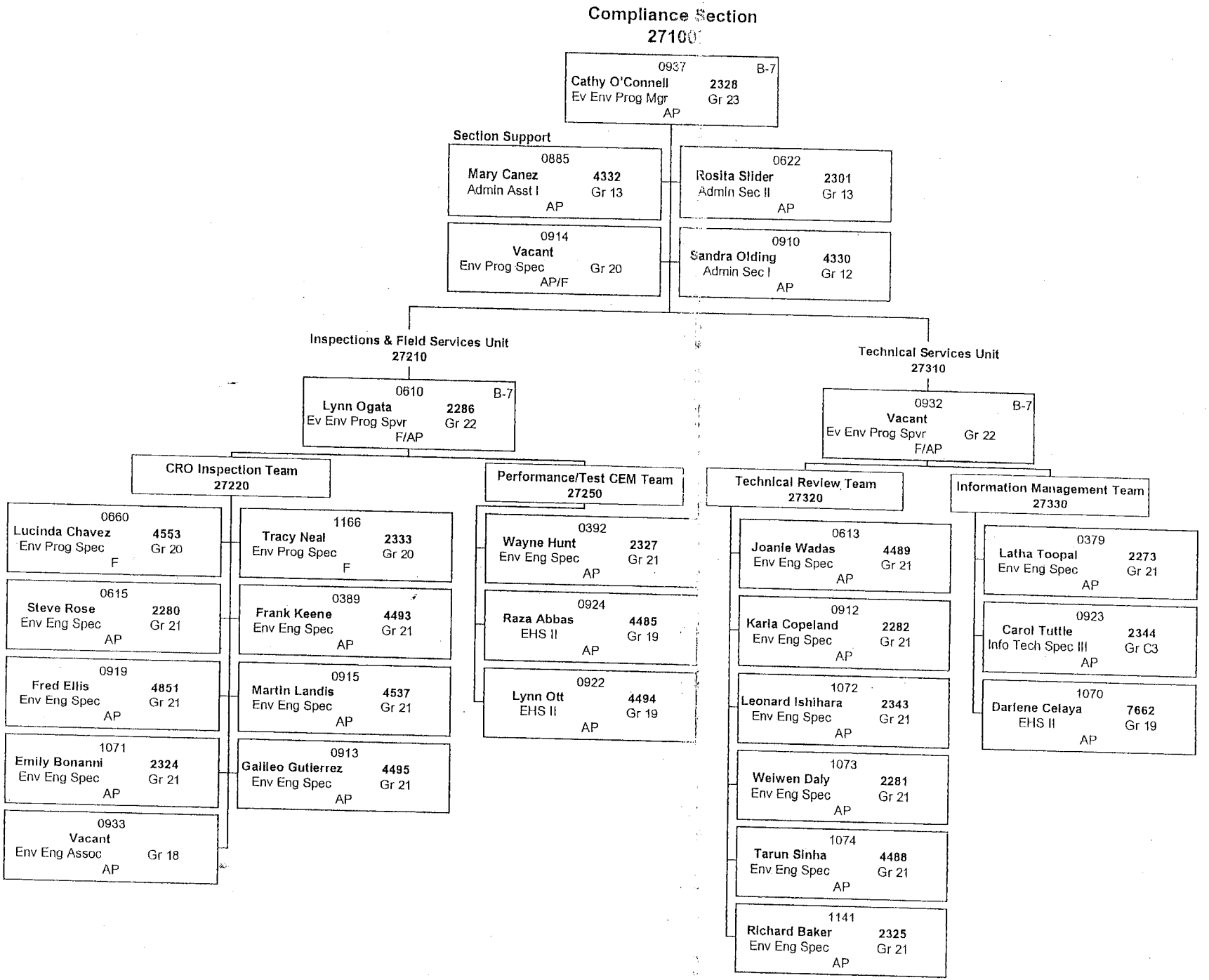
1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
YOUNGTOWN: 1997/1998 COMMITMENTS - #45 – City committed to enforcement of ordinance 96-05 which specifies the type of surface on which motor vehicles must be parked, and committed to amending it to include a provision that the improved and dust-free parking surface association with new construction be completed before Town issues its "Certificate of Occupancy." City also committed to adopting ordinances requiring all existing unpaved parking lots greater than 5,000 square feet be dust-proofed no later than June 10, 2000; and requiring that special event parking areas be dust-proofed. #46 - Town commits to adoption of one of three alternatives to reduce particulate emissions from vacant lots, addressing weed abatement and vehicular disturbances of lots. Town commits to treating all of its estimated 28 acres of existing, vacant disturbed lots by January 1, 2000, using each of the dust-proofing techniques recommended.		
No data	Ordinance in effect preventing unpaved surfaces at residential properties and commercial parking lots; vacant lots are covered under Town ordinances and enforced by building code compliance inspector	
ADOT		
#45 – ADOT committed to identifying those ADOT unpaved parking lots in need of stabilization or stabilization maintenance, for action following implementation of the FIP. #46 - ADOT commits to enforcement of the provisions of the July 1998 Maricopa County Moderate PM_{10} Area FIP	All ADOT parking surfaces are either paved or stabilized; many vacant lot sites already stabilized. ADOT excess land was inventoried onsite to determine existing and end usage. This review showed a wide-range of circumstances and ADOT is currently reviewing options for any identified sites for compliance issues.	**Commitment #45 -** ADOT owns 50 properties that have parking lots, almost all the parking lots are paved, at this time the lot sizes are not available but ADOT General Operations Group is working on creating an inventory database that will included sizes of all properties listed. **Commitment #46 -** ADOT inspects and stabilizes the vacant lots every 90 days or as needed. The majority of the emissions from the vacant lots occur from trespassing activities that disturb the soil. When this occurs, fencing, no trespassing signs and other site security correctional activities are logged and tracked by property ID number. ADOT Property Management Group is working on recording the inspections into a database as well as including what methods were used to restabilize the area, ie, water, plants, gravel etc. The total approximate square footage of vacant properties ADOT maintains is **31,320,424 sq. feet or 738.273 acres**.

1999 MAG SIP COMMITTED MEASURES		
COMMITTED CONTROL MEASURES FOR (WINDBLOWN) ALLUVIAL, AGRICULTURAL, DISTURBED LAND, AND VACANT LOTS		
1999 CONTROL STATUS	2001 MILESTONE	2004 MILESTONE
MARICOPA COUNTY: 1997/1998 COMMITMENTS - #45 – Maricopa County committed to identifying parking lots in need of dust-proofing, initiate owner notification, and establish a compliance schedule by December 1998. MCESD's enforcement options include orders of abatement, civil actions for injunctive relief or civil penalties, and Class I misdemeanor citation processes. #46 - County commits to development of a compliance schedule to apply existing fugitive dust regulations to vacant lots 10 acres or greater in size.		
In June 1999, as part of its commitment to increased fugitive dust control, the Maricopa County Board of Supervisors adopted Maricopa County Rule 310.01, which addressed dust control for vacant lots, unpaved parking lots, and public unpaved roads. County committed to a compliance schedule to apply existing fugitive dust regulations to vacant lots ten acres or greater in size. (NEED JUST 310.01 ENFORCEMENT DATA…)	In April 2000, County developed inspection priorities for vacant lot and unpaved parking lot inspections considering lot size and number of sources. Larger lots were inspected first, and smaller lots in succeeding years. County attention was directed, first, to areas lacking municipal programs. In May 2000, Maricopa County enforcement enhancement began, following the hiring of the county attorney dedicated to dust enforcement. In 2000 and 2001 combined, MCESD: issued 6,484 dust permits; conducted 11,549 earthmoving inspections; conducted 471 vacant lot, unpaved parking lot, and unpaved road inspections; and there were 2,849 earthmoving complaints. A total of 535 cases were referred to enforcement, 341 cases were referred to the county attorney, and 267 cases were settled.	In 2002, MCESD: issued 3,516 dust permits; conducted 7,122 earthmoving inspections; conducted 390 vacant lot, unpaved parking lot, and unpaved road inspections; and 1,171 earthmoving complaints were issued. A total of 391 cases were referred to enforcement; 369 cases were referred to the county attorney; and 290 cases were settled. Data for 2003 are pending.

Arizona Department of Environmental Quality
Air Quality Division



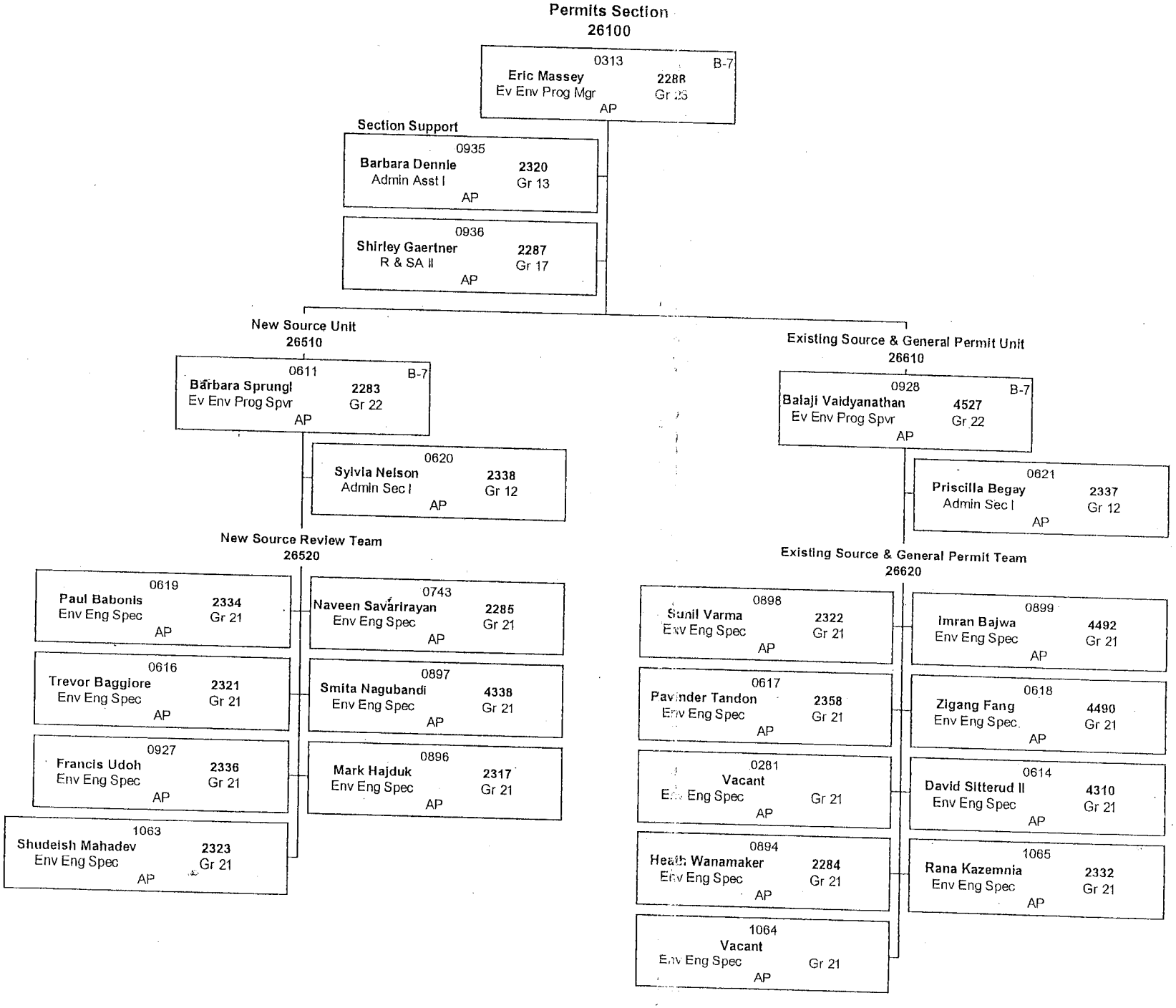
Arizona Department of Environmental Quality
Air Quality Division



JULY 2003

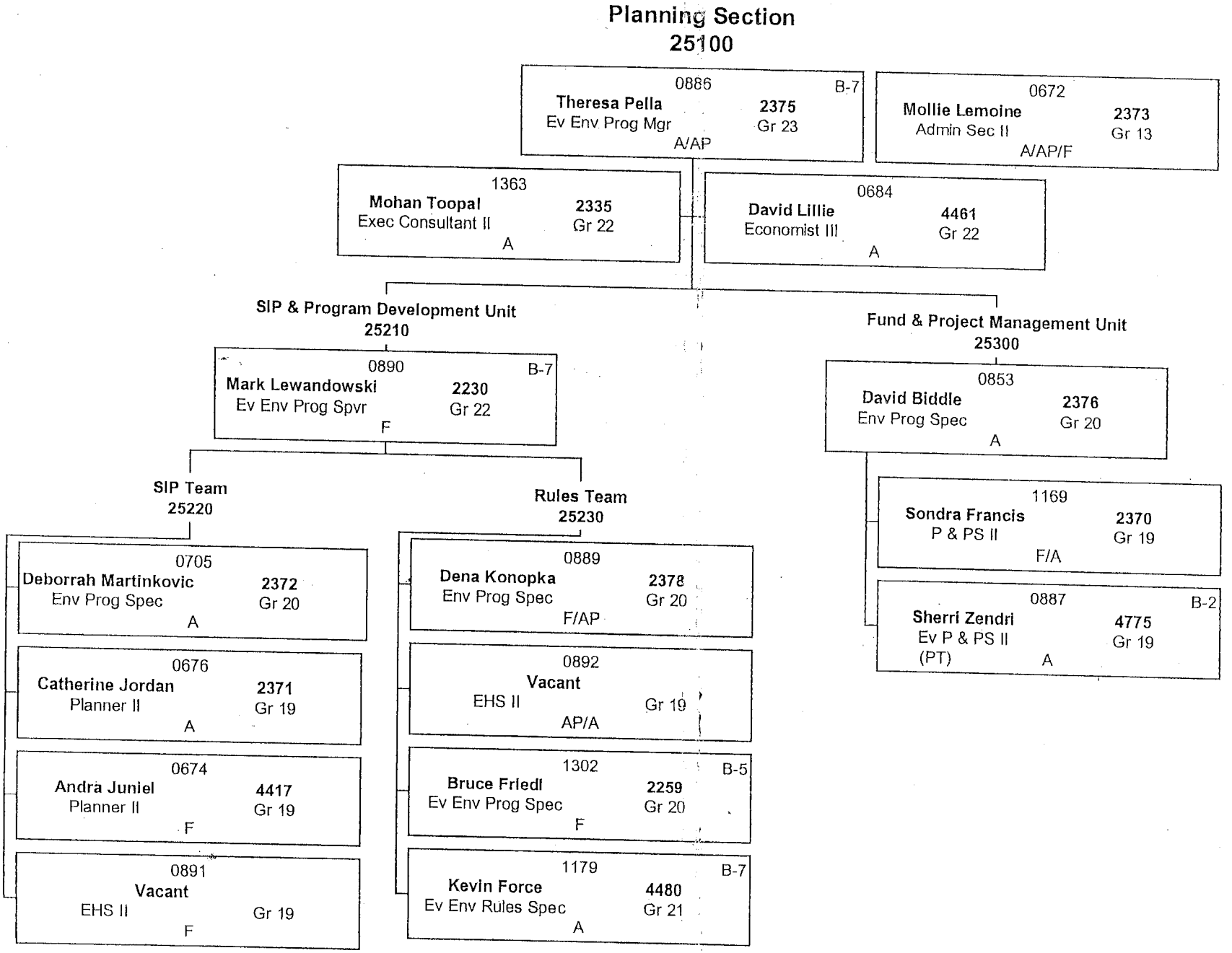
Arizona Department of Environmental Quality

Air Quality Division



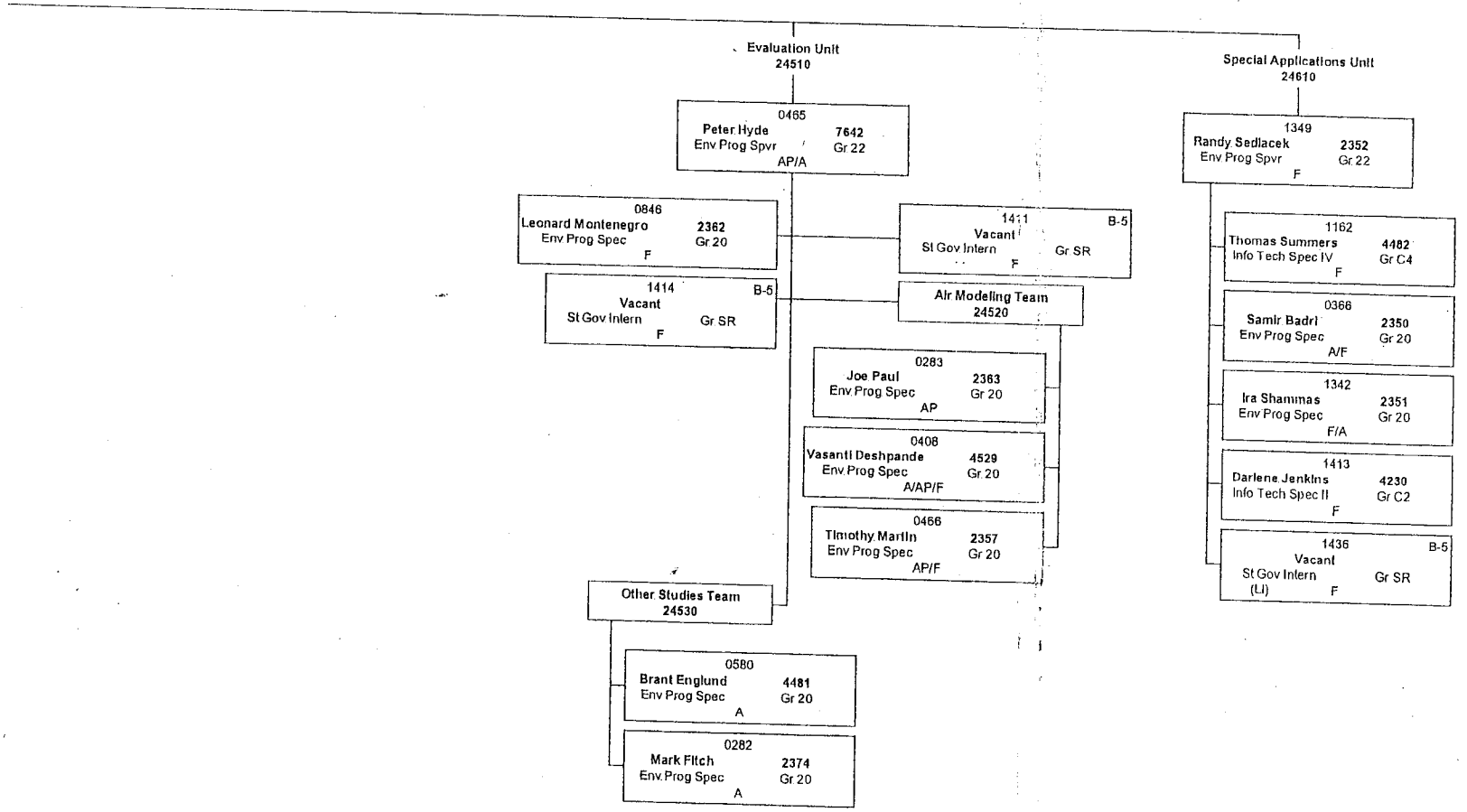
Arizona Department of Environmental Quality

Air Quality Division

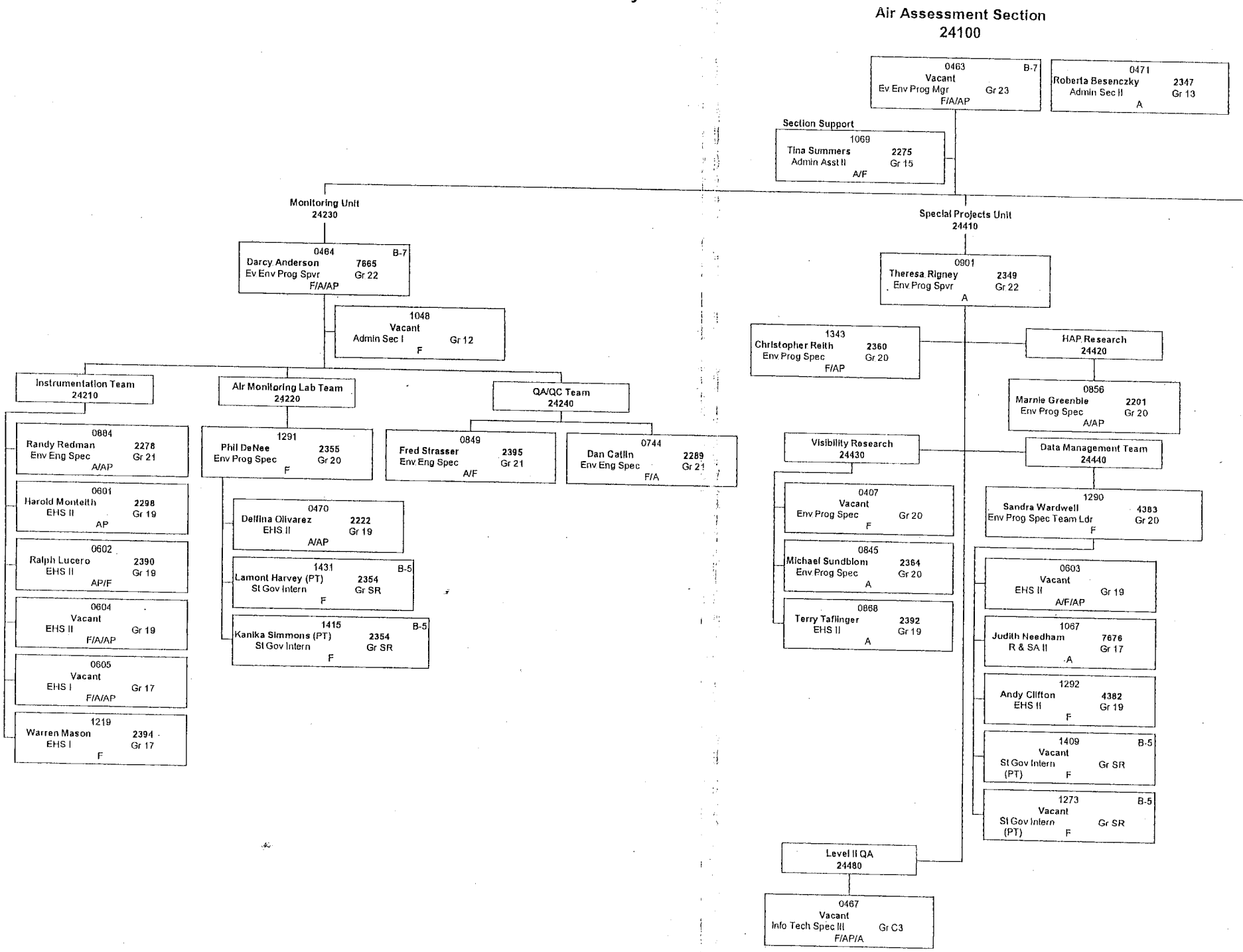


JULY 2003

Arizona Department of Environmental Quality
Air Quality Division
Air Assessment Section (continued)



Arizona Department of Environmental Quality
Air Quality Division



Arizona Department of Environmental Quality
Air Quality Division

Vehicle Emission Section
23110

0576
John Walls (SD) 7017
Env Prog Mgr Gr 23
V

VEI Business Team 23120

0573
Cecilia Hartley 7001
Admin Asst II Gr 15
V

0598
Nicole Dockery 7028
Rev Ctl Info Tech Gr 10
V

VEI Admin Team 23130

0593
Dennis Betz 7004
Admin Sec II Gr 13
V

0594
Marcus Brown 7010
Clk Typist III Gr 11
V

Phoenix Operations Unit
23200

0577
Thomas Cisco 7013
Env Prog Spvr Gr 22
V

23210

0571
Tony Godoy 7005
EHS II Gr 19
V

0590
Michael Reuter 7000
EIT II Gr 16
V

0575
Mike Mutters 7000
EIT II Gr 16
V

0964
Vacant
EIT II Gr 16
V

0606
Michael Ybarra 7000
EIT II Gr 16
V

0963
Louis Grisham 7000
EIT II Gr 16
V

23220

0169
Rex Martin 7023
EHS II Gr 19
V

0957
Vacant
EIT II Gr 16
V

23240

0959
Jim Gass 7005
EHS II Gr 19
V

0962
Hamid Eltezam 7000
EIT II Gr 16
V

0961
Donald Crane 7000
EIT II Gr 16
V

Tucson Operations Unit (SRO)
23310

0578
Florentino Angulano (520) 628-6036
Env Prog Spvr Gr 22 (SRO)
V

0164
Sandra Malings (520) 628-5651
Admin Asst I Gr 13 (SRO)
V

0599
Connie Huebner (520) 628-5651
Clk Typist III Gr 11 (SRO)
V

23320

0607
Tom Swigart (520) 628-5651
EHS II Gr 19 (SRO)
V

0586
Mark Pilgrim (520) 628-5651
EIT II Gr 16 (SRO)
V

0986
Vacant
EIT II Gr 16 (SRO)
V

0588
Russell Ledbetter (520) 628-5651
EIT II Gr 16 (SRO)
V

0591
Vacant
EIT II Gr 16 (SRO)
V

Inspections & Compliance Unit
23410

0579 (A)
John Gibbons 7015
Env Prog Spvr Gr 22
V

0579 (B)
Don Bauer (PT) 7012
Env Prog Spec Gr 20
V

0595
Lisca Sanchez 7007
Clk Typist III Gr 11
V

1095
Vacant
Clk Typist III Gr 11
V

1097
Alex Studham 7008
P & PS I Gr 18
V

0980
Richard Day 7018
P & PS I Gr 18
V

23420

0589
Adrion Osborne 7011
EHS II Gr 19
V

0587
Dave Skowronek 7038
EIT II Gr 16
V

0592
Angelina Tautimer 7040
EIT II Gr 16
V

0584
Tonna Smith 7041
EIT II Gr 16
V

0185
Tom McDaniel 7009
EIT II Gr 16
V

Emissions Research Lab. Unit
23500

0461
Frank Cox 7024
Env Prog Spvr Gr 22
V

Remote Sensing Unit
23600

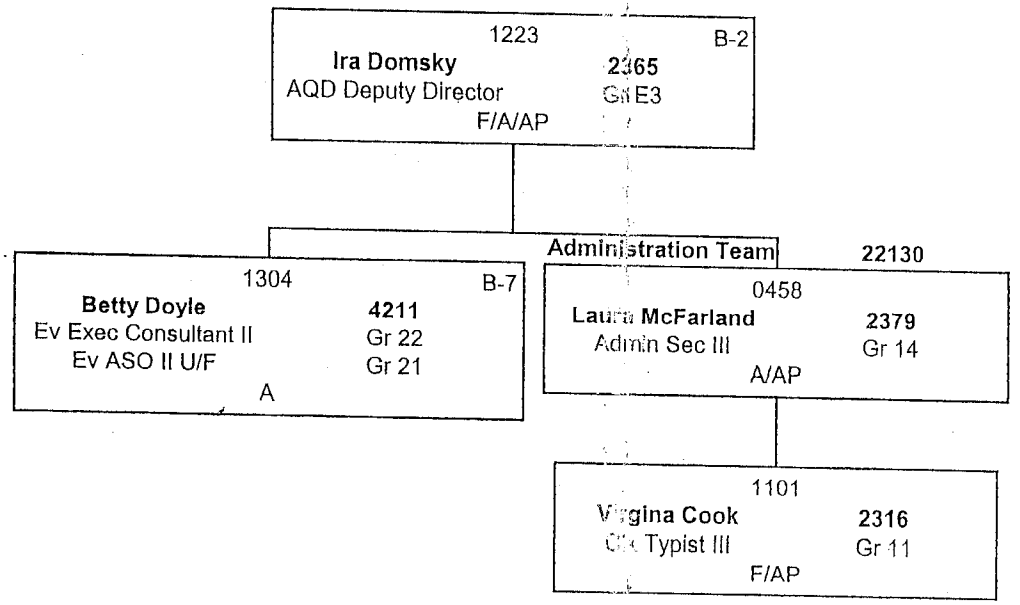
0173
Vacant
Env Prog Spvr Gr 22
V

1006
Alicia Miner 7039
Clk Typist II Gr 9
V

1005
Hslu-Feng Ling 7033
R & SA II Gr 17
V

Arizona Department of Environmental Quality
Air Quality Division

AQD Deputy Director
22110



Attachment 2

SALT RIVER PM10 STATE IMPLEMENTATION PLAN
REVISION
JULY 15-16, 2004 PUBLIC HEARING DOCUMENTATION

PUBLIC NOTICE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
NOTICE OF PUBLIC HEARING ON PROPOSED SALT RIVER PM_{10} STATE IMPLEMENTATION PLAN REVISION

On July 2, 2002, EPA found Arizona's state implementation plan (SIP), for the Metropolitan Phoenix Serious Nonattainment Area for coarse particulate matter air pollution (PM_{10}), inadequate to attain the federal 24-hour PM_{10} standard at the Salt River PM_{10} monitoring site, due to continued exceedances of the standard in that area (67 FR 44369, effective August 1, 2002). The Arizona Department of Environmental Quality (ADEQ) submitted a SIP revision addressing the control of PM_{10} in the Salt River area on February 2, 2004, in compliance with EPA's SIP submission deadline. The purpose of these public hearings is to receive comments on refinements to the February 2004 SIP revision, which continue to address the deficiencies noted in EPA's July 2, 2002, notice.

