

Nye County

DUST MANAGEMENT HANDBOOK

FOR

THE PAHRUMP REGIONAL PLANNING DISTRICT

April 2009

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ACRONYMS AND DEFINITIONS

Additional definitions are included in Section 15.28.070 of the Nye County Code.

Best Management Practices (BMP) – The suite of the most appropriate control measures for preventing or minimizing the generation of Fugitive Dust. **For the purpose of this Handbook, the definition of Best Management Practices is synonymous with Best Practical Methods, as defined in Subsection 15.28.070 of the Nye County Code.**

Bulk material – Any material, including but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter, dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, and dry concrete, which is capable of producing Fugitive Dust at an industrial, institutional, governmental, construction, and/or demolition site.

Control measure – A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of Fugitive Dust. An action or practice employed to comply with a Control Requirement.

Control requirement – A summary statement of the code requirements pertaining to a particular activity or action.

Dust Control Plan (DCP) – A plan to formalize a project-specific Fugitive Dust control program.

Dust Palliative – Hygroscopic material, non-toxic chemical stabilizer or other material which is not prohibited for ground surface application by the federal U.S. Environmental Protection Agency (EPA) or the Nevada Division of Environmental Protection (NDEP) or any applicable law or regulation, used as a treatment material for reducing Fugitive Dust emissions. Water, solutions of water and chemical surfactants, and foam are not Dust Palliatives for the purpose of these regulations.

Dust Suppressant – Water or any hygroscopic material, solution of water and chemical surfactants, foam, non-toxic chemical stabilizer or any other Dust Palliative which is not prohibited for ground surface application by the federal U.S. Environmental Protection Agency (EPA) or the Nevada Division of Environmental Protection (NDEP) or any applicable law or regulation, used as a treatment material for reducing Fugitive Dust emissions.

U.S. EPA – United States Environmental Protection Agency

Freeboard – The distance measured from the upper limit of the side of the storage area of a truck to the fill line.

Fugitive Dust – Particulate matter, which is not collected by a capture system, and that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Fugitive Dust is entrained in the air and is caused from human and/or natural activities, such as but not limited to, movement of soils, vehicles, equipment, blasting, and wind.

NDEP – Nevada Division of Environmental Protection

Notice of Alleged Violation (NOAV) – A notice of an alleged violation of the Nye County Dust Control Code.

Owner/Operator – The owner or operator (contractor, developer, etc.) that is directly involved in a soil disturbing activity.

Particulate Emission Potential (PEP) – The characteristic ability of specific soil types to emit dust.

Silhouette area – The area of a shadow produced if a light was shone directly from the opposite side of an object.

Stable, and/or Stabilized – Soils are considered stable or stabilized when they are in compliance with the standard set forth per Nye County Code 15.28.140.

Staging area – Any portion of a construction project used for storing materials, parking vehicles, and equipment; may be a separate area from the main construction project area.

Surfactant – A compound or element that reduces the surface tension of a liquid. The term is used in this document to describe wetting and spray additives designed to promote the economical application of water to hydrophobic soils. Surfactants prevent drifting, decrease run-off, increase the penetrating and wetting properties, and promote more even, consistent spray patterns.

Tackifier – A substance used with water to hold together mulches and other Dust Palliatives, which binds small particles together without forming a hard crust.

Track-out – Soils on paved roadways deposited from vehicles that have passed from a construction site or from an unpaved access route or area onto the paved surface.

Type II Material – Base Aggregate as defined in Section 704 of the Uniform Standards Specifications for Public Works' Construction Off-Site Improvements, Nye County Area, Nevada.

Wheel shaker – A device capable of spreading the tread on tires and shaking the wheels and axles of vehicles for the purpose of releasing mud, soils, and rock from the tires and undercarriage to prevent tracking those materials onto paved surfaces.

Wheel washer – A station or device, either temporary or permanent, that utilizes a bath or spray of water for the purpose of cleaning mud, soils, and rock from the tires and undercarriage of vehicles to prevent tracking those materials onto paved surfaces.

