

COUNTY NOTICES PURSUANT TO A.R.S. § 49-112

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NOTICE OF PROPOSED RULEMAKING

MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS P-26 RESIDENTIAL WOODBURNING RESTRICTION ORDINANCE

[M07-605]

PREAMBLE

- | <u>1. Sections Affected</u> | <u>Action</u> |
|--|---------------------|
| Residential Woodburning Restriction Ordinance: | |
| Section 1 | Amend |
| Section 2 | Amend & New Section |
| Section 3 | New Section |
| Section 4 | New Section |
- 2. Statutory authority for the rulemaking:**
Authorizing statute: A.R.S. § 11-871
Implementing Statute: A.R.S. § 49-501(F)
- 3. List of all previous notices appearing in the register addressing the proposed rule:**
Notice of Rulemaking Docket Opening: 13 A.A.R. 2600, July 20, 2007
- 4. Name and address of department personnel with whom persons may communicate regarding the ordinance:**
- Name: Kathleen Sommer or Jo Crumbaker
Air Quality Division
- Address: 1001 N. Central Ave., Suite 595
Phoenix, AZ 85004
- Telephone: (602) 506-6706 or (602) 506-6705
- Fax: (602) 506-6179
- E-mail: kathleensommer@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

- 5. An explanation of the ordinance, including the department's reasons for the Ordinance revisions:**
- The Maricopa County Residential Woodburning Restriction Ordinance (RWBRO) is proposed for this revision as a result of the recently enacted Senate Bill 1552 which amends A.R.S. §§ 11-871 and 49-501. A.R.S. § 11-871 applies to residential woodburning in sections of Area A that are within Maricopa County when monitoring or forecasting indicates that the carbon monoxide (CO) standard or the particulate matter (PM) no-burn standard are likely to be exceeded. A.R.S. 49-501 applies to open outdoor fires in chimineas, fire pits and other similar outdoor fires. The statutory revisions enacted in SB 1552 resulted from a review of residential woodburning programs in other parts of the country. The review concluded that increasing the penalties for burning and closing the loopholes in the existing residential woodburning program would result in additional particulate matter reductions. The review also concluded that changes to other elements of the residential woodburning program other than this curtailment program and the clean burning fireplace requirements for new construction would result in only de minimis incremental emission reductions.

Currently, Senate Bill 1552 amended the statutory authority for this Ordinance to prohibit burning in woodburning chimineas, outdoor fire pits, and similar outdoor fires on forecasted high pollution days in A.R.S. §§ 11-871(B), 49-501(F). Senate Bill 1552 also mandates an increase in the civil penalty for violations of this ordinance to \$250 for the fourth or any subsequent violation of the woodburning ordinance (A.R.S. § 11-871(D)(3), (D)(4)).

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The PM_{2.5} no-burn action threshold was added to this proposed RWBRO following observed recorded values of the 24-hour PM_{2.5} standard in excess of the National Ambient Air Quality Standard. The PM_{2.5} standard was violated in Phoenix during the 2006- 2007 Christmas and New Year holiday season purportedly due to residential woodburning and holiday traffic emissions. Maricopa County is currently in compliance with the PM_{2.5} standard and a change in designation to a non-attainment area for PM_{2.5} will first require collection of three years of ambient data that can be averaged. The addition of the PM_{2.5} action level in this proposed RWBRO will provide an early warning alert to ambient conditions and consequently can help prevent further exceedances of the PM_{2.5} standard. This change should assist the Phoenix area to avoid becoming designated as a non-attainment area for PM_{2.5} by the EPA.

The proposed revisions to the ordinance are as follows:

Section by Section Explanation of Changes:

Section 1 – A	This proposed amendment will include restrictions on additional burning devices: outdoor fire pits, wood burning chimineas, and similar outdoor fires when monitoring or forecasting indicates air quality standards will be violated.
Section 1 – B	This proposed amendment will restrict additional burning devices: outdoor fire pits, wood burning chimineas, and similar outdoor fires.
Section 2 - B(1)	This proposed amendment will update the definition of an approved device certified by the EPA Phase II Standards of Performance for Wood heaters in 40 Code of Federal Regulations (CFR) 60, Subpart AAA through July 1, 2006.
Section 2 – B (3)	This proposed amendment will add both indoor or outdoor woodburning fireplaces to the approved woodburning device definition as well as specify that they are designed to burn exclusively natural gas or propane.
Section 2 - B(4)	This proposed amendment will update performance standards for any solid fuel burning device equivalent to the standards in 40 CFR 60, subpart AAA through July 1, 2006.
Section 2 - C	This proposed amendment will update the legal land description of Area A in the federal township-range format so that it coincides with the description of Area A found in Arizona Revised Statutes (A.R.S.) § 49-541(1).
Section 2 - D	This proposed amendment will require the additional woodburning devices: outdoor fire pits, wood burning chimineas, and similar outdoor fires to cease combustion within three hours after declaring a restricted-burn period.
Section 2 - G	This proposed amendment will correct the reference to asphalt products and will change the moisture content of inappropriate fuel.
Section 2 - I	This proposed amendment will add a definition of Outdoor Fire Pits.
Section 2 - J	The proposed amendment will add a definition of the ozone standard.
Section 2 - K	This proposed amendment will update the definition of the Particulate Matter No-Burn standard to include 24-hour concentrations for both PM ₁₀ and PM _{2.5} .
Section 2 – L	This proposed amendment will update the definition of the National Ambient Air Quality Standard for Particulate Matter to include both standards for PM ₁₀ and PM _{2.5} .
Section 2 – M	The proposed amendment will revise the definition of the Residential Woodburning Device.
Section 2 - O	This proposed amendment will add references to statutory authority regarding building codes.
Section 2 - P	This proposed amendment will add a definition of Woodburning Chiminea.
Section 3	This proposed amendment will rename Section 3 to ‘Standards’.
Section 3 – A	This proposed amendment will rename section 3(A) to “Unlawful Operation” and will expand the restricted burn period to the entire calendar year. This proposed amendment will also apply the restriction to additional woodburning devices: outdoor fire pits, wood burning chimineas, and similar outdoor fires.

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Section 3- A(1) and A(2)	This proposed amendment will move the text of section 3(B) to sections 3(A)(1) and 3(A)(2). This proposed amendment will also redefine the restricted burn period time frames.
Section 3 - B(1)and B(2)	This proposed amendment will expand this restricted burn period to the entire calendar year.
Section 3 – (C)(1)	This proposed amendment will add the ozone standard to curtailment conditions.
Section 3 – C(2) and C(3)	This proposed amendment will add outdoor fire pits, wood burning chimineas, and similar outdoor fires to restricted burn period requirements.
Section 3 - D	This proposed amendment will change the Arizona Revised Statute reference to Violations, Notices, and Penalties to the new state statute sequencing system.
Section 3 - D(2)	This proposed amendment will impose a civil penalty of \$50 on any person who violates this ordinance for the second violation.
Section 3 - D(3)	This proposed amendment will impose a civil penalty of \$100 for the third violation and \$250 for the fourth or any subsequent violation. The proposed amendment will also allow the demonstration that smoke was not caused by any of the additional devices; outdoor fire pit, wood burning chiminea, or similar outdoor fires.
Section 4 - A	This proposed amendment will change the ordinance reference number for ‘Sole Source of Heat’ to match the amended ordinance sequencing system.
Section 4 - D(2)	This proposed amendment will change the ordinance reference number for ‘Sole Source of Heat’ to match the amended ordinance sequencing system.
Section 4 - D(4)	This proposed amendment will reference the exemption for an inadequate alternate source of heat to comply with all municipal or County Building Code requirements.

