

**2012 REVISED  
NATURAL EVENTS ACTION PLAN  
FOR  
HIGH WIND EVENTS  
LAMAR, COLORADO**

Prepared by:



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**Colorado Department  
of Public Health  
and Environment**

AIR POLLUTION CONTROL DIVISION  
4300 Cherry Creek Drive South  
Denver, Colorado 80222-1530  
(303) 692-3100

and

CITY OF LAMAR  
PROWERS COUNTY COMMISSIONERS

## I. EXECUTIVE SUMMARY

This document updates the previous Natural Events Action Plan<sup>7</sup> that was approved by EPA as part of the Lamar redesignation request and associated PM10 maintenance plan (see 70 FR 61563).

Over the past eleven years (2001-2011), the monitors located at the Power Plant and Municipal Complex in Lamar, Colorado experienced occasional exceedances of the 24-hour National Ambient Air Quality Standard (NAAQS) for PM10 (particulate matter having a nominal aerodynamic diameter equal to or less than 10 microns). Each of these exceedances was associated with unusually high winds and blowing dust in the Lamar area.

Recognizing that certain uncontrollable natural events, such as high winds, wildfires, and volcanic/seismic activity can have on the NAAQS, the Environmental Protection Agency (EPA) issued a Natural Events Policy (NEP) in 1996. The NEP specifies the procedures for mitigating PM10 impacts which includes the development of a Natural Events Action Plan (NEAP) for protecting public health in areas where the PM10 standard may be violated due to these uncontrollable natural events. The guiding principles of the policy are:

- Federal, State, and local air quality agencies must protect public health;
- The public must be informed whenever air quality is unhealthy;
- All valid ambient air quality data should be submitted to the EPA Aerometric Information Retrieval System (AIRS) and made available for public access;
- Reasonable measures safeguarding public health must be taken regardless of the source of PM10 emissions; and.
- Emission controls should be applied to sources that contribute to exceedances of the PM10 NAAQS when those controls will result in fewer violations of the standards.

The original 1998 Lamar NEAP was developed in response to three exceedances of the PM10 NAAQS (two in 1995 and one in 1996), the Colorado Department of Public Health and Environment's Air Pollution Control Division (Division), in conjunction with the City of Lamar's Public Works Department, Parks and Recreation, and Prowers County Commissioners, the Natural Resources Conservation Services, the Burlington Northern Santa Fe Railroad, and other agencies. That Plan was presented to EPA in 1998 and subsequently approved.

Since the last update to the Lamar NEAP in 2003, the EPA promulgated in 2007 an Exceptional Event Rule (EER) which establishes a process for the treatment of data influenced by exceptional events. The EER is based on amendments to Section 319 of the Clean Air Act which defines an exceptional event as an event that: (i) affects air quality; (ii) is not reasonably controllable; (iii) is caused by human activity not likely to

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<sup>7</sup> See "Revised (2003) Natural Events Action Plan for High Wind Events Lamar, Colorado"

recur at a particular location, or is a natural event; (iv) and is determined by EPA through the process established in regulation to be an exceptional event. The EER provisions require that states address the following six elements in a request for data exclusion:

- The event affects air quality
- The event was not reasonably controllable or preventable
- The event was caused by human activity that is unlikely to recur at a particular location, or was a natural event
- There exists a clear causal relationship between the specific event and the monitored concentration;
- The event is associated with a measured concentration in excess of the normal historical fluctuations including background
- There would have been no exceedance or violation but for the event

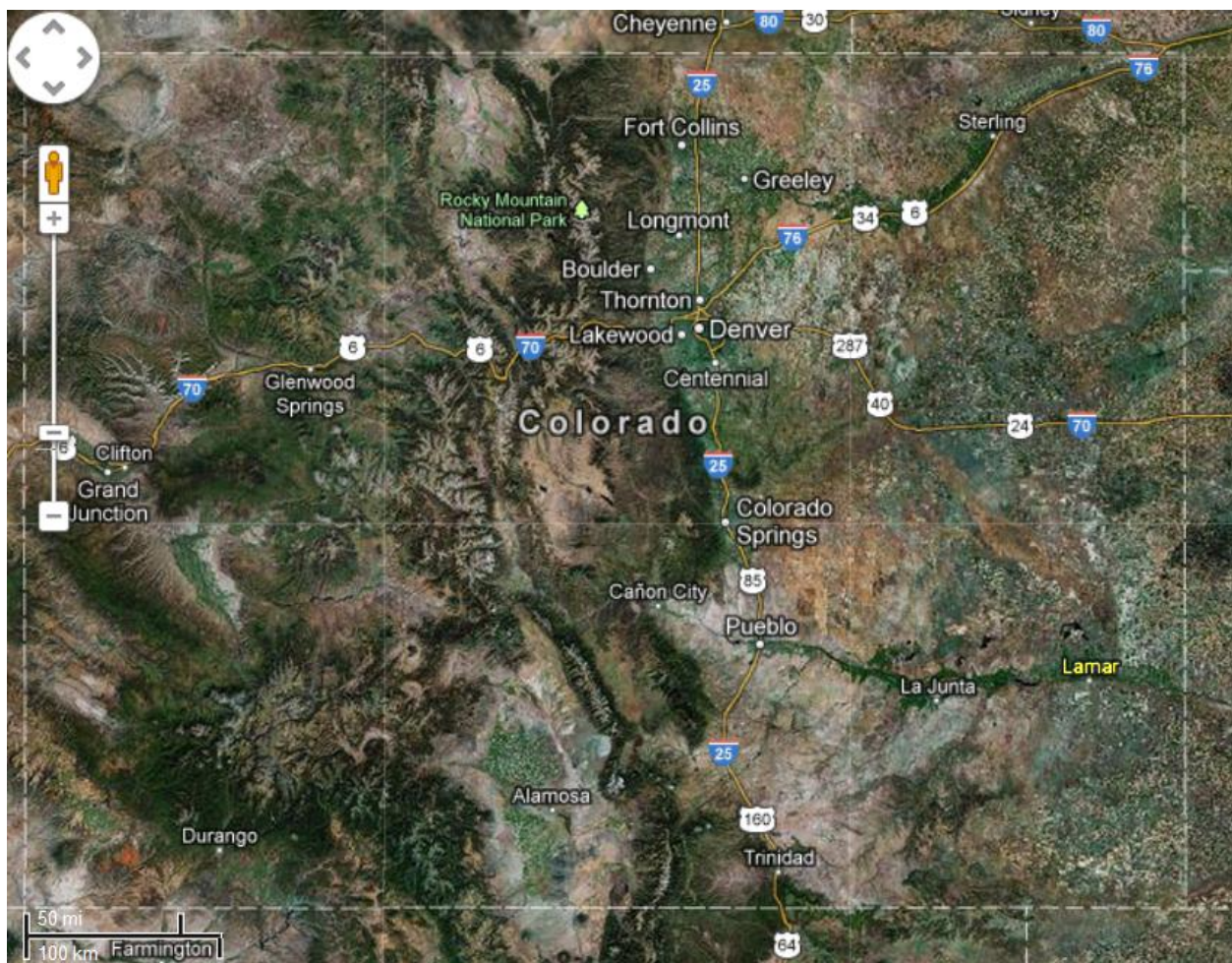
Unlike the original EPA Natural Events Policy, the 2007 Exceptional Events Rule does not require the development of a Natural Events Action Plan (see 72 FR 13576). Nevertheless, since the Lamar NEAP is an element of the EPA approved Lamar PM10 Maintenance Plan; the NEAP must remain in place and be updated no less than every five years – as specified in the original plan.

Furthermore, the Lamar NEAP has assisted the area in addressing blowing dust due to uncontrollable winds and is designed to protect public health, educate the public about high wind events and blowing dust; mitigate health impacts on the community during future events; and, identify and implement Best Available Control Measures (BACM) for anthropogenic sources of windblown dust.

## II. INTRODUCTION

The City of Lamar is located in Prowers County in southeastern Colorado (see Figure 1). Situated along the Arkansas River and near the Kansas border, Lamar serves as the largest city and the agricultural center for southeast Colorado. The area surrounding Lamar consists of gently rolling to nearly level uplands where the dominant slopes are less than 3 percent. The climate is generally mild and semiarid. Annual precipitation is about 15 inches. Summers are long and have hot days and cool nights. In winter and spring, windstorms are common, especially in drier years including year 2002, one of the driest periods in over 350 years. These high velocity dust storms and drought conditions are associated with most elevated PM<sub>10</sub> issues that the Lamar area experiences.

**Figure 1: State of Colorado Map**



In recognition of the need to protect public health in areas where PM<sub>10</sub> exceeds the NAAQS due to natural events such as the unusually high winds, this Natural Events Action Plan was revised based on the 1998 and 2003 NEAPs, which were developed for the Lamar area based on the original NEP guidance. This plan outlines specific procedures to be taken in response to wind-blown events. In short, the purpose of the plan is to:

- Educate the public about the problem;
- Mitigate health impacts on exposed populations during future events; and
- Identify and implement Best Available Control Measures (BACM) for anthropogenic sources of windblown dust.

## **A. Background**

High winds are common to the southeast region of Colorado. Under some conditions, these winds are strong enough to lift particulate matter into the air and cause elevated levels of PM<sub>10</sub> above the Federal and State standards. Due to observed problems in Lamar with dirt, dust, and particulate, area monitoring of total suspended particle pollution was instituted at the Power Plant site in 1975. In June 1985, monitoring for PM<sub>10</sub> began. A new site, the Municipal Complex, was selected in August, 1986. This site was considered to better meet the maximum siting criteria and more adequately reflect worse case population exposure. The Power Plant site was re-established in February 1992 and has since operated along with the Municipal Complex site on an everyday sampling schedule.