Wobbler – Type of sprinkler head designed to minimize evaporation of water by enhancing the horizontal spray pattern.

INTRODUCTION

The Nye County Air Quality Program Administrator (AQPA) regulates construction activities that disturb soil in the Pahrump Regional Planning District, Nye County, Nevada. A Dust Control Plan (Plan) is required for most soil-disturbing projects where the total disturbance on one or contiguous parcels by the same operator equals or exceeds 0.5 acre.

A Dust Control Plan must be submitted to and deemed complete by the AQPA before soil is disturbed. All plans, forms, fees, and documentation required for submittal to Nye County shall be submitted to the AQPA. The Nye County Air Quality Program Administrator Offices are located at 250 N. Highway 160, Suite 1, Pahrump, Nevada 89060-4039. The AQPA must be notified after the completion of a project.

Each Zoning Review application for construction activities, as well as projects involving the construction of unpaved parking and storage areas, open areas and vacant lots that propose a disturbance of 0.5 acre or greater must have a Dust Control Plan outlining control measures to prevent Fugitive Dust. Control measures are based upon soil type and project activities. Soil types are classified based upon particulate emission potential (PEP). A map of the Pahrump Valley soil PEP is provided as Figure 1 in this Handbook.

Fugitive Dust emission violations are strictly enforced. Owner/operators and contractors are responsible for controlling dust on their projects 24 hours a day, 7 days a week; there are no exceptions. Violators may be required to pay penalties or possibly suspend operations until the Fugitive Dust is mitigated on the construction sites.

This Dust Management Handbook (Handbook) provides a guideline for developing a Dust Control Plan. The Handbook has been divided into the following parts:

GENERAL INFORMATION:

- a. Dust Control Plan Requirements (DCP)
- b. General Construction Project Activities (GEN)

BEST MANAGEMENT PRACTICES:

- a. Soil Particulate Emission Determination Charts and Maps
- b. Best Management Practices (BMP) for Construction Activities

ATTACHMENTS:

- a. Attachment 1 - Dust Control Plan Forms
- b. Attachment 2 - Policy on Dust Palliative Use In The Pahrump Regional Planning District, Nye County, Nevada
- c. Attachment 3 - Design and Posting of Dust Control Plan Signage
- d. Attachment 4 - Dust Control Code

REQUIREMENTS:

- **Owners/operators and contractors are responsible for controlling dust on their projects 24 hours a day, 7 days a week; there are no exceptions. Violators may be required to pay penalties or possibly suspend operations until the Fugitive Dust is mitigated on the construction sites.**
- **Plan required for soil-disturbing projects with aggregate disturbances of 0.5 acres or greater.**
- ***BMP Control Requirements must be addressed by Control Measures.***
- **BMP Control Measures must be followed for every soil disturbing or construction activity.**

CONTROL MEASURES

1. A Dust Control Plan is required for soil-disturbing or construction projects that disturb an aggregate of 0.5 acres or greater. For projects with aggregate disturbances of 5 acres or more, Nevada Division of Environmental Protection (NDEP) also requires a Surface Area Disturbance (SAD) permit or other permits. Please check with the NDEP permitting branch in Carson City at (775) 687-9339 and/or obtain the forms at the following web address;
<http://www.ndep.nv.gov/bapc/permitd.html>.
2. Dust Control Plans may be submitted by the property owner or authorized designee.
3. Dust Control Plan requirements:
 - a. Submit a complete form that includes project vicinity and assessor's parcel maps (see Attachment 1: Dust Control Plan Application Form DCP 01). Completed Dust Control Plans should be submitted to Nye County as indicated in the Introduction of this Dust Management Handbook.
 - b. For soil disturbing or construction projects equal to or greater than 0.5 acre, a Dust Control Plan using the Best Management Practices in the Handbook must be submitted. Control Measures must be selected to meet all Control Requirements. Consider project conditions and logistics when identifying and selecting Best Management Practices and Control.
4. A Dust Control sign must be conspicuously posted on every construction site requiring a Dust Control Plan (see Code Section 15.28.160(A.1)).