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

This revisions to this proposed ordinance are required to be adopted by changes to A.R.S. §§ 11-871 and 49-501(F) contained in recently enacted in SB 1552. Therefore, a demonstration of compliance with A.R.S. § 49-112 as required by the County’s general grant of rulemaking and ordinance authority in A.R.S. § 49-479 does not apply to this action.

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

Not applicable

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision:

Not applicable

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

a. Background

The Maricopa County Residential Woodburning Restriction Ordinance provides for regulatory authority, planning, and resources and meets the mandatory curtailment elements described in the EPA’s guidance Document for Residential Wood Combustion Emission Control Measures. (EPA-450/2-89-015)

This proposed amended ordinance establishes procedures for declaring restricted-burn periods. During these periods, the Ordinance prohibits the operation of a non-approved residential woodburning device, outdoor fire pit, wood burning chiminea, or similar outdoor fire, unless the Control Officer has granted an exemption. The Ordinance establishes restrictions on the types of fuel that may be burned as well as increases the civil penalty for violations of this ordinance to \$250 for the fourth or any subsequent violation.

b. Persons Affected

The community regulated by this ordinance is the residential community which is that composed of residents, as opposed to commercial businesses and/or industrial facilities. This section identifies the potential physical health, welfare effects and emissions impact of Particulate Matter from the implementation of the Residential Woodburning Ordinance

c. Emissions Impact:

The 2005 Regional PM₁₀ Emission Inventory for the Maricopa County Non-attainment Area estimates that residential wood usage contribute 231 and 215 metric tons/year of PM₁₀ and PM_{2.5} respectively. Area-source emissions from residential wood combustion are calculated based on the amount of wood burned in fireplaces and woodstoves in Maricopa County, as recommended by EIIP guidance (US EPA, 2001d). Residential wood combustion in the county is estimated from statewide residential wood combustion usage obtained from the US Department of Energy (2006c) and multiplied by the ratio of county to state households that report use of wood for heating from the US Census Bureau (2006a).

(2005 Periodic PM₁₀ Emission Inventory for the Maricopa County Non-attainment Area- §3.2.6)

The latest available data on residential wood use for household heating in Maricopa County, from the US Department of Energy is for the calendar year 2003. Since all fireplaces in homes constructed since 1999 are required by Arizona statute to be clean-burning, it is assumed that new homes have negligible emissions. Thus, year 2003 data is assumed to be representative of 2005 emissions.

(2005 Periodic PM₁₀ Emission Inventory Maricopa County, AZ §3.2.6)

Reviewing historical data over the last three years (2004- 2006), an average of 12 episodes per year result from the ordinance restriction level of 120 ug/m³. If no wood burning occurred on these twelve no-burn days, annual woodburning emissions in the NAA would be reduced by 7.15 percent. Assuming that 80 percent of the residents comply with the no-burn requirement, annual emissions from woodburning would be reduced by at least 5.72 percent. This would result in an emission reduction of 0.11 metric tons/day during the no-burn episodes each year.

d. Health Effects/Benefits

In September, 2004, Arizona Department of Environmental Quality (ADEQ) prepared an extensive economic impact analysis of PM emissions from brick curing and firing operations for Rule 325, Brick and Structural Clay Products Manufacturing. These described effects of increased PM emissions also describe effects of increased PM emissions resulting from residential woodburning. A summary of these effects are listed below:

Health benefits accrue to the general public whenever enforcement of environmental laws takes place.

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 care giving.
4. **Other social and economic costs:** These include restrictions on or reduced enjoyment of leisure activities, discomfort or inconvenience, pain and suffering, anxiety about the future, and concern and inconvenience to family members.

The purpose of the National Ambient Air Quality Standards are to protect public health. Maricopa County's Residential Woodburning Restriction Ordinance is designed to protect public health by reducing PM. Improvement in air quality will generate cost-saving benefits by avoiding adverse-health effects, such as emergency room visits, hospital admissions, acute pediatric bronchitis, chronic adult bronchitis, acute respiratory symptom days, and even premature death. Potential benefits arising from a reduction PM and other pollutants emitted into the atmosphere can be inferred from data associated with the reduction of any airborne PM.

Some of the health effects of human exposure to PM can be quantified while others cannot. Quantified adverse health effects include: mortality, bronchitis (chronic and acute), new asthma cases, hospital admissions (respiratory and cardiovascular), emergency room visits for asthma, lower and upper respiratory illness, shortness of breath, respiratory symptoms, minor restricted activity days, days of work loss, moderate or worse asthma status of asthmatics. Unquantifiable adverse-health effects include: neonatal mortality, changes in pulmonary function, chronic respiratory diseases (other than chronic bronchitis), morphological changes, altered host defense mechanisms, cancer, and non-asthma respiratory emergency room visits.

(U.S. EPA, "The Benefits and Costs of the Clean Air Act 1990 to 2010," Chapter 5, "Human Health Effects of

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Criteria Pollutants,” Table 5-1, Report to Congress, November 1999)
 (The EPA’s Particulate Matter (PM) Health Effects Research Center Program, prepared by PM Centers Program staff, January 2002).

The Health Effects Institute confirmed the existence of a link between particulate matter and human disease and death (premature mortality). The data revealed that long-term average mortality rates, even after accounting for the effects of other health effects, were 17-26% higher in cities with higher levels of airborne PM (Health Effects of Particulate Air Pollution: What Does The Science Say? Hearing before the Committee on Science, House of Representatives, 107th Congress of the U.S., second session, May 8, 2002). Data further reveal that every 10-microgram increase in fine particulates per cubic meter produces a 6% increase in the risk of death by cardiopulmonary disease, and an 8% increase for lung cancer. Even very low concentrations of PM can increase the risk of early death, particularly in elderly populations with preexisting cardiopulmonary disease (STAPPA and ALAPCO, Controlling Particulate Matter Under the Clean Air Act: A Menu of Options, July 1996).

In 2002 alone, chronic obstructive pulmonary disease cost the U.S. more than \$32 million, a sum not including costs attributable to asthma (American Lung Assoc., Trends in Chronic Bronchitis and Emphysema: Morbidity and Mortality, Epidemiology and Statistics Unit, Research and Scientific Affairs, March 2003). In Arizona, deaths attributable to asthma have equaled or exceeded national rates from 1991-1998. In 1998, some 316,200 Arizonans suffered breathing discomfort or asthma related stress (Arizona Department of Health Services, Asthma Control Program, Office of Nutrition and Chronic Disease Prevention Services, October, 2002).

ADEQ expects that a reduction in PM potentially will create commensurate cost-saving benefits to the general public by contributing towards reducing these emissions-related health problems. Maricopa County’s Residential Woodburning Restriction Ordinance will help improve the general quality of life for citizens of Arizona, particularly those residing near sources that have reduced PM emissions.

Health benefits can be expressed as avoided cases of PM related-health effects and assigned a dollar value. EPA used an average estimate of value for each adverse-health effect of criteria air pollutants. Table 6 contains valuation estimates from the literature reported in dollars per case reduced. For example, the table shows a value of \$385,800 (2003 dollars) per case of chronic bronchitis avoided.