Lamar's monitoring history shows that the annual PM<sub>10</sub> standard of 50 µg/m<sup>3</sup> averaged over an annual period has never been exceeded. The Lamar area has however experienced exceedances of the 24-hour PM<sub>10</sub> standard of 150 µg/m<sup>3</sup> since 1985. The associated weather conditions on each of the exceedance days conform to a repeated pattern of regional high winds and blowing dust. In each case an intense, fast-moving, surface low-pressure system tracked through eastern Colorado. Typically these systems had surface lows that were not collocated with a closed upper low or nearly closed upper level trough. This distinction is important because the collocated or vertically "coupled" systems usually bring significant up slope snow or rain to the region. The intensity of the lows associated with the PM<sub>10</sub> exceedances is evident in the average central pressure of 990 mb (corrected to sea level). This value is typical of a deep, well-organized system. Such well-organized systems usually generate high winds in the vicinity of the low center.

The past exceedances of the PM<sub>10</sub> NAAQS classified Lamar as a moderate nonattainment area for PM<sub>10</sub>. In response to this designation, Lamar with the assistance of the State prepared the Lamar PM<sub>10</sub> Non-Attainment Plan and the Redesignation Request and Maintenance Plan. The Lamar PM<sub>10</sub> Maintenance Plan was submitted to EPA in 2002 and was approved on October 25, 2005. According to EPA's 1996 Natural Events Policy, states may request that a moderate nonattainment area not be reclassified as serious if it can be demonstrated that the area would attain

the standards by the statutory attainment date but for emissions caused by natural events.

In 2007, EPA promulgated the Exceptional Events Rule (EER) that supersedes the NEP, thus this plan update reflects the requirements of the EER but also retains the previous commitments approved under the Lamar PM10 Redesignation Request and associated Maintenance Plan.

## **B. The Natural Events Policy**

### **(1) Background**

On May 30, 1996, EPA issued the Natural Events Policy in a memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation. In this memorandum EPA announced its new policy for protecting public health when the PM10 NAAQS are violated due to natural events. Under this policy three categories of natural events are identified as affecting the PM10 NAAQS: (1) volcanic and seismic activity; (2) wildland fires; and, (3) high wind events. Only high wind events will be addressed in this NEAP. Based on EPA's natural events policy high winds are defined as uncontrollable natural events under the following conditions: (1) the dust originated from nonanthropogenic sources; or, (2) the dust originated from anthropogenic sources controlled with best available control measures (BACM). Furthermore, the conditions that create high wind events vary from area to area with soil type, precipitation, and the speed of wind gusts.

Prior to EPA guidance on PM10 exceedances due to natural events, the Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events and Appendix K to 40 CFR, Part 50, were issued by EPA to address situations where natural sources strongly influence an area's air quality. Similar to EPA's natural events policy, Appendix K provides, in part, that measured exceedances of the PM10 NAAQS may be discounted from decisions regarding nonattainment area status if the data are shown to be influenced by uncontrollable events caused by natural sources of particulate matter. Then in 1990, the Clean Air Act Amendments added section 188(f) that provides EPA with discretionary statutory authority to waive either a specific attainment date or certain planning requirements for serious PM10 nonattainment areas that are significantly impacted by nonanthropogenic sources.

According to EPA's Natural Events Policy the section 188(f) waiver provision, Appendix K, and the Exceptional Events Guidance are to be considered revised by the requirements of the May 30, 1996 NEP. Additional justification of the revisions can be found in the Appendix of EPA's natural events policy.

### **(2) NEP Content Elements**

Consistent with the original NEP, EPA will potentially consider exceedances of the NAAQS as a "natural event" if a Natural Events Action Plan is developed and implemented to address future events. The following is a summary of the specific EPA guidance regarding development of a NEAP:

***Element 1:** Analysis and documentation of the event should show a clear causal relationship between the measured exceedance and the natural event. The type*



and amount of documentation provided should be sufficient to demonstrate that the natural event occurred, and that it impacted a particular monitoring site in such a way as to cause the PM10 concentrations measured.

Element 2: Establish education programs. Such programs may be designed to educate the public about the short-term and long-term harmful effects that high concentrations of PM10 could have on their health and inform them that: (a) certain types of natural events affect the air quality of the area periodically, (b) a natural event is imminent, and (c) specific actions are being taken to minimize the health impacts of events.

Element 3: Minimize public exposure to high concentrations of PM10 through a public notification and health advisory program. Programs to minimize public exposure should (a) identify the people most at risk, (b) notify the at-risk population that a natural event is imminent or currently taking place (c) suggest actions to be taken by the public to minimize their exposure to high concentrations of PM10, and (d) suggest precautions to take if exposure cannot be avoided.

Element 4: Abate or minimize appropriate contributing controllable sources of PM10. Programs to minimize PM10 emissions for high winds may include: the application of BACM to any sources of soil that have been disturbed by anthropogenic activities. The BACM application criteria require analysis of the technological and economic feasibility of individual control measures on a case-by-case basis. The NEAP should include analyses of BACM for contributing sources. If BACM are not defined for the anthropogenic sources in question, step 5 listed below is required.

Element 5: Identify, study, and implement practical mitigating measures as necessary. The NEAP may include commitments to conduct pilot tests of new emission reduction techniques. For example, it may be desirable to test the feasibility and effectiveness of new strategies for minimizing sources of windblown dust through pilot programs. The plan must include a timely schedule for conducting such studies and implementing measures that are technologically and economically feasible.

Element 6: Periodically reevaluate: (a) the conditions causing violations of a PM10 NAAQS in the area, (b) the status of implementation of the NEAP, and (c) the adequacy of the actions being implemented. The State should reevaluate the NEAP for an area every 5 years at a minimum and make appropriate changes to the plan.

Element 7: The NEAP should be developed by the State in conjunction with the stakeholders affected by the plan.

Element 8: The NEAP should be made available for public review and comment and may, but is not required, to be adopted as a revision to the State Implementation Plan (SIP) if current SIP rules are not revised.

Element 9: The NEAP should be submitted to the EPA for review and comment.

The following describes the Lamar NEAP and its conformance with the original EPA guidance on natural events, which was used to develop the original Lamar NEAP:

### III. NATURAL EVENTS ACTION PLAN

#### Element 1: Documentation & Analysis

According to the Natural Events Policy, “the conditions that create high wind events vary from area to area with soil type, precipitation and the speed of wind gusts.” Thus, states are to determine the conditions that define high winds in an area. Making a precise determination, however, is a complex task that requires detailed information on soil moisture, daily wind speeds, temperature, and a number of other variables that are not readily available at this time. Historically, the Division has used, in the absence of Lamar specific studies, the definition of high winds specified in the *Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events*. Based on this guidance, high winds are defined as: “An hourly wind speed of greater than or equal to 30 mph or gusts equal to or greater than 40 mph, with no precipitation or only a trace of precipitation.” However, EPA recently proposed *Draft Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule* (June 2012) that suggests that EPA will accept a threshold of sustained wind of 25 mph for areas in the west provided the agencies support this as the level at which they expect stable surfaces (i.e., controlled anthropogenic and undisturbed natural surfaces) to be overwhelmed.<sup>8</sup> Nevertheless, since this new EPA guidance is not finalized, the Division may need to rely on earlier EPA guidelines.

Since the last update to the Lamar NEAP in 2003, the EPA promulgated in 2007 an Exceptional Event Rule (EER) which establishes a process for the treatment of data influenced by exceptional events. The EER is based on amendments to Section 319 of the Clean Air Act which defines an exceptional event as an event that: (i) affects air quality; (ii) not reasonably controllable; (iii) is caused by human activity not likely to recur at a particular location, is a natural event; (iv) and is determined by EPA through the process established in regulation to be an exceptional event. The EER provisions require that states address the following six elements in a request for data exclusion:

- The event affects air quality
- The event was not reasonably controllable or preventable
- The event was caused by human activity that is unlikely to recur at a particular location, or was a natural event
- There exists a clear causal relationship between the specific event and the monitored concentration;

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<sup>8</sup> See page 16, Section 3.1.4 – Consideration of Wind Speed, EPA Draft for Public Comment of *Draft Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule* (6/2012)



- The event is associated with a measured concentration in excess of the normal historical fluctuations including background
- There would have been no exceedance or violation but for the event

Unlike the original EPA Natural Events Policy, the 2007 Exceptional Events Rule does not require the development of a Natural Events Action Plan (see 72 FR 13576). Nevertheless, since the Lamar NEAP is an element of the EPA approved Lamar PM10 Maintenance Plan; the NEAP must remain in place and be updated no less than every five years – as specified in the original plan.

Moreover, the Lamar NEAP has assisted the area in addressing blowing dust due to uncontrollable winds and is designed to protect public health, educate the public about high wind events and blowing dust; mitigate health impacts on the community during future events; and, identify and implement Best Available Control Measures (BACM) for anthropogenic sources of windblown dust.

The below table lists eighteen (18) PM10 events identified as exceedances of the primary 24-hour PM10 NAAQS that were recorded at the Lamar Power Plant and Municipal Complex for the eleven year period (2001 – 2011). The PM10 exceedances were recorded on days with unusually high wind speeds and are flagged as high wind events, except for four events; one in 2001 and two in 2009 that were inadvertently not flagged before the regulatory deadline but are associated with high winds and another in 2009 was flagged as a high wind event but no demonstration was submitted before the regulatory deadline.