5. Copies of the Dust Control Plan and related maps must be supplied to all contractors and subcontractors. A complete copy must be kept at the construction site at all times.
6. Notify Nye County of any proposed modifications to the Dust Control Plan. Submit a Dust Control Plan Modification form DCP 05 or 08 (see Attachment 1: Dust Control Plan Forms).
7. Dust Control Plans are reviewed as a part of the Zoning Review or Site Development application process. Emergency measures are exempt from permitting requirements, but are not exempt from the application of dust mitigation measures or the use of Best Management Practices.

DUST CONTROL PLAN SIGNAGE

DCP 02

REQUIREMENTS:

- **The Dust Control Plan sign must be placed in a conspicuous place on the project site prior to commencement of construction activities.**
- **The phone numbers posted on the Dust Control Plan sign must be for a person responsible for project dust control, and who can be reached during evening and weekend hours.**

DUST CONTROL SIGNAGE

1. The Dust Control Plan sign must be placed on the project site and must be conspicuous to the public. The phone number posted on the Dust Control Plan sign must be for a person who can be reached during evening and weekend hours. That person must be able to implement Fugitive Dust Control Measures.
2. The owner/operator of any project requiring a Dust Control Plan must install a sign on the property prior to the commencement of construction. This sign must measure, at minimum, two (2) feet wide by two (2) feet high, conforming to the Nye County Code regarding the posting of informational signs on construction sites (see Code Section 15.28.160).
3. Projects less than two (2) weeks in duration may request a waiver of the requirement of posting a Dust Control Plan sign.

DUST CONTROL PLAN MODIFICATIONS

DCP 03

REQUIREMENTS:

- **Modifications must be made on a Dust Control Plan Modification form and submitted to Nye County for review.**
- **If modification is in response to a Notice of Alleged Violation or Order, it must be noted on the modification form, and corrective action must take place as directed.**

PLAN MODIFICATION

Modifications to a Dust Control Plan can be made with Nye County approval.

1. A Dust Control Plan Modification form must be submitted to Nye County (see Attachment 1: Dust Control Plan Forms)
2. If the parcel changes ownership or you wish to change the owner/operator during the lifetime of a Dust Control Plan, a MODIFICATION OF DUST CONTROL PLAN – TRANSFER OF PLAN AND/OR CHANGE OF PROPERTY OWNER (form DCP 08) must be submitted, and proof of ownership, or Owners Designee Form (DCP 04), whichever is appropriate, must be provided with the form.
3. The Dust Control Plan Modification application form must be signed by the owner/operator or written designee.
4. If the modification is in response to a Notice of Alleged Violation or Corrective Action Order issued by Nye County, it should be so noted on the modification form. The corrective action must take place as directed. All other Dust Control Plan requirements remain in effect while the modification is being processed.
5. If the selected control measures are inadequate to meet the requirements of Code Section 15.28.140(A), Soil Stabilization Standards of the Dust Control Code, additional or more stringent standards must be selected. A Dust Control Plan Modification form must be submitted.

DUST CONTROL PLAN CLOSURE

DCP 04

REQUIREMENTS:

- **Within 20 working days of the completion or long term curtailment of the project, the site must be stabilized and a Certificate of Project Completion form submitted to Nye County.**

DUST CONTROL PLAN CLOSURE/RENEWAL

Dust Control Plans must be closed out to document completion or long term curtailment of project activities.

1. Within 20 working days of the completion or long term curtailment of the project, a Certificate of Project Completion (form DCP 07) must be submitted to the Nye County Air Quality Program Administrator (see Attachment 1: Dust Control Plan Forms).
2. A site visit will be conducted to determine if the parcel is properly stabilized. Upon verification of stabilization, the Dust Control Plan will be closed.
3. If the parcel has not been properly stabilized, the owner/operator will be notified of the deficiencies with a Corrective Action Order outlining corrective measures and timelines. Another Dust Control Plan Closure form must be submitted and a follow-up site visit will be conducted.
4. The Dust Control Plan is valid for one (1) year. If a project is not completed within a year, a plan renewal must be submitted.
5. Plan renewal may be accomplished by submitting an updated Dust Control Plan (DCP 01) and applicable fees. Plan renewal is valid for one (1) year from the date of expiration, regardless of when the plan is renewed.