Table 6: Monetized Adverse-Health Effects Avoided From Exposure to PM

Adverse-Health Effect ¹	Per Case Valuation (1990 dollars)	Per Case Valuation (2003 dollars) ²
Mortality	\$4,800,000	\$7,122,600
Chronic bronchitis	\$260,000	\$385,800
Hospital admissions for respiratory conditions	\$6,900	\$10,240
Hospital admissions for cardiovascular conditions	\$9,500	\$14,100
Emergency room visits for asthma	\$194	\$288
Acute Bronchitis	\$45	\$67
Asthma attack	\$32	\$48
Moderate or worse asthma day	\$32	\$48
Adverse-Health Effect	Per Case Valuation (1990 dollars)	Per Case Valuation (2003 dollars)
Acute respiratory symptom	\$18	\$27
Upper respiratory symptom	\$19	\$28
Lower respiratory symptom	\$12	\$18
Shortness of breath, chest tightness, or wheeze	\$5	\$7
Work loss day	\$83	\$123
Mild restricted activity day	\$38	\$56

Source: Derived from U.S. EPA, “The Benefits and Costs of the Clean Air Act 1990 to 2010,” Chapter 6, “Economic Valuation of Human Health Effects,” Table 6-1, Report to Congress, November 1999.

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- ¹ An individual's health status and age prior to exposure impacts his/her susceptibility. At risk persons include those who have suffered a stroke or have cardiovascular disease. Some age cohorts are more susceptible to air pollution than others, i.e., children and elderly.
- ² These values have been adjusted for inflation. According to the Consumer Price Index for all urban consumers (U.S. Department of Labor, Bureau of Labor Statistics), the purchasing power of the dollar has declined about 48 percent between 1990 and 2003.

According to EPA, cost values of these illnesses tend to underestimate the true value of avoiding these adverse-health effects. Mean estimates of willingness-to-pay (WTP) were used to derive values, unless WTP values were not available, in which case, the cost of treating or mitigating the effects was used. The value of an avoided asthma attack, for example, would be a person's WTP to avoid that symptom.

Mortality in Table 6 actually refers to statistical deaths, or inferred deaths due to premature mortality. A small decline in the risk for premature death will have a certain monetary value for individuals, and as such, they will be willing to pay a certain amount to avoid premature death. For instance, if PM emissions are reduced so that the mortality risk on the exposed population is decreased by one in one-hundred thousand, then among 100,000 persons, one less person will be expected to die prematurely. If the average willingness-to-pay (TP) per person for such a risk reduction were \$75.00, the implied value of the statistical premature death avoided would be 7.5 million.

e. Probable Costs and Benefits to the Implementing Agency and Business Community.

The County has an inspection process in place and they are already out inspecting this category of sources, residential woodburning, during the restricted burn days. The inspection process also includes responding to smoke emission complaints. Because these programs exist, the Residential Woodburning Ordinance proposed changes would not significantly increase monitoring, record keeping or reporting burdens on the County. The benefits of the proposed Ordinance include considerable reduction in burdens on community health care, as described above.

f. Conclusion of Summary of Economic, Small Business, and Consumer Impact: The Residential Woodburning Restriction Ordinance proposed changes do not ban the use of these burning devices but it does restrict their use on a few days per year as described above. This ordinance applies exclusively to the residential community so there are no direct costs to the business community or impacts on small business. The increased fines generated from this proposed ordinance should not impact or create additional County revenues because there have not been any consecutive violations that trigger the higher fines for the residential woodburning violations during the previous two years.

10. Name and address of department personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name: Kathleen Sommer or Jo Crumbaker
Air Quality Division

Address: 1001 N. Central Ave., Suite 595
Phoenix, AZ 85004

Telephone: (602) 506-6706 or (602) 506-6705

Fax: (602) 506-6179

E-mail: kathleensommer@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

11. The time, place, and nature of the proceedings for the amendment, of the Ordinance:

Written comments will be accepted if received between the date of this publication and December 5, 2007, 5:00 p.m. Written comments may be mailed or hand delivered to the Maricopa County Air Quality Department (see item 4 above). Written comments received during the comment period will be considered formal comments to the proposed ordinance and will be responded to in the Notice of Final Rulemaking.

An oral proceeding will be held on December 4, 2007 at 9:00 a.m. at the Maricopa County offices, 1001 N. Central Ave., Suite 595, Phoenix, AZ 85004, Room 560. All comments made at this oral proceeding will be considered formal comments and will be recorded and transcribed. All formal comments will be addressed in the Notice of Final Rulemaking.

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A sign language interpreter, alternative format materials, or assistive listening devices will be made available upon request with 72 hours notice. Additional reasonable accommodations will be made available to the extent possible within the time frame of the request. Requests should be made to (602) 372-1645 or TTY (602) 506-2000.

12. Other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

None

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

None

14. The full text of the rule follows:

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SECTION 1 - GENERAL

- A. PURPOSE
- B. APPLICABILITY

SECTION 2 - DEFINITIONS

- A. ADEQUATE SOURCE OF HEAT
- B. APPROVED WOODBURNING DEVICE
- C. AREA A
- D. BURN DOWN PERIOD
- E. CARBON MONOXIDE (CO) STANDARD
- F. CHIMNEY
- G. INAPPROPRIATE FUEL
- H. NONATTAINMENT AREA
- I. OUTDOOR FIRE PITS
- J. OZONE STANDARD
- ~~I. K.~~ PARTICULATE MATTER NO-BURN ~~STANDARD~~ STANDARD
- ~~J. L.~~ PARTICULATE MATTER STANDARD
- ~~K. M.~~ RESIDENTIAL WOODBURNING DEVICE
- ~~L. N.~~ RESTRICTED-BURN PERIOD
- ~~M. O.~~ SOLE SOURCE OF HEAT
- P. WOOD BURNING CHIMINEA

SECTION 3 - ~~RESTRICTED-BURN PERIODS STANDARDS~~

- ~~A. RESTRICTED OPERATION OF A RESIDENTIAL WOODBURNING DEVICE~~
- ~~B. UNLAWFUL OPERATION OF A RESIDENTIAL WOODBURNING DEVICE~~
- ~~C. B.~~ LAWFUL OPERATION OF SPECIFIED RESIDENTIAL WOODBURNING DEVICES
- ~~D. C.~~ DECLARATION OF A RESTRICTED-BURN PERIOD
- E. D. VIOLATIONS, NOTICES, AND PENALTIES

SECTION 4 - EXEMPTIONS

- A. RESIDENTIAL SOLE SOURCE OF HEAT EXEMPTION
- B. TEMPORARY SOLE SOURCE OF HEAT EXEMPTION
- C. EMERGENCY EXEMPTION
- D. INADEQUATE ALTERNATE SOURCE OF HEAT EXEMPTION
- E. APPLICATION FOR AN EXEMPTION
- F. ACTION ON AN EXEMPTION APPLICATION

Adopted 10/05/94

Revised 04/21/99

Revised 11/17/99

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RESIDENTIAL WOODBURNING RESTRICTION ORDINANCE

SECTION 1 - GENERAL

- A. **PURPOSE:** The Residential Woodburning Restriction Ordinance restricts residential woodburning in a non-approved device, outdoor fire pits, wood burning chimineas, and similar outdoor fires when monitoring or forecasting indicates that the air quality carbon monoxide (CO) standard and/or the particulate matter no-burn standard standards are likely to be exceeded.

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- B. APPLICABILITY:** The Residential Woodburning Restriction Ordinance applies to any residential woodburning device, outdoor fire pits, wood burning chimineas, and similar outdoor fires in sections of Area A that are within Maricopa County or within incorporated cities and towns in such sections. The Residential Woodburning Restriction Ordinance does not apply to barbecue devices and mesquite grills.