Two public hearings will be held on the proposed SIP revision. The first one will be held on Thursday, July 15, 2004, at 4:00 p.m., at ADEQ, 1110 West Washington Street, Phoenix, Arizona 85007, in conference room 250. The second hearing will be held on Friday, July 16, 2004, at 2:00 p.m., at ADEQ, 1110 West Washington Street, Phoenix, Arizona 85007, in conference room 250. All interested parties will be given an opportunity at the hearings to submit relevant comments, data, and views - orally, and in writing. Written comments must be received at ADEQ by 5:00 p.m. on Friday, July 16, 2004. All written comments should be addressed, faxed, or e-mailed to:

Catherine Jordan
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007
PHONE: (602) 771-2371; FAX: (602) 771-2366
E-Mail: cj1@ev.state.az.us

Copies of the proposed SIP revision are available for review beginning Monday, June 14, 2004, at the following locations:

Arizona Department of Environmental Quality Library
First Floor
1110 West Washington Street
Phoenix, Arizona 85007
Attn: Lorraine Cona, (602) 771-2217

The Burton Barr Library
1221 North Central Avenue
Phoenix, Arizona 85004
Attn: Linda Risseeuw, (602) 262-4636

AFFIDAVIT OF PUBLICATION

THE ARIZONA REPUBLIC

STATE OF ARIZONA
COUNTY OF MARICOPA } SS.

Sally Reede-Morris, being first duly sworn, upon oath deposes and says: That she is a legal advertising representative of the Arizona Business Gazette, a newspaper of general circulation in the county of Maricopa, State of Arizona, published at Phoenix, Arizona, by Phoenix Newspapers Inc., which also publishes The Arizona Republic, and that the copy hereto attached is a true copy of the advertisement published in the said paper on the dates as indicated.

The Arizona Republic

June 11, 2004

Sworn to before me this
14TH day of
June A.D. 2004

OFFICIAL SEAL
MARILYN GREENWOOD
NOTARY PUBLIC-ARIZONA
MARICOPA COUNTY
My Comm. Expires May 23, 2007

Notary Public

PUBLIC NOTICE
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY NOTICE OF PUBLIC HEARING ON PROPOSED SALT RIVER PM10 STATE IMPLEMENTATION PLAN REVISION

On July 2, 2002, EPA found Arizona's state implementation plan (SIP), for the Metropolitan Phoenix Serious Nonattainment Area for coarse particulate matter air pollution (PM10), inadequate to attain the federal 24-hour PM10 standard at the Salt River PM10 monitoring site, due to continued exceedances of the standard in that area (67 FR 44369, effective August 1, 2002). The Arizona Department of Environmental Quality (ADEQ) submitted a SIP revision addressing the control of PM10 in the Salt River area on February 2, 2004, in compliance with EPA's SIP submission deadline. The purpose of these public hearings is to receive comments on refinements to the February 2004 SIP revision, which continue to address the deficiencies noted in EPA's July 2, 2002, notice.

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E-Mail: cj1@ev.state.az.us

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Attn: Lorranie Cona (602) 771-2217

The Burton Barr Library
1221 North Cental Avenue
Phoenix, Arizona 85004
Attn: Linda Risseeuw (602) 262-4636

04283-June 11, 2004

Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 W. Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us

Stephen A. Owens
Director

AGENDA

Air Quality Division
Salt River PM_{10} State Implementation Plan Revision
Thursday, July 15, 2004, 4:00 p.m.
Arizona Department of Environmental Quality (ADEQ)
1110 West Washington Street, Phoenix, Arizona 85007
Conference Room 250

---

1. Welcome and Introductions ~ *Sean McCabe, ADEQ Water Quality Division, Drinking Water Section*

2. Overview of Proposed Plan Revisions ~ *Ira Domsky, Air Quality Division Deputy Director*

3. Questions and Answers ~ *Sean McCabe and Air Quality Division*

4. Oral Comments ~ *Sean McCabe*
(To comment, please take a speaker slip from the sign-in table and submit it to the Public Hearing Officer.)

5. Adjournment ~ *Sean McCabe*

Order of agenda items is subject to change. For additional information regarding the meeting, please call Catherine Jordan, ADEQ Air Quality Division, at (602) 771-2371 or 1-800-234-5677, Ext. 2371.

Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting Katie Huebner at (602) 771-4794 or 1-800-234-5677, Ext. 4794. Requests should be made as early as possible to allow sufficient time to make the arrangements for the accommodation. This document is available in alternative formats by contacting ADEQ TDD phone number at (602) 771-4829.

Arizona Department of Environmental Quality
Air Quality Division

Please Sign In

SUBJECT Salt River PM-10 State Implementation Plan Public Hearing DATE July 15, 2004

	NAME	ORGANIZATION	PHONE	FAX	E-MAIL
1.	Jim Mikyla	APS	602 750-7732		Jim.Mikyla@APS.com
2.	Peter Hyde	ADEQ	771-7642		
3.	Eric Massey	ADEQ	771-2288		
4.	Steve Peplau	ADEQ	771-2274		
5.	Stan Trousil	ARPA	271-0346		Stan@azrockproducts.org
6.	Amanda McGennis	AGC	602-252-3926		amcgennis@azagc.org
7.	Randy Sedlacek	ADEQ	771-2352		rfs@ev.state.az.us
8.	Jim Weiss	City Of Chandler	480 782-2377		Jim.Weiss@ci.chandler.az.us
9.	[illegible]	ADEQ	602-771-2371		CJT@ev.state.az.us

Arizona Department of Environmental Quality
Air Quality Division

Public Hearing Presiding Officer Certification

I, Sean McCabe, the designated Presiding Officer, do hereby certify that the public hearing held by the Arizona Department of Environmental Quality was conducted on Thursday, July 15, 2004, in Room 250, Arizona Department of Environmental Quality, Phoenix, Arizona, at 1110 West Washington Street, Phoenix, Arizona 85007, in accordance with public notice requirements by publication in the Arizona Republic dated Friday, June 11, 2004. Furthermore, I do hereby certify that the public hearing was recorded from the opening of the public record through concluding remarks and adjournment, and the transcript provided contains a full, true, and correct record of the above-referenced public hearing.

Dated this 3rd day of August, 2004

Sean McCabe

State of Arizona)
) ss.
County of Maricopa)

Subscribed and sworn to before me by Sean McCabe this 3rd day of August.

OFFICIAL SEAL
LAURA McFARLAND
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires April 2, 2008

Notary Public

My commission expires: 4/2/08

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF THE PROPOSED SALT RIVER PM10 STATE IMPLEMENTATION PLAN REVISION.) **PUBLIC HEARING**

At: Phoenix, Arizona

Date: July 15, 2004

Filed: JUL 19 2004

REPORTER'S TRANSCRIPT OF PROCEEDINGS

DISK ENCLOSED

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1126

By: KATHRYN A. BLACKWELDER
Certified Court Reporter
Certificate No. 50666

Prepared for:

ADEQ

CERTIFIED COPY
(When in red)

BE IT REMEMBERED that the above-entitled and numbered matter came on regularly to be heard before the Arizona Department of Environmental Quality, at 1110 West Washington Street, Conference Room 250, Phoenix, Arizona, commencing at 4:07 p.m. on the 15th day of July, 2004.

BEFORE: SEAN P. MCCABE, HEARING OFFICER

APPEARANCES:

NANCY WRONA, Director of the Air Quality Division;

IRA DOMSKY, Deputy Director of the Air Quality Division;

DIANE ARNST, Air Quality Planning Manager;

STEVE PEPLAU, Air Quality Assessments Manager;

ERIC MASSEY, Air Quality Permits Manager;

PETER HYDE, Air Quality Assessments Environmental Program Manager;

MARK LEWANDOWSKI, Air Quality Planning Unit Manager;

CATHERINE JORDAN, Air Quality Planner;

RANDY SEDLACEK, Supervisor of the Special Applications Unit

KATHRYN A. BLACKWELDER
Certified Court Reporter
Certificate No. 50666

HEARING OFFICER MCCABE: Good afternoon, ladies and gentlemen. Welcome to the public hearing on Arizona's Proposed Revised PM10 State Implementation Plan for the Salt River Area, and thank you for your attendance today. The hearing is now open.

The date today is Thursday, July 15, 2004 and the time is 4:07 p.m. The location is the conference room number 250 of the Arizona Department of Environmental Quality building, at 1110 West Washington Street, Phoenix, Arizona 85007.

My name is Sean McCabe. I'm with the ADEQ Water Quality Division, Drinking Water Section, and I've been appointed by the ADEQ Director to conduct this hearing.

The subject of the hearing is the Revised PM10 State Implementation Plan, or SIP, for the Salt River Area. The Revised PM10 Salt River SIP constitutes Arizona's response to EPA's July 2002 requirement that Arizona submit a new plan, because existing approved particulate pollution control measures were not working.

Other ADEQ Air Quality representatives in attendance today are Nancy Wrona, Director of the Air Quality Division; Ira Domsky, Deputy Director of the Air Quality Division; Diane Arnst, Air Quality Planning

Manager; Steve Peplau, Air Quality Assessments Manager; Eric Massey, Air Quality Permits Manager; Peter Hyde, Air Quality Assessments Environmental Program Manager; Mark Lewandowski, Air Quality Planning Unit Manager; Catherine Jordan, Air Quality Planner, and Randy Sedlacek, whose title I'm not sure of.

If you plan to make a public comment on the record, the procedure is straightforward. You may have noticed that speaker slips are available at the sign-in table. Please complete a speaker slip, or hand your speaker slip to me if you've already completed one. Using speaker slips allows everyone an opportunity to be heard and allows us to match comments with the name on the official record.

You may also submit written comments to me today in person, or you may submit comments by mail, e-mail, or fax. Please submit all comments by the end of the comment period, 5:00 p.m. on Friday, July 16, 2004. If mailed, e-mailed, or faxed, written comments must be postmarked no later than Friday, July 16, 2003. Address your written comments to Catherine Jordan, Air Quality Planning Section, Arizona Department of Environmental Quality, 1110 West Washington Street, Third Floor, Phoenix, Arizona 85007; phone, 602-771-2371; fax, 602-771-2366; or e-mail,

cj1@ev.state.az.us.

Off the record.

(A discussion was held off the record.)

HEARING OFFICER MCCABE: State and federal law requires that comments made during the formal comment period be considered by ADEQ in the preparation of the final plan revision. This is done through ADEQ's preparation of a responsiveness summary, which will contain ADEQ's written responses to all comments made during the formal comment period.

The agenda for this hearing is simple. First, Ira Domsky will present a brief overview of the background and content of the proposed plan revisions. Second, I will conduct a question and answer period. The purpose of the question and answer period is to provide information that may help you in making comments on the plan revision. Third, I will conduct an oral comment period. At that time, I will call speakers in the order in which I have received their speaker slips.

Please be aware that any comments you make at today's hearing that you want ADEQ to formally consider must be given either on the record during the oral comment period of this proceeding or in writing prior to the close of the comment period, by 5:00 p.m. on

Friday, July 16th, 2004.

At this time, Ira Domsky will give a brief overview of EPA requirements affecting the Salt River State Implementation Plan Revisions, history of the development of the Salt River Plan, and overview of the Plan timeline.

MR. DOMSKY: Thank you, Sean.

In July 1987, EPA reestablished the health standards applicable to particulate matter air pollution, regulating particulate matter 10 microns in diameter or smaller, referred to as PM10. EPA's 1987 standard established 150 micrograms per cubic meter as the 24-hour health standard, and 50 micrograms per cubic meter as the annual health standard.

The urban portion of Maricopa County, approximately 2,800 square miles, was designated a moderate PM10 nonattainment area, by operation of law, on November 15th, 1990, with the adoption of the 1990 amendments to the Clean Air Act of 1977. EPA changed the classification to serious PM10 nonattainment area on June 10th, 1996. The subject of this plan is the Salt River Study Area, which encompasses approximately 32 square miles within the nonattainment area. The Salt River Study Area is bounded by 59th Avenue on the west, 10th Street to the east, Van Buren along the

north, and Baseline to the south. On the chair is a satellite photo that depicts the entire study area. This particular portion of the nonattainment area was subject to study because of the number of violations recorded within the bounds of that area of the 24-hour and the annual standards.

In May 1997, ADEQ submitted its Plan for Attainment of the 24-hour PM10 Standard for the Maricopa County PM10 Nonattainment Area to EPA. The 1997 plan included what we believe to be sufficient control measures to achieve attainment of the PM10 health standards for the Salt River area and other, as we call it, microscale areas within the Maricopa County Serious PM10 Nonattainment Area by May 1998. On August 4th, 1997, EPA approved ADEQ's plan.

The Salt River air quality monitoring site, located near 21st Avenue and Lower Buckeye Road, continued to exceed the federal standards. In addition, a new monitoring site at the Maricopa County Durango Complex measured several violations every year. On July 2nd, 2002, EPA found that ADEQ's 1997 plan was inadequate to attain the 24-hour health standards for PM10 at the Salt River monitoring site, which required Arizona to submit a revision to correct plan deficiencies within 18 months, or by February 2nd of

2004. In February 2004, Arizona submitted the Salt River PM10 State Implementation Plan Revision to begin to address the continued exceedances in the Salt River area. Arizona's February 2004 Salt River SIP submittal included some, but not all, of the necessary control measures, but it did include a commitment to continued development to fill in the gaps in that particular submittal.

Since February, ADEQ has made a number of refinements to the emissions inventory and modeling; has held workshops to inform stakeholders, the public, and State, County, and local jurisdictions concerning the PM10 control measures that will be needed; and has worked with State, County, and local jurisdictions to select feasible control measures; has worked with jurisdictions on control measure commitments; has participated in Maricopa County rule revisions processes; and has gathered data on progress towards implementation of prior plan control measures.

The June 2004 draft Salt River plan, which will replace the February EPA submission, fully complies with EPA's requirements. The plan provides a modeling demonstration showing attainment of the 24-hour federal standard in the area by December 31st, 2006, and proposes economically and technologically

feasible PM10 control measures at the EPA-required stringency levels, which are Best Available Control Measures and Most Stringent Measures, sometimes referred to as BACM/MSM.

On low wind days, significant sources in the Salt River Study Area include, in the order of significance, primary paved roads, industrial sources, secondary paved roads, and construction activity. On high wind days, significant sources include wind erosion from a variety of land uses, including cleared areas, vacant lands in the river bottom, vacant lots, construction, and agriculture.

On April 7th, 2004, the Maricopa County Board of Supervisors adopted EPA-approved BACM and Most Stringent Measures revisions to Maricopa County's Rule 310, which regulates fugitive dust sources from a variety of activities, primarily from construction and earth moving. EPA also approved the ADEQ's Agricultural Best Management Practices as meeting the BACM/MSM requirements. Since the Agricultural Best Management Practices and Rule 310 controls already achieve the level of stringency EPA requires, the Salt River SIP is able to incorporate them as currently implemented without any enhancements. EPA will require, however, additional compliance and enforcement

of the implemented Rule 310 controls, which will necessitate additional Maricopa County funding and staffing.

Control measures proposed in the Salt River SIP to reduce emissions from significant sources include: For Paved Roads Sources, enhanced enforcement of Maricopa County Rule 310 and Rule 316, governing non-metallic mineral processing industries; and enhanced commitments and protocols from Arizona Department of Transportation, Maricopa County Environmental Services Department, and Maricopa County cities and towns to target trackout-affected areas and increase street-sweeping and increase the use of advanced street-sweeping technologies.

For Permitted Industrial Sources: enhancements to Maricopa County Rules 316, 310.01, which applies as fugitive dust from open areas, vacant lots, unpaved parking lots, and unpaved roadways, and proposal for a new Rule 325 addressing control of emissions from clay and brick manufacturing industries. Among proposed changes are: establishment of visible emissions limit at source property line; establishment of industry property line set-back requirements; stabilization of unpaved surfaces; requirement of paving where feasible; requirement of trackout

prevention and cleanup, requirement of partial or full enclosure of industrial operations and areas, such as use of tarps on stockpiles where feasible and the use of enclosures on loading and unloading; requirement to use baghouses on process units and transfer points; and requirement for spray or fog systems for other process emissions.

For Windblown Area Sources: Enhancements to Maricopa County Rule 310.01, requiring vegetative cover, trespass prevention and enforcement, the application of dust suppressants, gravel, or other methods for soil stabilization or use of wind breaks.

The plan commits to timely implementation of the control strategies in the Salt River Study Area and throughout the Maricopa County Serious PM10 Nonattainment Area, provides a demonstration of annual reasonable further progress in the area through the 2006 attainment deadline, and provides a demonstration that the plan meets all PM10 nonattainment area requirements for serious areas under the federal Clean Air Act. Because all necessary plan commitments and required rulemaking processes have not yet been completed, ADEQ will continue to supplement this plan submission throughout the remainder of 2004 and in the first quarter of 2005.

ADEQ will summarize and formally respond to all comments received on this plan during the public comment period and those provided during the public hearing and include the responsiveness summary and the Plan documents that will be submitted to EPA by August 2nd of 2004.

Throughout the remainder of 2004, ADEQ will assist Maricopa County Environmental Services Department in rule revision processes to strengthen current dust controls in Maricopa County Rule 310.01 for affecting open areas, vacant lots, and unpaved parking lots, et cetera; the Maricopa County Rule 316 for Nonmetallic Mineral Mining and Processing; and to enhance controls addressing clay and brick manufacturing industries in a new Maricopa County Rule 325, to meet the standards required by EPA and to which ADEQ has committed in the Salt River SIP revision. ADEQ must incorporate Maricopa County rule revisions into an additional revision to the Salt River Plan. We plan to -- There will be additional public hearings on those proposed revisions to the Salt River Plan, with an expected deadline of December 30th, 2004, in order to have these control measures adopted by February 2nd, 2005, which is the deadline set by EPA.

This concludes my summary of the background

and contents of the plan and our schedule for implementation. And at this point, I'll turn it back over to the Hearing Officer

HEARING OFFICER MCCABE: Thank you.

Now I'll open up the proceeding for questions and answers. Please identify yourself for the record.

MS. MCGENNIS: Amanda McGennis with Associated General Contractors.

You were a page and a half back, I believe. Could you reread the information about the supplements, and it had something to do with the fact of the rules not being completed and that you would have to continue to add supplements? It was the page and a half right before you ended. It was, like, down at the bottom where you were reading about the submittal and the reference to not all of the -- like, Rule 310.01 and Rule 316 not being completed and how you would have to continue to add. Could you reread that part back again, please, so I get it? I don't quite understand. You're submitting a version to EPA, correct?

MR. DOMSKY: What the Plan -- What EPA requires us to do is to have a Plan submitted that either includes all of the control measures that are necessary for attainment or commitments to have all control measures implemented by February 2nd of 2005.

So whatever is included in the Plan will go to EPA.

But there are outstanding changes that will need to be made to the metallic mineral mining and processing, Rule 316, the brick and clay manufacturing rule, and the vacant lots and open areas rule, which is 310.01.

There are other things that are outlined in the plan, like schedules and protocols for identifying dirty streets and having them swept on a more frequent basis than they are currently being swept.

MS. MCGENNIS: So if you submit these, do you have to adhere to them, or what is the final agreement? Or whatever you submit now, whether they're still in the process of being worked on or not in, like, 316 or so, is that what sticks, or is it what there comes to an agreement on later on down the road? I'm confused.

MR. DOMSKY: Well, if we modeled attainment with certain specific types of controls or levels of effectiveness and those things are not included in the rule, then the rule will be deficient. And those types of things are outlined, in substantial detail, within the plan.

MS. MCGENNIS: So when you say recommended augmentations, those things that you have listed as enhancements to the rule must basically -- even though

you're still fine tuning those, that basically is the final word? Is that kind of what I'm understanding?

MR. DOMSKY: If during the Maricopa County rulemaking process we come up with some more creative ways of achieving the same level of control efficiency, then those changes would be acceptable. Anything that would roll back the level of control efficiency would be problematic.

MS. MCGENNIS: So basically, if you were an industry going to comment, you want to comment on the existing thing that you're submitting right now in this revised rule, is that correct?

MR. DOMSKY: Yes. And to some extent, if there's some alternatives that we have not identified that would be as effective, then that would be good information for Maricopa County to have as they move forward with their rulemaking process.

MS. MCGENNIS: Okay. Thank you.

MR. TRUSSELL: I'm Steve Trussell with Arizona Rock Products.

I guess I want to check for further clarification. We have been working with both the State and the County on Rule 316, and we felt like there's some changes that were going to be made and I don't see them reflected here. So to trailer what

Mandy is saying, should we be responding to this or wait until those changes are made or not made and then respond there and then to Rule 316, for example?

MR. DOMSKY: Not knowing what -- I mean, I was present at a lot of the discussions that were held during the stakeholder workshops, and we worked really closely with Eric Massey and his staff to make sure that we had documented the types of changes that needed to be made in Rule 316. Now, we don't have specific rule language, but I thought -- I read the plan several times, and I thought that we had identified the specific types of controls that needed to be included in the rule. If you don't think that's specific enough, then --

MR. TRUSSELL: There were just some small details that as I'm looking at these -- and I'm not sure if I should be addressing that now or if I should wait to see if they actually do, in fact, change, because we haven't seen a final draft, to my knowledge, of Rule 316.

MR. DOMSKY: If you have any concerns about what's in the plan, then I think it's important to get them on the record.

MR. TRUSSELL: Okay. Thank you.

HEARING OFFICER MCCABE: Are there any

additional questions for Staff?

We can conclude the question and answer period of the proceeding.

I have not received any comment cards, but I'll open up the proceeding for oral comments if anybody would like to make any.

Hearing none, we will conclude this oral comment period of the proceeding. And if you have any additional comments, please submit your written comments to the Department to the person and address referenced before. Thank you. Thank you for coming and attending the hearing today.

(The public hearing concluded at 4:30 p.m.)

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, KATHRYN A. BLACKWELDER, Certified Court Reporter No. 50666 for the State of Arizona, do hereby certify that the foregoing printed pages constitute a full, true and accurate transcript of the proceedings had in the foregoing matter, all done to the best of my skill and ability.

WITNESS my hand this 18th day of July, 2004.

KATHRYN A. BLACKWELDER
Certified Court Reporter
Certificate No. 50666

Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 W. Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us

Stephen A. Owens
Director

AGENDA

Air Quality Division
Salt River PM_{10} State Implementation Plan Revision
Friday, July 16, 2004, 2:00 p.m.
Arizona Department of Environmental Quality (ADEQ)
1110 West Washington Street, Phoenix, Arizona 85007
Conference Room 250

---

1. Welcome and Introductions ~ *Corky Martinkovic, ADEQ Air Quality Division, Planning Section*

2. Overview of Proposed Plan Revisions ~ *Ira Domsky, Air Quality Division Deputy Director*

3. Questions and Answers ~ *Corky Martinkovic and Air Quality Division*

4. Oral Comments ~ *Corky Martinkovic*
   (To comment, please take a speaker slip from the sign-in table and submit it to the Public Hearing Officer.)

5. Adjournment ~ *Corky Martinkovic*

Order of agenda items is subject to change. For additional information regarding the meeting, please call Catherine Jordan, ADEQ Air Quality Division, at (602) 771-2371 or 1-800-234-5677, Ext. 2371.

Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting Katie Huebner at (602) 771-4794 or 1-800-234-5677, Ext. 4794. Requests should be made as early as possible to allow sufficient time to make the arrangements for the accommodation. This document is available in alternative formats by contacting ADEQ TDD phone number at (602) 771-4829.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Air Quality Division

Please Sign In

SUBJECT Salt River PM10 SIP DATE 7/16/04

	NAME	ORGANIZATION	PHONE	FAX	E-MAIL
1.	Steven Pepkau	ADEQ	771-2274		
2.	Corky Martinkovic	ADEQ	771-2370		
3.	Amanda McGennis	AGC	602-252-3924		amcgennis@azagc.org
4.	Beverly Chavez	ADOT	771-7487		
5.	JOHANNA M. KUSPERT	MCESD	602.506.3476		
6.	Dena Konopka	"	506-4057		
7.	Peter Hyde	ADEQ	771-7642		
8.	Randy Sedlacek	ADEQ	771-2352		

9. [illegible] ADEQ 602 771-2371 [illegible].STATE.AZ.US.

10. DAVID MARTIN

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Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 W. Washington Street • Phoenix, Arizona 85007
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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF THE PROPOSED SALT RIVER PM10 STATE IMPLEMENTATION PLAN REVISION.) **PUBLIC HEARING**

At: Phoenix, Arizona

Date: July 16, 2004

Filed: JUL 19 2004

REPORTER'S TRANSCRIPT OF PROCEEDINGS

DISK ENCLOSED

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1126

By: KATHRYN A. BLACKWELDER
Certified Court Reporter
Certificate No. 50666

Prepared for:

ADEQ

CERTIFIED COPY
(When in red)

BE IT REMEMBERED that the above-entitled and numbered matter came on regularly to be heard before the Arizona Department of Environmental Quality, at 1110 West Washington Street, Conference Room 250, Phoenix, Arizona, commencing at 2:10 p.m. on the 16th day of July, 2004.

BEFORE: DEBORRAH MARTINKOVIC, HEARING OFFICER

APPEARANCES:

IRA DOMSKY, Deputy Director of the Air Quality Division;

DIANE ARNST, Air Quality Planning Manager;

STEVE PEPLAU, Air Quality Assessments Manager;

TREVOR BAGGIORE, Air Quality Permits;

PETER HYDE, Air Quality Assessments Environmental Program Manager;

MARK LEWANDOWSKI, Air Quality Planning Unit Manager;

CATHERINE JORDAN, Air Quality Planner;

KATHRYN A. BLACKWELDER
Certified Court Reporter
Certificate No. 50666

HEARING OFFICER MARTINKOVIC: Good afternoon, ladies and gentlemen. Welcome to the public hearing on Arizona's Proposed Revised PM10 State Implementation Plan for the Salt River Area, and thank you for your attendance today. The hearing is now open.

The date is Friday, July 16th, 2004, and the time is 2:10 p.m. The location is conference room 250 of the Arizona Department of Environmental Quality building, at 1110 West Washington Street, Phoenix, Arizona 85007.

My name is Deborrah "Corky" Martinkovic, and I am with the ADEQ Air Quality Division, Planning Section. I have been appointed by the ADEQ Director to conduct this hearing.

The subject of this hearing is the Revised PM10 State Implementation Plan, or SIP, for the Salt River Area. The Revised PM10 Salt River SIP constitutes Arizona's response to EPA's July 2002 requirement that Arizona submit a new plan, because existing approved particulate pollution control measures were not working.

Other ADEQ representatives in attendance today are Ira Domsky, Deputy Director of the Air Quality Division; Diane Arnst, Air Quality Planning Manager; Steve Peplau, Air Quality Assessments Manager;

Trevor Baggiore, Air Quality Permits; Peter Hyde, Air Quality Assessments Environmental Program Manager; Mark Lewandowski, Air Quality Planning Unit Manager; and Catherine Jordan, Air Quality Planner.

If you plan to make a public comment on the record, the procedure is straightforward. You may have noticed that speaker slips are available at the sign-in table. Please complete a speaker slip, or hand your speaker slip to me if you've already completed one. Using speaker slips allows everyone an opportunity to be heard and allows us to match comments with the name on the official record.

You may also submit written comments to me today in person, or you may submit comments by mail, e-mail, or fax. Please submit all comments by the end of the comment period, 5:00 p.m. on Friday, July 16, 2004. If mailed, e-mailed, or faxed, written comments must be postmarked no later than Friday, July 16, 2004. Address your written comments to Catherine Jordan, Air Quality Planning Section, Arizona Department of Environmental Quality, 1110 West Washington Street, Third Floor, Phoenix, Arizona 85007; phone, 602-771-2371; fax, 602-771-2366; or e-mail, cj1@ev.state.az.us.

State and federal law requires that comments

made during the formal comment period be considered by ADEQ in the preparation of the final plan revision. This is done through ADEQ's preparation of a responsiveness summary, which will contain ADEQ's written responses to all comments made during the formal comment period.

The agenda for the hearing is simple. First, Ira Domsky will present a brief overview of the background and content of the proposed plan revisions. Second, I will conduct a question and answer period. The purpose of the question and answer period is to provide information that may help you in making comments on the plan revision. Third, I will conduct an oral comment period. At that time, I will call speakers in the order in which I have received their speaker slips.

Please be aware that any comments you make at today's hearing that you want ADEQ to formally consider must be given either on the record during the oral comment period of this proceeding or in writing prior to the close of the comment period, by 5:00 p.m. on Friday, July 16th, 2004.

At this time, Ira Domsky will give a brief overview of EPA requirements affecting the Salt River State Implementation Plan Revisions, history of the

development of the Salt River Plan, and overview of the Plan timeline.

MR. DOMSKY: Thank you, Corky.

In July 1987, EPA refined health standards applicable to particulate matter air pollution, regulating particulate matter 10 microns in diameter or smaller, which are referred to as PM10. EPA's 1987 standard established two different thresholds of 150 micrograms per cubic meter as the 24-hour health standard, and 50 micrograms per cubic meter as the annual health standard.

The urban portion of Maricopa County, approximately 2,800 square miles, was designated as a moderate PM10 nonattainment area, by operation of law, on November 15th, 1990 when the 1990 amendments to the Clean Air Act were enacted. EPA changed the classification to serious PM10 nonattainment area on June 10th, 1996. The subject of this plan is the Salt River Study Area, which encompasses approximately 32 square miles within the nonattainment area. There's a map of that area on the table with the water, it's a satellite photo. It's bounded -- The study area is bounded by 59th Avenue on the west, 10th Street on the east, Van Buren on the north, and Baseline Road on the south.

In May 1997, ADEQ submitted its Plan for Nonattainment of the 24-hour PM10 Standard for the Maricopa County PM10 Nonattainment Area to EPA. The 1997 plan included sufficient control measures to achieve attainment of the PM10 standards for the Salt River area and several other, as we call them, microscale areas within the Maricopa County's PM10 Serious Nonattainment Area. On August 4th, 1997, EPA approved ADEQ's plan.