**Table 1: Lamar Area PM10 Exceedances (2001-2011)**

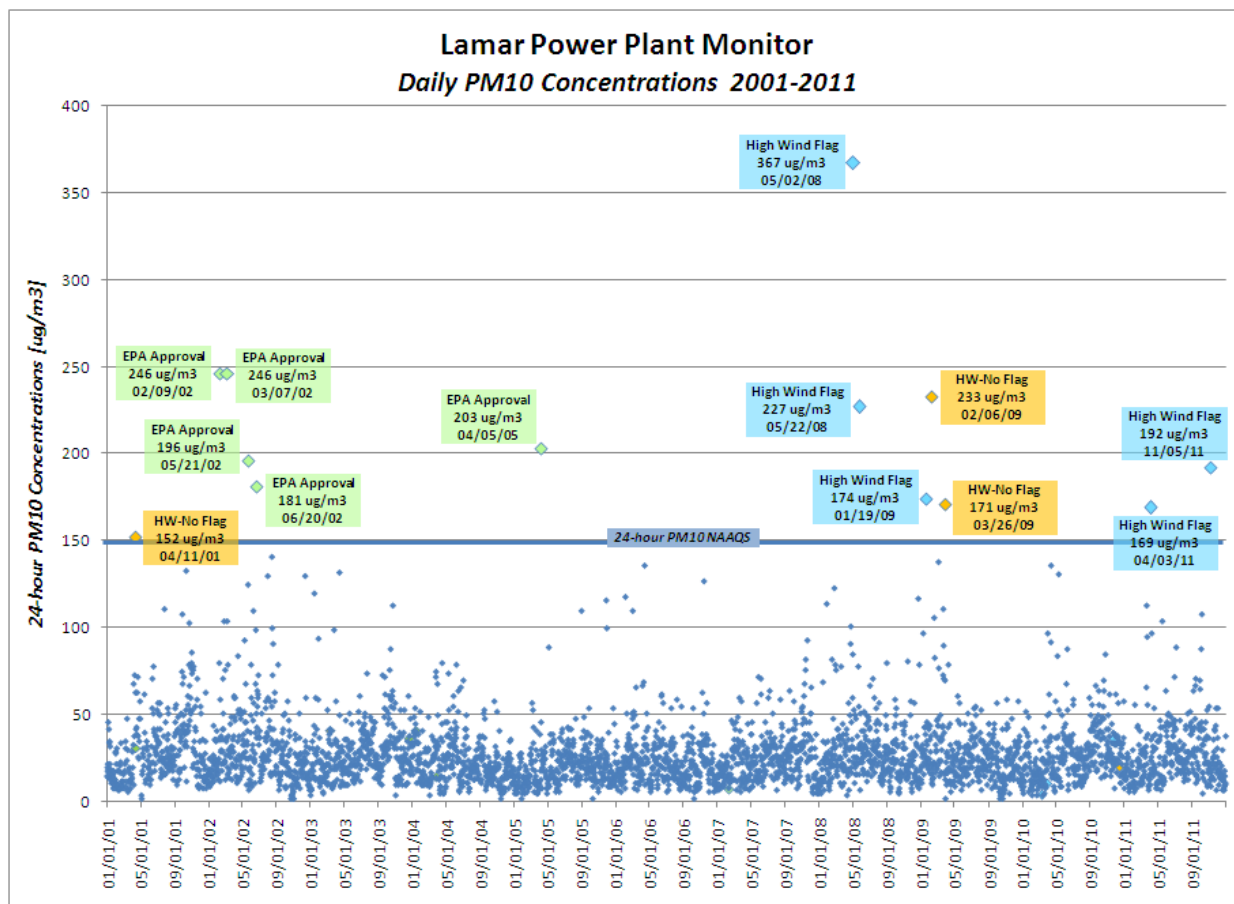
Event Date	Monitor Site	PM10 Value [µg/m3]	Data Flag	EPA Review/Filing Status
04/11/01	Power Plant	152	none	Event not flagged
02/09/02	Power Plant	246	High Wind	EPA Concurrence on Flag
03/07/02	Power Plant	246	High Wind	EPA Concurrence on Flag
05/21/02	Power Plant	196	High Wind	EPA Concurrence on Flag
05/21/02	Municipal	183	High Wind	EPA Concurrence on Flag
06/20/02	Power Plant	181	High Wind	EPA Concurrence on Flag
06/20/02	Municipal	162	High Wind	EPA Concurrence on Flag
04/05/05	Power Plant	203	High Wind	EPA Concurrence on Flag
04/05/05	Municipal	164	High Wind	EPA Concurrence on Flag
05/02/08	Power Plant	367	High Wind	<i>Under EPA Consideration</i>
05/22/08	Power Plant	227	High Wind	<i>Under EPA Consideration</i>
01/19/09	Power Plant	174	High Wind	<i>Under EPA Consideration</i>
01/19/09	Municipal	173	High Wind	<i>Under EPA Consideration</i>
02/06/09	Power Plant	233	none	Event not flagged
03/05/09	Municipal	176	High Wind	Flagged – Not submitted
03/26/09	Power Plant	171	none	Event not flagged
04/03/11	Power Plant	169	High Wind	Prelim Analysis
11/05/11	Power Plant	192	High Wind	Prelim Analysis

The Division, after an extensive meteorological analysis of each event, has confirmed that all of the above listed PM10 events are due to blowing dust associated with high winds, which caused exceedances of the 24-hr PM10 NAAQS that otherwise would not have occurred “but for” the event.

Consistent with the original EPA Natural Events Policy and as required by 2007 Exceptional Events Rule, each exceedance that is associated with high winds is flagged by the Division’s Technical Services Program in the AIRS system. All supporting analysis and documentation of each high wind event is submitted to EPA Region VIII after public review and/or comment. According to EPA guidance, the type and amount of documentation provided for each event should be sufficient to demonstrate that the natural event occurred, and that it impacted a particular monitoring site in such a way as to cause the PM10 concentrations measured.

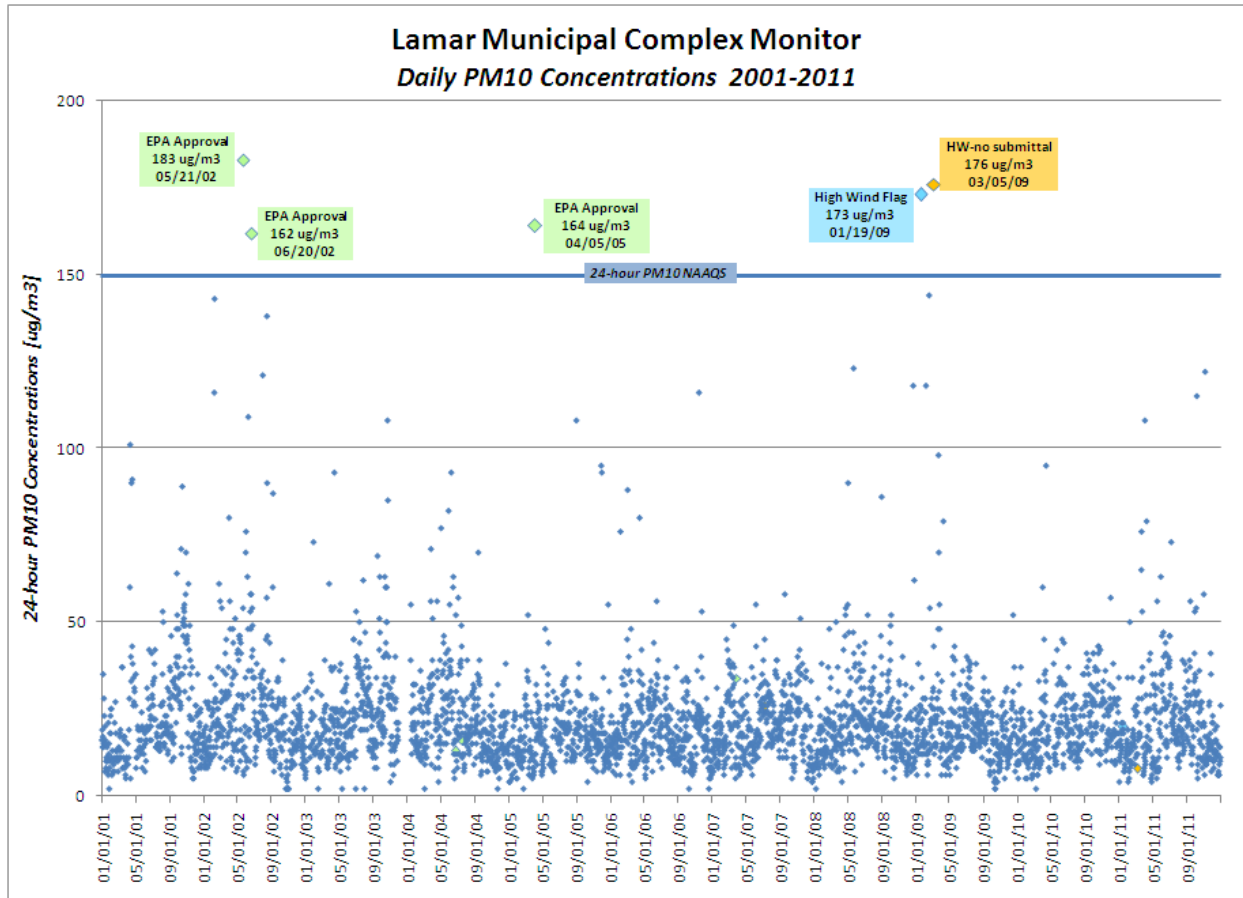
In the below Figure 2, the daily PM10 concentrations for the past eleven (11) years are compiled for the Power Plant monitor. The values above the 24-hour PM10 NAAQS are tagged with notes indicating the regulatory status of the exceptional events, which are all associated with high winds.

**Figure 2: Power Plant PM10 Concentrations Over 11 Years**



In the below Figure 3, the daily PM10 concentrations for the past eleven (11) years are compiled for the Municipal Complex monitor. The values above the 24-hour PM10 NAAQS are tagged with notes indicating the regulatory status of the exceptional events, which are all associated with high winds.

**Figure 3: Municipal Complex PM10 Concentrations Over 11 Years**



The foregoing data analysis, in conjunction with previously provided technical documentation, fulfills the documentation and analysis requirements of Element #1 of the Natural Events Policy as described on page 5 of the NEAP.