SECTION 2 - DEFINITIONS: For the purpose of this ordinance, the following definitions shall apply:

- A. ADEQUATE SOURCE OF HEAT** - A permanently installed furnace or heating system, connected to or disconnected from its energy source, designed to heat utilizing oil, natural gas, electricity, or propane, and designed to maintain a minimum of 70° Fahrenheit at a point three feet above the floor in all normally inhabited areas of a residence.
- B. APPROVED WOODBURNING DEVICE** - The following residential devices shall be approved woodburning devices, even though such devices may burn a solid fuel other than wood:
1. A device that has been certified by the Environmental Protection Agency (EPA) as conforming to Phase II EPA Standards Of Performance For Wood Heaters in 40 Code Of Federal Regulations (CFR) 60, Subpart AAA as amended through ~~July 1, 1998~~ July 1, 2006.
 2. Any pellet stove.
 3. Any gas burning hearth appliances, including a dedicated gas logset permanently installed in any kind of indoor or outdoor woodburning fireplace which is designed to burn exclusively natural gas or propane.
 4. Any masonry heater or any other solid fuel burning device that meets performance standards that are equivalent to the standards in 40 CFR 60, Subpart AAA as amended through ~~July 1, 1998~~ July 1, 2006, and that is approved by the Control Officer and the Administrator of EPA.
- C. AREA A** - As defined in Arizona Revised Statutes (A.R.S.) § 49-541(1), the area in Maricopa County delineated as follows:
Township 8 North, Range 2 East and Range 3 East
Township 7 North, Range 2 West through Range 5 East
Township 6 North, Range 5 West through Range 6 East
Township 5 North, Range 5 West through Range 7 East
Township 4 North, Range 5 West through Range 8 East
Township 3 North, Range 5 West through Range 8 East
Township 2 North, Range 5 West through Range 8 East
Township 1 North, Range 5 West through Range 7 East
Township 1 South, Range 5 West through Range 7 East
Township 2 South, Range 5 West through Range 7 East
Township 3 South, Range 5 West through Range 1 East
Township 4 South, Range 5 West through Range 1 East
- D. BURN DOWN PERIOD** - That period of time, not to exceed three hours after declaring a restricted-burn period, required for the cessation of combustion within any residential woodburning device, outdoor fire pit, similar outdoor fire or wood burning chiminea by withholding fuel or by modifying the air-to-fuel ratio.
- E. CARBON MONOXIDE (CO) STANDARD** - The maximum allowable eight-hour concentration that is nine parts of contaminant per million parts of air by volume (ppm).
- F. CHIMNEY** - A passage for smoke that is usually made of bricks, stone, or metal and often rises two feet above the roof of a building. An approved, factory-built chimney will have a label on each chimney connector and gas vent specifying that such chimney can be used for all fuels and will show the minimum safe clearances to combustibles.
- G. INAPPROPRIATE FUEL** - Includes, but is not limited to, leaves, grass clippings, green plants, refuse, paper, rubbish, books, magazines, fiberboard, packaging, rags, fabrics, animal waste, animal carcasses, coal, waste oil, liquid or gelatinous hydrocarbons, tar, ~~asphaltic~~ asphalt products, waste petroleum products, paints and solvents, chemically soaked wood, wood with a moisture content of greater than ~~30~~ 20 percent, treated wood, plastic or plastic products, rubber or rubber products, office records, sensitive or classified wastes, or any substance which normally emits dense smoke or obnoxious odors other than paper to start the fire or properly seasoned wood.
- H. NONATTAINMENT AREA** - An area so designated by the Administrator of the EPA, acting pursuant to Section 107 of the Clean Air Act, as exceeding national primary or secondary ambient air standards for a particular pollutant or pollutants.

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- I.** **OUTDOOR FIRE PITS** - Any combustion of material outdoors, where solid fuels including wood or any other non-gaseous or non-liquid fuels are burned in the fuel bed, and the products of combustion are not directed through a flue or chimney.
- J.** **OZONE STANDARD** - The maximum allowable eight-hour concentration within a 24-hour period (midnight to midnight) that is 0.08 parts of contaminant per million parts of air by volume (ppm).
- ~~I.~~ **K.** **PARTICULATE MATTER NO-BURN STANDARD** - If either of the following ~~The~~ maximum allowable 24-hour concentrations ~~concentration that is forecast for particulate matter:~~
 - PM10 - 120 micrograms per cubic meter;
 - PM2.5 - 30 micrograms per cubic meter.
- ~~J.~~ **L.** **PARTICULATE MATTER STANDARDS** - The maximum allowable 24-hour concentration that is:
 - PM10 - 150 micrograms per cubic meter or ;
 - PM2.5 - 35 micrograms per cubic meter.
- ~~K.~~ **M.** **RESIDENTIAL WOODBURNING DEVICE** - A woodburning device designed for solid fuel combustion so that usable heat is derived for the interior of a residence. ~~Residential woodburning devices do not include barbecue devices, fire pits, or mesquite grills.~~ These devices can be used for aesthetic or space-heating purposes.
- ~~L.~~ **N.** **RESTRICTED-BURN PERIOD** - A condition declared by the Control Officer whenever meteorological conditions are conducive to an accumulation of CO, ozone and/or particulate matter in exceedance of the standards or when air quality reaches other limits established by the Control Officer.
- M.** **SOLE SOURCE OF HEAT** - One or more residential woodburning devices which constitute the only source of heat in a residence and/or the sole source of fuel for cooking for a residence. No residential woodburning device shall be considered the sole source of heat if the residence is equipped with a permanently installed furnace or heating system which utilizes oil, natural gas, electricity, or propane and which is designed to heat the residence whether or not such furnace or heating system is connected to or disconnected from its energy source. However, this definition shall not supersede Municipal or County Building Code requirements as per authority of A.R.S. §§ 9-499.01, 9-240(B)(7), 9-276(A)(13)-(A)(15), A.R.S. § 9-801 et seq.
- P.** **WOOD BURNING CHIMINEA** - Chimineas are burning devices made from clay, aluminum, or steel and are used for warmth and aesthetics outside in yards and patios. Chimineas are designed to burn solid fuels.

SECTION 3 - ~~RESTRICTED BURN PERIODS STANDARDS~~

- A.** **RESTRICTED UNLAWFUL OPERATION OF A RESIDENTIAL WOODBURNING DEVICE:**

During a declared restricted-burn period ~~from October 1 through February 29,~~ a person shall ~~be restricted from operating a residential woodburning device,~~ not operate the following devices in ~~sections of Area A. that are within Maricopa County or within incorporated cities and towns in such sections. Exemptions to this requirement are described in Section 3(C) (Lawful Operation of Specified Residential Woodburning Devices) of this ordinance.~~
- B.** **UNLAWFUL OPERATION OF A RESIDENTIAL WOODBURNING DEVICE:**
 - 1.** A Residential Woodburning Device shall not be operated when monitoring or forecasting indicates that the carbon monoxide (CO) standard and/or the particulate matter no-burn standard are likely to be exceeded:
 - ~~1. a.~~ **a.** A person shall not operate a residential woodburning device ~~Such that emissions to the atmosphere from the chimney, flue, or exhaust duct are visible during a restricted burn period declared by the Control Officer.~~
 - ~~2. b.~~ **b.** A person shall not operate a residential woodburning device ~~Unless such device has been installed according to the instructions and restrictions specified by the manufacturer.~~
 - ~~1. c.~~ **c.** A person shall not use a fuel in a residential woodburning device ~~Except with those fuels that are recommended by the manufacturer.~~
 - ~~4. d.~~ **d.** A person shall not burn inappropriate fuel. in a residential woodburning device.
 - 2.** A Woodburning Chiminea, outdoor fire pit and similar outdoor fire shall not be operated with an inappropriate fuel when monitoring or forecasting indicates that the carbon monoxide (CO) or ozone standard (A.R.S. § 49-501(A)(2)) and/or the particulate matter no-burn standard are likely to be exceeded.
- C.** **B. LAWFUL OPERATION OF SPECIFIED RESIDENTIAL WOODBURNING DEVICES:**
 - 1.** During a declared restricted-burn period ~~from October 1 through February 29,~~ a person may operate a residential woodburning device if the Control Officer has issued an exemption for such device

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according to Section 4 of this ordinance and if no visible emissions to the atmosphere are produced after 20 consecutive minutes immediately following an ignition of or a refueling of such residential woodburning device.