The Salt River air quality monitoring site, located near 21st Avenue and Lower Buckeye Road, continued to exceed federal standards beyond the deadline for attainment, which was 1998. In addition, a new monitoring site at the Maricopa County Durango Complex had measured several violations every year. On July 2nd, 2002, EPA found ADEQ's 1997 plan inadequate to attain the standards at the Salt River monitoring site and required Arizona to submit a revision to the plan to correct the deficiencies within 18 months, or by February 2nd of 2004. In February 2004, Arizona submitted the Salt River PM10 State Implementation Plan Revision to begin to address continued exceedances within the Salt River Study Area. Arizona's February 2004 Salt River SIO submittal included some, but not all, of the necessary control measures, and

committed to the continued development of the necessary elements of the plan to make it approvable.

Since February, ADEQ has made refinements to the emissions inventory and modeling; has held numerous workshops to inform stakeholders, the public, and State, County, and local jurisdictions concerning the PM10 control measures that will be needed to achieve attainment; has worked with State, County, and local jurisdictions to select feasible control measures; has worked with jurisdictions to achieve control measure commitments where those were necessary; participated in Maricopa County rule revision processes; and gathered data on progress toward implementation of prior plan control measure implementation.

The June 2004 Salt River plan, the draft plan, of which, once adopted, will replace the February 2004 submittal to EPA, fully complies with EPA's requirements. The plan provides a modeling demonstration showing attainment of the 24-hour federal standard in the area by December 31st, 2006 and proposes economically and technologically feasible PM10 control measures at the required level of stringency for those control measures, which is Best Available Control Measures, or BACM, and Most Stringent Measures, also termed MSM.

On low wind days, significant sources in the Salt River Study Area include, in the order of their significance: Primary paved roads, industrial sources, secondary paved roads, and construction activity. Within the road categories is included trackout onto paved roads. On high wind days, significant sources include wind erosion from a variety of different land uses: Including cleared areas, vacant lands in the river bottom, vacant lots, construction, and agriculture.

On April 7th, 2004, Maricopa County Board of Supervisors adopted the BACM/MSM revisions to Maricopa County Rule 310 to meet EPA's requirements. This particular rule regulates fugitive dust from a variety of sources, primarily construction and earth moving activities. EPA also previously approved ADEQ's Agricultural Best Management Practices program as meeting the BACM and MSM requirements. Since both of these rules already achieve the level of stringency EPA requires, the Salt River SIP is able to incorporate them as currently implemented, without any enhancements. EPA will, however, require additional compliance and enforcement of Rule 310 controls, which will necessitate additional Maricopa County funding and staffing.

Control measures proposed in the Salt River SIP to reduce significant sources include: For Paved Road Sources, enhanced enforcement of Maricopa County rules relating to trackout onto paved roads; enhanced commitments and development and implementation of protocols by jurisdictions having control of particular paved roads, which includes, to some extent, ADOT, but primarily the cities and towns in Maricopa County, to increase street sweeping on the dirtier streets. For Permitted Industrial Sources: Enhancements to Maricopa County Rule 316 for nonmetallic mineral processing, and Rule 310.01, which relates to fugitive dust from open areas, vacant lots, unpaved parking lots, and unpaved roadways; and the proposal for a new Rule 325 addressing control of emissions from clay and brick manufacturing industries. Among the proposed changes are: Establishment of visible emission limits at property -- at source property lines; establishment of industry property line set-back requirements; stabilization of unpaved surfaces and unpaved roads; a requirement for paving where feasible; trackout prevention and cleanup; requirements for partial and full enclosure of industrial operations and areas, which can include use of tarps and stockpiles and enclosures for loading and unloading; requirements for

baghouses for process units and transfer points; and requirements for the use of spray and fog systems for other emission-producing activities, where feasible.

For windblown area sources, the primary changes will be for Maricopa County Rule 310.01, which already requires vegetative cover, and application of other technologies to reduce the ability of these lands to produce windblown dust and to stabilize soils. There will also be some additional requirements for trespass prevention and enforcement of trespass and for the use of wind breaks, where feasible.

The plan commits to timely implementation of control strategies in the Salt River Study Area and throughout the Maricopa County Serious PM10 Nonattainment Area, and provides a demonstration of annual, reasonable further progress in the area throughout the 2006 attainment deadline, and provides demonstration that the plan meets all PM10 requirements for the serious nonattainment area and to comply with the Clean Air Act. Because all the necessary plan commitments and required rulemaking processes have not yet been completed, ADEQ will continue to supplement the plan submission throughout the remainder of 2004 and into the first quarter of 2005.

ADEQ will summarize and formally respond to

all comments on the revised PM10 State Implementation Plan for the Salt River Study Area received during July 2004, during the public hearing process, and include in the responsiveness summary -- and include them in the responsiveness summary and the plan that will be submitted to EPA by August 2nd. We will respond to all comments received by the deadline for close of comments, which is 5:00 today.

Throughout the remainder of 2004, ADEQ will assist the Maricopa County Environmental Services Department with rule revisions for its rules, Rule 310.01 for unpaved lots and open areas, unpaved roadways; Maricopa County Rule 316 governing nonmetallic mineral mining and processing; and a new Rule 325 for brick and clay manufacturing. ADEQ must incorporate the Maricopa County rule revisions into the SIP. There will be SIP hearings associated with those rulemakings at the County level. The proposed deadline for completion of rulemaking will be December 30th, 2004 in some cases, but the final deadline for getting those rules submitted to EPA is February 2nd, 2005.

This concludes my description of the SIP and our process from here on out. And I'll, at this point, turn it back to the Hearing Officer.

HEARING OFFICER MARTINKOVIC: Thank you,

Mr. Domsky.

I now open this proceeding for questions and answers.

MS. CHENAUSKY: When are we going to get to know what is defined as a dirty street or dirty road?

MR. DOMSKY: That is subject to the way the protocols are developed at the City level. We have identified certain criteria that could be used by a City, Town, or the County or ADOT to define what roads should be targeted, because there are a variety of different sources that can contribute additional loading of dirt onto paved roads, and there's no cut and dry formula. So I believe that the deadline in the SIP for getting those protocols completed is September 30th of this year.

THE COURT REPORTER: May I have your name, for the record?

MS. CHENAUSKY: Beverly Chenausky, C-h-e-n-a-u-s-k-y.

MS. MCGENNIS: Amanda McGennis, Associated General Contractors.

I have a question. We had discussed, in stakeholders meetings before, about stockpiles and the definition of a stockpile, and that has not yet been determined. I know that you were working on Rule 316

and having some issues as far as height and width, but no definition of what a stockpile was. There is a concern in the construction industry as to some of the earth moving debris and if that would be classified as a stockpile or not, and I would like a response from that, please.

MR. DOMSKY: I cannot respond to that at this time. I think that's an appropriate comment to make in your -- relative to the SIP, because it will be important for Maricopa County's rulemaking process. And I'm not qualified to define a stockpile right now anyway.

HEARING OFFICER MARTINKOVIC: Are there any other questions?

If there are no other questions --

MR. MARTIN: I have a couple. I was waiting for everyone else to go.

MR. DOMSKY: David, if you would --

MR. MARTIN: David Martin, and I'm with Associated General Contractors, for the record.

Under Table 4.3.4.12 on page 67, it talks about recommended augmentations to Rule 316 for unpaved haul and access roads, and we have a real concern with the second bullet point, and I'll read it, if you'd like. "Appropriate trackout controls should be

considered in an approved dust control plan, and shall take into account the stabilization of the roads and unpaved shoulders that off-site traffic must cross in order to enter and exit the facility."

It sounds like what is occurring here is that -- I don't know the origination of where this recommendation came from, but it sounds like governmental entities are asking us to maintain parts of the right-of-way. And I have some pictures back at the office that show where the actual street ends, and then you have an undeveloped portion of the road that connects to a facility. It doesn't matter whether it's a wrecking facility or whatever, there's all kinds of -- there's sort of that no man's land, if you will, between the existing facility and the end of the private enterprise, if you will. We think that's the responsibility -- the right-of-way is the responsibility of the governmental entity and not the responsibility of the private entity, since it's the right-of-way.

MR. DOMSKY: Well, the only response that I think I could make is that it says take into consideration. I think that's an important comment to put on the record, David, so I'd ask you to do so.

MR. MARTIN: We also are concerned about the

potential liability, if something were to occur, where, you know, a potential litigant would be involved in something that occurred in that point where the facility -- that they may engage us in litigation, and we're just concerned about that. So that's just for the record. No need, necessarily, for a response, I just thought it was important to include that for the record.

I have a couple of questions regarding the supplements. It sounds like this is a living and breathing document. And my concern is that, in the spirit of public comment, that -- I don't know how to address this, you're going to have to help me here, Ira -- that the recommended State Implementation Plan isn't more so much away from its original intent, that the supplements stay alive, right, and aren't really fully considered, and then all of a sudden they're in the final plan. We believe that that would be the point that you start the public process. In other words, you're extending --

MS. ARNST: There are going to be some more stakeholder meetings between August 2nd and September 30th.

MR. DOMSKY: Yes. And I think that the things that are really going to affect any group that's

different than what's specifically outlined within the plan are going to be subject to their own formal and informal public processes. I think the big issues are going to be the rulemaking, and the rest of it is -- are really commitments that the Cities and Towns and the other transportation agencies will be making. So I think the real theater of action is going to be with the County rulemaking processes.

MR. MARTIN: David Martin again from AGC.

So let me get this right. If a City makes a commitment to a certain supplement, and let's just say it happens to be this one that I happened to talk about, is it possible, then, for that City, because they made a commitment in respect to this issue on the right-of-way -- and I'm using that just as an example -- would it be possible for the City to make an ordinance to make -- I guess what I'd ask is, can the City, once they make a commitment, push that downstream? In other words, is the commitment from them that they're going to pave the shoulders, that they're going to do it, they themselves, or is it also possible that they would create an ordinance to push that onto the private companies based on permits?

MR. DOMSKY: I wouldn't speculate on that.

The only thing I could say is if they're going to create an ordinance and that ordinance ends up having to be in the SIP for whatever reason, then there needs to be a whole public process associated with the development of the ordinance that would include review and comment by the public. And because they wouldn't be empowered to have a SIP hearing the way the County is, then it's probably -- it's most probable that there would have to be an additional public hearing to incorporate that into the SIP.

MR. MARTIN: Okay. Good.

We're concerned that because the Cities are receiving some of that pressure, and legitimately so, that they could pass some of those requirements on to us -- well, not us, just the general public. I'm not necessarily talking about just the construction industry.

Another question, in reference to the speciation on construction. Do we know what the origination of those pollutants are? When you start talking about construction, it can be comingled with the aggregate industry, it can be comingled with the farming industry, it can be comingled with the home building industry. Do we have a breakdown as to what that speciation shows for construction activities or

construction?

MR. DOMSKY: That should be outlined, in detail, within the Technical Support Document.

MR. MARTIN: I looked for it and wasn't able to see it.

MR. DOMSKY: The methods that we use for assigning blame, if you will have it, for various sources, is based on emission factors associated with the amount of land that's in use that generates dust, the level of activity, and which way the emissions are going to blow, based on the meteorology. I haven't in a little while, but I read every word of the TSD at one point and I thought it did a good job of explaining how we did that.

MR. MARTIN: Yeah. I looked at it and I didn't see the specificity. I just saw construction, and then it was broken down, like, for the roads, it broke down rubber, brakes, some of that other stuff, but for construction it didn't have a breakdown.

MR. DOMSKY: There should be a section in there with formulas based on different emission factors and area under construction, et cetera. And there's even silt loading factor that's applied where we have data on that.

MR. MARTIN: Okay. I see it. Okay. I'll

take a closer look at this. Thanks, Ira.

And then I think Amanda has some comments she'd like to read, just to put on the record. We don't have the written comments available, but we think it's important that we put what was drafted into the record, with your permission.

HEARING OFFICER MARTINKOVIC: First, I would like to see if there's any more questions before we go into the formal comment period.

And then, Diane, can you, for the benefit of the court reporter, identify yourself?

MS. ARNST: I'm Diane Arnst.

HEARING OFFICER MARTINKOVIC: If there are no more questions for the question and answer portion, then we can proceed into the oral comment period.

This concludes the question and answer period for this proceeding.

I'm now opening this proceeding for oral comments.

MS. MCGENNIS: Do I need to stand or can I sit?

HEARING OFFICER MARTINKOVIC: Whatever is comfortable for you.

MS. MCGENNIS: I'd like to start by saying my

name is Amanda McGennis, and I'm with the Arizona Chapter of Associated General Contractors. And as an Association, we appreciate the opportunity to comment on the Proposed Revised PM10 Implementation Plan for the Salt River area, June 2004, prepared by the Arizona Department of Environmental Quality. What I'm about to say are the comments that we have derived from reviewing the plans to date.

After reviewing the proposed SIP document, we found there to be inconsistencies in the June 2004 Revised PM10 State Implementation Plan for the Salt River Area and the information discussed and agreed upon as emission reduction strategies for the SIP in previous stakeholder meetings. We also question if ADEQ has done enough research to demonstrate the need for some of the proposed Most Stringent Measures.

Beginning with the first ones, there is confusion on pages 41 through 49. You have to know that these pages are how it prints out from the Web site. I notice that there is a page number difference between what you all have on the back table in the room. So if you're looking at this, you probably want to respond from what comes off of the Web site.

41 through 49, as to whether the control measures discussed are currently proposed for the SIP,

or if they are future potential control measures to be considered. For example, you have listed a number of measures that are south coast, Clark County, and then immediately you fall into a dialogue that starts with the Salt River SIP and it says Potential Control Measures as the heading, that's on page 43. On page 44, the first paragraph says -- potential is taken out and it says just Control Measures, so you've left out the word potential. It says, "The following control measures" instead of following potential control measures.

Page 46, the first bullet, non-daylight hour production silo filtration systems shall be illuminated to determine compliance. I'm not sure if that is something you're proposing right now because I didn't see it in the table, but, again, it's listed as potential. As a response, we do not feel that this is feasible. The illumination would extend past the boundary lines and become a nuisance to the surrounding neighborhoods.

Page 52, Table 4.3.4.7, this is a recommended enhancement or augmentation to Rule 316, it's bullets -- the second bullet and the fourth bullet, inlet and outlet of all screens. Out comment is that you cannot put water on an inlet or the screen

will be blinded. And bullet number four, all screen sides are required to be enclosed already. There is not much fugitive emissions with the sides being enclosed. So there needs to be more clarification on bullet number four or it should be deleted, is our recommendation.

Page 54, Table 4.3.4.8, one of the enhancements, Work Practice Standards. We would like for you to define "spillage of materials" and the types of materials that you are requiring.

Page 55, 4.3.4.9, Hot Mix Asphalt Plants under stack emissions and visible emissions. This is already an existing rule; however, it was not researched very well.

This is off the record for a minute.

(A discussion was held off the record.)

MS. MCGENNIS: There are no storage silos for hot mix asphalt; there are surge, s-u-r-g-e, silos. Hot mix asphalt is not stored. The liquid petroleum used to coat the mix is stored, but the actual mix, once the aggregate and asphalt are combined, is made and immediately transported to the job site. Of note, there should be no emissions coming from coated rock anyway.

Page 59, Table 4.3.4.10, reference to

stockpiles again. There's a language discrepancy at the bottom of the page. Rule 310 says cover open stockpiles, and on the enhancement you're saying cover all stockpiles. We feel that this is not feasible, considering the height and width of stockpiles, and it should revert back to Rule 310, which is cover open.

Page 60, Table 4.3.4.10, which is, again, on stockpiles. There are typos. F-r-o should be for.

Page 61, same 4.3.4.10. There is an inconsistency in the bullet points. One refers to new facilities, and the other refers to existing facility stockpile heights. Of note, in a stakeholder meeting we agreed upon that the new stockpiles would not be located 25 feet from a property line. However, requiring stockpiles to be a certain height and width was never discussed either for new or existing facilities. Our question is, who will measure and determine the height of a stockpile? This requirement would be very subjective, and if it's not measured properly, it poses a safety risk to industry employees as well as the County Inspector going out to review the stockpile height.

Page 61, there is a typo, d-i-s-t for dust.

Page 65, Table 4.3.4.12. Any measures that address daily operations, such as timing and production

activities limits and vehicle speeds within the work area and determining the number of vehicle trips driven on any day is very invasive to our individual work practice and we do not agree with it.

Page 66, the first bullet. It should be broken into separate options. From what we can understand, you start with speed bumps and then you go to another requirement and another requirement. Those are all in the same one selection. We think that those should be broken out into different measures, instead of that being all in one selection. You're asking us to do four things in that particular measure.

Page 67, again, this is still part of 4.3.4.12. The first bullet, change of language from Rule 310. Using a wheel washing device and then crossing an unpaved shoulder will create more trackout. We think that the Rule 310, which just says suitable trackout control device, should be reinstated in the language.

Page 67, second bullet. Responsibility of unpaved shoulders should not be required of the operator but of the owner/agency that holds the right-of-way. Requiring the operator to take that responsibility for the right-of-way poses safety concerns to the traveling public.

In closing, it's our impression that some of the enhancement measures outlined within this document would have little or no impact on the air quality, but would pose a significant burden on the industry. We also challenge the use of Most Stringent Measures in the Salt River SIP, when the current revisions to Rule 310 have not been given a chance to determine their effectiveness.

I would like to thank you for allowing us to submit these comments, and we look forward to remaining an active stakeholder in this process.

MR. MARTIN: Corky, just for the record, so you know, she started on -- she said inconsistency between the document that's here and the one off the Web site. Her comments began where it's underlined on page 41, which is Selected Control Measures for Open Areas, Vacant Lots, and the Alluvial Channel.

MS. MCGENNIS: It's chapter four, I believe.

HEARING OFFICER MARTINKOVIC: Thank you.

Seeing no other speaker slips, this concludes the oral comment period of this proceeding.

I encourage everyone to submit written comments on the proposed plan revision. Your participation is an essential part of the plan revision process.

Thank you for attending. The time is now 2:45 p.m. This public hearing is now closed.

(The public hearing concluded at 2:45 p.m.)

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, KATHRYN A. BLACKWELDER, Certified Court Reporter No. 50666 for the State of Arizona, do hereby certify that the foregoing printed pages constitute a full, true and accurate transcript of the proceedings had in the foregoing matter, all done to the best of my skill and ability.

WITNESS my hand this 18th day of July, 2004.

KATHRYN A. BLACKWELDER
Certified Court Reporter
Certificate No. 50666

Attachment 3

REVISED PM_{10} STATE IMPLEMENTATION PLAN
FOR THE SALT RIVER AREA

PUBLIC COMMENTS AND
RESPONSIVENESS SUMMARY

From: "Tom Merrifield" <TMerrifield@flusol.com>
To: <cj1@ev.state.az.us>
Date: 7/16/2004 12:19:18 PM
Subject: SIP comments

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Attached are our public comments to the SIP Proposal to the EPA. There are a number of individuals, who are part of growing concern of adverse health effects in Maricopa County, who will, or already have, submitted this same document via email to you today for review. To my knowledge the document has not been altered in the course of this distribution. I am sorry for not having all the names included on one document. I hope you will understand, but I know that will not alleviate the work you will go through sorting through these submittals, validating that only one document exists. I have left my phone number as a contact for this group in case there are any questions. For your information I am the primary source for the drafting of this document, but I could not have done this without the assistance of Shirley McDonald, whose background is physics, and who has been evaluating air quality monitoring, modeling, and assessment in Maricopa County for over five years. She has raised some very good questions that sparked my own inquiry into the SIP Proposal, ultimately leading to this attached draft. Certainly I would like to hear your comments to this submittal, any misinterpretations that we may have made, and any recommendations that need to be pursued. Thank you for the discussions that we have had. I hope that all of these efforts will be successful in arriving at solutions that protect health and promote continued industry growth and economic development. I am a firm believer that both can and will occur.

I am forwarding this to my father-in-law, Dr. Jay Glasser, who is the past President of the American Association of Public Health, Professor at the University of Texas School of Public Health in Houston, co-director of the International Program on Health Technology Assessment at the University of Texas Health Science Center Texas, a scientific adviser to the World Health Organization, and who has spoken here in Arizona on at least two occasions in the past couple of years. He has always expressed interest in any knowledge I might have on current public health issues in this area.

Please verify via email reply that you have received this correspondence. Thank you.

Sincerely,

George T. Merrifield, Jr.

CC: "Jay Glasser" Jay.H.Glasser@uth.tmc.edu

Public Comment to SIP for Maricopa County
July 16, 2004

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Sincerely,

George T. Merrifield, Jr., R.G., 2324 East Virginia St., Mesa, AZ 85213, (602) 274-6725

From: <t.stolt@att.net>
To: <cj1@ev.state.az.us>
Date: 7/16/2004 10:42:33 AM
Subject: Re: Fw:

Catherine Jordan
Air Quality Planning Section
Arizona Dept. of Environmental Quality

Dear Ms. Jordan:

Please add my name to the attached commentary. My name, address, and affiliation are as follows:

Thomas L. Stolt
9706 Long Hills Dr.
Sun City, AZ 85351
V.P. of the Sun City Home Owners Assoc.

Respectfully,
Thomas L. Stolt

---------- Original message from "SHIRLEY L MC DONALD" : ----------

----- Original Message -----
From: Tom Merrifield
To: shrlmcd73@msn.com
Sent: Friday, July 16, 2004 10:06 AM

From: "Tom Merrifield" <TMerrifield@flusol.com>
To: <cj1@ev.state.az.us>
Date: 7/16/2004 12:19:18 PM
Subject: SIP comments

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George T. Merrifield, Jr., R.G., 2324 East Virginia St., Mesa, AZ 85213, (602) 274-6725

From: "Property Owners and Residents Assn." <pora@suncitywest.org>
To: <cj1@ev.state.az.us>
Date: 7/16/2004 10:43:38 AM
Subject: air quality

To
Catherine Jordan
Air Quality planning Section
Arizona Dept of Environmental Quality

----- Original Message -----
From: Tom Merrifield<mailto:TMerrifield@flusol.com>
To: shrlmcd73@msn.com<mailto:shrlmcd73@msn.com>
Sent: Friday, July 16, 2004 10:06 AM

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From: "SHIRLEY L MC DONALD" <shrlmcd73@msn.com>
To: <cj1@ev.state.az.us>
Date: 7/16/2004 9:55:19 AM
Subject: Fw: Comments on Salt River PM 10 SIP Revision

Catherine Jordan
Air Quality Planning Section
Arizona Department of Environmental Quality

Dear Ms. Jordan:

Please add my name to the attached comment document.

Sincerely,

Shirley L. McDonald
Member of Health and Environment Committee
Property Owners and Residents Association of Sun City West
13431 W. Shadow Hills Drive
Sun City West, AZ 85375
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From: Tom Merrifield<mailto:TMerrifield@flusol.com>
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From: "DARLENE SWAIM" <SWAIM32@msn.com>
To: <cj1@ev.state.az.us>
Date: 7/16/2004 9:23:37 AM
Subject: SIP COMMENTS

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The adverse health effects of PM10 and PM2.5 are obvious as stated in the SIP report. Furthermore, the SIP report shows that the annual particulate limits have been exceeded almost every day of the year for the years shown here in addition to the 24-hour limits. This leads to the following concerns.

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Secondly, the interpretations of the data suggest that the major sources of emissions lie in the central portion of the Phoenix, which suggests that the metropolitan area, industry, and/or people's activities are the source, not simply that we live in a desert. However, we are concerned about the amount of actual air quality monitoring data collected and the location of the data. We would have preferred to see a discussion about the details of the instrumentation used, the accuracy of the instruments, the maintenance required to keep it operational, and independent checks on the validity of the data collected. These same checks are used when validating water quality data, as part of the Clean Water Act, safe drinking water, and groundwater protection. We feel there should be a distinction in this SIP between actual air quality data collected and the assessment of the data (ie, QA/QC) and interpretations made from air quality calculations (from facility types, the different operations going on there, the length of time in operation, and perhaps other factors in order to arrive at emission generated). We know the EPA has approved the latter approach, and that is ok if the overall goal is to satisfy the EPA. However, our concern is the health of the citizens of Maricopa County.

We offer the following recommendations in order to address the direct protection of the health of the people of Maricopa County. These would apply independent of which

agency is conducting oversight (Maricopa County or ADEQ).

1) More new industries should be required to construct air quality models prior to start-up as part of the permit and public review to demonstrate compliance, but more importantly to demonstrate how their particular activities can be modified to reduce emissions.

2) We feel that the current permitting approach and lack of enforcement is partly to blame for the exceedance in PM10, and that the permitting approach needs to be revamped, along with the approach to compliance and enforcement.

3) We would like to see more monitoring and assessment of existing and possibly other unregulated air quality pollutants that might be carried along with PM10.

4) There are control measures proposed for each type of emission generator that could be implemented, which would include options like complete enclosure of facilities. What seems to be important here are having enough staff to evaluate and enforce such measures, and more importantly to have the staff available to conduct unannounced visits at anytime of operation, which includes outside normal working hours.

5) We would prefer to see self-monitoring of all facilities with actual air quality data collected, similar to what happens in water quality monitoring, at point(s) of compliance. Furthermore, instrumentation would need to be checked and approved by Board of Technical registered technicians, not employed either directly or indirectly by the facility. This data would need to meet federal air quality standards.

6) We would like to see more funds available to be allocated for air quality modeling software and hardware, modeling staff to meet the demands, and additional compliance and enforcement staff to meet the demands, particularly at Maricopa County Environmental Services.

7) We would like to see standard protocol in rule and statute where after repeated violations and fines, a facility must cease operation. What is obvious in our own experience, as well as in other areas of our nation, is that there are repeat emission violators, who know that they can continue to operate, make promises, get reduced fines, and continue to operate without repercussions of being shut down. The rule and statute may need to be at the Federal level because there are industries in Arizona that are exempt from many of the state rules because of the lobby power of those industries. Unfortunately those same industries have strong lobby power at the Federal level as well. We feel there should be equality for all industry compliance because our health is what is at stake.

We feel the SIP is a start towards the road to recovery in improving our air quality; however, that more will need to be done to protect our health. We are confident that by working together on this goal, we can resolve this problem. If you have any questions regarding these comments, please feel free to call any listed below with phone numbers.

Sincerely,

George T. Merrifield, Jr., R.G., 2324 East Virginia St., Mesa, AZ 85213, (602) 274-6725

Bill and Darlene Swaim, 2044 E. Quartz St., Mesa, AZ 85213, (480-833-8627)

Public Comment to SIP for Maricopa County
July 16, 2004

The adverse health effects of PM10 and PM2.5 are obvious as stated in the SIP report. Furthermore, the SIP report shows that the annual particulate limits have been exceeded almost every day of the year for the years shown here in addition to the 24-hour limits. This leads to the following concerns.

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We offer the following recommendations in order to address the direct protection of the health of the people of Maricopa County. These would apply independent of which agency is conducting oversight (Maricopa County or ADEQ).

1) More new industries should be required to construct air quality models prior to start-up as part of the permit and public review to demonstrate compliance, but more importantly to demonstrate how their particular activities can be modified to reduce emissions.
2) We feel that the current permitting approach and lack of enforcement is partly to blame for the exceedance in PM10, and that the permitting approach needs to be revamped, along with the approach to compliance and enforcement.
3) We would like to see more monitoring and assessment of existing and possibly other unregulated air quality pollutants that might be carried along with PM10.
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by Board of Technical registered technicians, not employed either directly or indirectly by the facility. This data would need to meet federal air quality standards.

6) We would like to see more funds available to be allocated for air quality modeling software and hardware, modeling staff to meet the demands, and additional compliance and enforcement staff to meet the demands, particularly at Maricopa County Environmental Services.
7) We would like to see standard protocol in rule and statute where after repeated violations and fines, a facility must cease operation. What is obvious in our own experience, as well as in other areas of our nation, is that there are repeat emission violators, who know that they can continue to operate, make promises, get reduced fines, and continue to operate without repercussions of being shut down. The rule and statute may need to be at the Federal level because there are industries in Arizona that are exempt from many of the state rules because of the lobby power of those industries. Unfortunately those same industries have strong lobby power at the Federal level as well. We feel there should be equality for all industry compliance because our health is what is at stake.

We feel the SIP is a start towards the road to recovery in improving our air quality; however, that more will need to be done to protect our health. We are confident that by working together on this goal, we can resolve this problem. If you have any questions regarding these comments, please feel free to call any listed below with phone numbers.

Sincerely,

George T. Merrifield, Jr., R.G., 2324 East Virginia St., Mesa, AZ 85213, (602) 274-6725

Your Homes...
Your Roads...
Your Future.

M E M O R A N D U M

To: Ms. Catherine Jordan, Air Quality Planning Section Manager
Arizona Department of Environmental Quality

From: Rusty Bowers, Executive Director of the Arizona Rock Products Association

Date: July 16, 2004

Re: Revisions to Rule 310

General Comments:

The Arizona Rock Products Association (ARPA) would like to thank the ADEQ for its work on the State Implementation Plan and express our appreciation for its considerations of industry concerns. We would also like to address additional concerns regarding revisions to current version (June 14, 2004) of the Salt River State Implementation Plan. In the stakeholder process there was a significant amount of dialogue between industry and the ADEQ. However, some of the changes that we discussed are not represented the latest draft of the State Implementation Plan. These revisions will have a profound economic impact on our members' business. The proposed revisions attempt to bind the Rock Products Industry to standards that ADEQ, as of yet, has not proven we can meet. This is of particular concern, as once the control measures are submitted they will be legally binding and difficult to amend.