#### Element 2: Public Education Programs

The purpose of this program is to inform and educate the public about the problem. The Division has worked closely with the City of Lamar, Prowers County Commissioners, local media, and interested community groups to educate the public about the problems associated with elevated levels of PM10 in the Lamar area. Over the years numerous meetings have taken place with the City and County governments to discuss these issues and to develop a plan to address future high wind events in Lamar. Elements of the program include: informing the public when air quality in the area is unhealthy; explaining what the public can expect when high wind events occur;

what steps will be taken to control dust emissions during future high wind events; and, how to minimize their exposure to high concentrations of PM10 during high wind conditions. The public notification and education programs have included but are not limited to:

- An informational and health-related brochure has been and will continue to be distributed by the local governments, the Prowers County Health Nurses, the Prowers County conservation and agricultural extension agencies to sensitive populations (elderly and local school districts) as well as the general public. Distribution of the Blowing Dust Health Advisory Brochure began in January 1998 (see Appendix C). In the revised (2003) NEAP the Division also committed to develop a Spanish language brochure for the non-English speaking community.
- Back in 2002, an Air Quality Task Force was established in the community, which included local health department personnel, staff from city and county, the business community, a public health nurse representative, and the Division itself. The charge before the task force is to identify any unresolved air quality issues, ensure area exceedances are minimized, and work to ensure the community is aware of ongoing air quality issues and efforts to minimize impacts. The 2002 Task Force activities were not part of the original 1998 NEAP but demonstrate the additional efforts by the local agencies and the Division to improve area air quality.
- During the period 2005 to 2011, the Division coordinated the issuance of blowing dust advisories with Prowers County Department of Public Health and Environment. The Division would contact Prowers County staff when a blowing dust advisory was first issued, which is based on meteorological forecasts prepared by the Technical Services Program. Upon notification, Prowers County would issue a local public health advisory.
- Since late 2011, the Division has assumed the lead role for issuing blowing dust advisories statewide throughout the year. Based on meteorologist forecasts, the Division issues blowing dust advisories that are posted to the Colorado Air Quality Summary webpage and sent to members of the public on a list serve.
- Since 2002, over twelve (12) blowing dust advisories have been issued to ensure minimization of the public's exposure elevated concentrations of PM10.

This section fulfills the Element 2 requirement of the Natural Events Policy as described on page 6 of the NEAP.

### Element 3: Minimize Public Exposure to High PM10

The Blowing Dust Health Advisory Program notifies the public to the possibility that a high wind event is imminent or currently taking place, and includes an advisory suggesting what actions can be taken to minimize exposure to high concentrations of particulate matter.

Originally, blowing dust advisories were issued by the Lamar area Environmental Health Southeastern offices with forecasting assistance provided by the Division and the National Weather Service. This forecasting methodology was approved as part of the 1998 NEAP submittal.

Since late 2011, the Division Technical Services Program has assumed the responsibility for issuing blowing dust advisories throughout the year for all areas of the state. For the Lamar region, a meteorologist evaluates the potential for blowing dust and prepares a daily forecast. These forecasts are based on a full meteorological forecast for the current and subsequent days, an assessment of statewide and regional soil moisture conditions, an evaluation of a variety of satellite data products, evaluation of surface weather observations, review of output from two models that forecast blowing dust in the United States, and an assessment of any blowing dust or wind advisory forecasts issued by National Weather Service Forecast offices in Colorado, Utah, New Mexico, and Arizona.

The meteorological forecast includes a review of wind (the potential for sustained winds of 30 mph or higher or gusts of 40 mph or higher), stability, and precipitation forecast products from the National Centers for Environmental Prediction (NCEP) NAM12 meteorological model and the National Weather Service Graphical Forecast products:

<http://mag.ncep.noaa.gov/NCOMAGWEB/appcontroller?prevpage=index&MainPage=index&cat=MODEL+GUIDANCE&page=MODEL+GUIDANCE>

<http://graphical.weather.gov/sectors/centrockies.php#tabs>

Soil moisture conditions are determined by checking the NCEP soil moisture product pages or the recent 30-day total precipitation maps from the High Plains Regional Climate Center:

[http://www.cpc.ncep.noaa.gov/products/Soilmst\\_Monitoring/US/Soilmst/Soilmst.shtml](http://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml)

[http://www.hprcc.unl.edu/maps/current/index.php?action=update\\_daterange&daterange=30d](http://www.hprcc.unl.edu/maps/current/index.php?action=update_daterange&daterange=30d)

In general widespread, anomalously dry conditions and/or 30-day precipitation totals of 0.5 inches or less are a good indicator for the potential for blowing dust.

Visible satellite imagery and satellite aerosol optical depth (AOD) products are evaluated for evidence of blowing dust upwind of the forecast area or developing in the area itself. A variety of such products are used, but they include NASA MODIS Tera and Aqua images and GOES Aerosol and Smoke Product (GASP) AOD imagery:

<http://ge.ssec.wisc.edu/modis-today/>

<http://www.ssd.noaa.gov/PS/FIRE/GASP/gasp.html>

Surface weather observations are checked for reports of winds of 30 mph or higher, gusts of 40 mph or higher, and visibility restrictions, blowing dust or haze.

Blowing dust products from the Navy Aerosol Analysis and Prediction Model or NAAPS are examined to look for the potential for local or transported dust during the next one to three days. The National Weather Service Air Quality Forecast Guidance System includes output from a blowing dust forecast model. Forecasters use the following

output maps from this model to assess blowing dust potential for the next one to three days:

<http://www.nrlmry.navy.mil/aerosol/>

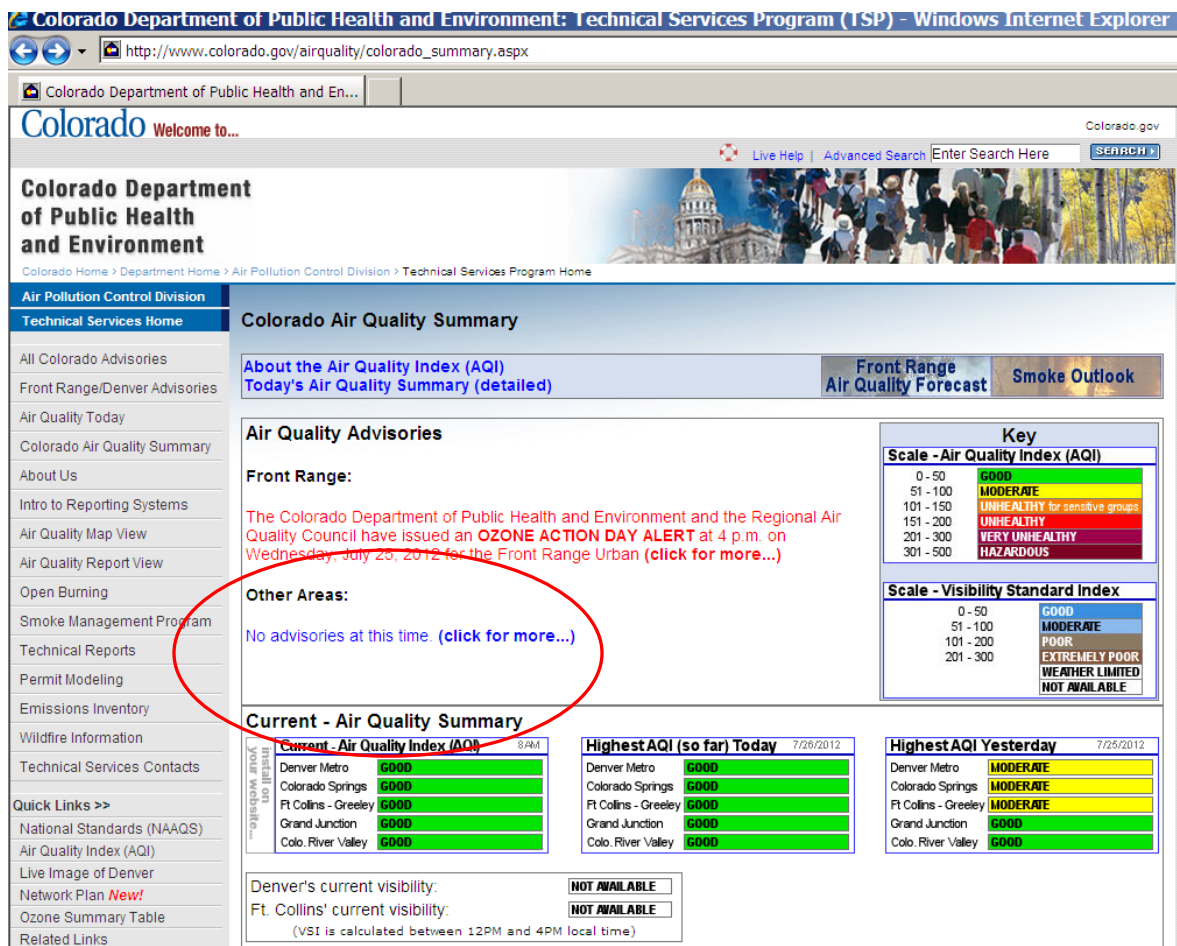
<http://airquality.weather.gov/>

Finally, the forecaster reviews zone forecast products and forecast discussions from the relevant National Weather Service Forecast offices to see if they are calling for high winds and/or blowing dust. The Division forecaster weighs the information from each of these sources in the context of his or her experience and determines a final forecast. If the foregoing analysis indicates blowing dust, the forecaster will issue a blowing dust advisory that is posted to the "Colorado Air Quality Summary" webpage at the following link:

[http://www.colorado.gov/airquality/colorado\\_summary.aspx](http://www.colorado.gov/airquality/colorado_summary.aspx)

The below Figure 4 provides a screen view of the Colorado Air Quality Summary webpage. If a blowing dust advisory is issued for the Lamar area, the "Air Quality Advisories" portion of the webpage would display an advisory under the "Other Areas" section (circle in red).