2. During a declared restricted-burn period ~~from October 1 through February 29~~, a person may operate a residential woodburning device if such device meets the requirements of Maricopa County Air Pollution Control Regulations Rule 318 (Approval Of Residential Woodburning Devices) and if no visible emissions to the atmosphere are produced after 20 consecutive minutes immediately following an ignition of or a refueling of such residential woodburning device.

D. C. DECLARATION OF A RESTRICTED-BURN PERIOD:

1. The Control Officer shall declare a restricted-burn period if, after reviewing available meteorological data, atmospheric conditions, and ambient temperatures, the Control Officer determines that air pollution levels could exceed the carbon monoxide (CO) standard, the ozone standard, (A.R.S. § 49-501(A)(2)) and/or the particulate matter no-burn standard.
2. A person responsible for a residential woodburning device, outdoor fire pit, similar outdoor fire, or woodburning chiminea excluding those devices described in Section ~~3(C)~~ 3(B) of this ordinance, already in operation at the time a restricted-burn period is declared shall withhold new fuel from the residential woodburning device, outdoor fire pit, wood burning chiminea, or similar outdoor fire for the duration of the restricted-burn period.
3. Any person operating or in control of a residential woodburning device, outdoor fire pit, wood burning chiminea, or similar outdoor fire in sections of Area A that are within Maricopa County ~~and or~~ within incorporated cities and towns in such sections has a duty to know when a restricted-burn period has been declared.
4. Notice of a restricted-burn period shall be distributed over the wire service to electronic and print media and/or announced by a recorded telephone message at least three hours before initiating any enforcement action for a violation of this ordinance.

E. D. VIOLATIONS, NOTICES, AND PENALTIES: For purposes of this ordinance, and in accordance with ~~ARS §11-871(C)~~ A.R.S. § 11-871(D):

1. When the Control Officer has reasonable cause to believe that any person has violated or is in violation of any provision of this ordinance, the Control Officer shall issue, for the first violation of this ordinance, a warning notice which includes a summary of the Maricopa County Residential Woodburning Restriction Ordinance and information on proper woodburning techniques.
2. The Control Officer may impose a civil penalty of \$50 to any person who violates this ordinance for the second violation ~~of this ordinance to any person who violates this ordinance~~ within a one year period after having been issued a warning notice for the first violation of this ordinance.
3. ~~In addition, for the third violation of this ordinance,~~ the Control Officer may impose a civil penalty of \$100 ~~for the third and subsequent violations of this ordinance.~~ The Control Officer may impose a civil penalty of \$250 for the fourth or any subsequent violation of this ordinance. After having been issued a citation for a violation of this ordinance, the violation may be refuted by demonstration that the smoke was not caused by a residential woodburning device, outdoor fire pit, wood burning chiminea, or similar outdoor fire or by proof of an exemption pursuant to Section 4 of this ordinance.
- ~~3.~~ 4. Only those violations of this ordinance which have occurred within one year of a present offense shall be considered as prior violations. No person shall be cited for a violation of this ordinance more than once in any calendar day. Each day of violation constitutes a separate offense.

SECTION 4 - EXEMPTIONS

- A. **RESIDENTIAL SOLE SOURCE OF HEAT EXEMPTION:** The Control Officer may grant a residential sole source of heat exemption if the Control Officer determines that a residential woodburning device meets the criteria of sole source of heat as described in ~~Section 2(M)~~ Section 2(O) of this ordinance. The recipient of a residential sole source of heat exemption must apply annually to the Control Officer for renewal of such exemption, if such exemption is still necessary. The Control Officer shall not issue a residential sole source of heat exemption after December 31, 1995. However, the Control Officer may renew a residential sole source of heat exemption if such exemption was issued before December 31, 1995 and if the residential woodburning device meets the criteria of sole source of heat as described in ~~Section 2(M)~~ Section 2(O) of this ordinance.
- B. **TEMPORARY SOLE SOURCE OF HEAT EXEMPTION:** The Control Officer may issue a temporary sole source of heat exemption for economic or health reasons if the Control Officer determines that the

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applicant qualifies for financial assistance, according to the economic guidelines established under the Food Stamps, Medicaid, or low income energy assistance programs, as administered by the Income Support Division, or if the Control Officer determines that failure to grant a temporary sole source of heat exemption would endanger the health of the applicant. A temporary sole source of heat exemption shall not be issued for more than 150 days.

C. **EMERGENCY EXEMPTION:** The Control Officer may issue an emergency exemption if the Control Officer determines that an emergency situation exists. An emergency exemption shall be valid for a period determined by the Control Officer, but shall not exceed one year from the date it is issued. An emergency situation shall include, but is not limited to, the following:

1. A situation where a person demonstrates that his heating system, other than a residential woodburning device, is inoperable for reasons other than his own actions; or
2. A situation where a person demonstrates that his heating system has been involuntarily disconnected by a utility company or other fuel supplier.

D. **INADEQUATE ALTERNATE SOURCE OF HEAT EXEMPTION:** The Control Officer may issue an inadequate alternate source of heat exemption if the Control Officer determines:

1. That there is a heat source other than a residential woodburning device available to the residence;
2. That such heat source is not a sole source of heat, as defined in ~~Section 2(L)~~ Section 2(O) of this ordinance, and that such heat source is used in conjunction with a residential woodburning device;
3. That such heat source is not an approved woodburning device, as defined in Maricopa County Air Pollution Control Regulations Rule 318 (Approval Of Residential Woodburning Devices); and
4. That such heat source is not an adequate source of heat, as defined in Section 2(A) of this ordinance.

The recipient of an inadequate alternate source of heat exemption must comply with ~~all municipal or County~~ Building Code requirements (as per authority of A.R.S. §§ 9-499.01, 9-240(B)(7), 9-276(A)(13)--(A)(15), A.R.S. § 9-801 et seq.) and must apply annually to the Control Officer for renewal of such exemption, if such exemption is still necessary. The Control Officer shall not issue an inadequate alternate source of heat exemption after December 31, 1995. However, the Control Officer may renew an inadequate alternate source of heat exemption, if such exemption was issued before December 31, 1995 and if the residential woodburning device meets the criteria of this ordinance.

E. **APPLICATION FOR AN EXEMPTION:** Any person seeking an exemption shall do so by submitting an acceptable written application to the Control Officer. An application shall state:

1. The applicant's name and mailing address;
2. The address for which the exemption is sought; and
3. The reasons for seeking the exemption.

F. **ACTION ON AN EXEMPTION APPLICATION:** Following the receipt of an exemption application, the Control Officer shall either grant the exemption, grant the exemption subject to conditions, or deny the exemption. The Control Officer shall notify, in writing, the applicant of such decision.