Industry is concerned that sufficient review of candidate control measures in this area or air shed have not been vetted with stakeholders or empirically tested. It appears the control measures were merely cut and pasted from other areas of the country without any in-depth desire, other than the stakeholder meetings, to review them for practical application in this area. Further technical review should be required to address and determine the applicability of the suggested control measures. Meanwhile, we are still assessing the productive impact of the measures in the Rule 310 revisions.

We are given to understand that DEQ cannot show attainment for its monitors using this menu of measures. The proposed control measures suggest, in some cases, unreasonable constraints on operations that are currently in compliance with State and County standards. As stated earlier, these measures should be reviewed thoroughly considering their practical and economic effects, and after such a review, if the package of feasible measures does not bring us into modeled conformity, then the DEQ can and should request a waiver.

The Rock Products Association is a non-profit trade association representing a variety of contractors and material suppliers throughout the state of Arizona. ARPA appreciates being included in the stakeholder process for these revisions. The association continually maintains that in order to achieve maximum compliance, that all dust generating activities be subject to enforcement.

Specific Changes to the Salt River State Implementation Plan:

Page 46

When cement or fly ash silos are filled during non-daylight hours, the silo filter system exhaust shall be sufficiently illuminated to enable a determination of compliance with a visible emissions requirement.

It was agreed, by the ADEQ, that this would become a public concern and was deemed unimplementable.

Table 4.3.4.7 (Page 52) Recommended Augmentation to Rule 316

The owner or operator shall install, maintain and operate permanently mounted watering systems (such as spray bars, or an equivalent control) at all of the following locations:
• Inlet and outlet of all crushers;
• Inlet and outlet of all screens; and
• Material transfer points.

The second bullet point should read, "outlet of all screens; and." Placing a spray at the inlet of a screen would "blind" or cause materials to stick to the screen and block entry of materials.

• All screen sides are required to be enclosed.
• All screens shall be enclosed, or the outlet of the screen shall be controlled through the application of a watering system, such as, but not limited to, spray bars or foggers.

It is not clear what needs to be covered on the sides of the shaker screens and neither the State nor the County could tell us what needed to be covered or why. The sides of shaker screens are not sources of fugitive emissions. "Screens shall be enclosed," should be made an option or stricken. Not all screens can be enclosed as they are mobile and need to be accessible. This stipulation would increase operation and maintenance costs.

No visible fugitive emissions shall leave the property from the crusher, associated sources, and in-plant roads associated only with the facility.

We would like to express concerns regarding this because natural event needs further definition, industry should not be held responsible for trespass, including the weekends if we have met the stabilization requirements, the standards should be associated with the activities on the property only and Clark County did not include this, because industry was not deemed to be a significant enough source. This rule should also not pertain to "high wind" days if the proper stabilizations measures are in place.

Table 4.3.4.8 (Page 54) Recommended Augmentation to Rule 316

All cement silo loading operations shall be controlled by a pneumatic pressure control system that discontinues the loading process if excessive pressure is being used to load the cement silo.

The word "pneumatic" should be deleted from this section as it is too prescriptive. This technology is not perfected, costly and we feel there should not be a set method when others options are available.

Table 4.3.4.9 (Page 55) Recommended Augmentations to Rule 316

Require all bulk storage silos to be equipped with a baghouse. All new baghouses shall be designed to meet an emission limitation of 0.01 grains per dry standard cubic foot.

There is no reason to have baghouses on "surge", not storage, silos at asphalt plants. The material is not stored in them for more than a few hours at the most and the materials would be covered with liquid asphalt and therefore would be unable to create dust. We would like to see this distinction made between different types of silos, so they are not classified the same and the requirement for non-dust producing operations removed from "surge" silos.

A baghouse is required on the drum dryer and silos with an opacity limit of not greater than 5% over a six-minute period.

Same issue regarding distinction between silos. It is not possible to get an accurate 6 minute reading on a 30 second puff from the loading of a silo.

Table 4.3.4.10 (Page 59) Recommended Augmentations to Rule 316

An open stockpile is any accumulation of bulk material with a 5% or greater silt content, which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-96A or an equivalent method approved in writing by the Control Officer, Director and the Administrator of the EPA, that the silt content is less than 5%.

"Shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-96A or an equivalent method," should be stricken.

*Cover **all** stockpiles with tarps, plastic, or other material to prevent wind from removing the coverings;*

Covering active stockpiles would greatly reduce production, would be difficult and poses a safety hazard in the mining industry and does not provide a viable option to remediate emissions that are being addressed by alternative methods. We feel this should not be a consideration. Why was "open" changed to "all" from the formal citation in Rule 310? This would not be feasible and we appreciate the flexibility of options.

Table 4.3.4.10 (Page 60) Recommended Augmentations to Rule 316

Meet one of the following stabilization requirements; or

The word "Or" should be removed.

Table 4.3.4.10 (Page 61) Recommended Augmentations to Rule 316

Raw material and product stockpiles at new facilities shall be located at least 25 feet from the property line.

What about new stockpiles? How does this rule apply to existing facilities?

Raw material and product stockpile heights shall not exceed 45 feet.

Why isn't there a reference to "new facilities" as in the previous citation?

No visible emissions beyond property line: A person shall not cause or allow the emissions of fugitive dust from any active operation, open stockpile, or disturbed surface area such that the presence of such dist remains visible in the atmosphere beyond the property line of the emission source. Exemption for

wind gusts exceeding 25 mph, if high wind control measures are implemented.

Table 4.3.4.12 (Page 65) Recommended Augmentations to Rule 316

As an alternative to meeting the stabilization requirements for an unpaved haul/access road, limit vehicle trips to no more than 20 per day and limit vehicle speeds to no more than 10 miles per hour.

ARPA members feel that 20 Trips per day is too restrictive and detrimental to production and speed should be contingent on location in the plant and the type of vehicle. For example, it would greatly reduce production to limit haul truck drivers to 10 miles an hour in the pit whereas, in other parts of the operations it would be appropriate for standard facility traffic. Why was the speed limit changed from the Rule 310 citation of 15mph?

Implement one or more control measure(s) before engaging in the use of or in the maintenance of unpaved haul/access roads:

"Or more" should be stricken.

Table 4.3.4.10 (Page 66) Recommended Augmentations to Rule 316

Use of bumps, humps, or dips for speed control; and limit vehicle speed to 10 miles per hour or less and limit vehicular trips to no more than 20 per day (total for all unpaved haul/access roads); and apply water so that the surface is visibly moist and opacity limitation and silt loading requirement described above is met; or

We would like to see this option broken down into multiple options, like in the remainder of the section, rather than combined.

Table 4.3.4.10 (Page 67) Recommended Augmentations to Rule 316

Appropriate trackout controls should be considered in an approved dust control plan, and shall take into account the stabilization of the roads and unpaved shoulders that off-site traffic must cross in order to enter and exit the facility.

ARPA is concerned about the ability to pave on leased property and the liability issues and willingness of the cities to allow employment of this control measure. Further, what are the specifications within the various cities as to what you may or may not use to stabilize shoulders?

Clean up, trackout, carry-out, spillage, and/or erosion, on the following time-schedule:
o Immediately, when trackout, carry-out, or spillage extends a cumulative distance of 50 linear feet or more; and
o At the end of the workday, for all other trackout, carry-out, spillage, and/or erosion.

In terms of trackout control, requesting our industry to perform sweeping "immediately" after trackout has occurred is not reasonable. While we recognize the importance of reasonable response time, there are numerous variables that could influence clean up. Suggesting that water is added to materials while being loaded, could contribute to trackout and create secondary problems. We also believe that the rule should be tied to a measurable basis for determining severity. "Spillage" also needs clarity and the word "Immediately" continues to be very subjective.

Further

The current plan only applies to the "Owner and/or Operator". It is still unclear whether or not a party other than the "owner or operator" is regulated. The owner/operator language still needs to incorporate "any individual" involved in a dust generating activity.

The Arizona Rock Products Association is in accord with the comments and concerns of our sister agency Associated General Contractors and appreciates being given the opportunity to submit written comments at this time. We look forward to seeing changes to the stated concerns.

Maricopa County

Environmental Services
Air Quality

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July 17, 2004

Catherine Jordan
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85016

Dear Ms. Jordan:

The purpose of this letter is to provide comments on Chapter 4 of the June 2004, Proposed Revised PM10 State Implementation Plan for the Salt River Area. We may provide additional comments on the remaining chapters in a subsequent letter.

Comments on Chapter 4 of the Proposed Revised PM10 SIP for the Salt River Area:

- Last sentence in Section 4.3.1 should follow the second sentence.
- Paragraph after Table 4.2.1 is confusing/not clear.
- Table 4.2.2 is confusing in its location - immediately after Table 4.2.1 and having no introduction.
- In the paragraph after Table 4.2.2, the first sentence is unclear. "The process to identify potential BACM and MSM controls is also the same". The same as what?
- How does the "source category" column in Table 4.2.1 relate to Section 4.3.2 - the description of significant source categories? It looks like there are more source categories in Table 4.2.1 than there are source categories described in Section 4.3.2.

Section 4.3.3, “Windblown Construction”:

- Under “Potential Control Measures”, the last sentence of the first paragraph references Rule 30; however, should reference Rule 310.
- In the second paragraph in Section 4.3.3 under "Potential Control Measures", the second-to-the-last sentence regarding the installation of wind barriers should be deleted.
- Under “Rule Compliance/Test Methods/Record Keeping”, the third and fourth sentences are incorrect and should be revised to include the following information: In 1998, MCESD had 4 inspectors, 1 supervisor, and 1 enforcement officer on staff to enforce 1,700 earthmoving permits. In 2000, MCESD increased the number of personnel working on Rule 310 compliance to 8 inspectors, 1 supervisor, 1 coordinator, 2 enforcement officers, 1 aide, and 1 county attorney. In 2000, MCESD was responsible for 2,500 earthmoving permits. Currently, MCESD is responsible for 4,150 earthmoving permits.
- Under “Rule Compliance/Test Methods/Record Keeping”, the second-to-last sentence, please clarify that MCESD will determine the actual number of additional inspectors and support staff necessary to work proactively and directly on enforcement of fugitive dust rules by conducting a work load analysis for Rule 310, Rule 310.01, and Rule 316 based on targeting criteria, inspection frequencies, current estimates of the number of sources/permits, and benchmarking with Clark County.

Section 4.3.3, “Windblown Cleared Areas (Open Areas, Vacant Lots, and Alluvial Channel)”:

- Under “Emission Reductions”, the second and third sentences in the second paragraph are confusing. The second sentence states that the daily emission rates are based on PM10 emissions due to wind erosion on high wind days and an increased control measure efficiency from 55% to 71% for MCESD’s Rule 310.01, while the third

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sentence states that the projected reduction in PM10 emissions is based on the conversion of open areas and vacant lots to residential and commercial uses. Isn't the projected reduction in PM10 emissions based on both enhanced enforcement of Rule 310.01 and the conversion of open areas and vacant lots to residential and commercial uses?

- Under "Emission Reductions", the following statement in the third paragraph is confusing: "…and also lists emission reductions from combining control measures with the "Create Barriers To Trespassing" control measure".
- In the heading in Table 4.3.3.1, what does "PM10 emissions without additional controls equals 21.57 metric tons/day in year 2006" mean? Does it mean no more controls over/above the controls listed in the table or no more controls than those controls currently implemented?
- In Table 4.3.3.1 and Table 4.3.3.2, the heading of the second column should be changed from "Rule Penetration" to "Rule Effectiveness".
- Under "Technical Feasibility", the first sentence states that following is a discussion of the technical feasibility of strengthening or better enforcement of MCESD's Rule 310.01; however, what follows is a lengthy description of the technical feasibility of the different control options available in Rule 310.01 (with the exception of establishing wind breaks, which would be a new control method option). Why describe the technical feasibility of controls that are already in place in a MCESD rule? Similarly, under "Economic Feasibility" is another lengthy description of the costs associated the different control options available in Rule 310.01 (again with the exception of establishing wind breaks). Because the proposed control measure is "better enforcement of Rule 310.01", shouldn't the technical and economic feasibility analyses focus on the costs associated with enhanced enforcement through additional personnel and rule clarifications?
- Under "BACM/MSM Analysis", "Similar Rules", " Selected Control Measures for Open Areas, Vacant Lots, and the Alluvial Channel" - Did ADEQ determine through it's analysis that Rule 310.01 is BACM/MSM and/or equivalent to similar rules that were examined from other areas? What is ADEQ's conclusion regarding whether or not "better enforcement and augmentation of MCESD Rule 310.01" is technically and economically feasible?

Section 4.3.3, "Windblown Agricultural":

- Page 42, third paragraph, the additional outreach to farmers should encourage use of practices that will reduce the potential for windblown dust from fields, and from tilling and harvesting, and noncropland, year-round, not just during the month of April.

In Section 4.3.4 "Permitted Industrial Source Control Measures"

- Under "Nonmetallic Mineral Products Processing", "Stack And Process Related Emissions", "Emission Reductions", in the second sentence, please clarify the operations or activities for which the use of dust suppressants was found to be technically infeasible.
- Under "Nonmetallic Mineral Products Processing", "Stack And Process Related Emissions", "Rule Compliance/Test Methods/Recordkeeping", are the items listed under "Rule Compliance" and "Test Methods" to be included in Rule 316? If so, I thought that during public workshop meeting discussions that ground level concentrations were not to be included in Rule 316. And, if so, the requirement to wash aggregate prior to delivery and the requirement "when cement or fly ash silos are filled during non-daylight hours, the silo filter system exhaust shall be sufficiently illuminated to enable a determination of compliance with a visible emissions requirement" are not included in the June 2004, draft of Rule 316.

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- Under "Nonmetallic Mineral Products Processing", "Stack And Process Related Emissions", and "Technically Feasible", the fourth and fifth paragraphs state that "…dust suppressants are not technically feasible…", Please clarify the operations or activities for which dust suppressants are determined to be technically infeasible.
- Under "Nonmetallic Mineral Products Processing", "Stack And Process Related Emissions", "Cost-Effectiveness" , and “Baghouse with Suction Shroud”, in second paragraph, put "$" before 25,000 and 50,000.
- Under "Nonmetallic Mineral Products Processing", "Stack And Process Related Emissions", "Cost-Effectiveness", and “Dust suppressants”, Please clarify the operations or activities for which dust suppressants are determined to be technically infeasible.
- Under "Nonmetallic Mineral Products Processing", "Stack And Process Related Emissions", and “BACM and MSM Not Proposed for Consideration” it appears that the list of control measure references under “Crushing and Screening Plants” should be moved immediately following Table 4.3.4.9.
- In Table 4.3.4.7, in the introductory paragraph, change “…, newly proposed control measures, and additional recommended control measures for non-metallic mineral processing and material handling” to “…,benchmarked controls, and recommended augmentations to Rule 316 for non-metallic mineral mining and processing.” to be consistent with the table headings.
- In Table 4.3.4.7 (Crushing And Screening Plants), the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during Public Workshop meetings):
    - All screen sides are required to be enclosed (draft Rule 316 reads: "Cover sides of all skaker screens")
    - All screens shall be enclosed or the outlet of the screen shall be controlled through the application of a watering system, such as, but not limited to, spray bars or foggers.
- In Table 4.3.4.8, in the introductory paragraph, change “…,newly proposed control measures, and additional recommended control measures for non-metallic mineral processing and material handling” to “…,benchmarked controls, and recommended augmentations to Rule 316 for non-metallic mineral mining and processing.” to be consistent with the table headings.
- In Table 4.3.4.8 (Concrete Batch Plants), the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during Public Workshop meetings):
    - All new control devices shall be designed to meet an emission limitation of 0.01 grains per dry standard cubic foot (draft Rule 316 reads: "Install on all cement silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf").
    - All storage silos must be equipped with audible or visual warning devices to prevent overloading (draft Rule 316 includes this control measure for screens and conveyors not for storage silos).
    - Conducting the entire mixing operation inside the enclosed process building such that no visible emissions from the building occur during mixing activities.

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- In Table 4.3.4.9, in the introductory paragraph, change "…,newly proposed control measures, and additional recommended control measures" to "…,benchmarked controls, and recommended augmentations to Rule 316" to be consistent with the table headings.
- In Table 4.3.4.9 (Asphalt Batch Plants), the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during Public Workshop meetings):
    - All new baghouses (installed on bulk storage silos) shall be designed to meet an emission limitation of 0.01 grain per dry standard cubic foot (draft Rule 316 has requirement "to install on all cement silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf").
- Under "Nonmetallic Mineral Products Processing", "Windblown Cleared Areas – Industrial", and "Potential Control Measures" throughout this section, replace "an industrial facility" with "a nonmetallic mineral processing facility" and replace "industrial sources" with "nonmetallic mineral processing".
- Under "Nonmetallic Mineral Products Processing", "Windblown Cleared Areas – Industrial", and "Potential Control Measures", in the second sentence, replace "all industrial sources and construction sources" with "dust generating operations".
- Under "Nonmetallic Mineral Products Processing", "Windblown Cleared Areas – Industrial", and "Potential Control Measures", the last paragraph, delete "enhanced".
- Under "Nonmetallic Mineral Products Processing", "Windblown Stockpiles", and "Potential Control Measures" the first sentence says: "There are three main control measures available for reducing particulate matter emissions from aggregate handling and stockpiles…" and the second sentence says: "The following are potential control measures for reducing particulate matter emissions from paved roads and trackout areas…". It's not clear how "particulate matter emissions from aggregate handling and stockpiles" relates to "particulate matter emissions from paved roads and trackout areas".
- In Table 4.3.4.10, in the introductory paragraph, change "…additional recommended control measures " to "…recommended augmentations to Rule 316" to be consistent with the table headings. Also, change "Maricopa County Rule 310 regulates all industrial sources and construction sources;" to "Maricopa County Rule 310 regulates stockpiles at industrial sources and construction sources;"
- In Table 4.3.4.10 (Stockpiles), the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during Public Workshop meetings):
    - Raw material and product stockpiles at new facilities shall be located at least 25 feet from the property line (draft Rule 316 reads: "When installing an open storage pile for a new nonmetallic mineral processing plant/new asphaltic concrete plant/new concrete plant and bagging operation, the owner and/or operator shall…install and utilize a permanent sprinkler system to spray water and/or a dust suppressant other than water onto an open storage pile, if an open storage pile is greater than 10 feet in height and is installed within 500 feet of off-site occupied buildings or residential areas". This language is from South Coast's proposed Rule 1157).
    - Raw material and product stockpile heights shall not exceed 45 feet (draft Rule 316 reads: "When installing an open storage pile for a new nonmetallic mineral processing plant/new asphaltic concrete plant/new concrete plant and bagging

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operation, the owner and/or operator shall…limit the height of an open storage pile to less than 45 feet, if the open storage pile has greater than 5% silt content").

- In Table 4.3.4.10 (Stockpiles) in column titled "Recommended Augmentations To Rule 316", "dust" is misspelled in control measure that begins "No visible emissions beyond property line…".
- In Table 4.3.4.10 (Stockpiles), the source and regulation of some of the benchmarked controls are not clearly identified.
- Table 4.3.4.10 should follow the “BACM/MSM Analysis” section.
- Under "Nonmetallic Mineral Products Processing", "Unpaved Haul and Access Roads", and "Emission Reductions", second paragraph, change “Council” to “Commission”.
- Under "Nonmetallic Mineral Products Processing", "Unpaved Haul and Access Roads", and "BACM/MSM Analysis", change “MCESD Rule 310 regulates all industrial sources and construction sources” to “MCESD Rule 310 regulates unpaved haul/access roads at industrial and construction sources”.
- Table 4.3.4.12, should be placed immediately following the “BACM/MSM Analysis” section. Also, the source and regulation of some of the benchmarked controls are not clearly identified.
- In Table 4.3.4.12 (Unpaved Haul And Access Roads), the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during Public Workshop meetings).
    - Limit vehicle speed to 10 miles per hour or less (draft Rule 316 reads: 'If paving all entries, exits, and main traffic routes associated with the nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation, then an owner and/or operator of a nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall…limit vehicle speed to 15 m.p.h. or less and limit vehicle trips to no more than 20 per day (total for all unpaved haul/access roads").
    - Require all new facilities to locate unpaved roads no less than 25 feet from property line, except for entrance and exit to the site (draft Rule 316 reads: "The owner and/or operator of a new nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall…if water is the chosen dust control measure for an unpaved haul/access road, then the unpaved haul/access road shall be installed no closer than 50 feet form the property line of the new nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation; if a dust suppressant other than water is the chosen dust control measure for an unpaved haul/access road, then the unpaved haul/access road shall be installed no closer than 25 feet from the property line of the new nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation").
    - Install, maintain, and use a wheel washing system, rumble grate, or other equivalent trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such operation at all exits onto paved areas accessible to the public (draft Rule 316 reads: "The owner and/or operator of a nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall…install, maintain, and use a suitable trackout control device that controls and prevents trackout and/or removes particulate matter

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from tires and exterior surfaces of haul trucks and/or motor vehicles that traverse such nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation at all exits onto paved areas accessible to the public").

- Clean-up trackout, carry-out, spillage, and/or erosion…immediately, when trackout, carry-out, or spillage extends a cumulative distance of 50 linear feet or more (draft Rule 316 reads: "The owner and/or operator of a nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall…clean up trackout immediately, when trackout extends a cumulative distance of 25 linear feet or more". This language is from South Coast's Rule 403 (Fugitive Dust)).

- In Table 4.3.4.12 (Unpaved Haul And Access Roads), the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during Public Workshop meetings):
  - Minimize dust emissions from all other in-plant roads and traffic areas at all times by at least one of the following methods: cover with a material such as, but not limited to, roofing shingles or tire chips (when used in combination with (ii) and (iii) of this section; treat with dust suppressant chemicals; water; or pave with a cohesive hard surface that is maintained intact and cleaned (draft Rule 316 reads: "The owner and/or operator of a nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall require/direct/restrict all batch trucks and material delivery trucks to remain on paved surfaces or surfaces maintained with gravel, recycled asphalt, roofing shingles, tire chips, or other suitable material/cohesive hard surface, when entering, conducting primary functions within the nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation and exiting the nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation").
- Under "Nonmetallic Mineral Products Processing", "Unpaved Haul and Access Roads", and "Selected Control Measures for Unpaved Haul and Access Roads", in the first sentence replace “all industrial sources and construction sources” with “unpaved haul/access roads from industrial and construction sources”. Also, the second sentence that begins “Augmentation of Rule 316 to include the portions of Rule 310….” has been written twice.
- In Section 4.3.4, under "Other Industrial Sources", "Cooling Towers", and "BACM/MSM Analysis", in the last sentence in second paragraph, "have been" is written twice.

Section 4.3.5, On-Road Mobile Source Control Measures

- Change all references from “dust loading” to “silt loading”.
- Under “Selected Control Measures”, the paragraph beginning “Enhanced Enforcement of Rules 310 and 316”, change “augmentation of MCESD Rule 316 pertaining to industrial sources… to “augmentation of MCESD Rule 316 pertaining to nonmetallic mineral mining and processing”
- Under “Selected Control Measures”, the fourth paragraph, change “Rule 310 regulates all industrial sources and construction sources”, to “Rule 310 regulates dust generating operations”.

Section 4.3.6 Summary of Selected Control Measures

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- Under “Windblown Cleared Areas – Industrial”, the first paragraph implies that that Rule 316 applies to all industrial sources that do not have an earthmoving permit; however, Rule 316 only applies to nonmetallic mineral mining and processing and Rule 310 applies to dust generating operations.
- Under “Windblown Cleared Areas – Industrial”, the last paragraph, remove the word “enhanced” from “under enhanced Rule 310”
- Under “Clay Ceramic and Brick and Structural Clay Product Manufacturing”, in the last sentence, replace “this source” with “clay ceramic and brick and structural clay product manufacturing”.
- Under “Paved Roads”, the first sentence, the reference to “Salt River Nonattainment Area” is confusing, this should be changed to “Maricopa County PM10 Nonattainment Area”.
- Under “Paved Roads”, the paragraph that begins, “Currently, Rule 310 regulates…,” replace “all industrial sources and construction sources” with “dust generating operations”

Please contact me with any comments, corrections or questions at 506-4057, or Jo Crumbaker at 506-6705.

Sincerely,

Dena Konopka
Air Quality Environmental Planner

93649

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THE EFI GROUP

July 15, 2004

FAX: (602) 771-2366

Catherine Jordan
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007

Subject: Comments
Proposed Revised PM10 State Implementation Plan (SIP) for the Salt River Area
Arizona Department of Environmental Quality (ADEQ)
June 2004

Dear Ms. Jordan

These comments to the Proposed Revised PM10 SIP for the Salt River Area are submitted on behalf of Phoenix Brick Yard. Phoenix Brick Yard opposes the requirement for stack PM10 emission controls for technical and economic reasons, as outlined below.

In identifying the Most Stringent Measures (MSM) for PM10 emission control, the SIP refers to the PM emission standard in 40 CFR 63 Subpart JJJJJ—National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing. A benchmarked standard was quoted from 40 CFR 63.8405 (a) Subpart JJJJJ as "Each existing, new, or reconstructed kiln at a brick or structural clay product manufacturing facility with a capacity less than 10 tons per hour (tph) of fired product shall not have PM10 emissions that exceed 0.42 pounds per ton (lb/ton) of fired product" (Table 4.3.4.13 in the SIP). This is an incorrect citation of the standard. The PM emission standard applies to large (>10 tph of fired product), and small (<10 tph of fired product) brick tunnel kilns that are new and reconstructed. The standard applies to tunnel kiln, not the entire facility. In addition, "An existing tunnel kiln with a federally enforceable permit condition that restricts kiln operation to less than 9.07 Mg/hr (10 tph) of fired product on a 12-month rolling average basis is not subject to the requirements of this subpart" (40 CFR 63.8390 (d)). Phoenix Brick's proposed Title V permit (scheduled to be issued in August 2004) has a voluntary production limit restricting the tunnel kiln operation to less than 10 tph of fired product. Additionally, Table 4.3.4.13 cites a "PM10" emission standard as a benchmarked standard. 40 CFR 63.8405(a) Subpart JJJJJ is a Particulate Matter (PM) Emission limit as measured by EPA Method 5, not a PM10 emission limit. Particulate matter (PM) is defined in this subpart as a measure of total particulate emissions, as measured by Method 5 (40 CFR part 60, appendix A).

Phoenix Brick Yard obtained a budgetary quote for a high temperature baghouse from Griffin Environmental, Syracuse, New York. The exhaust gases from a tunnel kiln approach 500 degrees F and have a low pH. These conditions require pretreatment prior to the baghouse. The budgetary quote includes a baghouse, spray cooler, ID fan, injector system, mixing venturi, absorbent chemical supply system, duct work, instrumentation (PLC based), exhaust stack and structural supports for a budgetary cost of $2,000,000, not including installation. Chemicals are used to neutralize the exhaust gas prior to the baghouse, essentially providing a system comparable to a Dry Injection Fabric Filter. Estimated annual operating costs for this system are $180,000 to $360,000, not including maintenance or monitoring costs. The annual operating costs for this equipment would add a burden of approximately $10 per ton of brick fired.

In addition to considerable capital and operating costs, retrofitting abatement equipment on older tunnel kilns creates significant problems. The addition of emission control impacts the kiln airflow, which affects the brick color and changes the recipes for brick manufactured in a tunnel kiln. Manufacturers may not be able to produce brick that matches existing product lines. Retrofit of emission control equipment will cause a significant amount of kiln downtime and permanent reductions in production capacities and loss of profit.

Phoenix Brick Yard operates the sole brick manufacturing company in the State of Arizona. The facility has been manufacturing brick in this location since 1935. The facility has a total of 92 employees. The economic burden of installing and operating the equipment discussed in this letter will force Phoenix Brick to discontinue operation.

Please call the undersigned if there are any question at (480)-296-5796.

Sincerely,

The EFI Group

Mary L. Parke, Ph.D., P.E.
Senior Project Engineer

Cc: Don Campbell, Phoenix Brick

Since 1934

1825 West Adams Phoenix, Arizona 85007 (602) 252-3926 Fax (602) 252-5870

July 16, 2004

Ms. Catherine Jordan
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

Dear Ms. Jordan,

The Arizona Chapter Associated General Contractors appreciates the opportunity to comment on the Proposed Revised PM-10 Implementation Plan for the Salt River Area June 2004 prepared by the Arizona Department of Environmental Quality. The enclosed comments supplement our oral presentation given on Friday, July 16, 2004 at 2:25 pm.

We look forward to remaining an active stakeholder in the Salt River SIP process. If you have any questions, please feel free to contact me at (602) 252-3926.

Sincerely,

Amanda McGennis
Vice President

AGC Comments on ADEQ, Proposed Revised PM-10 State Implementation Plan for the Salt River Area, June 2004.

After reviewing the proposed SIP document we found there to be inconsistencies in the June 2004 Revised PM -10 State Implementation Plan for the Salt River Area and the information discussed and agreed upon as emission reduction strategies for the SIP in previous stakeholder meetings. We also question if ADEQ has done enough research to demonstrate the need for some of the proposed most stringent measures.

Chapter 4 – Revised SIP Document

There is confusion on pages 41-49 as to whether the control measures discussed are currently proposed for the SIP or if they are future potential control measures to be considered.

For example:

Pg. 43 – Potential Control Measures (heading) is listed at bottom of page

Pg. 44 – 1st paragraph should include the word "potential" in the sentence, "The following are potential control measures for reducing particulate matter emissions from non-metallic mineral processing plants." As indicated by the heading at the bottom of page 43.

Pg. 46 – 1st bullet point - The sentence refers to "Non daylight hour production silo filtration systems shall be illuminated to determine compliance." This measure is not feasible, as the illumination would extend past the boundary lines and become a nuisance to the surrounding neighborhoods.