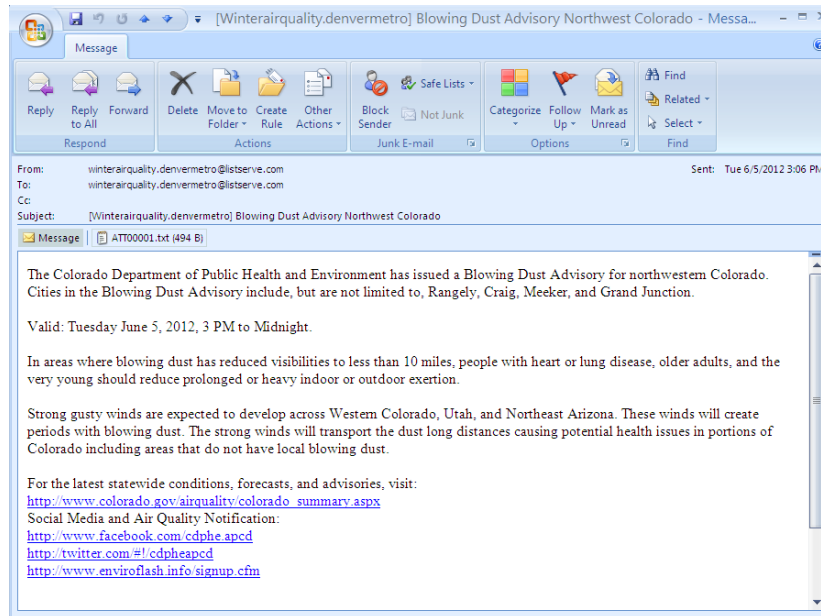
**Figure 4: Colorado Air Quality Summary Webpage**





The blowing dust advisory is also sent to a winter air quality list serve, which emails the advisory to all registered recipients. Figure 5 provides an example blowing dust advisory that specifies the duration of the advisory along with exposure recommendations for sensitive populations.

**Figure 5: Example Blowing Dust Air Quality List Serve Email**



The Division is committed to continually investigating blowing dust issues and improving the blowing dust advisory process to ensure timely notification in order to minimize public exposure. The website air quality summary and list serve notification are new activities that were not part of the original 1998 NEAP or the revised 2003 NEAP and demonstrate additional efforts by the Division.

This section fulfills the Element 3 requirement of the Natural Events Policy as described on page 6 of the NEAP.

#### Element 4: Abate or Minimize Contributing Sources (BACM) and Element 5: Identify, Study and Implement Practical Control Measures

##### 1. Best Available Control Measures (BACM) Determination

According to the NEP, BACM must be implemented for anthropogenic sources contributing to NAAQS exceedances in moderate PM<sub>10</sub> nonattainment areas. BACM for PM<sub>10</sub> is defined (see 59 FR 42010 - August 16, 1994) as techniques that achieve the maximum degree of emissions reduction from a source as determined on a case-by-case basis considering technological and economic feasibility. Through a series of meetings beginning in 1997 between the Division and Lamar officials representing the City of Lamar, Prowers County Commissioners, local farmers, a county health specialist, the local media, the Natural Resources Conservation Service, the county extension office, and concerned citizens, issues were discussed surrounding the NEAP and its efforts. Specifically covered were issues of the meteorological data, monitoring



data, potential contributing sources to the high wind events, and potential candidate BACM. The community meetings, coupled with the analyses of the supporting documentation, identified two distinct set of circumstances that lead to Lamar's high wind exceedances of the PM10 NAAQS:

- High concentrations of PM10 caused by a mixture of anthropogenic and non-anthropogenic sources coming largely from outside the nonattainment area under high wind conditions - from about the 270 degree to 360 degree wind directions (west, northwest, and north directions); and,
- Prolonged climatic conditions of low precipitation over an extended period of time that act to dry area soils making them more susceptible to airborne activity under high wind conditions.

The meetings also identified potential BACM candidates including the Burlington Northern Santa Fe rail line, agricultural lands, other open areas, limited construction activity (which has been since completed), the city landfill, and area gravel pit. Specific documentation for these candidate BACM can be found in the original 1998 NEAP.

#### **BACM Options Considered:**

To determine the most appropriate and viable control measures for the community, both a review of the area emission inventory and consideration of all BACM was undertaken. Note that numerous other BACM options have been considered for the revised (2003) NEAP that were not part of the original (1998) NEAP.

Based on the contributing source analysis and in review with community stakeholders, the following BACM options were considered as possible PM10 control measures for the community:

- (a) Street Sweeping Activities - Community Street sweeping programs have demonstrated effectiveness in other communities. Such activities were considered as a local control measure. Expanding the current street sweeping program and purchasing additional, more effective equipment were also reviewed.
- (b) Construction/Demolition Activity – local ordinances to control emissions from construction and demolition sites have been implemented in other parts of the state with good success. Also, several work practice could be applied to reduce emissions from the site including watering, a track out policy, and an area land use plan. Based on the contributing source analysis, this option was discussed with the City of Lamar and Prowers County officials as part of the 1998 NEAP as well.
- (c) Wind Erosion of Open Areas – several practices were reviewed regarding the wind erosion of open areas, including both local and regional efforts. Recommendations under consideration included sodding of local parks, tree breaks planted at the area transfer station, gravel/chips along railroad corridor, and chemical stabilization applied by the city along the railroad corridor in a two-block area. Based on the contributing source analysis, this option was discussed with the City of Lamar and Prowers County officials as part of the 1998 NEAP as well.

- (d) Control of Stationary Source Emissions - as identified elsewhere in this NEAP, a review of stationary sources and their relative contribution to overall PM concentrations was completed. It was determined that few PM<sub>10</sub> sources exist in the area, appearing to contribute a very small amount of particulate matter to the overall inventory.
- (e) Road Stabilization - In an effort to better understand the effects of road stabilization, several options were reviewed including the use of chemical stabilizers and water as a stabilizing measure. Also, periodic assessments to determine if traffic levels on unpaved roads surpass Colorado Regulation No. 1 limits were considered. If daily traffic counts exceed 200 trips per day on unpaved roads, state regulations apply that reduce PM<sub>10</sub> emissions from those roads. Specifically, a periodic assessment of traffic levels on unpaved roads within the city limits and within one mile of the city limits were considered. State regulation calls for a road traffic count and dust control plan for roads that exceed the 200 trips threshold. In addition, Lamar currently suggests that drivers maintain their vehicles at a slow speed on unpaved roads and other dirt surfaces to reduce dust emissions. This information is disseminated throughout the community.
- (f) Woodburning Curtailment Programs - the possibility of instituting a citywide curtailment program was reviewed and considered. This has been a consideration for the community and includes discouraging wood burning on high wind days.
- (g) Open Burning - The usefulness of imposing and maintaining an open burning curtailment program during high wind events was reviewed. Current state air pollution control laws and regulations provide some guidance on the effort.
- (h) Avoidance of Dust Producing Equipment - The effectiveness of avoiding the use of dust producing equipment has also been considered. Currently Lamar discourages the use of dust-producing equipment (e.g., leaf blowers) in an effort to reduce PM<sub>10</sub> emissions and does so through public education and outreach efforts.
- (i) Reducing or Postponing Tilling and Plowing or Other Agricultural Practices that Contribute to PM<sub>10</sub> Emissions - It is well recognized that dust-producing activities such as tilling, plowing, and other agricultural practices increase the amount of PM<sub>10</sub> released. As such, these control measures were discussed as part of the effort to reduce PM<sub>10</sub> impacts on Lamar. Review of existing and potentially future control practices were considered at the local, regional, state, and federal (e.g., Natural Resources Conservation Service) level.
- (j) Wind Break - Various trees are found throughout Lamar. However, the placement of one row of barrier trees (e.g., Russian Olives) would block potential contributing sources. The Russian Olive is a quick growing large shrub/small tree that will do well given the windy climate of Lamar. According to section 3.5.2.1 of EPA guidance entitled *Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures*, dated September 1992, one-row of trees is considered an effective windbreak.

- (k) Vegetative Cover/Sod - Efforts elsewhere in the State have demonstrated the usefulness of using a vegetative cover at sites where dust is known to blow. Efforts to use this control measure were reviewed for applicability and effectiveness.
- (l) Railroad Corridor - Two categories of surface treatments were considered to control fugitive dust emissions lifted from the 400'-wide railroad corridor under dry, high wind conditions. This option was fully explored in the 1998 NEAP and details of this option can be found there.

### Lamar Stationary Sources Emission Inventory

To ensure that significant changes in PM10 emissions from local stationary sources are not a significant contributing factor to area exceedances, an emission inventory was prepared and reviewed. In the Lamar PM10 Maintenance Area, the following Table 2 indicates that stationary sources comprise about 13.7 percent of the total emission inventory of 1,359 pounds per day:

**Table 2: Lamar Area PM10 Emission Inventory – 2010 Actual Emissions**

Source	2010 PM10 Emissions	
	[tpy]	[lbs/day]
<i>Lamar Feed &amp; Grain - White Stone Farms*</i>	23.50	128.8
<b>Lamar Utility Board</b>	<b>15.88</b>	<b>87.0</b>
<i>Front Range Aggregate – West Pit*</i>	12.76	70.0
<b>Colorado Mills, LLC</b>	<b>12.30</b>	<b>67.4</b>
<i>Carder – Hard Scrabble Pit</i>	1.08	5.9
<i>All Rite Paving &amp; Redi-Mix Inc.*</i>	5.29	29.0
<b>Dragon ESP</b>	<b>5.06</b>	<b>27.7</b>
<i>JB Five Rivers Cattle Feeding Co.*</i>	0.83	4.6
<b>Carder</b>	<b>0.75</b>	<b>4.1</b>
<i>Prowers County – Walker Pit North*</i>	0.65	3.6
<i>Prowers County – Walker Pit South*</i>	0.65	3.6
<i>All Rite Paving &amp; Redi-Mix Inc.*</i>	0.27	1.5
<i>Carder Inc. – J&amp;S Pit*</i>	0.04	0.2
<b>Southeastern Colorado Coop</b>	<b>0</b>	<b>0</b>
(Greater Lamar Area) Totals:	85.2	467.1
<b>(Lamar Maintenance Area Only) Totals:</b>	<b>34.0</b>	<b>186.3</b>

**Bold** denotes sources in Lamar PM10 Maintenance Area

\* Denotes sources located outside of Lamar PM10 Maintenance Area

In the below Figure 4, a number of the stationary sources are identified in the Lamar area along with the location of the Power Plant PM10 monitor. The other local stationary sources listed in the above table are located outside the portion of the map shown. The PM10 maintenance area is denoted by the bright green line.