**NOTICE OF PROPOSED RULEMAKING
MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS
P-27 VEHICLE PARKING AND USE ON UNSTABILIZED VACANT LOTS**

[M07-606]

PREAMBLE

<u>1. Sections Affected</u>	<u>Action</u>
P-27 Vehicle Parking And Use On Unstabilized Vacant Lots	New Section

2. Statutory authority for the rulemaking:
 Authorizing statute: Arizona Revised Statutes, Title 49, Chapter 3, Article 3 – County Air Pollution Control (A.R.S. § 49-474.01(A) (7))
 Implementing Statute: Arizona Revised Statutes, Title 9, Chapter 4, Article 8- Air Quality Control, (A.R.S. §9-500.04(A)(8))

3. List of all previous notices appearing in the Register addressing the proposed rule:
 Notice of Rulemaking Docket Opening: 13 A.A.R. 3375, October 5, 2007

4. Name and address of department personnel with whom persons may communicate regarding the ordinance:
 Name: Kathleen Sommer or Jo Crumbaker
 Air Quality Division

Address: 1001 N. Central Ave., Suite 595
Phoenix, AZ 85004

Telephone: (602) 506-6706 or (602) 506-6705

Fax: (602) 506-6179

E-mail: kathleensommer@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

5. An explanation of the ordinance, including the department's reasons for initiating the Ordinance:

The Maricopa County Air Quality Department (MCAQD) is proposing a new ordinance that will restrict vehicle parking and use on unstabilized vacant lots and that will provide a penalty to the vehicle operator for violations. The penalty will consist of a class 3 misdemeanor violation and mandate for the vehicle operator to attend at least eight but not more than twenty-four hours of a community restitution course related to the off-highway operation of motor vehicles. MCAQD is proposing this new ordinance to comply with the statutory requirements listed in the recently enacted Senate Bill 1552. The proposed new ordinance also implements a control measure that will reduce PM₁₀ emissions for the Five Percent Plan for PM₁₀. Since the region did not attain the PM₁₀ standard by December 31, 2006, the region must submit to the Environmental Protection Agency (EPA) a Five Percent Plan for PM₁₀ by December 31, 2007. The Five Percent Plan for PM₁₀ must demonstrate 5% reductions per year in emissions from the date of submission to the EPA.

Section By Section Explanation Of The Proposed Ordinance:

SECTION 1 - GENERAL

Section 1 - A Includes proposed purpose and restrictions which apply to all vehicle parking and use on unstabilized vacant lots.

Section 1 - B Includes applicability of the proposed ordinance which applies to parking and use in the unincorporated sections of Area A that are within Maricopa County.

SECTION 2 - DEFINITIONS

Section 2 - A Includes proposed ordinance definition of the legal land description of Area A in the federal township-range format so that it coincides with the description of Area A found in Arizona Revised Statutes (A.R.S.) § 49-541(1).

Section 2 - B Includes proposed ordinance definition of a designated or opened trail system which is designated or opened by a government land management agency.

Section 2 - C Includes proposed ordinance definition of a road or highway which is maintained by a municipality and open for public use for purposes of vehicular travel and, for purposes of this ordinance, the definition includes designated or opened trail systems and surface roads regardless of surface composition.

Section 2 - D Includes proposed ordinance definition of vacant lots which coincides with vacant lot definition found in another Maricopa County rule - Rule 310.01 - which defines land that is undeveloped, without a structure, partially developed, or not a road or highway.

Section 2 - E Includes proposed ordinance definition of a vehicle as a self propelled device excluding devices moved by human power or used on tracks.

SECTION 3 - REQUIREMENTS

Section 3-A Includes proposed ordinance restrictions for vehicle parking and use on unstabilized vacant lots.

SECTION 4 - VIOLATIONS, NOTICES, AND PENALTIES

Section 4 - A Includes proposed penalty of class 3 misdemeanor for violation of ordinance.

Section 4 - B Includes proposed penalty for violation, in addition to or in lieu of a fine, an order to perform at least eight but not more than twenty-four hours of a community restitution course related to the off-highway operation of motor vehicles.

Section 4 - C Includes, for violations of this ordinance, proposed use of a uniform traffic ticket and complaint prescribed by the rules of procedure in civil traffic cases adopted by the Supreme Court.

SECTION 5 - EXEMPTIONS

Section 5 - A Includes proposed exemption for the property owner if the exemption does not violate any other applicable laws.

Section 5 - B Includes proposed exemption for a site with a permit issued by the Control Officer for the control of fugitive dust from dust generating operations.

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

Under A.R.S. § 49-479(C), a county may not adopt a rule or ordinance 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.

A.R.S. § 49-112 (A)

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.

The proposed Maricopa County ordinance - P-27 - is required to be adopted by A.R.S. § 49-474.01(A)(7) recently enacted in Senate Bill 1552. Therefore, a demonstration of compliance with A.R.S. § 49-112 as required by the County's general grant of rulemaking and ordinance authority in A.R.S. § 49-479 does not apply to this action.

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

Not applicable

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision:

Not applicable

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

a. Background

The proposed Maricopa County Vehicle Parking And Use On Unstabilized Vacant Lots Ordinance provides for regulatory authority, planning, and resources and meets the mandatory curtailment elements as required by the passage of Senate Bill 1552 and in relation to commitments made in the Five Percent Plan for PM₁₀. Since the region did not attain the PM₁₀ standard by December 31, 2006, the region must submit to the Environmental Protection Agency (EPA) a Five Percent Plan for PM₁₀ by December 31, 2007. The Five Percent Plan for PM₁₀ must demonstrate 5% reductions per year in emissions from the date of submission to the EPA. The plan must show reductions in PM₁₀ emissions of five percent per year until attainment is reached at all monitors. This proposed ordinance that restricts all vehicle parking and use on unstabilized vacant lots in the unincorporated sections of Area A that are within Maricopa County complies with the Maricopa County statutory rulemaking authority, Senate Bill 1552 directives, and in relation to commitments made in the Five Percent Plan for PM₁₀ prepared for EPA. As part of the statutory rulemaking authority, the MCAQD may add, delete, or modify additional rules and ordinances as necessary.

b. Community Affected

There are over 4,000 vacant lots in the Maricopa PM₁₀ nonattainment area. Under this proposed Ordinance, costs are limited to those needed to restrict the vehicle owner from trespassing on vacant lots that are unstabilized. From analysis published in the Salt River PM₁₀ State Implementation Plan (SIP) prepared by Arizona Department of Environmental Quality (ADEQ), it was assumed that the installation of a rock barrier would be the least expensive method of prohibiting vehicle parking and use on a vacant lot.

The following identify the potential physical health, welfare effects, and emissions impact of particulate matter reductions from the implementation of the proposed Ordinance. Compliance with this proposed Ordinance will also be enhanced with the increased trespass prevention actions by the lot owners as encouraged by MCAQD inspectors enforcing Rule 310.01.

c. Emissions Impact

Fugitive dust particulate emissions from vehicles traveling on unpaved parking areas were estimated by Maricopa Association of Governments (MAG) based on the acres of disturbed land devoted to unpaved parking areas. The specific methodology, calculations, and assumptions for each component of the emissions calculation for vehicular use and parking on vacant lots is described in the Maricopa County 2005 Periodic PM₁₀ Emission Inventory for the Maricopa

County Non-attainment Area- Section 3.5.9. In this report, vehicle activity on unpaved parking areas was estimated by assuming that each day, an average of 100 vehicles drive on each acre of unpaved parking area. Other factors that were used to calculate the emission rates for unpaved parking areas were EPA's AP-42 emission rates and GIS applications to the 2004 MAG land use data of the total acres of vacant land in the Maricopa county portion of the PM₁₀ non-attainment area. The results for the PM₁₀ non-attainment areas and Maricopa County are summarized in tons per year and lbs per day.