Pg. 52 – Table 4.3.4.7 – Recommended Augmentation to Rule 316 - 2nd & 4th bullets

2nd bullet - Referring to Inlet and outlet of all screens: (you can not put water on inlet of screen as it will blind the screen)

4th bullet - All screen sides are required to be enclosed. (Not much fugitive emissions – sides already enclosed)

There needs to be more clarification on bullet 4 or the measure should be deleted.

Pg. 54 – Table 4.3.4.8 – Recommended Augmentation to Rule 316 – Work Practice Standards

More clearly define spillage of materials and the type of materials

Pg. 55 – Table 4.3.4.9 – Recommended Augmentation to Rule 316 – Hot Mix Asphalt Plants.

Stack Emissions & Visible Emissions

This information needs to be re-written. Even though it is in existing rule, your references are incorrect. There are no storage silos for hot mix asphalt plants. There are "surge" silos. Hot mix asphalt is not stored. The liquid petroleum used to coat the mix is stored but the actual mix once the aggregate and asphalt are combined is made and immediately transported to the job site. Of note there should be no emissions coming from coated rock.

Pg. 59 – Table 4.3.4.10 – Recommended Augmentations to Rule 316 – Stockpiles

Language discrepancy at bottom of page Cover open stockpiles in Rule 310 is now being changed to Cover all. This is not feasible considering the height and width of stockpiles.

Pg. 60 – Table 4.3.4.10 continued

Typos fro versus for

Pg. 61 – Table 4.3.4.10 continued

Inconsistency in bullet points – one bullet refers to new facilities and the other refers to existing facility stockpile heights. In a stakeholder meeting it was agreed upon that new stockpiles would not be located 25 feet from a property line, however requiring existing stockpiles to be a certain height and width or placement from property line were never discussed or agreed upon.

AGC Comments to Revised Salt River SIP June 2004
July 16, 2004

Industry questions, who would measure and determine the height of a stockpile. This enhancement requirement is subjective and poses safety risks to industry employees as well as a county enforcement officers trying to measure for required height.

Typos dist for dust

Pg. 65 – Table 4.3.4.10
Any measures that address daily operations such as timing of production activities limiting vehicle speeds within the work area and determining the number of vehicle trips driven on any day is too invasive to individual work practice.

Pg. 66 – continued
1st bullet should be broken into separate options – you are requiring them to do four different measures as one selection.

Pg. 67 continued
1st bullet change of language from Rule 310 – using a wheel washing device is now included in the language. Wet wheels running across the unpaved shoulder will create more trackout. Suitable track out control device should be reinstated in the augmentation language revisions.

2nd bullet – responsibility of unpaved shoulders should not be required of the private enterprise but the agency that declares ownership of the right of way. A control measure requiring the private enterprise to be responsible for the unpaved right of way poses safety concerns for the traveling public pulling around a turning vehicle.

Define stockpiles – it is unclear what determines a stockpile in 316 or 310.

It is our impression the augmentation measures outlined within this document would have little or no impact on air quality but would pose a significant burden on our industry. We also challenge the use of most stringent measures in the Salt River SIP area when the current revisions to Rule 310 have not been given a chance to determine their effectiveness.

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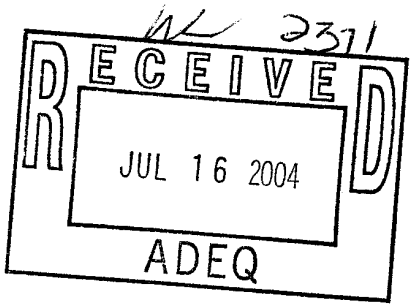
Our File Number 27482-00002

July 16, 2004

VIA HAND DELIVERY



Catherine Jordan
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

Re: June 2004 Proposed Salt River SIP

Dear Ms. Jordan:

We are writing on behalf of the Home Builders Association of Central Arizona (HBACA). HBACA appreciates the opportunity to comment on ADEQ's June 2004 Proposed Revised PM10 State Implementation Plan for the Salt River Area (Proposed SIP) and respectfully submits these comments.

The Final SIP should fully quantify emissions decreases resulting from the revision of County Rule 310.

Among other requirements, the Proposed SIP must provide for the implementation of Best Available Control Measures (BACM) and Most Stringent Measures (MSM) for emission sources which have not already met these requirements. Because EPA determined in 2002 that County Rule 310 and commitments made by Maricopa County met BACM and MSM for fugitive dust, the Proposed SIP appropriately requires no further revisions to this rule.

In April 2004, Maricopa County revised County Rule 310 to meet its commitments to EPA. As required, the current Rule 310 is a more stringent rule than its predecessor. However, the Proposed SIP does not clearly quantify the decreases in emissions expected to result from the new rule. For example, page 4-41 of the Technical Support Document (TSD) states that a decrease in emissions from construction activity will occur due to MCESD strengthening Rule 310. However, Page 6-11 states that this decrease is due to enhanced enforcement of Rule 310.

HBACA requests that the SIP not overlook or minimize the important contribution of the recent Rule 310 revisions and pending changes to Dust Control Plan Guidance and Applications. The new rule and the proposed guidance and application include new opacity test methods, trackout controls, water availability requirements, and prescriptive work practice requirements,

among other changes. These significant changes should be expected to result in lower emissions in 2006 when compared to 2002 emission levels.

In addition, another change on the near horizon will lower emissions and streamline enforcement efforts before 2006. When the Maricopa County Board of Supervisors revised Rule 310 on April 7, 2004, the Board also adopted a resolution requiring MCESD to engage stakeholders in a process to develop permitting and training requirements for individual contractors who work at construction sites.

HBACA supports this resolution. This system will better reflect the various roles and responsibilities of the parties and will increase accountability for the individuals who are directly responsible for dust-creating activities. Owners and operators will be responsible to train employees and contractors. Properly trained contractors and employees will then be required to follow dust control measures. This approach will better effectuate the goals of compliance by recognizing the parties' differing roles. Additionally, it will be a much more efficient use of enforcement resources to target those who actually have control over the requirements they must meet. The end result will be a further reduction in emissions by 2006.

Proposed Rule 316 Control Measures

The Final SIP should clarify that Rule 310 meets MSM and BACM for fugitive dust sources and that new requirements to be incorporated in Rule 316 are not appropriate for Rule 310.

The Proposed SIP suggests several changes to current Rule 316. The starting point for ADEQ's analysis of several specific proposals is current Rule 310. As noted above, EPA has determined that Rule 310 meets the requirements for BACM and MSM.

However, the Proposed SIP identifies a number of additional requirements proposed specifically for Rule 316 that are not found in Rule 310. It is true that Rule 316 and Rule 310 have a different focus and some differences are to be expected. However, the proposal as currently organized may create a mistaken impression that Rule 310 is not sufficiently stringent to address fugitive dust sources.

The proposed standard that would prohibit visible emissions beyond the property line should be eliminated from the SIP.

HBACA believes this prohibition is unnecessary and duplicative of existing Rule 310 requirements and other proposed changes to Rule 316. Specifically, the 20% opacity standard, new opacity test methods, and prescriptive work practice requirements are equivalent to, if not more stringent, than a property boundary standard. Further, the subjectivity of the property

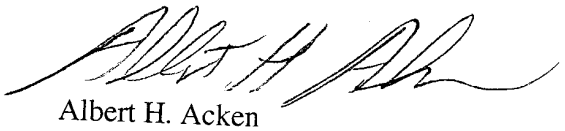
boundary standard and the inability to differentiate emissions that may originate offsite make the proposal impossible to meet despite its attempted implementation in other jurisdictions.

HBACA supports ADEQ's decision not to require the presence of a dust control supervisor onsite.

Here again, several existing requirements found in Rule 310, as well as the proposed augmentation of Rule 316, render such a requirement redundant. Requirements to have onsite certified method 9 observers, as well as extremely detailed dust control plans that identify applicable work practice standards, dust control methods, and the measures to implement these requirements, makes the presence of an onsite supervisor superfluous. In addition, a certification process for supervisors adds additional costs for ADEQ, MCESD, and the regulated community that would not lead to a reduction in pollution.

Thank you for the opportunity to provide comments on this proposal.

Sincerely,



Albert H. Acken

cc: Spencer Kamps

MARICOPA ASSOCIATION of GOVERNMENTS

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July 14, 2004

Ms. Catherine Jordan
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007-2952

Dear Ms. Jordan:

The Maricopa Association of Governments appreciates the opportunity to comment on the Proposed Revised PM-10 State Implementation Plan for the Salt River Area June 2004 prepared by the Arizona Department of Environmental Quality. The enclosure also includes comments on the Technical Support Document.

If you have any questions, please call me at (602) 254-6300.

Sincerely,

Dean Giles
Air Quality Planning Program Specialist

Enclosure

Comments on ADEQ, Proposed Revised PM-10 State Implementation Plan for the Salt River Area, June 2004.

1. On Page 3, in the third paragraph, first sentence, "...MAG provided for a regional PM-10 emission budget applicable to both annual and 24-hour PM-10 standards." should say "....MAG demonstrated attainment of both the annual and 24-hour PM-10 standards."

2. On Page 7, there is an extra "is" between "experiences" and "hot" in the first sentence under Climate and Meteorology.

3. On Page 8, the second occurrence of "months" in the last sentence of the second paragraph should be singular.

4. On Page 12, in the first sentence of the second paragraph "for achieve" should be "to achieve".

5. On Page 13, please change in the first sentence of the first paragraph under Clean Air Act Section 176(c)(1)(A), there is an extra "the" between "that" and "no".

6. On Page 13, add a new section called Clean Air Act Section 176(c)(2), followed by:

"On December 9, 2003, the U.S. Department of Transportation made a Finding of Conformity for the FY 2004-2007 Transportation Improvement Program (TIP) and Regional Transportation Plan approved by the MAG Regional Council on November 25, 2003. A Finding of Conformity was also made on July 6, 2004 for the amended TIP and Regional Transportation Plan approved by the MAG Regional Council on June 23, 2004. A conformity finding satisfies the requirements of Clean Air Act Section 176(c)(2) for regional transportation plans and programs. The transportation conformity budget for PM-10, representing on-road mobile source emissions in the Maricopa County portion of the PM-10 nonattainment area, was approved by EPA on July 25, 2002, as part of the Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area. The revision to the State Implementation Plan for the Salt River Area does not change this EPA-approved transportation conformity budget for PM-10, because the budget represents the Maricopa County portion of the PM-10 nonattainment area, an area of about 2,850 square miles, while the Salt River Area is only 32 square miles, about one percent of this area."

7. On Page 14, the paragraph beginning "Chapters 3.0, 4.0 and 5.0 of this SIP..." is this paragraph still germane, given that the predominant sources of PM-10 on high wind days (alluvial soils) are now being treated in this SIP as anthropogenic and controllable (through strengthening of Rule 310.01)?

8. On Page 14, in the last sentence, "any and all BACM/MSM measures that will..." should be changed to "BACM/MSM measures that are feasible and cost effective for implementation in the nonattainment area and will..."

9. On Page 15, adjust the Figure 1.2.3-A to be consistent with the legal description in Table 1.2.3. The northern and southern boundaries need to be represented by horizontal dotted lines from T6N,

R3W to T6N, R7E and T2S, R3W to T2S, R7E. There should be no "dips" when the boundary crosses into Yavapai County in the north and Pinal in the south.

10. On Page 16, the top graphic in Figure 1.2.3-B needs to be consistent with the corrected boundaries on Page 15, as indicated above.

11. On Page 17, in the first paragraph, sentence four, the air quality data is for years 1994 through "2002" rather than "2003".

12. On Page 17, at the end of the first paragraph, for clarification, add the citation for the SIP call: i.e. "(67 FR 44369, July 2, 2002)".

13. On Page 19, at the bottom of the page, an "of" is missing between "overview" and "the development".

14. On Page 20, in the last sentence before the second set of bullet points ending with "grouped them into the following 12 emissions categories..." should be "grouped into the following 13 emissions categories..." The missing category is "Dirt Shoulders" and this should be added to the bulleted list that follows.

15. On Page 21, at the end of the first paragraph, "commercial sources" should be "construction sources".

16. On Page 21, in the last sentence of the second paragraph, "Table 4-4" should be "Table 4-5" and "2002 projected PM-10 emissions" should be "2002 estimated PM-10 emissions".

17. On Page 23, the description of Roads - Freeway, Primary and Secondary should be changed to: "Traffic is projected to increase by 6% between 2002 and 2006 based on the growth in traffic volumes in the Salt River Area which occurred between 1998 and 2002. Since there are no plans for road building projects in the Salt River PM-10 Study Area, this estimate of VMT growth (1.47% per year), based on a MAG analysis of City of Phoenix traffic counts, is consistent with the central location and older neighborhoods characteristic of the study area."

18. On Pages 23 and 24, the reductions described in the bullet points are not consistent with the base case 2006 reductions described on page 4-41 of the TSD. For example, Wind Erosion - Alluvial is missing altogether and other percentage reductions (i.e. Roads and Wind Erosion-Construction) disagree with the TSD. Also it should be made clear throughout pages 23 and 24 that these 2006 projections are for the Base Case 2006 Emissions Inventory, because additional reductions are made to the 2006 emissions inventory (in Chapter 6 of the TSD) to show attainment. Also "Table 4-6 of the TSD" mentioned on Page 24 just above Table 3.3 should be "Table 4-7".

19. On Page 26, the percentages in Table 3.4 do not appear to be consistent with the pie chart percentages shown in Figures 4-10 through 4-12 of the TSD. Also Trackout is now a significant source category that should be included under Low Wind Days in Table 3.4.

20. On Page 27, in the first sentence "Maricopa Serious PM-10 Nonattainment Area" should be "Maricopa County Serious PM-10 Nonattainment Area Plan".

21. On Page 28, in Table 4.2.1, to be consistent with Table 6-4 in the TSD, the "Area Emissions" on the "Low Wind Day" should be "54.9" rather than "55.1" ug/m3 and the total Industrial Source emissions should be "60.2" on the "Low Wind Day" and "31.9" on the "High Wind Day". (The latter was obtained by adding 3.0 and 28.9 currently in the table for Point and Area Industrial Emissions.) Adding the Roads and Trackout subcategories equals "42.7" rather than "41.5" on the High Wind Day. Under Windblown Dust, all of the subcategories should be shown in bold, since they all exceed 5 ug/m3 and the "NA" for the Windblown Dust category on the High Wind Day should be changed to "290.1" which is the sum of the subcategories. There should be a footnote with the Table that indicates contributions in bold are considered to be significant sources.

22. On Page 42, the last sentence before Table 4.3.4.1 should be changed to "Table 4.3.4.1 shows the daily breakdown of emissions by category for the high wind day of April 15, 2002:"

23. On Pages 74-76, the Paved Roads and Unpaved Shoulders measures do not include the same level of BACM/MSM analysis as is provided for Unpaved Haul and Access Roads on Pages 62-71. For example, the latter includes a discussion of Alternative Measures, Technical Feasibility, Advantages and Disadvantages, Cost Effectiveness, BACM/MSM Analysis, and BACM and MSM Not Recommended for Consideration. Why is this analysis missing for these significant sources?

24. On Page 82, the last sentence of the first paragraph refers to Table 4.3.4.14, but this Table does not exist.

25. On Page 84, in the last paragraph, the second sentence refers to Chapter 4 of the TSD and Table 4-6 for the percentage reductions required for attainment. The final percentage reductions between 2002 and 2006 are actually shown in Chapter 6 and Table 6-6 of the TSD. This sentence should be revised accordingly.

26. On Page 85, Table 5.1 is not consistent with the discussions on emission changes on Pages 6-11 through 6-14 of the TSD. The Trackout category needs to be added. For Wind Erosion - Alluvial Channels, the Reason for Change column (57%) differs from the Percent Change in Emissions column (72%). For Wind Erosion - Vacant Lots, the Percent Change in Emissions (13.6%) differs from the reduction cited on Page 6-11 of the TSD (39%), and the Reasons for Change in Table 5.1 for two of the three Paved Road categories do not match the Percent Change in Emissions. For Freeways, the Reason for Change should state: "Traffic is projected to increase 6% between 2002 and 2006, based on 1998-2002 growth in traffic volumes in the Salt River Area." For Primary Roads, repeat the above, followed by: "This is offset by an emissions decline of 13% due to doubling the frequency of street sweeping on targeted primary roads in the Salt River Area." For Secondary Roads, repeat the above two sentences, but substitute "7%" for "13%" and "half-mile streets" for "primary roads".

27. On Page 94, the MAG (2000) reference, please insert "Revised" before "MAG 1999" in the title.

28. In Appendix B, it would be useful if there were separator pages identifying each organization (ADEQ, ADOT, City of Phoenix, Maricopa County) making the commitments.

Comments on ADEQ, Proposed Revised PM-10 State Implementation Plan for the Salt River Area Technical Support Document, June 2004.

1. On March 8, 2004 MAG submitted suggestions for revisions to the TSD for the SIP ADEQ submitted to EPA in February 2004. MAG appreciates the changes that have been made in response to these suggestions. However, the revised TSD neglects to document a change in the unpaved shoulder methodology. In the ADEQ letter of response, dated April 21, 2004, ADEQ indicated that "emissions from unpaved shoulders will be recalculated in accordance with the MAG suggestions and new modeling will be done." However, Page 4-13 of the Revised TSD describes the old methodology for calculating unpaved shoulder emissions. If the new MAG methodology has been applied, then this documentation needs to be updated. If the MAG methodology was not applied, then at a minimum, the equation for road shoulders on Page 4-13 needs to be corrected. The equation currently shown in the TSD is not accurate. A correct form of the equation would be:

$$\mathbf{E_{road\ shoulder} = EF \times L / 1600\ m/mi \times veh/day.}$$

2. Although ADEQ rejected MAG's argument that the paved road emission factors are too high, other suggestions related to paved roads also seem to have been ignored. The paved road emission equation on Page 4-11 needs to be corrected. The equation currently shown in the TSD is not accurate. A correct form of the equation would be:

$$\mathbf{E_{paved\ road} = EF \times L / 1600\ m/mi \times veh/day.}$$

Also we suggested that the latest version of AP-42 (December 2003) be used in calculating paved road emissions. This entails subtracting out 1980 exhaust, brake wear and tire wear emissions (of .2119 grams/mile). There is no indication in the TSD that this has been done.

3. On Page 4-41, the Agricultural Tillage decrease of "75%" is inconsistent with the "80%" shown on the same page for Wind Erosion - Agricultural.

4. On Page 4-41, the description of Roads - Freeway, Primary and Secondary should be changed to: "Traffic is projected to increase by 6% between 2002 and 2006 based on the growth in traffic volumes in the Salt River Area which occurred between 1998 and 2002. Since there are no plans for road building projects in the Salt River PM-10 Study Area, this estimate of VMT growth (1.47% per year), based on a MAG analysis of City of Phoenix traffic counts, is consistent with the central location and older neighborhoods characteristic of the study area."

5. Wind Erosion - Alluvial on Page 4-41 shows a "57%" reduction for the 2006 Base Case, while Page 6-11 and Table 6-6 show a "72%" reduction in Wind Erosion - Alluvial for the 2006 Post-Control Case. If the reduction is really "57%" in the 2006 base case, then the reduction on Page 6-11 and in Table 6-6 should not be "72%", but rather, the difference between increasing control effectiveness from 57% to 72%, which is a net reduction of "35%". If the 2006 base case control effectiveness is really zero, then Page 6-11 and Table 6.6 are correct, and the "57%" reductions shown for Wind Erosion - Alluvial need to be deleted from Page 4-41 and Table 4-6.

6. On Page 4-43, in Table 4-6, for Wind Erosion - Vacant Lots, the percent change attributable to building of residential and commercial areas is "-13.6%", but Page 6-11 says this reduction should be "-39%". One or the other needs to be changed. For Secondary Roads, the description needs to say "6%" not "8%".

7. On Page 4-44, the major source categories appear to not have been updated based on the latest changes in the 2006 emissions inventory. For example Trackout is missing from the low wind days and Wind Erosion - Industrial is now more significant that Wind Erosion- Alluvial Channels.

8. On Pages 4-47 through 4-49, "Base Case" should be added to the titles of the pie charts, Figures 4-10 through 4-12. Also Figure 4-13 is missing (Base Case, April 26, 2006).

9. On Page 4-51, the second paragraph is not consistent with the data in the pie charts, Figures 4-10 through 4-13. For example, total daily emissions for high wind days are more than 100 metric tons versus "73" in the description.

10. On Page 5-2, the Figures 5-1 and 5-2 should have "in 2002" in their titles.

11. To avoid confusion and maintain consistency with Chapter 4, Table 6-6 on Page 6-10 should have an additional column that compares the percent change in emissions from the 2006 base case (Table 4-6) with the Post Control reductions shown in Table 6-6. The new emission categories for which there are changes (i.e. Wind Erosion - Industrial Stockpiles, Wind Erosion - Industrial Surface, Trackout, Industrial Area Sources and Industrial Point Sources) would have N/A in the base case columns. Based on the increases in control effectiveness from 56% to 72% (see discussion on Pages 6-11 through 6-13), it looks like Construction Activity and Unpaved Parking Lots - Reentrained Dust should both be "-36%", not "-29%," in Table 6-6 and the discussion on Page 6-11 for Construction, and 6-13 for Unpaved Parking Lots. Also, please check the calculation on Wind Erosion - Misc. Disturbed Areas; it appears it should be "-45%" rather than "-41%". If so, this needs to be corrected on Page 6-11, as well. See comment #5 above to determine if Wind Erosion-Alluvial should remain "-72%" or be changed to "-35%".

12. On Page 6-11, in the sample Wind Erosion - Construction calculation in the last sentence, the "(37-30)" should be divided by "37" not "30", to equal "19%".

13. On Page 6-12 the description of Freeway - Interstate 17 Durango should read: "The Maricopa Association of Governments has estimated that traffic volumes in the Salt River Area will increase by 6% from 2002 to 2006. This increase is based on the actual growth rate of traffic counts taken on roads in the Salt River Area between 1998 and 2002."

14. On Page 6-15, in the second sentence, the reduction in alluvial dust is shown as "80%," while Table 6-6 says it should be "72%".

15. On Page 6-20, in the last sentence of the first paragraph, the removal of agricultural land is shown as "75%", while Page 6-11 says this should be "80%".

16. Chapter 6 needs to include a new Table called Salt River PM-10 Emissions Inventory - Post Control 2006 (like Table 4-7) and new pie charts (like Figures 4-10 through 4-13), that show Post

Control Salt River PM-10 Emissions. Without these, there is no documentation in the TSD as to what the PM-10 emissions by source category are ***after*** implementation of all SIP controls.

17. On Page 7-2, in the last sentence, change "sought and adopted by February 2005" to "sought, adopted, and implemented by February 2, 2005."

RESPONSIVENESS SUMMARY

The *Revised PM_{10} State Implementation Plan for the Salt River Area*, A Revision to the Arizona Department of Environmental Quality's (ADEQ's) *Plan for Attainment of the 24-Hour PM_{10} Standard – Maricopa County PM_{10} Nonattainment Area* (May 9, 1997)

Summary of ADEQ Responses to Comments on the Proposed Revision, Received by 5:00 p.m., Friday, July 16, 2004

The public hearings on the revision to ADEQ's *Plan for Attainment of the 24-Hour PM_{10} Standard – Maricopa County PM_{10} Nonattainment Area* were held at 4:00 p.m., on Thursday, July 15, 2004, and at 2:00 p.m., on Friday, July 16, 2004, at Arizona Department of Environmental Quality (ADEQ), 1110 West Washington Street, Phoenix, Arizona 85007, in conference room 250. The public comment period closed at 5:00 p.m., on Friday, July 16, 2004. Summaries of oral and written comments on the *Revised PM_{10} State Implementation Plan for the Salt River Area* (SIP) that were received within the public comment period and a summary of ADEQ's responses follow. The following summary has attempted to identify and combine similar comments for ease of response. Please note that all page number references are to SIP and Technical Support Document (TSD), as the documents appeared on the ADEQ website, at: http://www.azdeq.gov/environ/air/plan/pm10.html.

[Commenter One]

1) Issue: Commenters express the concern that ADEQ has neither sufficiently empirically tested, nor demonstrated the technological and economic feasibility of proposed SIP candidate control measures for application to rock products industry sources in the Maricopa County PM_{10} Nonattainment Area.

   ADEQ Response: As discussed during stakeholder meetings, the Most Stringent Measures (MSM) analysis required by EPA's action force ADEQ to review rules and regulations from other jurisdictions across the United States, and incorporate those requirements identified as more stringent than the current control measures required by the local rules. When competing or similar control technologies or work practice standards have been deemed MSM in various parts of the country, ADEQ is provided with some flexibility to determine which control option to choose. There is an underlying assumption, however, that if a control technology or work practice standard is technically feasible and has been achieved in practice in other areas of the country, that control technology or work practice standard is deemed to be MSM by default. The only method of overcoming this default standard is to demonstrate that such a control technology or work practice standard is not technically feasible in the local area, or to demonstrate that equivalent reductions can be achieved through other means. During the stakeholder process, ADEQ met extensively with the parties affected by these proposed changes, and no information leading the Department to conclude that the proposed changes were technically infeasible, or unachievable in practice was ever presented.

2) Issue: Commenters note that the application of ADEQ's proposed menu of candidate control measures may result in unreasonable constraints on industries currently in compliance with State and County air quality standards, without providing evidence that application of the proposed measures will result in attainment of the PM_{10} National Ambient Air Quality Standards (NAAQS).

   ADEQ Response: During ADEQ's discussions with its constituents through the stakeholder process, industry did not provide any documentation explaining which controls in the proposed SIP's menu of candidate control measures would result in unreasonable constraints on industries. According to the modeling analysis presented in the "Proposed Revised PM_{10} State

Implementation Plan for the Salt River Area Technical Support Document" (Proposed TSD), a series of emissions sources were identified as being significant contributors to the overall nonattainment of the study area (see pages 6-6 and 6-7 of the Proposed TSD). While every facility, when considered independently of the sources surrounding it, should be capable of demonstrating compliance with State and County air quality standards, those sources, when considered collectively, contribute to the overall nonattainment of the study area. In the Proposed TSD, ADEQ has made the demonstration that when all of the proposed control measures and work practice standards are applied collectively, the ambient concentrations of PM_{10} in the study area will demonstrate compliance with the NAAQS for PM_{10} by 2006.

3) Issue: On SIP page 46, commenters note the inclusion of a candidate control measure test method requirement, applicable to rock products industry operations that ADEQ and stakeholders agreed during stakeholder discussions was unimplementable, due to potential complaints about light from these operations from adjacent residential areas. The SIP language at issue describes a silo filter system exhaust requirement: "When cement or fly ash silos are filled during non-daylight hours, the silo filter system exhaust shall be sufficiently illuminated to enable a determination of compliance with a visible emissions requirement."

ADEQ Response: ADEQ recognizes that inclusion of this requirement was an oversight, and agreed that such a control was no longer relevant based upon the inclusion of a requirement that there be no visible emissions at the property line and citizen complaints that ADEQ and the industry have received that such light would constitute a public nuisance. This proposed requirement has been removed.

4) Issue: On page 52 of the proposed SIP, in Table 4.3.4.7, commenters suggested that ADEQ should change the second bullet of the following language in order to read "…outlet of all screens; and…" because placing a spray at the inlet of a screen would "blind" or cause materials to stick to the screen and block the entry of materials.

ADEQ Response: ADEQ agrees with this comment, and has revised the requirement for a permanently-mounted watering system or equivalent control on the inlet of the screens, for the reasons described by the commenter. It is understood that the watering systems employed on the transfer points prior to the inlet of the screens will provide sufficient moisture to ensure that PM_{10} emissions are controlled when the material enters the screen.

5) Issue: Commenters indicated that the proposed SIP on Page 52 is unclear about what should be covered on the sides of shaker screens and that neither ADEQ nor Maricopa County Environmental Services Department (MCESD) could explain what should be covered or why. Commenters also indicate that the sides of shaker screens are not sources of fugitive emissions. "Screens shall be enclosed," should be made an option or stricken, because not all screens can be enclosed as they are mobile and should be accessible. A stipulation such as one in the following language would increase operation and maintenance costs:

- *All screen sides are required to be enclosed.*
- *All screens shall be enclosed, or the outlet of the screen shall be controlled through the application of a watering system, such as, but not limited to, spray bars or foggers.*

ADEQ Response: During discussions with stakeholders, it was explained to ADEQ that all new screens come designed with side enclosures for the screens. Because this control method appeared to already be implemented, ADEQ concluded that this control was technically feasible, and therefore an option for all screening equipment.

6) Issue: Parties offer the comment, regarding proposed SIP Table 4.3.4.7 (rightmost column, fourth row), page 52, "Recommended Augmentation to Rule 316," that industry should not be held responsible for visible emissions crossing property boundary lines, due to public trespass onto industry sites throughout the week, if industry has met soil stabilization requirements. Commenters also object to the imposition of the 'no visible emission' at the property line standard on high-wind days, when soil stabilization requirements have been met, since high-wind events are 'natural' events. Commenters also point out that industry should be held responsible for emissions due to industry operation only, noting that the Clark County PM_{10} State Implementation Plan did not include this measure, for the reason that it deemed industry sources of PM_{10} insufficiently significant. Thus, commenters recommend that the following proposed SIP requirement should not pertain to high-wind days if the proper stabilizations measures are in place:

> *No visible fugitive emissions shall leave the property from the crusher, associated sources, and in-plant roads associated only with the facility.*

ADEQ Response: Unlike Clark County, Nevada, ADEQ has determined that the source category of Industrial Area Sources was a significant contributor to the Salt River Study Area's nonattainment of the PM_{10} NAAQS. In public stakeholder meetings, ADEQ and stakeholders discussed the fact that this proposed requirement was intended to apply only to the crushers, screens, and other sources of emissions associated with the activities at rock and mineral mining and processing facilities. The language, as it appears in Table 4.3.4.7, does not hold the owner and operator of the crushing and screening facility responsible for trespassing, nor does it apply to activities that occur on the property only, but applies only to the "…crusher, associated sources, and in-plant roads associated only with the facility…" In addition, Maricopa County Rule 310 requirements will also affect the application of the proposed property line visible emissions requirement; exemptions during high-wind events (as already defined in County Rule 310 § 301.1) will apply when reasonable precautions have been taken to ensure compliance with the standard.