**Figure 4: Map of Lamar Point Sources nearby the Power Plant Monitor**



## BACM Options Discounted

Several BACM options were discounted from consideration based on the meteorological analysis, onsite inspection and discussion with area residents and local government officials. A complete discussion of these previous efforts can be found in the 1998 NEAP.

For this revised Plan, the community remains committed to meeting BACM in all instances, where feasible. For example, the ongoing regional drought significantly impacts the amount of water available as a control measure (e.g., watering of area roads to reduce PM10). Accordingly water restrictions (and related economic impacts of the drought) will likely dictate the practicality of this control measure.

## IV. STAKEHOLDER AGREEMENTS

The City of Lamar and Prowers County have identified contributing sources for developing BACM as required by NEP. The following descriptions include BACM that has either already been put into place or will be phased in as economically and technically feasible.

### **City of Lamar**

The City of Lamar has been very active in addressing potential PM10 sources within the Lamar area through efforts such as sodding baseball fields, implementing and enhancing a street sweeping program, and chip-seal paving of many unpaved roads. In addition to these type of control measures already taken by the City, the Public Works Department implemented the following BACM within the area:

#### *1. Wind Break*

Beginning in the Spring of 1997, a wind break of trees was planted north of the Power Plant monitoring site. The Russian Olive tree wind break is located approximately one half mile north of the Power Plant monitoring site and will block potential contributing sources such as the Lamar Transfer Station and other unpaved equipment traffic areas to the north. The Russian Olive is a quick growing large shrub/small tree will do well given the semi-arid and windy climate of Lamar. According to section 3.5.2.1 of EPA guidance entitled "*Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures*", dated September 1992, one-row of trees is considered an effective windbreak. In addition to this commitment, more recent efforts include: the installation of a drip irrigation system to irrigate these tree groves.

#### *2. Landfill Shutdown*

The East Lamar Landfill is located approximately six (6) miles east of the city limit. According to section 3.5.1 of the "Operations and Closure Plan for the East Lamar Landfill", the Director of the Public Works Department and/or the landfill operator is required to do the following litter control measures under high wind conditions:

- Soil cover is required to be placed on the working face of the landfill daily during periods of wind in excess of 30 mph; and,
- The landfill must be closed down when sustained winds reach 35 mph or greater.

An on-site wind gauge is used to monitor wind speeds at the landfill. Operators have radios in their equipment connecting them with the main office so that when the decision to close the landfill is made, it can take place immediately. According to the previous Director of Public Works, landfill operators have been directed to close the landfill at their discretion. Because paper begins to lift and blow into the debris fences at wind speeds of 25 to 30 mph, the operator usually closes the landfill prior to wind speeds reaching 30 mph. The City of Lamar has agreed to make the closure of the Lamar landfill mandatory when wind speeds reach 30 mph. This also reduces

windblown dust from the landfill as earth moving activities are reduced or eliminated during periods of shut down.

In addition to this commitment, more recent efforts include: the placement of chain link fencing and various debris fences in place of the previous litter entrapment cage. This effort is to better minimize the release of materials during high wind conditions.

### *3. Vegetative Cover/Sod*

The Lamar Recreation Department installed 100,000 square feet of sod at a recreational open space called Escondido Park. Escondido Park is located in northwest Lamar at 11th and Logan Streets. A sprinkler system has also been installed by the Parks and Recreation Department. The sod provides a vegetative cover for the open area. This dense, complete cover provides an effective control against windblown soil from the open area of the park.

In addition to the commitment above, more recent efforts include: the commitment by the Lamar Public Works Department to stabilize the entrance road leading to and from Escondido Park to reduce track out onto city streets and minimize additional releases of PM10.

### *4. Additional Public Works Projects*

In addition to the PM10 control efforts of the original NEAP, new Public Works projects to further reduce emissions of PM10 include:

- The recent purchase of a TYMCO regenerative air street sweeper which is much more effective in reducing dust during street sweeping activities. The use of this sweeper allows for improved cleaning of the streets (e.g., sweeps the gutter and street);
- The fencing of an area around the City Shop to reduce vehicle traffic that may be responsible for lifting dust off of the dirt area between the railroad tracks and the Shop;
- The stabilization of a large dirt and mud hole on the north side of the City Shop. This project is credited with keeping mud from being tracked out into the street and becoming airborne by vehicular traffic;
- The ongoing commitment to search for other stabilization projects that benefit the community and improve area air quality, and;
- The relocation of the Municipal Tree Dump (formerly located in the northeastern corner of the city) to approximately six miles east of the city (now housed at the Municipal Landfill). This relocation eliminates a major source of smoke from agricultural burns that may have previously affected the community.

### **Burlington-Northern/Santa Fe Rail Line**

The rail line running east-west of the Power Plant monitoring site was deemed to be an important PM10 source during conditions of high winds and low precipitation. Vehicle traffic which damages vegetation and break up the hard soil surfaces, highwinds, and passing trains re-entrains the dust into the air. This area is particularly problematic in

the two block area immediately west of the Power Plant monitoring site. Control of this open area requires a close working agreement between the Burlington-Northern/Santa Fe Railroad Company (BNSF), the Division, and the City of Lamar Public Works Department. The purpose of this BACM is to reduce the amount of particulate matter susceptible to wind erosion under high wind conditions and general re-entrainment of dust in the ambient air as a result of local train traffic passing in close proximity of the PM10 monitor.

In September 1997, the City chemically stabilized exposed lands north of the rail line between Fourth and Second Street where there was evidence of vehicle traffic. All other lands on either side of the rail road tracks between Main Street (Fifth) and Second Street and extending westward have either natural, undisturbed ground cover or it is used for commercial/recreation purposes that do not allow for significant re-entrainment (BNSF is responsible for maintaining 50 feet of property on either side of the main track). Most of these lands are leased by the City. After September 1997 the City negotiated the lease of these lands. Once acquired, a long term plan, will be developed for these lands such as restricting vehicle access, permanently stabilizing lands with vegetation and gravel, increasing park and recreational use, and using the lands for city maintenance and storage activities.

According to John Meldrum, Manager of Environmental Operations for BNSF, the railroad company owns the main rail line and 200 feet on either side of the track. Much of this property has been sold or leased under private contracts. At this time BNSF is responsible only for the main rail line and for 50 feet of property on either side of the main track. All property sold or under contract is not the responsibility of BNSF. As a result, BNSF has stabilized the railroad corridor 50 feet on either side of the main rail line.

In May 1997, Burlington Northern Santa Fe placed chips (gravel) 50 feet on either side of the main track from Main Street to Second Street (three blocks) to control fugitive dust emissions from this section of the track. Graveling exposed surfaces not exposed to regular vehicle traffic is considered a permanent mitigation measure. Details of this arrangement can be found in the documentation under the 1998 submittal.

### **USDA: Natural Resources Conservation Service (NRCS)**

#### *1. Conservation Reserve Program (CRP)*

Prowers County is a predominately agricultural area that is made up of over one million acres of land area - 882,165 acres (or 84.6%) of which is land in farms. Of the farm land acreage, cropland accounts for over half of the total (467,650 acres). Water, and often the lack of it, coupled with the frequent high winds experienced during late fall and early spring can destroy crops, encourage pests, and damage soil surfaces lending them susceptible to wind erosion. Most of Prowers County cropland acreage is farmed using dryland practices (versus irrigated) and consists of soils classified as highly-erodible-land (HEL) by the Department of Agriculture.

Recognizing the problems associated with erodible land and other environmental-sensitive cropland, the U.S. Department of Agriculture (USDA) included conservation



provisions in the Farm Bill. This legislation created the Conservation Reserve Program (CRP) to address these concerns through conservation practices aimed at reducing soil erosion and improving water quality and wildlife habitat.

The CRP encourages farmers to enter into contracts with USDA to place erodible cropland and other environmentally-sensitive land into long-term conservation practices for 10-15 years. In exchange, landowners receive annual rental payments for the land and cost-share assistance for establishing those practices.

The CRP has been highly successful in Prowers County by placing approximately 146,000 acres of Prowers County cropland, or 28% of total cropland, under contract. Most of this land has been planted with a perennial grass cover to protect the soil and retain its moisture. Strong support of the program by Prowers County farmers continues as 38% of the counties HEL cropland has been offered for conservation practices.

While the following initiatives are not meant to be enforceable, many efforts are underway that further reduce blowing dust and its impacts. These include:

- The CRP has moved to include all available area lands into area contracts. These contracts are good through 2007. Success of the CRP initiatives is measured through ongoing monitoring of the contracts to ensure ample grass coverage to minimize blowing dust.
- CRP sends out information several times per year through radio and the area newspaper to further reach farmers interested in topsoil protection.
- In response to the significant Colorado drought the CRP is working with multiple parties in extensive annual planning efforts to limit blowing dust and its impacts. These planning efforts change year to year depending on the severity of the drought.

These programs were in effect during the period addressed in the analysis in this attachment (2004-2009). The NRCS in Colorado has also worked through the CRP and other programs to bring erosion control practices to croplands throughout eastern Colorado.

Beginning in September of 2009, however, 743,238 acres of the 2,412,238 acres of Colorado land under the CRP were to become eligible to come out of the CRP in the subsequent five-year period. Much of this land is in eastern and southeastern Colorado. Land released from the CRP has the potential to increase the amount of lands contributing to blowing dust in eastern Colorado. The NRCS, however, has identified a variety of alternatives and options to promote soil conservation on the lands that will be released from CRP contracts (<http://www.co.nrcs.usda.gov/programs/CRP/crp.html>).