According to the Maricopa County 2005 Periodic PM₁₀ Emission Inventory For The Maricopa County Nonattainment Area- Section 3.5.9, emissions from vehicles traveling in unpaved parking areas:

PM₁₀ NAA=3009 tons/yr annual emissions

PM₁₀ NAA=16,490 lbs/day daily emissions

(1) Costs To Implement Ordinance

There are over 4,000 vacant lots in the Maricopa PM₁₀ nonattainment area. Under this proposed ordinance, costs are limited to those measures needed to restrict the vehicle owner from trespassing on vacant lots that are unstabilized. From analysis published in the Salt River PM₁₀ SIP prepared by ADEQ, it was assumed that the installation of a rock barrier would be the least expensive method of restricting a vacant lot from vehicle owner parking and use. The cost of installing a rock boulder barrier was estimated to be \$1,342 per year per lot, based on a survey conducted by ADEQ in support of the Salt River SIP. The rock barrier for each lot is assumed to completely eliminate trespass emissions on a vacant lot. It is assumed that the average vacant lot received two trespass trips each week. This infrequent rate compares favorably with the absence of trespass activity observed by MCAQD inspectors on vacant lots.

(2) Emission Reduction

There are two sources of PM₁₀ emissions from vacant lots:

1. Trespass trips from the vehicle;
2. Windblown emissions from the disturbed area on the lot.

Emissions from two weekly trips by light-duty vehicles are estimated to produce 11.6 pounds of PM₁₀ per year on a 3 acre lot. By eliminating trespass trips, the emission reduction achieved by this measure would be 11.6 pounds of PM₁₀ per year per average vacant lot. Windblown emissions are estimated to be 75.8 pounds per year for a lot where the disturbed area is limited to a single 20-foot wide track across the lot. By eliminating trespass trips, the emission reduction achieved by this ordinance would be 87.4 pounds of PM₁₀ per year per average vacant lot.

(3) Cost Effectiveness

The cost effectiveness of this measure was calculated to be \$15.35 per pound or \$30,706 per ton, of PM₁₀ reduced. If the 4,000 lots in Maricopa County saved 87.4 pounds per year of PM₁₀ and the cost effectiveness was \$15.35 per pound x 4000 lots that would be a cost effective savings of: 87.4 pounds per year x \$15.35 per pound x 4000 lots = \$5,366,360 per year cost effective savings.

Summary Of Emissions Reductions Efforts

This equates to almost 389,600 lbs PM₁₀ / year emissions reduction from the 6,018,000 lbs PM₁₀/ year emissions created from driving on vacant lots. This 6.5% PM₁₀ emission reduction equates to over 5.3 million dollars per year cost effective savings. A good portion of the cost effective savings dollars observed is from health benefits which can be expressed as avoided cases of PM related-health effects and assigned a dollar value.

This ordinance is to provide a disincentive to the operators of vehicles so that property owners will not have to expend moneys to repair or prevent damage from vehicle activity.

These health effect benefit savings are described below.

d. Health Effects/Benefits

Health benefits accrue to the general public whenever enforcement of environmental laws takes place.

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.

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

The purpose of the National Ambient Air Quality Standards are to protect public health. Maricopa County's Vehicle Parking and Use On Unstabilized Vacant Lots Ordinance is designed to protect public health by reducing PM. Improvement in air quality will generate cost-saving benefits by avoiding adverse-health effects, such as emergency room visits, hospital admissions, acute pediatric bronchitis, chronic adult bronchitis, acute respiratory symptom days, and even premature death. Potential benefits arising from a reduction PM and other pollutants emitted into the atmosphere can be inferred from data associated with the reduction of any airborne PM.

Some of the health effects of human exposure to PM can be quantified while others cannot. Quantified adverse health effects include: mortality, bronchitis (chronic and acute), new asthma cases, hospital admissions (respiratory and cardiovascular), emergency room visits for asthma, lower and upper respiratory illness, shortness of breath, respiratory symptoms, minor restricted activity days, days of work loss, moderate or worse asthma status of asthmatics.

Unquantifiable adverse-health effects include: neonatal mortality, changes in pulmonary function, chronic respiratory diseases (other than chronic bronchitis), morphological changes, altered host defense mechanisms, cancer, and non-asthma respiratory emergency room visits.

(U.S. EPA, "The Benefits and Costs of the Clean Air Act 1990 to 2010," Chapter 5, "Human Health Effects of Criteria Pollutants," Table 5-1, Report to Congress, November 1999)

(The EPA's Particulate Matter (PM) Health Effects Research Center Program, prepared by PM Centers Program staff, January 2002).

The Health Effects Institute confirmed the existence of a link between particulate matter and human disease and death (premature mortality). The data revealed that long-term average mortality rates, even after accounting for the effects of other health effects, were 17-26% higher in cities with higher levels of airborne PM (Health Effects of Particulate Air Pollution: What Does The Science Say? Hearing before the Committee on Science, House of Representatives, 107th Congress of the U.S., second session, May 8, 2002). Data further reveal that every 10-microgram increase in fine particulates per cubic meter produces a 6% increase in the risk of death by cardiopulmonary disease, and an 8% increase for lung cancer. Even very low concentrations of PM can increase the risk of early death, particularly in elderly populations with preexisting cardiopulmonary disease (STAPPA and ALAPCO, Controlling Particulate Matter Under the Clean Air Act: A Menu of Options, July 1996).

In 2002 alone, chronic obstructive pulmonary disease cost the U.S. more than \$32 million, a sum not including costs attributable to asthma (American Lung Assoc., Trends in Chronic Bronchitis and Emphysema: Morbidity and Mortality, Epidemiology and Statistics Unit, Research and Scientific Affairs, March 2003). In Arizona, deaths attributable to asthma have equaled or exceeded national rates from 1991-1998. In 1998, some 316,200 Arizonans suffered breathing discomfort or asthma related stress (Arizona Department of Health Services, Asthma Control Program, Office of Nutrition and Chronic Disease Prevention Services, October, 2002).

ADEQ expects that a reduction in PM potentially will create commensurate cost-saving benefits to the general public by contributing towards reducing these emissions-related health problems. Maricopa County's Residential Woodburning Restriction Ordinance will help improve the general quality of life for citizens of Arizona, particularly those residing near sources that have reduced PM emissions.

Health benefits can be expressed as avoided cases of PM related-health effects and assigned a dollar value. EPA used an average estimate of value for each adverse-health effect of criteria air pollutants. Table 6 contains valuation estimates from the literature reported in dollars per case reduced. For example, the table shows a value of \$385,800 (2003 dollars) per case of chronic bronchitis avoided.

Table 6: Monetized Adverse-Health Effects Avoided From Exposure To PM

Adverse-Health Effect ¹	Per Case Valuation (1990 dollars)	Per Case Valuation (2003 dollars) ²
Mortality	\$4,800,000	\$7,122,600

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Chronic bronchitis	\$260,000	\$385,800
Hospital admissions for respiratory conditions	\$6,900	\$10,240
Hospital admissions for cardiovascular conditions	\$9,500	\$14,100
Emergency room visits for asthma	\$194	\$288
Acute Bronchitis	\$45	\$67
Asthma attack	\$32	\$48
Moderate or worse asthma day	\$32	\$48
Adverse-Health Effect	Per Case Valuation (1990 dollars)	Per Case Valuation (2003 dollars)
Acute respiratory symptom	\$18	\$27
Upper respiratory symptom	\$19	\$28
Lower respiratory symptom	\$12	\$18
Shortness of breath, chest tightness, or wheeze	\$5	\$7
Work loss day	\$83	\$123
Mild restricted activity day	\$38	\$56

Source: Derived from U.S. EPA, "The Benefits and Costs of the Clean Air Act 1990 to 2010," Chapter 6, "Economic Valuation of Human Health Effects," Table 6-1, Report to Congress, November 1999.

- ¹ An individual's health status and age prior to exposure impacts his/her susceptibility. At risk persons include those who have suffered a stroke or have cardiovascular disease. Some age cohorts are more susceptible to air pollution than others, i.e., children and elderly.
- ² These values have been adjusted for inflation. According to the Consumer Price Index for all urban consumers (U.S. Department of Labor, Bureau of Labor Statistics), the purchasing power of the dollar has declined about 48 percent between 1990 and 2003.