7) Issue: Commenters indicated that the word "pneumatic" should be deleted from Table 4.3.4.8 on pages 54 of the proposed SIP, as the technology has not yet been perfected, remains costly, and should not be a set method when other options are available:

> *All cement silo loading operations shall be controlled by a pneumatic pressure control system that discontinues the loading process if excessive pressure is being used to load the cement silo.*

ADEQ Response: ADEQ will remove the term 'pneumatic' from the language in the proposed SIP (pages 54 and 77), as the type of pressure control system is not as important as the installation of the system itself.

8) Also, concerning Table 4.3.4.8 on page 53 of the proposed SIP, commenters indicated that there is no reason to have baghouses on "surge" silos at asphalt plants, as they do not contain material for more than a few hours at most, and the materials would also be covered by liquid asphalt and would be unable to create dust. It was requested that the following language be changed in order to make a distinction between the different silos so that the requirement does not apply to non-dust producing operations:

> *Require all bulk storage silos to be equipped with a baghouse. All new baghouses shall be designed to meet an emission limitation of 0.01 grains per dry standard cubic foot.*

ADEQ Response: It was not ADEQ's intent to include "surge" silos as they have been defined in the comment, as affected facilities under this requirement. ADEQ has changed the language in the proposed SIP to the following: *"Require all cement and lime storage silos to be equipped with a baghouse. All new baghouses shall be designed to meet an emission limitation of 0.01 grains per dry standard cubic foot."*

9) In another comment concerning Table 4.3.4.8 on page 55 of the proposed SIP, parties indicated that the following language should be revised as there is no possible way to get an accurate six-minute opacity observation on a 30-second puff that results from loading the "surge" silo:

> *A baghouse is required on the drum dryer and silos with an opacity limit of not greater than 5% over a six-minute period.*

ADEQ Response: It was not ADEQ's intent to require opacity observations on "surge" silos as they are defined in the previous comment. Because these silos do not generate significant emissions of PM_{10}, ADEQ has changed the language in the proposed SIP to the following: *"A baghouse is required on the drum dryer and cement and lime storage silos with an opacity limit of not greater than 5% over a six-minute period."*

10) Issue: Commenters offered the following corrections to language contained in Table 4.3.4.10 on pages 59-61 of the proposed SIP:

a. Commenters indicated that the language "…shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-96A or an equivalent method…" in the following language should be stricken:

> *An open stockpile is any accumulation of bulk material with a 5% or greater silt content, which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-96A or an equivalent method approved in writing by the Control Officer, Director and the Administrator of the EPA, that the silt content is less than 5%.*

ADEQ Response: The test method identified by the commenter is entitled, "Sieve Analysis of Fine and Coarse Aggregates," and has since been superseded by ASTM Method C136-01. After reviewing ASTM Method 136-01, it does appear to be the appropriate test method for determining the silt content of open stockpiles. Because this language is nearly a direct reproduction of the language that appears in Maricopa County Rule 310 § 308.6, the only change made to this language is the identification of the proper ASTM method.

b. Commenters indicated that covering active stockpiles would greatly reduce production, would be difficult, and pose a safety hazard in the mining industry, while not providing a viable option to remediate emissions that are subject to alternative methods of control. Commenters indicated that this should not be a consideration, and asked why the word "open" from Rule 310 was changed to the word 'all' in the proposed SIP.

> *Cover all stockpiles with tarps, plastic, or other material to prevent wind from removing the coverings;*

ADEQ Response: This requirement was intended to reproduce the language in Maricopa County Rule 310 § 308.6(b)(1). To correctly reproduce the language, the word 'all' will be replaced with

the word 'open.' Because this is one of several options provided to the owner or operator of the storage pile, and because Maricopa County Rule 310 already contains a similar requirement, ADEQ has determined that it is necessary for this control option to remain in the proposed SIP.

c. Commenters indicated that the word 'or' in the following context should be removed:

Meet one of the following stabilization requirements; or

ADEQ Response: The term 'or' is used to indicate that the condition is one of several options available for owners or operators to adequately control emissions from open storage piles. In order to avoid future confusion regarding the need for the word 'or,' the menu of control options has been reordered to flow more logically.

d. Commenters requested clarification as to whether or not the following language applied to new stockpiles, and how the rule would apply to existing facilities:

Raw material and product stockpiles at new facilities shall be located at least 25 feet from the property line.

ADEQ Response: ADEQ's intent was that this requirement would also apply to new stockpiles at existing facilities only if it were determined to be feasible on a case-by-case basis through the Dust Control Plan by assessing the amount of open land available at the property at the time new stockpiles are formed. ADEQ proposed the following language for the new rule: "New raw material and product stockpiles at existing facilities shall meet this requirement when determined to be feasible."

e. Commenters asked why the following language did not apply only to new facilities:

Raw material and product stockpile heights shall not exceed 45 feet.

ADEQ Response: ADEQ intended for this requirement to apply to all stockpiles throughout the nonattainment area; therefore, no change has been made.

f. Commenters expressed concerns regarding the 'no visible emissions at the fence line' requirement because natural event needs further definition; industry should not be held responsible for trespass, including the weekends if the stabilization requirements have been met; the standards should be associated with the activities on the property only; and Clark County did not include this, because industry was not deemed to be a significant enough source. Commenters also indicated that the following language should also not pertain to "high wind" days if the proper stabilizations measures are in place.

No visible emissions beyond property line: A person shall not cause or allow the emissions of fugitive dust from any active operation, open stockpile, or disturbed surface area such that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source. Exemption for wind gusts exceeding 25 mph, if high wind control measures are implemented.

ADEQ Response: Unlike Clark County, Nevada, ADEQ has determined that the source category of Industrial Area Sources was a significant contributor to the study area's nonattainment of the PM_{10} NAAQS. As discussed during stakeholder meetings, this condition was intended to apply only to fugitive dust from any active operation, open stockpile, or disturbed surface area associated with the operation of the facility on that property. This condition will also be bounded

by the same requirements that the visible emissions standards have under County Rule 310, which includes exemptions during high wind events (as already defined in County Rule 310 § 301.1) when reasonable precautions have been taken to ensure compliance with the standard. In order to clarify that this condition only applies to the activities associated with an ongoing operation, ADEQ has made the following change to the language in the proposed SIP: "*Exemption for wind gusts exceeding 25 mph, if high wind control measures are implemented, and for activities not related to the operation of a non-metallic mineral products processing facility.*"

11) Issue: Commenters offered the following corrections to language contained in Table 4.3.4.12 on pages 65-67 of the proposed SIP:

a. Commenters indicated that the requirement to limit vehicle trips to no more than 20 trips per day is too restrictive and detrimental to production, and that the speed limitation should be contingent upon the location of the unpaved road in the plant, as well as the type of vehicle. As an example, commenters indicated that it would greatly reduce production to limit haul truck drivers to ten miles per hour in a mine pit, whereas, in other parts of the operations it would be appropriate for standard facility traffic. Commenters also wondered why the speed limit was changed from the Maricopa County Rule 310 citation of 15 mph in the following language:

As an alternative to meeting the stabilization requirements for an unpaved haul/access road, limit vehicle trips to no more than 20 per day and limit vehicle speeds to no more than 10 miles per hour.

ADEQ Response: Maricopa County Rule 310, § 302.2 already provides two compliance options, one of which is the limitation of vehicle trips to 20 per day, and another, the limitation of vehicle speed to 15 miles per hour. County Rule 310, Table 3 already cross-references the Rule 310, § 302.2, compliance option. The 20-trip-per-day limit, therefore, cannot be eliminated. The 10-mile-per-hour speed limit, in conjunction with the Rule 310 trip limit, was agreed to in the May 27, 2004 stakeholder meeting, and reviewed again at the June 4, 2004 stakeholder meeting.

b. Commenters indicated that the word 'or' in the following language should be stricken:

Implement one or more control measure(s) before engaging in the use of or in the maintenance of unpaved haul/access roads:

ADEQ Response: ADEQ understands this comment to mean that the second 'or' is the word to which the commenters refer, as striking the first 'or' could require the implementation of multiple, potentially redundant controls. Based on this understanding, ADEQ has determined that instead of striking the word 'or,' additional commas are necessary in order to clarify this requirement. The revised requirement now reads as follows: *"Implement one or more control measure(s) before engaging in the use of, or in the maintenance of, unpaved haul/access roads."*

c. Commenters indicated that they would prefer the following language to be broken down into multiple options, as was done in the remainder of the section:

Use of bumps, humps, or dips for speed control; and limit vehicle speed to 10 miles per hour or less and limit vehicular trips to no more than 20 per day (total for all unpaved haul/access roads); or apply water so that the surface is visibly moist and opacity limitation and silt loading requirement described above is met; or…

ADEQ Response: ADEQ agrees with this comment. The revised language will read as follows:

- *Control Requirements*
  - *Work Practice Standards*
    - *Use bumps, humps, or dips for speed control; and Limit vehicle speed to 10 miles per hour or less; and Limit vehicle trips to no more than 20 per day; or*
    - *Apply water so that the surface is visibly moist and that opacity and silt loading limitations described in this requirement are met; or*
    - *Pave; or*
    - *Apply and maintain gravel, recycled asphalt, or other suitable material, in compliance with Maricopa County Rule 310 § 302.2; or*
    - *Apply a suitable dust suppressant, in compliance with Maricopa County Rule 310, § 302.2 (and restated in Rule 310, Table 3).*

d. Commenters indicated concern about the ability to pave roads on leased property, as well as the liability issues and willingness of the cities to allow employment of this kind of control measure. In addition, commenters requested clarification to the following language in order to address the specifications within the various cities as to whether or not it is acceptable to use soil stabilizers:

Appropriate trackout controls should be considered in an approved dust control plan, and shall take into account the stabilization of the roads and unpaved shoulders that off-site traffic must cross in order to enter and exit the facility.

ADEQ Response: During the stakeholder process for the proposed SIP, ADEQ was made aware of this concern and provided flexibility to sources operating on leased property by providing a menu of options for controlling emissions from unpaved roads as well as trackout. Because the language in the proposed SIP allows for case-by-case analysis (through an approved dust control plan) of the appropriate trackout controls given the stabilization of the roads and potentially unpaved shoulders over which vehicles must pass, no change has been made to this language.

e. Commenters expressed concern that sweeping 'immediately' after trackout has occurred, is not reasonable, explaining that there are numerous variables that could influence clean-up. Commenters also expressed concern that adding water to spilled materials could additionally contribute to trackout and create a secondary issue. Based upon these concerns, commenters indicated that the following proposed rule language should be tied to a measurable basis for determining trackout severity, that the term 'spillage' needs additional clarification, and that the word 'immediately' appears to be subjective:

Clean up, trackout, carry-out, spillage, and/or erosion, on the following time-schedule:
- *Immediately, when trackout, carry-out, or spillage extends a cumulative distance of 25 linear feet or more; and*
- *At the end of the workday, for all other trackout, carry-out, spillage, and/or erosion.*

ADEQ Response: South Coast Proposed Rule 1157 has been identified as a control measure at the Best Available Control Measure/Most Stringent Measure (BACM/MSM) level, suitable for

application in Arizona. Rule 1157 sets the cumulative length of trackout, carry-out, spillage or erosion that would require the need for clean-up at 25 feet. To ensure that Arizona's measures meet the required BACM/MSM level of stringency, ADEQ is proposing revision of the current rule cumulative distance to 25 feet.

ADEQ disagrees that the requirement to clean-up trackout, carry-out, spillage, and/or erosion "…immediately when [it] extends a cumulative distance of 25 linear feet or more…" is overly burdensome. While there are numerous variables that could influence clean-up, 25 cumulative linear feet of the material builds over time. By observing the length of trackout, carryout, spillage or erosion, as the material is deposited, the owner or operator is provided ample time in which to schedule sweeping and other cleaning activities prior to the 'immediate' triggering of this requirement. In addition, because watering spilled materials is one of several options for cleaning trackout, carry-out, spillage, and/or erosion, no change has been made to the language of the requirement.

ADEQ and MCESD, stakeholders, and the public will have opportunities to discuss viable, clear definitions for what constitutes, 'spillage,' in the context of prevention of trackout from industrial and/or commercial access roads onto paved roads in the public right-of-way, during upcoming MCESD stakeholder workshops to discuss proposed revisions to Maricopa County Rule 316, "NonMetallic Mineral Processing." Some language currently offered for consideration includes the following:

> *Spillage – Any quantity of nonmetallic minerals/materials that spill while being processed or after having been processed by an affected operation, where such spilled nonmetallic minerals/materials can generate or cause fugitive dust emissions.*

12) Issue: Commenters indicated that the current plan on page 65 only applies to the 'owner and operator' of equipment, and that it remains unclear as to whether or not a party other than the 'owner or operator' is regulated. Commenters explain that the plan language should incorporate any individual involved in a dust-generating activity.

ADEQ Response: The terms 'owner' and 'operator' are standard in rule language, and serve to identify and assign responsibility of ensuring compliance with the provisions of a rule to the individuals that own and/or operate equipment that generates [PM_{10}] emissions. If an individual other than the owner or operator is involved in a dust-generating activity (e.g. the use of off-road vehicles generating dust), then the applicable rules and requirements will be applied to that activity. If someone other than the primary owner or operator of the equipment is responsible for operating the equipment out of compliance with the requirements of this rule, the owner or operator is provided with an affirmative defense against responsibility for such emissions, as long as the owner or operator has provided that individual with a copy of the air pollution control permit. Because of this, no change has been made to the proposed language.

[Commenters Two and Three]

13) Issue: Parties request that ADEQ provide on page 69 following the Table quantified emissions reductions that ADEQ projects will result from implementation of Maricopa County Rule 310, "Fugitive Dust," BACM/MSM revisions, which the Maricopa County Board of Supervisors adopted April 7, 2004.

ADEQ Response: Chapter 4 of the Technical Support Document lists the emissions reductions projected to result from implementation of Maricopa County Rule 310, under "construction

activity." ADEQ gave as much credit for Maricopa County Rule 310's emission reductions as deemed appropriate under EPA guidance.

14) Issue: Parties request that ADEQ clarify on page 75 in the proposed SIP that proposed revisions to Maricopa County Rule 316, which affects, "Non-Metallic Mineral Mining and Processing" sources, are not appropriate for sources affected by Maricopa County Rule 310, which applies to, "Fugitive Dust" sources.

ADEQ Response: ADEQ agrees with this comment, and will include language in the proposed SIP, clarifying that prior to the time ADEQ proposed the Salt River SIP, EPA had made a determination that the requirements in County Rule 310 constituted BACM and MSM.

15) Issue: Parties request that ADEQ eliminate from proposed SIP and Maricopa County rule requirements, the proposed visible emission limit prohibiting visible emissions beyond industrial site property lines, referenced on pages 49-72 of the SIP, as unnecessary and duplicative of existing Maricopa County Rule 310 requirements and other proposed changes in Maricopa County Rule 316. Commenters state that the current 20 percent opacity standard, newly-implemented opacity test methods and prescriptive work practice requirements, provide the required existing level of control stringency. In addition, commenters suggest that the proposed property line standard is subjective and will make it difficult for inspectors to distinguish emissions originating on-site, from those originating off-site.

ADEQ Response: ADEQ cannot agree with this comment, as the commenters only offer a qualitative opinion on the stringency of the currently applicable requirements and prescriptive work standards, and do not provide any evidence supporting their claim. In addition, the 20% opacity standard from County Rule 310 will be carried over into County Rule 316, and will remain applicable to sources of emissions such as, but not limited to, unpaved haul roads and storage piles. ADEQ has also determined that emissions standards such as those proposed in the SIP are not equivalent, nor more stringent than the requirement that prohibits visible emissions from crossing the property boundary. The specific opacity requirements that will remain in County Rule 316 are limitations on the average light extinction allowed over a six-minute period. Each of these opacity requirements are included in the rule in order to provide the County and the State with reasonable assurance that the particulate matter emissions limitations associated with such activities are being met on a continuous basis. The requirement that no visible emissions cross the property boundary is included to provide the County and the State with reasonable assurance that emissions from the facility in general are well controlled, and, when considered collectively with the emissions of other facilities, are not contributing significantly to area's nonattainment status. The work practice requirements included in the rule are some of the methods by which the owner or operator of a facility can reduce emissions, and provide the State and County with reasonable assurance that the no visible emissions at the property boundary requirement is being complied with on a continuous basis.

16) Issue: Commenters suggested that the subjectivity of the property boundary standard, referenced on pages 49-72 of the SIP, and the inability to differentiate emissions that may originate offsite make the proposal impossible to meet, despite its attempted implementation in other jurisdictions.

ADEQ Response: ADEQ partially agrees and partially disagrees that it may be difficult to implement the proposed no visible emissions property boundary standard. While it is possible that there will be commingling of visible emissions that occur outside the property boundary with visible emissions that occur within the property boundary, it is ADEQ's position that observers can make an accurate determination as to whether or not the visible emissions that occurred onsite are crossing the boundary line.

ADEQ would agree with the commenters, however, regarding the determination of the origin of visible emissions during high wind events. In the proposed Salt River SIP, ADEQ proposed to include the high wind provisions from County Rule 310, in order to provide facilities with an affirmative defense if the owner or operator had taken reasonable precautions to ensure that visible emissions from activities on the property were minimized during the event.

Finally, similar requirements have been implemented in Pima County, Arizona, in Pima County Code § 17.16.050.D, and in Clark County, Nevada, in Clark County Regulations § 94.11.3 and § 41.1.1.2. ADEQ specifically has experience with including these types of emission limitations in air quality permits, as can be seen in the Title V permit for Arizona Portland Cement Company. In that permit, ADEQ has demonstrated that monitoring, record keeping and reporting conditions can be added to a permit providing sources with the ability to give permitting authorities reasonable assurance of compliance with such emissions limitations.

17) Issue: Commenters feel that the addition to the proposed SIP of a BACM/MSM requirement that industries provide an on-site dust control inspector to monitor dust-generating activities on industrial sites, would be superfluous, and that current requirements provide an adequate level of effective dust control. Parties express their support for ADEQ's apparent decision not to include such a requirement as part of any proposed SIP control measure.

ADEQ Response: ADEQ's exclusion of a requirement that includes the presence of a dust control overseer onsite was an accidental oversight. ADEQ has included this requirement in the proposed SIP.

[Commenters Four and Five]

18) Issue: Commenters indicated that the benchmarked standard (40 CFR 63 Subpart JJJJJ) on page 72-73 for Brick and Structural Clay Products Manufacturing was incorrect:

a. Commenters indicated that the Particulate Matter emission standard that applies to large (> 10 ton per hour of fired product) and small (<10 tons per hour of fired product) brick tunnel kilns that are new and reconstructed.

ADEQ Response: ADEQ recognizes that 40 CFR 63 Subpart JJJJJ applies only to large existing (> 10 ton per hour of fired product) tunnel and new and reconstructed tunnel kilns regardless of capacity. In order to satisfy MSM requirements, however, ADEQ is required to benchmark all rules that may be applicable to a similar source category. In this instance, ADEQ identified 40 CFR 63 Subpart JJJJJ as a rule that is applicable to similar source categories, and thus considered it for inclusion in the proposed SIP.

b. Commenters explained that an existing tunnel kiln with a federally enforceable permit condition that restricts kiln operation to less than 10 tons per hour of fired product on a 12-month rolling average basis is not subject to the benchmarked requirement, and that one brickyard has accepted such a production limitation in its proposed Title V permit that is expected to be issued in August of 2004.

ADEQ Response: Because this rule applies to all existing large tunnel kilns, as well as new and reconstructed tunnel kilns, ADEQ was unable to demonstrate why these emissions controls were not technically feasible for existing large tunnel kilns that have accepted production limitations in order to avoid installing air pollution control devices.

c. Commenters explained that Table 4.3.4.13 on pages 71-72 of the proposed SIP cites a PM10 emission standard as a benchmarked standard, and that 40 CFR 63 Subpart JJJJJ includes only a Particulate Matter emission standard that is measured in accordance with Method 5.

ADEQ Response: ADEQ agrees that the requirement in 40 CFR 63 Subpart JJJJJ is applicable to PM emissions. PM10 emissions, however, make up a percentage of PM emissions, and therefore are also controlled through the application of this emissions standard. Because PM10 makes up a percentage of PM emissions, and because ADEQ has not identified information documenting the fraction of emissions that is PM10 from tunnel kilns, ADEQ has assumed that all PM emissions from the tunnel kilns are PM10. Based upon this assumption, ADEQ has determined that it is appropriate to include a proposed emissions standard of 0.42 pounds of PM per ton of brick fired.

19) Issue: Commenters indicated that on page 72-73 the exhaust gases from the tunnel kiln have a high temperature and a low pH, requiring the company to install a pre-treatment device prior to a baghouse. Commenters also explain that the costs associated with installing the necessary baghouse, spray cooler, ID fan, injector system, mixing venture, absorbent chemical supply system, duct work instrumentation (PLC based), exhaust stack and structural supports would be in excess of $2,000,000. In addition, commenters explained that annual operating costs could range from $180,000 to $360,000, not including the costs of monitoring or maintenance. Commenters concluded that this would increase the costs of one brickyard's product by a total of $10 per ton of brick fired.

ADEQ Response: In a report entitled "Air Quality Impact Analyses for hydrogen fluoride Emissions from the (identity protected) brickyard facility" finalized on July 13, 2004, ADEQ found that the concentrations of hydrogen fluoride resulting from emissions from one brickyard were more than two and a half times greater than the associated guideline for one-hour exposures to hydrogen fluoride, which federal rules list as a Hazardous Air Pollutant. Based upon this finding, ADEQ would welcome the installation and operation of a pre-treatment device to the baghouse in order to reduce the potential negative health impacts associated with such elevated concentrations of hydrogen fluoride. In the absence of any documentation supporting the costs provided by the commenter regarding controlling PM_{10} emissions, ADEQ does not have enough information to deem "no control" as BACM/MSM, and has not made any changes to the proposed SIP in response to this comment.

20) Issue: Commenters indicated that on page 72-73 the addition of emissions controls have potential impacts on the airflow through tunnel kilns which will could affect the color of the brick, and may force changes in the recipes used by one brickyard to make brick. This has the potential to affect whether or not the manufacturer can meet customer demand and colors that match existing product lines.

ADEQ Response: ADEQ recognizes that the application of emissions controls to any process may require facilities to re-engineer their processes in order to optimize the operating efficiency of the plant, while reducing emissions. Because reducing both PM_{10} and hydrogen fluoride emissions from this facility is expected to result in positive effects on public health, ADEQ has determined that an investment in additional pollution controls is appropriate. No source or party submitted evidence documenting that the implementation of proposed control measures, compared against cost per ton of emissions reduction, would be economically infeasible.

21) Issue: Commenters indicated that the economic burden on page 72-73 of installing and operating air pollution equipment could force one brickyard to discontinue operations.

ADEQ Response: ADEQ can neither agree nor disagree with this comment as the commenter has not provided enough information for the Department to make an accurate assessment.

22) Issue: A commenter indicated that the requirements in the proposed SIP on page 72-73 regarding PM_{10} emissions from brick and structural clay manufacturers may not apply to another area company, as the second company only operates beehive and shuttle kilns, and only tunnel kilns are regulated by 40 CFR 63 Subpart JJJJJ.

ADEQ Response: ADEQ agrees with this comment, as 40 CFR 63.8390(b) states that the existing affected source to which 40 CFR 63 Subpart JJJJJ applies is an existing tunnel kiln with a design capacity equal to or greater than 10 tons of fired product per hour, or a new or reconstructed tunnel kiln regardless of design capacity. Since 40 CFR 63 Subpart JJJJJ applies only to tunnel kilns, ADEQ acknowledges that it is inappropriate to apply the PM_{10} emissions limitations for brick and structural clay manufacturers in the proposed SIP to beehive and shuttle kilns.

23) Issue: A commenter asked in relation to page 72-73 whether or not 11.6 tons of PM_{10} per year was a significant source of PM_{10} emissions.

ADEQ Response: ADEQ did not make determinations upon whether or not the emissions from a single source were considered to be significant or not. According to the modeling analysis presented in the "Proposed Revised PM_{10} State Implementation Plan for the Salt River Area Technical Support Document" (Proposed TSD), a series of emissions sources were identified as being significant contributors to the overall nonattainment of the study area (see pages 6-6 and 6-7 of the Proposed TSD). While every facility, when considered independently of the sources surrounding it, should be capable of demonstrating compliance with state and county air quality standards, those sources, when considered collectively, contribute to the overall nonattainment of the study area. In the proposed TSD, ADEQ has made the demonstration that when all of the proposed control measures and work practice standards are applied collectively, the ambient concentrations of PM_{10} in the study area will demonstrate compliance with the National Ambient Air Quality Standards for PM_{10} by 2006.

24) Issue: A commenter indicated that the heat from the natural gas burners operated by one company, as well as the air flow through the 14 separate emission stacks directly manufactures (vitrifies) the company's product. The commenter explains that changes in these items on page 72-73 are dangerous to the operating efficiency of the plant and may not be cost effective emissions reductions.

ADEQ Response: ADEQ recognizes that the application of emissions controls to any process may require facilities to re-engineer their processes in order to optimize both the operating efficiency of the plant, while reducing emissions. Because the commenter has identified the fact that there are no tunnel kilns at the facility in question, the emissions limitations in the proposed SIP will not affect the on-going operations of that facility.

[Commenter Six]

25) Issue: Parties propose the addition of language to page 13 of the proposed SIP, under a new section entitled, "Clean Air Act § 176(c)(2)," clarifying that the proposed SIP, which addresses PM_{10} control in the Salt River Study Area and Maricopa County PM_{10} Nonattainment Area, does not affect the Regional Transportation Plan and transportation conformity budget for PM_{10}, representing on-road mobile source emissions in the Maricopa County portion of the PM_{10} Nonattainment Area, which were approved by EPA on July 25, 2002, as part of the *Revised MAG 1999 Serious Area Particulate Plan for* PM_{10} *for the Maricopa County Nonattainment Area*.

Commenters note that the approved transportation conformity budget represents the Maricopa County portion of the PM_{10} Nonattainment Area, an area of about 2,850 square miles, while the Salt River Study Area comprises only 32 square miles, about one percent of the size, of the Nonattainment Area.

ADEQ Response: ADEQ agrees with commenters' recommendation, and has incorporated the suggested revisions into the proposed SIP.

26) Issue: Parties note that on page 23, the description of Roads – Freeway, Primary and Secondary should be changed to: "Traffic is projected to increase by six percent between 2002 and 2006, based on the growth in traffic volumes in the Salt River Area, which occurred between 1998 and 2002. Since there are no plans for road-building projects in the Salt River PM_{10} Study Area, this estimate of VMT growth (1.4 percent per year), based on a MAG analysis of City of Phoenix traffic counts, is consistent with the central location and older neighborhood characteristic of the study area."

ADEQ Response: ADEQ agrees with commenters' recommendation, and has incorporated the suggested revisions into the proposed SIP and TSD.

27) Issue: Parties comment that on pages 23 and 24, the reductions described in the bullet points are not consistent with the base case 2006 reductions described on page 4-41 of the TSD. For example, 'Wind Erosion – Alluvial' is missing altogether, and other percentage reductions, i.e. for 'Roads' and 'Wind Erosion – Construction,' disagree with the TSD. Also it should be made clear throughout pages 25 and 26, that the 2006 projections represent the Base Case 2006 emissions inventory, because additional reductions are made to the 2006 emissions inventory (in Chapter 6 if the TSD) to show attainment. Also reference to, "Table 4-6 of the TSD," on proposed SIP page 25, just above Table 3.3, should be, "Table 4-7."

ADEQ Response: ADEQ agrees with commenters' observations, has corrected the tables identified in the proposed SIP and TSD and rendered them consistent.

28) Issue: Parties comment that on page 26, percentages in Table 3.4 do not appear to be consistent with the pie chart percentages shown in Figures 3-10 through 4-12 of the TSD. Also, trackout is now a significant source category that should be included under, "Low Wind Days," in Table 3.4.

ADEQ Response: ADEQ agrees with commenters' suggestions, has corrected Table 3.4 of the proposed SIP, adding emissions inventory contributions for trackout, and has corrected SIP and TSD to ensure consistency.

29) Issue: Parties comment that on page 28, in Table 4.2.1, to be consistent with Table 6-4 of the TSD, the "Area Emissions on the "Low Wind Day" should be "54.9," rather than "55.1" micrograms per cubic meter, and the total industrial source emissions should be "60.2" on the "Low Wind Day" and "31.9" on the "High Wind Day." (The latter was obtained by adding 3.0 and 28.9 currently in the table for "Point and Area Industrial Emissions.") Adding the 'Roads' and 'Trackout' subcategories provides a total of "42.7" rather than "41.5" on the "High Wind Day." Under "Windblown Dust," all of the subcategories should be shown in bold, since they all exceed five micrograms per cubic meter, and "NA" for the "Windblown Dust" category on the "High Wind Day" should be changed to "290.1," which is the sum of the subcategories. There should be a footnote with the table that indicates contributions in bold are considered to be significant sources.

ADEQ Response: ADEQ agrees with commenters' recommendations, has effected the requested changes and ensured consistency between the proposed SIP and TSD.