These include conservation easements, enrollment in the Continuous CRP (a subset of CRP), transition to grazing land, and managing land for wildlife. Returning the land to cropland is also an option, and the NRCS is encouraging conservation tillage for these lands. The Colorado office of the NRCS has a form letter that will be sent to those whose contracts will be expiring. It includes the following:

*“Over the next five years, approximately two million acres of land contracted under the Conservation Reserve Program (CRP) will expire in Colorado. A significant portion of <<COUNTY NAME>> County land enrolled in CRP either expired last September, or will be expiring within the next few years.”*

*“The current crop prices are causing many landowners to consider farming their CRP land by returning it to crop production. However, there are some valuable information and alternatives that must be considered prior to making this major decision...”*

*“While some fields may return to cropland, many acres of CRP are environmentally sensitive and not suited to annual crop production. By making the decision to return CRP land to cropland you will impact the local economy, landscape, and environment. It is important for you to consider several factors before deciding what to do when your CRP contract expires: soil productivity and limitations, past yields, commodity prices, production, conversion or renovation costs, and other required investments.”*

*“There are several options available to landowners who have expiring CRP contracts. These options include: re-enrolling eligible acres into Continuous CRP, returning land to a cropland rotation, utilizing and enhancing forage as pasture or hayland, or managing the expired CRP for wildlife.”*

*“It is important for you to develop an NRCS approved conservation plan, particularly when considering converting expired CRP acres to cropland. It requires proper planning and good management. NRCS conservation plans provide an inventory and complete assessment of a landowner’s resources, as well as recommendations for improving those resources, which if implemented can positively impact your bottom line.”*

According to the NRCS brochure: (see [http://www.co.nrcs.usda.gov/programs/CRP/CCRP\\_1.pdf](http://www.co.nrcs.usda.gov/programs/CRP/CCRP_1.pdf))

*“The Continuous CRP program (CCRP), a subset of the Conservation Reserve Program, offers year round enrollment and increased incentives to keep these small sensitive areas in permanent cover.*

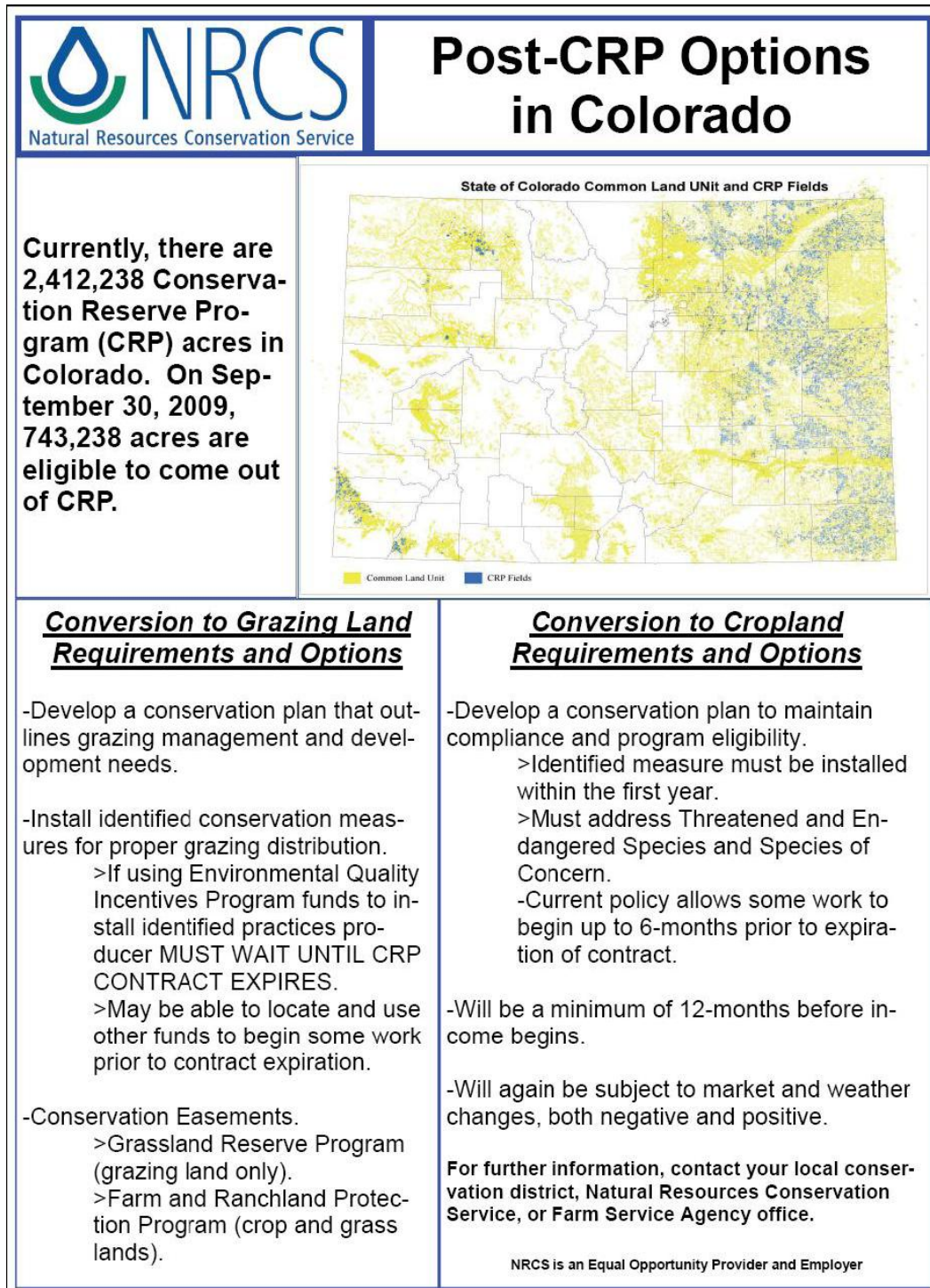
***Practice Incentive Payment (PIP)*** - This is an additional incentive of 40% of eligible practice establishment costs.

***Signing Incentive Payment (SIP)*** - This is a one-time incentive payment for signing the Continuous CRP contract.

***Rental Incentive Payment*** - This is an additional incentive payment equal to the shown percentage of the CRP rental rate. All of the above incentives are in addition to the regular CRP rental payment. For more information on CCRP, contact your local USDA Service Center.”

Details on the incentive payments for various categories of land use conservation practices can be found in the NRCS brochure link above. Additional information on NRCS post-CRP programs is presented in Figures 5 - 7 below.

**Figure 5: NRCS Overview of Post-CRP Options in Colorado**



**Figure 6: NRCS Information on Transition to Grazing Land**



**United States Department of Agriculture**  
Natural Resources Conservation Service

## Expiring CRP Options— Transition to Grazingland

USDA Natural Resources Conservation Service — Colorado
March 2009



Between the years 2009 and 2013, approximately 2 million acres of CRP contracts will expire in Colorado. This mass contract expiration has the potential to impact soil erosion, wildlife habitat, water quality, farm incomes and rural economies. However, the USDA Natural Resources Conservation Service provides technical assistance and financial incentives to producers and landowners as they chose to transition these lands to other uses.

### Incentives for Grazing Management

Through its Environmental Quality Incentives Program, the NRCS offers technical and financial assistance for producers with expiring CRP who want to transition that land management into a grazing management system. The NRCS can provide financial assistance for installing necessary infrastructure such as fences, livestock pipeline and tanks. The NRCS also provides management incentive payments for grazing management, weed control and wildlife habitat management.



### Potential Payments for CRP transition to Grazingland

Practice	Example Incentive Payment (Tentative costs calculated for Northeast Colorado)
382-Fence	\$0.85/Foot
516-Pipeline	\$1.35/foot
614-Watering Facility	\$0.60—\$1.35/gallon
528-Grazing Management	\$10/acre
595-Pest Management	\$10/acre
645-Upland Wildlife Habitat Management	\$10—\$15/acre

### NRCS Technical Assistance

NRCS Field Office staff, Range Conservationists and Wildlife Biologists are available to offer technical advice on implementing or expanding a grazing system onto CRP ground.


### For More Information

To learn more about these incentives, or for other options for expiring CRP, contact your local NRCS Field Office. Log on to [www.nrcs.usda.gov](http://www.nrcs.usda.gov) to find your nearest office.



**Figure 7: NRCS Brochure on Post-CRP Options (pages 1 and 2)**

## Planning



### Getting Started with a Conservation Plan

As a Conservation Reserve Program (CRP) contract nears its end, landowners will be making decisions on what to do next with their land.

Before deciding what to do when a CRP contract expires, it is important to consider several factors including soil productivity and limitations, past yields, commodity prices, production, conversion or renovation costs, and other required investments.

The Natural Resources Conservation Service (NRCS) encourages landowners to visit their local NRCS field office for assistance with developing a comprehensive conservation plan prior to making a decision on expired CRP contracts.

An NRCS-approved conservation plan is critical and is developed by first understanding the resource needs and a landowner's desired land use goals, then created based on sound, scientific practices.

These assessments help NRCS technicians develop solutions that best match each landowner's goals with the needs of the land.

At the very least, expired CRP contracts, which will be returned to crop production needs to get an updated conservation plan on file since many parcels are operating under outdated plans.

## CONSERVATION PLANNING

The Natural Resources Conservation Service (NRCS) provides technical and financial assistance to help agricultural producers and others care for the land.

NRCS has six mission goals that include:

- High quality, productive soils
- Clean and abundant water
- Healthy plant and animal communities
- Clean air
- An adequate energy supply; and
- Working farm and ranch lands


[www.co.nrcs.usda.gov](http://www.co.nrcs.usda.gov)


April 2009

**For more information contact:**

**720-544-2868**

## Options for Expired Conservation Reserve Program Lands in Colorado





Helping People  
Help the Land

## Overview

The Conservation Reserve Program (CRP) protects millions of acres of American topsoil from erosion and is designed to safeguard the Nation's natural resources.