According to the EPA, cost values of these illnesses tend to underestimate the true value of avoiding these adverse-health effects. Mean estimates of willingness-to-pay (WTP) were used to derive values, unless WTP values were not available, in which case, the cost of treating or mitigating the effects was used. The value of an avoided asthma attack, for example, would be a person's WTP to avoid that symptom. Mortality in Table 6 actually refers to statistical deaths, or inferred deaths due to premature mortality. A small decline in the risk for premature death will have a certain monetary value for individuals, and as such, they will be willing to pay a certain amount to avoid premature death. For instance, if PM emissions are reduced so that the mortality risk on the exposed population is decreased by one in one-hundred thousand, then among 100,000 persons, one less person will be expected to die prematurely. If the average willingness-to-pay (TP) per person for such a risk reduction were \$75.00, the implied value of the statistical premature death avoided would be 7.5 million.

e. Conclusion of Summary of Economic, Small Business, and Consumer Impact

The proposed ordinance could increase monitoring, record keeping or reporting burdens on the County. These additional inspection and judicial costs may be offset by the considerable reduction in burdens on community health care, as described above. This decreased burden of community health care helps offset increased agency costs and can also be expressed as avoided cases of PM related-health effects. The 6.5% PM₁₀ emission reduction resulting from a conservative estimate of the implementation of this proposed Ordinance equates to over 5.3 million dollars per year cost effective savings or more. This is a conservative estimate of this proposed ordinance implementation because it is only assumed in the emission reduction calculation that the average vacant lot (3 acres) receives two trespass trips each week whereas the emissions estimated from the 2005 Periodic PM₁₀ Emission Inventory for the Maricopa County Non-attainment Area assumes that each day, an average of 100 vehicles drive on each acre of unpaved parking area. This infrequent rate of trespass in the proposed ordinance implementation calculation is considerably less than the trespass rate assumed in calculating annual emissions.

10. Name and address of department personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

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Name: Kathleen Sommer or Jo Crumbaker
Air Quality Division

Address: 1001 N. Central Ave., Suite 595
Phoenix, AZ 85004

Telephone: (602) 506-6706 or (602) 506-6705

Fax: (602) 506-6179

E-mail: kathleensommer@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

11. The time, place, and nature of the proceedings for the amendment, of the Ordinance:

Written comments will be accepted if received between the date of this publication and December 5, 2007, 5:00 p.m. Written comments may be mailed or hand delivered to the Maricopa County Air Quality Department (see item 4 above). Written comments received during the comment period will be considered formal comments to the proposed ordinance and will be responded to in the Notice of Final Rulemaking.

An oral proceeding will be held on December 4, 2007 at 10:30 am at the Maricopa County offices, 1001 N. Central Ave., Phoenix, AZ 85004, Room 560. All comments made at this oral proceeding will be considered formal comments and will be recorded and transcribed. All formal comments will be addressed in the Notice of Final Rulemaking.

A sign language interpreter, alternative format materials, or assistive listening devices will be made available upon request with 72 hours notice. Additional reasonable accommodations will be made available to the extent possible within the time frame of the request. Requests should be made to (602) 372-1465 or TTY (602) 506-2000.

12. Other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

None

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

None

14. The full text of the rule follows:

**MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS
P-27
VEHICLE PARKING AND USE ON UNSTABILIZED VACANT LOTS**

SECTION 1 - GENERAL

- A. PURPOSE
- B. APPLICABILITY

SECTION 2 - DEFINITIONS

- A. AREA A
- B. DESIGNATED OR OPENED TRAIL SYSTEM
- C. ROAD OR HIGHWAY
- D. VACANT LOTS
- E. VEHICLE

SECTION 3 - REQUIREMENTS

- A. RESTRICTED VEHICLE PARKING AND USE

SECTION 4 - VIOLATIONS, NOTICES, AND PENALTIES

SECTION 5 - EXEMPTIONS

**MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS
P-27
VEHICLE PARKING AND USE ON UNSTABILIZED VACANT LOTS**

SECTION 1 - GENERAL

- A. **PURPOSE:** This Ordinance restricts all vehicle parking and use on unstabilized vacant lots.
- B. **APPLICABILITY:** This Ordinance applies to vehicle parking and use in the unincorporated sections of Area A that are within Maricopa County.

SECTION 2 - DEFINITIONS: For the purpose of this Ordinance, the following definitions shall apply:

- A. **AREA A** - The part of the greater Phoenix metropolitan area where specific pollution control programs are in place for ozone, carbon monoxide, and particulate matter. As defined in Arizona Revised Statutes (A.R.S.) § 49-541(1), the area in Maricopa County delineated as follows:
Township 8 North, Range 2 East and Range 3 East
Township 7 North, Range 2 West through Range 5 East
Township 6 North, Range 5 West through Range 6 East
Township 5 North, Range 5 West through Range 7 East
Township 4 North, Range 5 West through Range 8 East
Township 3 North, Range 5 West through Range 8 East
Township 2 North, Range 5 West through Range 8 East
Township 1 North, Range 5 West through Range 7 East
Township 1 South, Range 5 West through Range 7 East
Township 2 South, Range 5 West through Range 7 East
Township 3 South, Range 5 West through Range 1 East
Township 4 South, Range 5 West through Range 1 East
- B. **DESIGNATED OR OPENED TRAIL SYSTEM** - Roads or routes that are part of a system of trails and that are designated or opened by a government land management agency by order, sign, and/or map approved by such agency.
- C. **ROAD OR HIGHWAY** - The entire width between the boundary lines of every way publicly maintained by the federal government, a city, a town or a county if any part of the way is generally open to the use of the public for purposes of vehicular travel. For purposes of this ordinance, the term "road or highway" includes designated or opened trail systems and service roads regardless of surface composition.
- D. **VACANT LOTS** - Any of the following described in Section 2(D)(1) through Section 2(D)(4) of this ordinance:
 - 1. An unsubdivided or undeveloped tract of land.
 - 2. A subdivided residential, industrial, institutional, governmental, or commercial lot that contains no approved or permitted buildings, structures, or uses of a temporary or permanent nature.
 - 3. A partially developed residential, industrial, institutional, governmental, or commercial lot.
 - 4. For the purposes of this ordinance, a vacant lot is not a road or highway.
- E. **VEHICLE** - A self propelled device and its appurtenances, excluding devices moved by human power or used exclusively on stationary rails or tracks.

SECTION 3 - REQUIREMENTS

- A. **RESTRICTED VEHICLE PARKING AND USE:** A person shall not park or use a vehicle on an unstabilized vacant lot within the unincorporated sections of Area A in Maricopa County.

SECTION 4 - VIOLATIONS, NOTICES, AND PENALTIES

- A. A person who violates this Ordinance is guilty of a class 3 misdemeanor.
- B. In addition to or in lieu of a fine pursuant to this section, a judge may order the person to perform at least eight but not more than twenty-four hours of a community restitution course related to the off-highway operation of motor vehicles.
- C. For violations of this Ordinance, the Enforcement Officer shall use a uniform traffic ticket and complaint prescribed by the rules of procedure in civil traffic cases adopted by the Supreme Court. The Enforcement Officer may issue a citation to persons in violation of this Ordinance.

SECTION 5 - EXEMPTIONS

- A. The property owner, person entitled to immediate possession of the property, or invitee who has lawful authority may operate such vehicles if such use does not violate any other applicable laws.
- B. Any site that has been issued a permit by the Control Officer for the control of fugitive dust from dust generating operations.