30) Issue: Parties indicate that on page 42, the last sentence before Table 4.3.4.1, should be changed to "Table 4.3.4.1 shows the daily breakdown of emissions by category for the high wind day, April 15, 2002."

ADEQ Response: ADEQ agrees with commenters' recommendation and has effected the requested changes to the proposed SIP.

31) Issue: Parties comment that on pages 74-76 of the proposed SIP, the 'Paved Roads' and 'Unpaved Shoulders' measures do not include the same level of BACM/MSM analysis as is provided for 'Unpaved Haul/Access Roads' on SIP pages 63-72. For example, the latter includes a discussion of alternative measures, technical feasibility, advantages and disadvantages, cost-effectiveness, BACM/MSM analysis, and BACM and MSM not recommended for consideration. Why is this analysis missing for these significant sources?

ADEQ Response: ADEQ did not include an extensive BACM/MSM analysis for "Paved Roads" and "Unpaved Shoulders" on pages 74-76 of the proposed SIP as the BACM/MSM analysis for these categories relied primarily on three types of control measures, enhanced enforcement of existing or modified rules, enhancement of previously proposed BACM/MSM control measures, or reliance on previously proposed BACM/MSM control measures.

The first control measure for "Paved Roads" was enhanced enforcement of County Rules 310 and 316. Because ADEQ had performed a more extensive BACM/MSM analysis for the proposed additions to County Rule 316 in previous sections of the proposed SIP, and because County Rule 310 had been determined to be BACM/MSM by EPA prior to proposal of the SIP ADEQ did not deem it necessary to include such an extensive analysis of the same requirements in this portion of the proposed SIP. The second proposed control measure for "Paved Roads" was for agencies and political subdivisions to enhance road cleaning measures that had been committed to in previous SIPs. These kinds of enhanced measures have been approved as BACM/MSM analysis in other areas of the Country, and therefore are considered to be BACM/MSM in the study area by default. In the absence of any data explaining why these enhanced measures are not technically feasible, or that equivalent emissions reductions can be achieved through other means, ADEQ cannot determine a different control strategy to be BACM/MSM.

On page 76 of the proposed SIP, in the second sentence of the second paragraph under the heading "Unpaved Shoulders," ADEQ explains that the control measure commitments in the *Revised MAG 1999 Serious Area Particulate Plan for PM_{10} for the Maricopa County Nonattainment Area* (February 2000) "…continue to be relied upon in achieving attainment." Because there was no change to previous control measures and commitments made regarding this source category of emissions, ADEQ did not include any additional BACM/MSM analysis for this commitment.

32) Issue: Parties indicate that on page 85, Table 5.1 of the proposed SIP is not consistent with the discussions on emission changes on pages 6-10 through 6-15 of the TSD. The trackout category should be added. For wind erosion – alluvial channels, the reason for change column (57 percent) differs from the percent change in emission column (72 percent). For wind erosion – vacant lots, the percent change in emissions (13.6 percent) differs from the reduction cited on page 6-11 of the TSD (39 percent) and the reasons for change in table 5.` for two of the three paved road categories do not match the percent change in emissions. For freeways, the reason for change should state: "Traffic is projected to increase six percent between 2002 and 2006, based on 1998-2002 growth in traffic volumes in the Salt River Area." For primary roads, repeat the above, followed by: "This is offset by an emissions decline of 13 percent, due to doubling the frequency of street-sweeping on targeted primary roads in the Salt River Study Area." For primary roads,

repeat the above, followed by: "This is offset by an emissions decline of 13 percent, due to doubling the frequency of street-sweeping on targeted primary roads in the Salt River Area." For secondary roads, repeat the above two sentences, but substitute, "seven percent" for 13 percent" and "half-mile streets" for "primary roads."

ADEQ Response: ADEQ agrees with all the recommended changes offered by commenters, and has incorporated appropriate changes into the proposed SIP and TSD, ensuring consistency.

33) Issue: Parties note that on March 8, 2004, MAG submitted suggestions for revisions to the TSD ADEQ submitted to EPA in February 2004. MAG appreciates the changes that have been made in response to these suggestions. However, the revised TSD neglects to document a change in the unpaved shoulder methodology. In the ADEQ letter of response, dated April 21, 2004, ADEQ indicated that "emissions from unpaved shoulders will be recalculated in accordance with the MAG suggestions and new modeling will be done." However, page 4-12 through 4-13 of the Revised TSD describes the old methodology for calculating unpaved shoulder emissions. If the new MAG methodology has been applied, then this documentation should be updated. If the MAG methodology was not applied, then at least, the equation for road shoulders on page 4-13 should be corrected. The equation currently shown in the TSD is not accurate. A correct form would be:

$E_{\text{road shoulder}}$ = EF x L / 1600 m/mi x veh/day.

ADEQ Response: ADEQ, in a review of MAG's March 8, 2004 recommendation regarding the calculation of emissions from unpaved roads shoulders, determined that MAG's suggested method focused on medium and heavy duty truck traffic on paved roads. However, ADEQ's method for calculating emissions from unpaved road shoulders focused on the wake effect of "high profile vehicles" which is separate from emissions generated by traffic on paved roads. ADEQ's analysis was based on both field observations of "high profile vehicle" traffic patterns and on a peer reviewed scientific document by Desert Research Institute.

ADEQ calculated the total emissions from paved roads with unpaved shoulders by summing primary road emissions with unpaved shoulder emissions (using the high profile vehicle methodology). Thus, MAG's suggested methodology was rejected because it did not incorporate the emissions generated from the wake effect of high profile vehicles on unpaved road shoulders.

The commenter is correct; there is a typographical error in the formula. The formula will be revised in the TSD.

34) Issue: Parties comment that although ADEQ rejected MAG's argument that the paved road emission factors were too high, other suggestions related to paved roads also seem to have been ignored. The paved road emission equation on page 4-11 should be corrected. The equation currently shown in the TSD is not accurate. A correct form of the equation would be:

$E_{\text{paved road}}$ = EF x L / 1600 m/mi x veh/day.

ADEQ Response: Parties are correct; there is a typographical error in the formula. The formula will be revised in the TSD. Please note that emissions from exhaust, brake wear, and tire wear emissions (2.13 g/VMT) are included in the paved road emission factor used by ADEQ in order to account for emissions from these sources.

35) Issue: Parties suggest that the latest version of AP-42 (December 2003) be used in calculating paved road emissions. This entails subtracting out 1980 exhaust, brake wear, and tire wear emissions (of .2119 grams/mile). There is no indication in the TSD that this has been done.

ADEQ Response: ADEQ did use the latest version of AP-42 to calculate paved road emissions but did not subtract out 1980 exhaust, brake wear, and tire wear emissions. This was done in order to develop an emissions estimate for paved roads that included not only resuspended road dust, but also exhaust, brake wear, and tire emissions for primary and secondary roads. Please note that the exhaust, brake wear, and tire wear emissions factor of 0.2119 g / VMT is a small percentage, 9.9 percent, of the total paved road emissions factor of 2.13 g / VMT.

36) Issue: Parties comment that on page 4-41, the Agricultural Tillage decrease of "75 percent" is inconsistent with the "80 percent" shown on the same page for Wind Erosion – Agricultural.

ADEQ Response: The commenter is correct; the 75% value is a typographical error. The number will be revised to 80% in the TSD.

37) Issue: Parties note that the source category wind erosion – alluvial on page 4-41 shows a 57 percent reduction for the 2006 base case, while page 6-11 and Table 6-6 show a 72 percent reduction in wind erosion – alluvial for the 2006 base control case. If the reduction is really 57 percent, then the reduction on page 6-11 and in table 6-6 should not be 72 percent, but rather, the difference between increasing control effectiveness from 57 percent to 72 percent, which is 35 percent. If the 2006 base case control effectiveness is really zero, then page 6-11 and table 6.6 are correct, and the 57 percent reductions shown for wind erosion – alluvial need to be deleted from page 4-41 and table 4-6.

ADEQ Response: One should bear in mind that the windblown dust from the alluvial areas of the Salt River were considered to be uncontrolled in 2002. This lack of control was evident in numerous field inspections conducted in February – May 2004. For those portions of the river bottom area classified as moderate or severe in their windblown dust potential, the investigators noted ample evidence of vehicular traffic, extremely friable superficial soil surfaces (sometimes ankle deep), and scant evidence of any attempts to stabilize the surface. In fact, in the February 2004 SIP and TSD submittals, the perceived lack of alluvial channel controls led to a showing of nonattainment, with no controls envisioned for 2006. The work done from February through June 2004, which included a reevaluation of the alluvial channel emissions and their controls, led to a 72% control efficiency for the case of "2006 attainment." All of the 2006 control efficiencies, whether base case or attainment, are based on the degree of control present in 2002. The progression of control efficiencies, then, is 0%, 57%, and 72%, for 2002, 2006 base case, and 2006 attainment, respectively. The actual value for the 2006 base case control efficiency is practically immaterial, since the demonstration of attainment relies on the difference between the 2002 and 2006 attainment cases.

38) Issue: Parties note that on page 4-43, in Table 4-6, for wind erosion – vacant lots, the percent change attributable to building of residential and commercial areas is -13.6 percent, but page 6-11 states that this reduction should be -39 percent. One or the other should be changed. For secondary roads, the description should state six percent, not eight percent.

ADEQ Response: In Table 4-6, the vacant lot replacement percentage should have read "39%," based on field work in 2004 and analysis of 2002 satellite images. Vacant lots were surveyed and the 39% was the prorated degree of vacant lot development for the four year regulatory period of 2002 – 2006. This survey, entitled, "Salt River Vacant Land and Miscellaneous Disturbed Area Conversion Survey," is available from AQD staff. There were not enough miscellaneous disturbed areas to yield any new information, so the 13.6% was retained for this category. The VMT increase on secondary roads should have been 6%, not 8%.

39) Issue: Parties note that on page 4-44, the major source categories appear to not have been updated based on the latest changes in the 2006 emissions inventory. For example, trackout is missing from the low wind days and wind erosion – industrial is now more significant than wind erosion – alluvial channels.

ADEQ Response: The table on page 4-44 had been updated with additional categories, but the accompanying narrative had not been updated. The narrative on major source categories will be revised in the TSD to reflect the updated data.

40) Issue: Commenters indicate that on pages 4-47 through 4-49, "Base Case" should be added to the titles of the pie charts, and figures 4-10 through 4-12. Also Figure 4-13 is missing (base case, April 26, 2006).

ADEQ Response: The commenters' point is valid. For clarification, the text, "Base Case," will be added to the captions of the pie charts to clarify that the pie charts (Figures 4-10 through 4-12) represent the base case. However, Figure 4-13 is not missing in ADEQ's document.

41) Issue: Commenters state that on page 4-51, the second paragraph is not consistent with the data in the pie charts, Figures 4-10 through 4-13. For example, total daily emissions for high wind days are more than 100 metric tons versus 73 in the description.

ADEQ Response: The pie charts (Figures 4-10 through 4-13) had been updated with new emissions data, but the accompanying narrative had not been updated. The narrative on high wind day emissions will be revised in the TSD to reflect the updated data.

42) Issue: Commenters indicate that on page 5-2, the Figure 5-1 and 5-2 should have "in 2002" in their titles.

ADEQ Response: ADEQ has added the text, "in 2002," to titles of Figures 5-1 and 5-2.

43) Issue: Commenters recommend that to avoid confusion and maintain consistency with Chapter 4, Table 6-6 on page 6-10 should have an additional column that compares the percent change in emissions from the 2006 base case shown in Table 4-6, with the post control reductions shown in Table 6-6. The new emission categories for which there are changes (i.e. wind erosion – industrial stockpiles, wind erosion – industrial surface, trackout, industrial area sources, and industrial point sources) would have N/A in the base case columns. Based on the increases in control effectiveness from 56 percent to 72 percent (see discussion on pages 6-11 through 6-13), it looks like construction activity and unpaved parking lots – reentrained dust, should both be -36 percent, not -29 percent, in Table 6-6, and the discussion on page 6-11 for construction, and 6-13, for unpaved parking lots. Also, please check the calculation on wind erosion – miscellaneous disturbed areas; it appears that -45 percent should replace -41 percent. If so, this should be corrected on page 6-11, as well. See a previous comment to determine whether wind erosion – alluvial should remain -72 percent or be changed to -35 percent.

ADEQ Response: ADEQ has added a column to proposed TSD, Table 6-6, containing the 2006 base case emission reduction percentages, and has corrected the various emission reduction percentages in the table and narrative.

44) Issue: Parties comment that on page 6-11, in the sample wind erosion – construction calculation in the last sentence, the "(37-30)" should be divided by "37," not "30," to equal "19 percent."

ADEQ Response: Commenters are correct, the denominator should be '37,' which correctly yields 19 percent.

45) Issue: Parties recommend that on page 6-12, the description of Freeway – Interstate 17 Durango should read, "The Maricopa Association of Governments has estimated that traffic volumes in the Salt River Area will increase by six percent from 2002 to 2006. This increase is based on the actual growth rate of traffic counts taken on roads in the Salt River Area between 1998 and 2002."

ADEQ Response: ADEQ has incorporated the commenters' recommended language into the TSD.

46) Issue: Parties note the inconsistency between alluvial dust reductions on page 6-15, in the second sentence, where the reduction in alluvial dust is shown as 80 percent, while Table 6-6 reports reductions as 72 percent.

ADEQ Response: The commenters are correct, the narrative is in error; ADEQ has changed TSD, Table 6-15, to show an emissions reduction of 72 percent for alluvial dust.

47) Issue: Parties note the inconsistency between the percentage of agricultural land attrition between page 6-20, in the last sentence of the first paragraph, where it is shown as 75 percent, and page 6-11, where it is shown as 80 percent.

ADEQ Response: Parties' comment is correct; page 6-20 of the TSD is in error; ADEQ has updated it to show 80 percent as the agricultural land attrition amount.

48) Issue: Parties recommend the addition of a new table called Salt River PM_{10} Emissions Inventory – Post Control 2006 (like Table 4-7) and new pie charts (like Figures 4-10 through 4-13), that show post control Salt River PM_{10} emissions. Without these, there is no documentation in the TSD as to what the PM_{10} emissions by source category are AFTER implementation of all SIP controls.

ADEQ Response: ADEQ has added the new table containing the 2006 attainment case emissions, requested by commenters, to TSD, Section 4, pages 6-15 through 6-17.

49) Issue: Parties recommend that on page 7-2 in the last sentence, the language, "…sought and adopted by February 2005," should be changed to, "…sought, adopted, and implemented by February 2, 2005."
ADEQ Response: Commenters are correct; ADEQ has added the suggested language.

50) Issue: Commenters note that the paragraph after Table 4.2.1, on page 28, is confusing/not clear.

ADEQ Response: ADEQ clarified the text of concern to the commenters. The text currently reads as follows:

> *Threshold level is one criterion for BACM and MSM. Other criteria include the economic and technical feasibility of potential controls. When selecting area BACM/MSM control measures, the area mix of sources and availability of controls must be evaluated.*

51) Issue: Parties comment that Table 4.2.2, on page 29, is confusing in its location - immediately after Table 4.2.1 and having no introduction.

ADEQ Response: ADEQ moved Tables 4.2.1 and 4.2.2 in the proposed SIP, to immediately above the narrative in section 4.3, to enhance clarity.

52) Issue: Commenters note that the paragraph after Table 4.2.2, the first sentence, on page 29, is unclear. The sentence states, "The process to identify potential BACM and MSM controls is also the same." Commenters would like clarification with respect to what the controls are the same as.

ADEQ Response: ADEQ clarified the text of concern to commenters.

53) Issue: Parties note that the "Source Category" column in Table 4.2.1, on page 28, relates to section 4.3.2 - the description of significant source categories lists more source categories in Table 4.2.1 than are described in Section 4.3.2.

ADEQ Response: The significant contribution of area construction activity is missing from section 4.3.2, on page 30, of the proposed SIP. Because construction activity in the Maricopa County PM_{10} Nonattainment Area is already regulated by EPA-approved BACM/MSM controls adopted by Maricopa County, April 7, 2004, in revisions to Maricopa County Rule 310 ("Fugitive Dust"), Arizona has already provided BACM/MSM analyses for controls applicable to significant Nonattainment Area construction sources.

54) Issue: Parties comment that, with respect to proposed SIP, section 4.3.3, on page 30, "Windblown Construction," under "Rule Compliance/Test Methods/Record Keeping," the third and fourth sentences are incorrect and should be revised to include the following information: "In 1998, MCESD had four inspectors, one supervisor, and one enforcement officer on staff to enforce 1,700 earthmoving permits. In 2000, MCESD increased the number of personnel working on Rule 310 compliance to eight inspectors, one supervisor, one coordinator, two enforcement officers, one aide, and one County attorney. In 2000, MCESD was responsible for 2,500 earthmoving permits. Currently, MCESD is responsible for 4,150 earthmoving permits."

ADEQ Response: ADEQ identified increased compliance with existing Maricopa County Rules 310, 310.01, and 316, as critical to achieving attainment for PM_{10} in the Maricopa County PM_{10} Nonattainment Area by December 31, 2006. EPA has recommended that Maricopa County conduct a workload analysis to determine the number of additional inspectors and associated resources necessary for adequate rule enforcement. A similar jurisdiction having more than 3,000 permitted sources and half the population of Maricopa County, employs 18 field enforcement officers who dedicate over 90 percent of their time to such enforcement. Commenter assumes that approximately twice that number will be needed in Maricopa County.

ADEQ clarified the text of concern to commenters, as follows:

> *In 1998, MCESD had four inspectors, one supervisor, and one enforcement officer on staff to enforce 1,700 earthmoving permits. In 2000, MCESD increased the number of personnel working on Maricopa County Rule 310 ("Fugitive Dust") compliance to eight inspectors, one supervisor, one coordinator, two enforcement officer, one aide, and one county attorney. In 2000, MCESD was responsible for 2,500 earthmoving permits. Currently, MCESD is responsible for 4,150 earthmoving permits.*
>
> *By September 2004, the MCESD will complete three workload analyses. The first analysis will focus on three to five inspections per year at earthmoving sites ten acres or larger in size, and one inspection per year at smaller sites for compliance with Maricopa County Rule 310. The second analysis will focus on inspections of 5,300 vacant lots per year,*

which constitutes 20 percent of the 26,446 vacant lots identified as of October 2003, for compliance with Maricopa County Rule 310.01 ("Fugitive Dust from Open Area, Vacant Lots, Unpaved Parking Lots, and Unpaved Roadways").

The third analysis will focus on increasing inspection for compliance with Maricopa County Rule 316 ("NonMetallic Mineral Mining and Processing") to four times per year. The workload analysis will also address proposed enforcement for Maricopa County's proposed new Rule 325, which will provide PM_{10} controls for structural clay and brick manufacturers.

These analyses are expected to result in identification of the number of additional personnel and salaries/fringe benefits totals necessary for an effective enforcement effort to attain the PM_{10} standard. Interim funding to enable accelerated hiring of some additional personnel will also be explored and identified by September 2004. A resolution committing Maricopa County to a funding mechanism and specified number of enforcement positions to be added and filled in 2004-2005 will be presented to the Maricopa County Board of Supervisors for adoption at its September meeting. Following adoption of the resolution, Maricopa County will hire additional personnel in the October 2004, through September 2005, timeframe. In the interim, Maricopa County will revise fees through revisions to Maricopa County Rule 280 to fund the additional positions. MCESD has scheduled an initial public workshop on fees issues for September 16, 2004, at 9:00 a.m.

55) Issue: Commenters note that, with respect to proposed SIP, section 4.3.3, on page 31, "Windblown Construction," under "Rule Compliance/Test Methods/Record Keeping," the second-to-last sentence, ADEQ should provide clarification that MCESD will determine the actual number of additional inspectors and support staff necessary to work proactively and directly on enforcement of fugitive dust rules by conducting a work load analysis for Rule 310, Rule 310.01, and Rule 316 based on targeting criteria, inspection frequencies, current estimates of the number of sources/permits, and benchmarking with Clark County, Nevada.

ADEQ Response: ADEQ has added the content recommended by commenters, to the proposed SIP.

56) Issue: Parties note that, with respect to proposed SIP, section 4.3.3, on page 32, "Windblown Cleared Areas (Open Areas, Vacant Lots, and Alluvial Channel)," under "Emission Reductions," the second and third sentences in the second paragraph are confusing. The second sentence states that the daily emission rates are based on PM_{10} emissions due to wind erosion on high wind days and an increased control measure efficiency from 55 percent to 71 percent for MCESD's Rule 310.01, while the third sentence states that the projected reduction in PM_{10} emissions is based on the conversion of open areas and vacant lots to residential and commercial uses. Parties ask whether the projected reduction in PM_{10} emissions is based on both enhanced enforcement of Rule 310.01 and the conversion of open areas and vacant lots to residential and commercial uses.

ADEQ Response: ADEQ has rewritten the second paragraph on page 32 of the SIP, in response to parties' comments, as follows:

For the Year 2006, PM_{10} emissions from open areas and vacant lots in the Salt River PM_{10} Study Area were estimated to be 9.8 metric tons/day

for open areas and 11.8 metric tons/day for vacant lots. The daily emission rates are based on PM_{10} emissions due to wind erosion on high wind days and an increased control measure efficiency from 55 percent to 71 percent for MCESD's Rule 310.01. The projected reduction in PM_{10} emissions results from not only the better enforcement of Rule 310.01 but also from the conversion of open areas and vacant lots to residential and commercial uses. Converted land has lower windblown PM_{10} emissions due to stabilization of the soil from landscaping, paving, and the buildings themselves.

57) Issue: Commenters note that, with respect to proposed SIP, section 4.3.3, on page 32, "Windblown Cleared Areas (Open Areas, Vacant Lots, and Alluvial Channel)," under, "Emission Reductions," the following statement in the third paragraph is confusing: "…and also lists emission reductions from combining control measures with the 'Create Barriers To Trespassing' control measure."

ADEQ Response: ADEQ has clarified the wording in the SIP.

58) Issue: Parties note that, with respect to proposed SIP, section 4.3.3, on page 32, "Windblown Cleared Areas (Open Areas, Vacant Lots, and Alluvial Channel)," that in the heading in Table 4.3.3.1, some clarification of the meaning of 'additional controls' in the title, "PM_{10} emissions without additional controls equals 21.57 metric tons/day in year 2006," is needed. Does the title indicate that no more controls beyond the controls listed in the table, or that no additional controls beyond those currently implemented, will result in 21.57 metric tons/day in 2006?

ADEQ Response: ADEQ has changed the title of the heading in proposed SIP Table 4.3.3.1 to, "Year 2006 PM_{10} Emissions without Additional Controls Equal 21.57 Metric Tons Per Day." In addition, column headings now read as follows (from left): "Control Measures," "Rule Effectiveness," "Control Efficiency," "Total Control Efficiency," "PM_{10} Emissions After Controls (Metric Tons / Day)."

59) Issue: With respect to proposed SIP, section 4.3.3, on page 32, 'Windblown Cleared Areas (Open Areas, Vacant Lots, and Alluvial Channel),' in Table 4.3.3.1 and Table 4.3.3.2, parties comment that the heading of the second column should be changed from 'Rule Penetration' to 'Rule Effectiveness.'

ADEQ Response: The commenter is correct; the text in the TSD will be revised to "Rule Effectiveness."

60) Issue: With respect to proposed SIP, section 4.3.3, on page 34, "Windblown Cleared Areas (Open Areas, Vacant Lots, and Alluvial Channel)," parties comment that under "Technical Feasibility," the first sentence states that following is a discussion of the technical feasibility of strengthening or better enforcement of MCESD's Rule 310.01, however, what follows is a lengthy description of the technical feasibility of the different control options available in Rule 310.01 (with the exception of establishing wind breaks, which would be a new control method option). Parties ask why ADEQ describes the technical feasibility of controls that are already in place in a MCESD rule? Similarly, under "Economic Feasibility" ADEQ includes another lengthy description of the costs associated the different control options available in Rule 310.01 (again with the exception of establishing wind breaks). Because the proposed control measure is "…better enforcement of Rule 310.01," shouldn't the technical and economic feasibility analyses focus on the costs associated with enhanced enforcement through additional personnel and rule clarifications?

ADEQ Response: The technical feasibility of the different control options available in Maricopa County Rule 310.01 was discussed because Rule 310.01 has not yet been fully implemented; the discussion provides more justification for the addition of inspectors for Rule 310.01 compliance/enforcement. For additional information, see ADEQ response to issue #54.

61) Issue: With respect to proposed SIP, section 4.3.3, on page 34, 'Windblown Cleared Areas (Open Areas, Vacant Lots, and Alluvial Channel),' parties ask whether under, "BACM/MSM Analysis," "Similar Rules," "Selected Control Measures for Open Areas, Vacant Lots, and the Alluvial Channel," ADEQ determined, through analysis, that Maricopa County Rule 310.01 constituted BACM/MSM and/or the equivalent, when comparing it with similar rules examined from other jurisdictions. What is ADEQ's conclusion regarding whether or not, "better enforcement and augmentation of MCESD Rule 310.01," is technically and economically feasible?

ADEQ Response: ADEQ made a preliminary determination that better enforcement and other enhancement of MCESD Rule 310.01 is both technologically and economically feasible. EPA has identified increased compliance with existing MCESD Rules 310, 310.01, and 316, as critical to achieving the necessary emissions reductions relied upon in the proposed SIP.

62) Issue: With respect to proposed SIP, section 4.3.3, on page 42, "Windblown Agricultural," parties ask whether in the third paragraph, the additional outreach to farmers should encourage use of practices that will reduce the potential for windblown dust from fields, *and* from tilling and harvesting, and from land not used for crops, *year-round*, not just during the month of April.

ADEQ Response: ADEQ has identified April as particularly problematic, due to lack of ground cover in some types of agricultural open areas, field preparation prior to planting, and the prevalence of high wind events. ADEQ believes that the current language in the proposed SIP correctly characterizes agricultural windblown dust issues.

63) Issue: With respect to proposed SIP, section 4.3.4, on page 44 "Permitted Industrial Source Control Measure," under "Nonmetallic Mineral Products Processing," "Stack And Process Related Emissions," "Emission Reductions," in the second sentence, parties request clarification of whether operations or activities for which the use of dust suppressants was found to be technically infeasible.

ADEQ Response: ADEQ encourages the commenter to see the fourth paragraph under "Nonmetallic Mineral Products Processing," "Stack and Process Related Emissions," "Technical Feasibility," on page 46 of the proposed SIP, for further clarification.

64) Issue: Under "Nonmetallic Mineral Products Processing," "Stack And Process Related Emissions," "Rule Compliance/Test Methods/Recordkeeping," on page 45 of the proposed SIP are the items listed under "Rule Compliance" and "Test Methods" to be included in Rule 316? If so, I thought that during public workshop meeting discussions that ground level concentrations were not to be included in Rule 316. And, if so, the requirement to wash aggregate prior to delivery and the requirement "when cement or fly ash silos are filled during non-daylight hours, the silo filter system exhaust shall be sufficiently illuminated to enable a determination of compliance with a visible emissions requirement" are not included in the June 2004, draft of Rule 316.

ADEQ Response: ADEQ has deleted this section as it was accidentally included in the proposed SIP. The recommended augmentations to County Rule 316 can now be found in Tables 4.3.4.7 on pages 50-51, 4.3.4.8 on pages 52-53, and 4.3.4.9 on page 54 of the proposed SIP.

65) Issue: Under "Nonmetallic Mineral Products Processing," "Stack And Process Related Emissions," and "Technically Feasible" on page 46 of the proposed TSD, the fourth and fifth paragraphs state that "…dust suppressants are not technically feasible…," Please clarify the operations or activities for which dust suppressants are determined to be technically infeasible.

ADEQ Response: The final sentence in paragraph 4 under "Nonmetallic Mineral Products Processing," "Stack and Process Related Emissions," and "Technically Feasible" on page 46 of the proposed SIP explains that dust suppressants "…are not technically feasible for controlling particulate matter emissions from emissions points such as conveyors, crushers, screening operations and drop points." ADEQ intended for this technically feasible determination to apply only to these and similar emission points.

66) Issue: Under "Nonmetallic Mineral Products Processing," "Stack And Process Related Emissions," "Cost-Effectiveness" , and "Baghouse with Suction Shroud" on page 48 of the proposed SIP, in second paragraph, put "$" before 25,000 and 50,000.

ADEQ Response: ADEQ agrees with this comment and will include the "$" before 25,000 and 50,000.

67) Issue: Under "Nonmetallic Mineral Products Processing," "Stack And Process Related Emissions," "Cost-Effectiveness," and "Dust Suppressants" on page 48 of the proposed SIP, please clarify the operations or activities for which dust suppressants are determined to be technically infeasible.

ADEQ Response: ADEQ encourages the commenter to see the fourth paragraph under "Nonmetallic Mineral Products Processing," "Stack and Process Related Emissions," "Technical Feasibility" on page 46 of the proposed SIP, in addition to the response to Comment 57.b for further clarification.

68) Issue: Under "Nonmetallic Mineral Products Processing," "Stack And Process Related Emissions," and "BACM and MSM Not Proposed for Consideration" on page 49 of the proposed SIP, it appears that the list of control measure references under "Crushing and Screening Plants" should be moved immediately following Table 4.3.4.9.

ADEQ Response: ADEQ agrees with this comment, and has moved this discussion to page 55.

69) Issue: In Table 4.3.4.7 on page 51 of the proposed SIP, in the introductory paragraph, change "…newly proposed control measures, and additional recommended control measures for non-metallic mineral processing and material handling…" to "…benchmarked controls, and recommended augmentations to Rule 316 for non-metallic mineral mining and processing." to be consistent with the table headings.

ADEQ Response: ADEQ agrees with this comment, and has made the requested change.