Acreage enrolled in the CRP is planted to resource-conserving vegetative covers, making the program a major contributor to increased wildlife populations in many parts of the country.

Over two million acres of Colorado's grasslands are currently listed within the CRP with contracts expiring through 2013.

Due to changes in the 2008 Farm Bill, agricultural producers having these grasslands may find little opportunity to re-enroll their land in the CRP.

According to the Colorado Department of Agriculture, if a large portion of expiring CRP acres go back into cropland, Colorado will lose many of its important conservation benefits accrued over the lifetime of the contracts that established these grasslands including reduced soil erosion and improved wildlife habitat.

However, if some of the expiring CRP lands are kept in grass and managed for other uses, many of the conservation benefits realized during the CRP contracts could be maintained or enhanced.

## Options



### Options for Expiring Conservation Reserve Program Lands

#### Conversion to Grazing Land

**REQUIREMENTS AND OPTIONS**

- Develop a conservation plan that outlines grazing management and development needs
- Install identified conservation measures for proper grazing distribution
- If using Environmental Quality Incentives Program funds to install identified practices, producer **MUST WAIT UNTIL CRP CONTRACT EXPIRES**
- May be able to locate and use other funds to begin some work prior to contract expiration
- Conservation Easements
- Grassland Reserve Program (grazing land only)

### Conversion to Cropland

**REQUIREMENTS AND OPTIONS**

- Develop a conservation plan to maintain compliance and program eligibility
- Identified measure must be installed within the first year
- Must address Threatened and Endangered Species and Species of Concern
- Current policy allows some work to begin up to five months prior to expiration of contract
- Will be at least until July 2010 before income begins
- Will again be subject to market and weather changes, both negative and positive.

### Enrollment in Continuous CRP

- **SAFE** - The new State acres for wildlife Enhancement (SAFE) program focuses on high priority wildlife habitat areas, and aims to retain desirable cover to halt the decline of numerous at-risk species.
- **CREP** - the Conservation Reserve Enhancement Program helps protect environmentally sensitive land, decrease erosion, and restore wildlife habitat.
- **High priority conservation practices** - an opportunity to re-enroll a portion of expired land into Continuous CRP and focuses on environmentally sensitive land.



**Conservation Reserve Program** - encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filterstrips, or riparian buffers.

**NRCS Programs that Can Help:**

- Environmental Quality Incentives Program (EQIP)
- Continuous Conservation Reserve Program (CCRP)
- Grassland Reserve Program (GRP)
- Farm and Ranchland Protection Program (FRPP)

## *2. Limestone-Graveyard Creeks Watershed Project*

A watershed improvement project in the Limestone-Graveyard Creeks Watershed involved approximately 60,000 acres of land north of the Arkansas River between Hasty (Bent County) and Lamar. An estimated 44,500 acres of the watershed area are classified as priority land due to the highly erodible nature of the soil. Over 2,000 acres of agricultural cropland northwest of Lamar are included in this watershed project.

Working with the NRCS, each farmer will create their own conservation plan with costs for improvements split equally between farmers and the federal government. The 15-year project will help reduce soil erosion and improve water quality and efficiency through conservation tillage practices and/or other conservation efforts. In short, the Limestone-Graveyard Creeks Watershed Project will help to reduce soil erosion and lower the impacts of blowing soils during future high wind events. The Watershed project is regarded as an ongoing successful program as most eligible acres are enrolled.

## *3. New Initiatives*

The Natural Resources Conservation Service has many efforts underway that further reduce blowing dust and its impacts through the following initiatives, which are not meant to be enforceable:

- A comprehensive rangeland management program;
- Tree planting program;
- Drip irrigation purchase program, and;
- A multi-party drought response planning effort coordinated through the State of Colorado Governor's office.

These are but a few of the efforts at the local, county, and regional level underway to reduce emissions of PM10 and limit impacts.

### **Colorado State University Co-Op Extension Office**

The CSU Co-Op Extension Office has many efforts underway that further reduce blowing dust and its impacts through the following initiatives, which are not meant to be enforceable:

- Crop residue efforts that encourage no- or low-till practices. These have been deemed appropriate and useful in reducing blowing dust.
- Ongoing outreach efforts to educate area agricultural producers on soil management programs. These include one-on-one visitations and annual meetings with various corn and wheat programs to discuss crop management.
- Drought workshops to protect topsoil throughout the county.

## **Prowers County**

### *Prowers County Land Use Plan*

Beginning in 1997, Prowers County with the assistance of local officials, environmental health officers and the general public began preparing a county land use plan. The Prowers County Land Use Plan is designed to have wide-reaching authority over the myriad of land use issues involving building (construction sites), siting, health, fire, environmental codes, and other social concerns associated with the City of Lamar and Prowers County. The county land use plan, entitled “*Guidelines and Regulations for Areas and Activities of State Interest – County of Prowers – State of Colorado*”, was adopted on April 19, 2004 and amended on August 17, 2006. The plan incorporates provisions to minimize airborne dust including re-vegetation of disturbance areas associated with land development.

This section fulfills the requirements of Elements 4 and 5 of the Natural Events Policy as described on page 6 of the NEAP.

### **Element 6: Periodic Evaluation**

EPA’s Natural Events Policy guidance requires the state to periodically reevaluate: 1) the conditions causing violations of the PM10 NAAQS in the area, 2) the status of implementation of the NEAP, and 3) the adequacy of the actions being implemented.

This plan represents the third revision to the original NEAP dated April 1998. Evaluation of the effectiveness of the NEAP included several key strategies to ensure protection of public health and a robust plan. Strategies included: review of Natural Events Policy in specific relation to the Lamar community, review of the effectiveness and appropriateness of ongoing control strategies, review of meteorological and climatological conditions leading to blowing dust, a review of local and regional PM10 monitoring data, review of the established emission inventory and identification of any new emission sources, review of the blowing dust advisory protocol and notification records, public/stakeholder meetings and community outreach/education efforts. The Division commits to continually review the effectiveness of the Lamar Natural Events Action Plan and improve the effort, where feasible.

This section fulfills the requirements of Element 6 of the Natural Events Policy as described on page 6 of the NEAP.

### **Element 7: Stakeholder Involvement and Element 8: Public Review & Comment**

#### **Stakeholder Involvement:**

The EPA’s NEAP development guidance states that the NEAP should be developed by the State in conjunction with the stakeholders affected by the Plan. The Division worked with stakeholders mentioned throughout this document. Numerous meetings and telephone conversations occurred with stakeholders, and the final agreement here reflects strategies offered as part of the NEAP.

#### **Public Review:**



The Division made this documentation available for, and presented the NEAP to, the public to ensure ample public review and comment. Examples of these efforts, beginning with the earliest community involvement, include:

- "Air Quality Documentation in Support of High Wind Events in Lamar available for Public
- Review/Comment at the Lamar Public Library..." February 1997
- Briefing of the Prowers County Board of Commissioners, February 1997
- "Media Advisory" notifying the public of upcoming Lamar City Council meeting to discuss the NEAP, January 1998
- Briefing the Lamar City Council, January 1998
- Dissemination of the "Blowing Dust Health Advisory Brochure - Lamar Area" through the Southeast Land and Environment offices, January 1998 through the present
- Briefing of the Colorado Air Quality Control Commission, February 1998
- "Lamar Area Air Quality Natural Events Action Plan to be Available for Public Review" at the Lamar Public Library and Lamar City Complex - February 6 through March 6, 1998" this notice was published in the Lamar Daily News on February 6, 1998
- Briefing of the Lamar City Council on the PM10 Maintenance Plan, including a discussion of the Maintenance Plan's relationship to attainment status and the use of other air quality tools (e.g., Lamar NEAP), August 2000
- "Media Advisory" notifying the public of an upcoming Lamar area meeting to discuss air quality issues. This notice ("Lamar Air Quality Topic of Public Meeting Tonight") was published in the Lamar Daily News, August 29, 2000
- Local meeting with public to discuss air quality issues in the Lamar area including the planned PM10 Maintenance Plan, the area Natural Events Action Plan, and other initiatives to reduce blowing dust and its impacts on the public, August 2000
- Briefing of the Prowers County Board of Commissioners on the PM10 Maintenance Plan including a discussion of the Maintenance Plan's relationship to attainment status and the use of other air quality tools (e.g., Lamar NEAP), August 2000
- Briefing of the Lamar City Council on the Update to the Draft PM10 Maintenance Plan and its relationship to attainment status and the use of other air quality tools (e.g., Lamar NEAP), February 2001
- Briefing of the Lamar City Council on the Update to the Final PM10 Maintenance Plan and its relationship to attainment status and the use of other air quality tools (e.g., Lamar NEAP), August 2001

- Briefing of the Colorado Air Quality Control Commission, May 2002
- Briefing of the Lamar Air Quality Task Force, May 2002
- Briefing of the Colorado Air Quality Control Commission, January 2003
- Public Notice, “Revised (2003) Natural Events Action Plan for Lamar, Colorado” Available for Public Review and Comment at the Lamar Public Library, April 2003
- Briefing the Lamar City Council, April 2003
- Public Notice, “Revised (2012) Natural Events Action Plan for Lamar, Colorado” Available for Public Review and Comment, September 2012

This section fulfills the requirements of Elements 7 and 8 of the Natural Events Policy as described on page 6 of the NEAP.

#### Element 9: Submittal to EPA

The original Lamar NEAP was submitted to EPA in April 1998. The second NEAP was revised in 2003 and submitted to EPA. This third NEAP was revised in 2012 and will be submitted as an Appendix to this second revision to the Lamar PM10 Maintenance Plan. According to the Natural Events Policy, the NEAP should be revised on a five-year schedule.

This section fulfills the requirements of Element 9 of the Natural Events Policy as described on page 6 of the NEAP.