70) Issue: In Table 4.3.4.7 (Crushing And Screening Plants) on page 51, the following control measures are listed in the column entitled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during public workshop meetings):

a. All screen sides are required to be enclosed (draft Rule 316 reads: "Cover sides of all shaker screens")

b. All screens shall be enclosed or the outlet of the screen shall be controlled through the application of a watering system, such as, but not limited to, spray bars or foggers.

ADEQ Response: ADEQ disagrees with this comment, as these control options were discussed during public workshop meetings, and has determined that both requirements should remain recommended augmentations to County Rule 316. In discussions with stakeholders, ADEQ determined that screen sides are already enclosed on new crushers. In addition, the majority of emissions from screens are emitted through the outlet of the screen. ADEQ relied on the inclusion of the second requirement, in addition to MSHA safety issues, in order to determine that partial and total enclosures for screens were unnecessary as equivalent emissions reductions could be achieved without compromising worker safety.

b. In Table 4.3.4.8 on page 53 of the proposed SIP, in the introductory paragraph, change "…,newly proposed control measures, and additional recommended control measures for non-metallic mineral processing and material handling" to "…,benchmarked controls, and recommended augmentations to Rule 316 for non-metallic mineral mining and processing." to be consistent with the table headings.

ADEQ Response: ADEQ agrees with this comment and has made the requested change.

71) Issue: In Table 4.3.4.8 (Concrete Batch Plants) on page 53, the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during public workshop meetings):

a. All new control devices shall be designed to meet an emission limitation of 0.01 grains per dry standard cubic foot (draft Rule 316 reads: "Install on all cement silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf").
b. All storage silos must be equipped with audible or visual warning devices to prevent overloading (draft Rule 316 includes this control measure for screens and conveyors not for storage silos).
c. Conducting the entire mixing operation inside the enclosed process building such that no visible emissions from the building occur during mixing activities.

ADEQ Response: ADEQ disagrees with this comment, as these control options were discussed during public workshop meetings, and has determined that all of these control options must remain recommended augmentations to County Rule 316, among which are the following.

The commenter indicates that draft Rule 316 requires baghouses to meet a maximum outlet grain loading of 0.01 gr/dscf. Requiring sources to meet the grain loading standard will require the permitting authority to include performance testing requirements in order to determine compliance with the emission limitation. Emissions from concrete batch plant silos are very low on an annual basis, and the ability of the permitting authority to performance test these baghouses is dubious. Instead, by requiring baghouses to be designed to meet the emissions limitation, the applicant can provide manufacturer's documentation to demonstrate compliance with the design standard, rather than conducting a performance test.

Audible and visible overfill warning devices were intended to be applied to cement storage silos only, in order to reduce the likelihood of damaging or removing the fabric filters used to control emissions from cement silos during loading. Such devices for screens and conveyors were never discussed, and were not identified as control options for such equipment.

This requirement is a single option in a menu of control strategies available to owners and operators of concrete batch plants, and should be included in County Rule 316.

72) Issue: In Table 4.3.4.9 on page 55 of the proposed SIP, in the introductory paragraph, change "newly proposed control measures, and additional recommended control measures" to "benchmarked controls, and recommended augmentations to Rule 316" to be consistent with the table headings.

ADEQ Response: ADEQ agrees with this comment, and has made the requested change.

73) Issue: In Table 4.3.4.9 (Asphalt Batch Plants) on page 55 of the proposed SIP, the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during public workshop meetings):

d. All new baghouses (installed on bulk storage silos) shall be designed to meet an emission limitation of 0.01 grain per dry standard cubic foot (draft Rule 316 has requirement "to install on all cement silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf").

ADEQ Response: ADEQ disagrees with this comment, as these control options were discussed during public workshop meetings, and has determined that all of these control options must remain recommended augmentations to County Rule 316. ADEQ has clarified this requirement to apply to all cement and lime storage silos, as these silos store materials that are substantially similar to the cement storage silos at concrete batch plants.

74) Issue: Under "Nonmetallic Mineral Products Processing," "Windblown Cleared Areas – Industrial," and "Potential Control Measures" on page 57 of the proposed SIP, throughout this section, replace "an industrial facility" with "a nonmetallic mineral processing facility" and replace "industrial sources" with "nonmetallic mineral processing."

ADEQ Response: ADEQ disagrees with this comment for the sake of consistency with the source categories identified in the proposed Technical Support Document, and because the title of the Section 4.3.4 on page 43 of the proposed SIP makes it clear which industrial sources are being considered.

75) Issue: Under "Nonmetallic Mineral Products Processing," "Windblown Cleared Areas – Industrial," and "Potential Control Measures" on page 57 of the proposed SIP, in the second sentence, replace "all industrial sources and construction sources" with "dust generating operations."

ADEQ Response: ADEQ agrees with this comment and has made the requested change.

76) Issue: Under "Nonmetallic Mineral Products Processing," "Windblown Cleared Areas – Industrial," and "Potential Control Measures," on page 57 of the proposed SIP, in the last paragraph, delete the word "enhanced."

ADEQ Response: ADEQ agrees with this comment and has made the requested change.

77) Issue: Under "Nonmetallic Mineral Products Processing," "Windblown Stockpiles," and "Potential Control Measures" on page 57 of the proposed SIP, the first sentence says: "There are

three main control measures available for reducing particulate matter emissions from aggregate handling and stockpiles…" and the second sentence says: "The following are potential control measures for reducing particulate matter emissions from paved roads and trackout areas…." It's not clear how "particulate matter emissions from aggregate handling and stockpiles" relates to "particulate matter emissions from paved roads and trackout areas."

ADEQ Response: ADEQ accidentally included the language "…paved roads and trackout areas…" and has replaced it with the language "…aggregate handling and storage piles…"

78) Issue: In Table 4.3.4.10 on page 59 of the proposed SIP, in the introductory paragraph, change "…additional recommended control measures " to "…recommended augmentations to Rule 316" to be consistent with the table headings. Also, change "Maricopa County Rule 310 regulates all industrial sources and construction sources;" to "Maricopa County Rule 310 regulates stockpiles at industrial sources and construction sources."

ADEQ Response: ADEQ agrees with this comment and has made the requested changes.

79) Issue: In Table 4.3.4.10 (Stockpiles) on page 61 of the proposed SIP, the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during public workshop meetings):

a. Raw material and product stockpiles at new facilities shall be located at least 25 feet from the property line (draft Rule 316 reads: "When installing an open storage pile for a new nonmetallic mineral processing plant/new asphaltic concrete plant/new concrete plant and bagging operation, the owner and/or operator shall…install and utilize a permanent sprinkler system to spray water and/or a dust suppressant other than water onto an open storage pile, if an open storage pile is greater than 10 feet in height and is installed within 500 feet of off-site occupied buildings or residential areas." The content of this proposed rule revision is from South Coast's proposed Rule 1157.

b. Raw material and product stockpile heights shall not exceed 45 feet (draft Rule 316 reads: "When installing an open storage pile for a new nonmetallic mineral processing plant/new asphaltic concrete plant/new concrete plant and bagging operation, the owner and/or operator shall…limit the height of an open storage pile to less than 45 feet, if the open storage pile has greater than 5% silt content").

ADEQ Response: ADEQ and stakeholders discussed the stockpile setback requirement during public workshops, and at that time the control measure was deemed acceptable for new facilities, and for new stockpiles at existing facilities, where property size allowed, especially since the use of dust suppressants on stockpiles has been determined technically infeasible for reasons discussed in the response to ADEQ's response to comment 57.c. in this summary. Also, EPA has required that control measures of a BACM/MSM level of stringency be applied to all significant sources in the Salt River Study Area, as well as to similar sources throughout the Maricopa County Serious PM_{10} Nonattainment Area. Because the proposed setback requirement has been determined to constitute BACM/MSM in jurisdictions neighboring Arizona, specifically in Texas and in the South Coast Air Quality Management District's proposed Rule 1157, the requirement should remain a recommended augmentation to County Rule 316. In addition, ADEQ agrees with the proposed change to the height limitation on open stockpiles, as it is consistent with discussions in public workshops, and the definition of an open stockpile in County Rule 310 § 308.6.

80) Issue: Parties comment that in proposed SIP Table 4.3.4.10, on page 59-61, “Stockpiles,” the source and regulation of some of the benchmarked controls are not clearly identified.

ADEQ Response: ADEQ agrees with this comment, and has included references to Pima County Code § 17.16.050.D and Clark County Requirements § 94.11.3 and § 41.1.1.2 as benchmarked controls.

81) Issue: Commenters recommend that ADEQ reorganize areas in the proposed SIP, suggesting that SIP Table 4.3.4.10, “Stockpiles,” on pages 59-61, should follow the “BACM/MSM Analysis” section.

ADEQ Response: ADEQ understands and agrees with this comment, but for the sake of formatting of the proposed SIP, is unable to make the requested change.

82) Issue: Parties note that in the proposed SIP, under "Nonmetallic Mineral Products Processing," "Unpaved Haul and Access Roads," and "Emission Reductions," on page 63, in the second paragraph, “Council” should be changed to “Commission.”

ADEQ Response: ADEQ agrees with this comment and has made the requested change.

83) Issue: Commenters note that under "Nonmetallic Mineral Products Processing," "Unpaved Haul and Access Roads," and "BACM/MSM Analysis," on page 64 of the proposed SIP, “MCESD Rule 310 regulates all industrial sources and construction sources” should be changed to “MCESD Rule 310 regulates unpaved haul/access roads at industrial and construction sources.”

ADEQ Response: ADEQ agrees with this comment and has made the requested change.

84) Issue: Parties comment that in Table 4.3.4.12 (Unpaved Haul And Access Roads) on page 65 of the proposed SIP, the following control measures are listed in column titled "Recommended Augmentations To Rule 316," but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during public workshop meetings).

a. *Limit vehicle speed to 10 miles per hour or less (draft Rule 316 reads: 'If paving all entries, exits, and main traffic routes associated with the nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation, then an owner and/or operator of a nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall…limit vehicle speed to 15 m.p.h. or less and limit vehicle trips to no more than 20 per day (total for all unpaved haul/access roads’).*

ADEQ Response: ADEQ disagrees with this comment, as these control options were discussed during public workshop meetings, and has determined that the proposed control option must remain recommended augmentations to County Rule 316. It was ADEQ’s intent to include a menu of options for reducing emissions from unpaved haul roads, including reducing the speed limit on unpaved haul roads to 10 miles per hour. ADEQ does, however, agree that the language limiting the total vehicular trips on unpaved haul roads to less than 20 per day is overly restrictive, and may impede production at non metallic mineral products processing facilities, and, therefore, has stricken the requirement.

b. *Require all new facilities to locate unpaved roads no less than 25 feet from property line, except for entrance and exit to the site (draft Rule 316 reads: ‘The owner and/or operator of a new nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant*

and bagging operation shall…if water is the chosen dust control measure for an unpaved haul/access road, then the unpaved haul/access road shall be installed no closer than 50 feet form the property line of the new nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation; if a dust suppressant other than water is the chosen dust control measure for an unpaved haul/access road, then the unpaved haul/access road shall be installed no closer than 25 feet from the property line of the new nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation').

ADEQ Response: ADEQ disagrees with this comment, as during a public workshop, stakeholders explained that unpaved roads that were controlled through dust suppressants would be maintained in such a fashion as to ensure that the average control efficiency of dust suppressants would be equivalent to water. Based upon this comment, ADEQ reduced the setback requirement to 25 feet regardless of the control measure applied.

c. Install, maintain, and use a wheel washing system, rumble grate, or other equivalent trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such operation at all exits onto paved areas accessible to the public (draft Rule 316 reads: "The owner and/or operator of a nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall…install, maintain, and use a suitable trackout control device that controls and prevents trackout and/or removes particulate matter from tires and exterior surfaces of haul trucks and/or motor vehicles that traverse such nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation at all exits onto paved areas accessible to the public").

ADEQ Response: ADEQ has determined that the more prescriptive language included in Table 4.3.4.12 on page 65 of the proposed SIP is more appropriate, as it specifies the base level of control and then allows for the equivalent track out control devices to be approved through the applicants dust control plan. As a result no change has been made.

d. Clean-up trackout, carry-out, spillage, and/or erosion…immediately, when trackout, carry-out, or spillage extends a cumulative distance of 25 linear feet or more (draft Rule 316 reads: "The owner and/or operator of a nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall…clean up trackout immediately, when trackout extends a cumulative distance of 25 linear feet or more." This language is from South Coast's Rule 403 (Fugitive Dust)).

ADEQ Response: ADEQ agrees with this comment, and had already made the requested change.

85) Issue: In Table 4.3.4.12 (Unpaved Haul And Access Roads) on page 67 of the proposed SIP, the following control measures are listed in column titled "Recommended Augmentations To Rule 316" but have not been included in draft Rule 316 (because such control measures either were not included in previous drafts of the SIP revision or were not to be included per discussions during public workshop meetings):

Minimize dust emissions from all other in-plant roads and traffic areas at all times by at least one of the following methods: cover with a material such as, but not limited to, roofing shingles or tire chips (when used in combination with (ii) and (iii) of this section; treat with dust suppressant chemicals; water; or pave with a cohesive hard surface that is maintained intact and cleaned (draft Rule 316 reads: 'The owner

and/or operator of a nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation shall require/direct/restrict all batch trucks and material delivery trucks to remain on paved surfaces or surfaces maintained with gravel, recycled asphalt, roofing shingles, tire chips, or other suitable material/cohesive hard surface, when entering, conducting primary functions within the nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation and exiting the nonmetallic mineral processing plant/asphaltic concrete plant/concrete plant and bagging operation').

ADEQ Response: ADEQ disagrees with this comment, as these control options were discussed during public workshop meetings, and has determined that the proposed control options must remain recommended augmentations to County Rule 316, as they provide owners and operators on leased property some flexibility in control options.

86) Issue: Parties have the following comments of section 4.3.6, "Summary of Selected Control Measures," in the proposed SIP:

a. Under "Windblown Cleared Areas – Industrial," page 76 of the proposed SIP, the first paragraph implies that that Rule 316 applies to all industrial sources that do not have an earthmoving permit; however, Rule 316 only applies to nonmetallic mineral mining and processing and Rule 310 applies to dust generating operations.

ADEQ Response: ADEQ agrees with this comment and has revised the paragraph removing the word "industrial" and replacing it with the term "non-metallic mineral products processing" in the first sentence. The phrase "all industrial sources and construction sources" has also been replaced with the term "dust generating operations."

b. Under "Windblown Cleared Areas – Industrial," on page 78 of the proposed SIP, in the last paragraph, remove the word "enhanced" from "under enhanced Rule 310"

ADEQ Response: ADEQ agrees with this comment and has made the requested change.

c. Under "Clay Ceramic and Brick and Structural Clay Product Manufacturing," on page 80 of the proposed SIP, in the last sentence, replace "this source" with "clay ceramic and brick and structural clay product manufacturing."

ADEQ Response: ADEQ disagrees with this change, but has changed the term "source category" to be plural (e.g. "source categories"), as the term "souce categories" is an appropriate method of referring to Clay Ceramic and Brick and Structural Clay Product Manufacturing.

d. Under "Paved Roads," on page 80 of the proposed SIP, the first sentence, the reference to "Salt River Nonattainment Area" is confusing, this should be changed to "Maricopa County PM_{10} Nonattainment Area."

ADEQ Response: ADEQ agrees and has changed the SIP to clarify this issue.

87) Issue: Under "Paved Roads" on page 80 of the proposed SIP, in the paragraph that begins, "Currently, Rule 310 regulates…," replace "all industrial sources and construction sources" with "dust generating operations"

ADEQ Response: ADEQ agrees with this comment and has made the requested change.

[Commenter Seven]

88) Issue: Parties comment that the proposed SIP should provide a definition of what constitutes a stockpile. Stakeholders in the construction industry are concerned that the definition of stockpile might incorporate and include earth-moving debris.

ADEQ Response: See response to issue #10.

89) Issue: Parties object to the following language in Table 4.3.4.12 (page 67) of the proposed SIP, "Appropriate trackout controls should be considered in an approved dust control plan, and shall take into account the stabilization of the roads and unpaved shoulders that off-site traffic must cross in order to enter and exit the facility." The criticism relates to parties' concern that industry might be called upon to maintain parts of the public right-of-way, incurring liability not normally the responsibility of private industry.

ADEQ Response: The intent of this language is to ensure that whatever track out control devices that are approved by the permitting authority take into account the stabilization of the roads and unpaved shoulders that off-site traffic must cross in order to enter and exit the facility. As an example, the permitting authority should not require a wheel washing device if the haul truck leaving the property must cross an unpaved shoulder in order to access a paved road. In order to provide additional clarity, ADEQ has revised this requirement to read as follows:

> *The appropriate trackout controls shall be determined after considering the stabilization of the roads and any unpaved shoulders that off-site traffic must cross in order to enter and exit the facility, and shall be deemed acceptable through an approvable dust control plan.*

90) Issue: Parties request information concerning the current status of the Salt River PM_{10} State Implementation Plan Revision, asking about opportunities for continuing stakeholder participation in control measure supplementation to the proposed SIP that will continue through February 2, 2005.

ADEQ Response: Maricopa County, in revising/developing Rules 310.01, 316, and 325, will hold public stakeholder workshops to allow stakeholders and the public to participate in the rulemaking process, and all new rules and rule revisions must go through a SIP and rule public hearing process, prior to adoption and implementation. In order to find out when MCESD has scheduled rule stakeholder workshops and upcoming SIP and rule public hearings, interested parties should either contact MCESD's Air Quality Planning Department, or visit the MCESD rule website at: http://www.maricopa.gov/envsvc/AIR/Workshops.asp.

91) Issue: Parties requested information concerning how the proposed SIP determined the relative PM_{10} contributions resulting from construction activities, as opposed to those from the aggregate industry, and from agricultural activities.

ADEQ Response: ADEQ advises that parties should consult Chapters 4 and 6 of the Technical Support Document for details concerning requested information.

92) Issue: Parties note proposed SIP inconsistencies in references to "potential control measures," as opposed to, "control measures."

ADEQ Response: ADEQ staff searched the proposed SIP to ensure that the SIP consistently referred to all candidate, proposed control measures, as such, or as 'potential' measures.

93) Issue: Parties would like ADEQ to define, "spillage of materials," clarifying, particularly, the types of materials in question, as used in the context of proposed SIP Table 4.3.4.8, in describing proposed Maricopa County Rule 316 revisions for concrete batch plants, page 54 (rightmost column, third row from top, "Recommended Augmentations to Rule 316"), as follows, "Spillage of materials used in the batch shall be immediately cleaned up and contained or dampened so that dust emissions are minimized."

ADEQ Response: ADEQ and MCESD, stakeholders, and the public will have opportunities to discuss viable, clear definitions for what constitutes, 'spillage,' in the context of prevention of trackout from industrial and/or commercial access roads onto paved roads in the public right-of-way, during upcoming MCESD stakeholder workshops to discuss proposed revisions to Maricopa County Rule 316, "NonMetallic Mineral Processing." Some language currently offered for consideration includes the following:

> *Spillage – Any quantity of nonmetallic minerals/materials that spill while being processed or after having been processed by an affected operation, where such spilled nonmetallic minerals/materials can generate or cause fugitive dust emissions.*

[Commenters Eight and Nine]

94) Issue: Parties recommend that new industries should be required to construct air quality models prior to startup, as part of the permit and public review process, to promote the protection of air quality in the Salt River Study Area/Maricopa County PM_{10} Nonattainment Area.

ADEQ Response: The Air Quality Division of ADEQ has for many years required that air quality modeling for new sources of emissions be conducted as part of the permit process. This requirement pertains to virtually all sources, except the very smallest. The permit applicant has to show that its emissions will not cause or contribute to a violation of a NAAQS and to an exceedance of an Arizona Ambient Air Quality Guideline.

While these modeling analyses protect the air from new sources, existing sources are another matter. Typically no modeling is required unless the existing source is proposing a major operational or equipment change. The other drawback to this modeling requirement is that new sources tend to be looked at on a case-by-case basis. Air pollution from other sources is accounted for by background concentrations estimated from nearby monitors. A more rigorous approach would be to require modeling for the new source and for the nearby existing sources. ADEQ management is pursuing reforms in its modeling requirements to address the issue of cumulative impacts.

95) Issue: Parties comment that [ADEQ/MCESD] permitting approaches and lack of compliance/enforcement should be revamped, and are to be held accountable for continued PM_{10} exceedances in the Salt River Study Area/Maricopa County PM_{10} Nonattainment Area.

ADEQ Response: MCESD and ADEQ are accountable for violations of air quality standards through the SIP process, air quality monitoring information, and attainment demonstration requirements. When violations occur that can be attributed to a particular source or group of sources, enforcement may take the form of a compliance schedule, an order of abatement, or civil action. ADEQ staff acknowledges that enforcement efforts can be improved. See ADEQ response to issue #54.

96) Issue: Parties would like to see more monitoring and assessment of current air pollution hazards in the Salt River Study Area/Maricopa County PM_{10} Nonattainment Area.

ADEQ Response: MCESD and ADEQ monitoring staff operate air pollution monitoring equipment at the following sites, either within or close to the Salt River PM_{10} Study Area:

NAME	LOCATION	POLLUTANTS
South Phoenix	Near Central & Broadway	Met, PM_{10}, Ozone, CO, HAPs[1]
West 43rd Ave	Broadway & 38th Ave	Met, PM_{10}, HAPs[2]
Durango	27th Ave & Durango St.	Met, PM_{10}
West Phoenix	39th Ave & Earll Drive	Met, PM_{10}, CO, NOx, Ozone, $PM_{2.5}$ (two units)
Greenwood	27th Ave & I-10	Met, CO, NOx, PM_{10}
Bethune School	15th Ave & Buckeye	PM_{10}, PM_{fine}, speciated $PM_{2.5}$[3]

1. HAPs (Hazardous Air Pollutants) at South Phoenix: volatile organic compounds and carbonyls

2. HAPs at West 43rd Ave: volatile organic compounds and speciated $PM_{2.5}$, for one year only

3. Speciated $PM_{2.5}$ at Bethune School, one and a half years only

While every environmental monitoring network can be improved and expanded, the degree of monitoring being conducted in and near the Salt River Study Area can only be characterized as thorough, both for gaseous and particulate pollutants.

97) Issue: Parties comment that in proposed SIP page 15, ADEQ should adjust Figure 1.2.3-A to be consistent with the legal description in Table 1.2.3. The northern and southern boundaries should be represented by horizontal dotted lines from T6N, R3W to T6N, R7E, and T2S, R3W to T2S, R7E, and there should be no "dips" when the boundary crosses into Yavapai County in the north and Pinal in the south. In addition, on SIP page 17, the top graphic in Figure 1.2.3-B should be consistent with the corrected boundaries on page 16, as indicated above.

ADEQ Response: To ensure conformity with the Phoenix Planning [Maricopa County] PM_{10} Nonattainment Area boundaries, as described in 40 Code of Federal Regulations (CFR) § 81.303, ADEQ added the following language to proposed SIP Table 1.2.3, "Located in Maricopa and Pinal Counties, the Phoenix Planning [Maricopa County] PM_{10} Nonattainment Area, is defined as the rectangle determined by and including: T6N, R3W; T6N, R7E; T2S, R3W; T2S, R7E; and T1N, R8E." Although this definition of the Maricopa County PM_{10} Nonattainment Area was promulgated, ADEQ will be seeking a technical correction of the specified boundaries from EPA, based on a 1991 Arizona nonattainment designations submittal to EPA.

98) Issue: Parties comment that in the proposed SIP, page 14, the paragraph beginning, "Chapters 3.0, 4.0 and 5.0 of this SIP…" that appeared in the February 2004 SIP, is no longer relevant, because the predominant sources of PM_{10} on high-wind days – alluvial soils – are anthropogenic, and controllable.

ADEQ Response: ADEQ agrees, and has changed the language in the proposed SIP to reflect the findings of the current SIP and TSD, with respect to any potential applicability of Clean Air Act (CAA) § 188(f) waiver option.

99) Issue: Commenters requested deletion of reference, on page 30 of the SIP, in the second paragraph in section 4.3.3 under "Potential Control Measures," the second-to-the-last sentence, to

the installation of wind barriers, as part of revisions adopted April 7, 2004, to Maricopa County Rule 310.

ADEQ Response: ADEQ notes that although wind barriers are not a stand-alone control measure in Maricopa County Rule 310, they are noted in Rule 310, Table 20, as part of the constellation of control options Rule 310 lists for use by dust-generating operations as, "Wind Event Control Measures," in conjunction with the application of water or other suitable dust suppressant. Since the proposed SIP text is correct, ADEQ made clarifying edits to the reference regarding use of wind barriers, on page 31 of the proposed SIP.

EDITORIAL CORRECTIONS

1. ADEQ has corrected a typographical error in the proposed SIP, at page 39, in Table 4.3.3.5, in the rightmost, topmost column. ADEQ made the following correction: "$708,709 - $930,191," replaced the current, "$709,709 - $930,191."

2. ADEQ effected a minor editorial change in the proposed SIP, at page 3, in the second paragraph, first sentence. ADEQ made the following correction: the text, "…MAG demonstrated attainment of both the annual and 24-hour PM_{10} standards." replaced the text, "…MAG provided for a regional PM_{10} emission budget applicable to both annual and 24-hour PM_{10} standards."

3. ADEQ corrected a typographical error in the proposed SIP, at page 7, removing an extra, "is," in the first sentence under, "Climate and Meteorology."

4. ADEQ corrected a typographical error in the proposed SIP, at page 8, changing the second (plural) occurrence of, "months," in the last sentence of the second paragraph, to singular.

5. ADEQ corrected a typographical error in the proposed SIP, at page 12, in the first sentence of the second paragraph from "for achieve" to "to achieve."

6. ADEQ corrected a typographical error in the proposed SIP, at page 13, removing the extra, "the," between "that" and "no," in the first sentence of the first paragraph under Clean Air Act Section 176(c)(1)(A).

7. ADEQ provided minor qualifying language to proposed SIP, at page 14, changing, "…any and all BACM/MSM measures that will…" in the last sentence, to, "…BACM/MSM measures that are feasible and cost-effective for implementation in the Nonattainment Area, and will…"

8. ADEQ corrected a typographical error in the proposed SIP, at page 17, changing the year, "2003," to "2002," in the first paragraph, sentence four. The air quality data that ADEQ has provided represent years 1994 through 2002, rather than 1994 through 2003.

9. ADEQ added clarifying data to proposed SIP, at page 17, at the end of the first paragraph, citing the Federal Register location of the EPA notice requiring ADEQ's Salt River Study Area SIP revision, "(67 FR 44369, July 2, 2002)."

10. ADEQ corrected a typographical error in the proposed SIP, at the bottom of page 19, adding "of" between "overview" and "the development."

11. Commenters requested that ADEQ add a missing emissions source category, "dirt shoulders," to the proposed SIP at page 20, in the list of 12 bulleted source categories at the top of the page. ADEQ responds that as the requested source category, "dirt shoulders," is already included in the list as part of "unpaved road shoulders," no changes were made to existing SIP text.

12. Commenters requested that ADEQ clarify text on page 21 of the proposed SIP, at the end of the first paragraph, changing "commercial sources" to "construction sources." ADEQ has made the requested change.

13. ADEQ made typographical corrections to page 21 of the proposed SIP, in the last sentence of the second paragraph, changing "Table 4-4" to "Table 4-5," to correctly identify the TSD table from which SIP data were derived, and changing "2002 projected PM_{10} emissions" to "2002 estimated PM_{10} emissions."

14. ADEQ made a typographical correction to the first sentence on page 27 of the proposed SIP, changing, "Maricopa Serious PM_{10} Nonattainment Area," to "Maricopa County Serious PM_{10} Nonattainment Area Plan."

15. ADEQ made a clarifying change to page 82 of the proposed SIP, adding a title to the table on that page, identifying the table as 'Table 4.3.4.14.'

16. ADEQ made a reference consistency change to the second sentence of the last paragraph of proposed SIP, page 84. The sentence, which referred to Chapter 4 of the TSD, and Table 4-6 for the percentage reductions required for attainment, should refer to the final percentage reductions shown in Chapter 6 and Table 6-6 of the TSD.

17. ADEQ corrected a reference to the 1999/2000 MAG SIP on page 94 of the proposed SIP, in the "References" section, inserting "Revised" before the title, "MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area."

18. ADEQ facilitated reference to entity commitments in Appendix B of the proposed SIP by using index dividers to separate SIP commitments provided by different organizations/entities.

19. ADEQ effected a minor reorganization of the text provided in section 4.3.1 of the proposed SIP to enhance the section's clarity.

20. ADEQ corrected a typographical error, changing reference to "[Maricopa County] Rule 30," to "[Maricopa County] Rule 310," located on page 30 of the proposed SIP, in the "Potential Control Measures," subpart of section 4.3.3, "Windblown Construction."

21. ADEQ corrected a typographical error on page 60 of the proposed SIP, Table 4.3.4.10, changing, 'fro' to 'for.'

22. ADEQ corrected a typographical error on page 61 of the proposed SIP, Table 4.3.4.10, changing, 'dist' to 'dust.'

23. ADEQ removed typographical duplications and clarified text found under "Nonmetallic Mineral Products Processing," "Unpaved Haul and Access Roads," and "Selected Control Measures for Unpaved Haul and Access Roads," replacing "all industrial sources and construction sources" with "unpaved haul/access roads from industrial and construction sources," and deleting text in the second sentence, beginning, "Augmentation of Rule 316 to include the portions of Rule 310…" which had been written twice.

24. In Section 4.3.4, under "Other Industrial Sources," "Cooling Towers," and "BACM/MSM Analysis," of the proposed SIP, in the last sentence in second paragraph, ADEQ removed the text, "have been," which had been written twice.