DUST CONTROL PLAN COMPLIANCE

DCP 05

REQUIREMENTS:

- **Comply with all control measures as required by Nye County Code.**
- **Comply with all control measures as directed in a Notice of Alleged Violation or Order.**
- **Comply with all control measures listed in Dust Control Plan.**
- **Employ control measures in all phases of construction activities.**

CODE OVERVIEW

1. All owner/operators, contractors, or other persons involved in construction activities must employ the control measures as set forth in their Dust Control Plan as described in this Handbook.
2. The following circumstances constitute a violation of the Nye County Code:
 - (a) Allowing Fugitive Dust emissions to exceed the standard as set forth in Section 15.20.080(A), (i.e. a visual emission of particulate matter whose opacity exceeds 20 percent using the Time Averaged Method).
 - (b) Failure to submit a complete Dust Control Plan before engaging in activities that disturb or have the potential to disturb soils and/or cause or have the potential to cause Fugitive Dust to enter the air.
 - (c) Failure to submit a complete Dust Control Plan for all areas subject to construction activities.
 - (d) Conducting a construction activity as defined by Section 15.28.070 for which no specified control option is indicated in the Dust Control Plan.
 - (e) Failure to perform any duty to allow or carry out an inspection, entry, or monitoring activity required by Nye County.
 - (f) Failure to implement any item that is listed as a "Requirement" in the Best Management Practices section of the Handbook for an applicable construction activity.

DUST CONTROL PLAN COMPLIANCE (continued)

DCP 05

- (g) Failure to implement any Best Management Practice listed in the Dust Control Plan.
- (h) Failure to maintain static (not actively worked) project soils with adequate surface crusting to prevent wind erosion as measured by test method "Soil Crust Determination (The Drop Ball Test)" Section 15.28.140(A) "Stabilization Standards", or alternative Control Measures approved in the Dust Control Plan.
- (i) Failure to comply with any record keeping or miscellaneous requirements of this Section.
- (j) Failure to comply with any other provision of this section.
- (k) Failure to prepare a new plan or renew an existing plan.

WARNING LETTER(S)

When a Code Compliance Officer observes an imminent violation of Chapter 15.28, a warning letter may be issued to the owner/operator and/or persons conducting the activity. The Warning Letter will identify the corrective actions that should be taken. If the corrective action is intended to be a permanent change to the methods for dust mitigation on site, a modification to the Dust Control Plan must be filed by the owner/operator to incorporate the Control Measures specified by the Warning Letter. The owner/operator may contact the Code Compliance Officer for more information.

WARNING NOTICE OF ALLEGED VIOLATION

If a violation is determined to be either; a first time violation that does not adversely impact human health and safety; or is administrative and does not involve the emission of fugitive dust, a Warning Notice of Alleged Violation will be issued. A Warning Notice of Alleged Violation (WNOAV) qualifies as a code violation but does not have monetary penalties.

NOTICE OF ALLEGED VIOLATION

If a violation is determined to present a hazard to public health and safety, a Notice of Alleged Violation (NOAV) will be issued by the AQPA. The NOAV will include a list of alleged violations, the associated penalty and compliance deadline.

DUST CONTROL PLAN COMPLIANCE (continued)

DCP 05

1. If a Notice of Alleged Violation (NOAV) is received for violation(s) of the Dust Control Code in Chapter 15.28, it will be accompanied by a form entitled "Option Letter." The following choices will be presented:
 - (a) **Contest neither the "facts alleged" nor the "penalty assessed";**
 - (b) **Contest the penalty assessed.** In this instance, the alleged facts are not contested, only the penalty is considered inappropriate. The documentation submitted should be focused on the factors regarding the penalty. The owner/operator may contact the Code Compliance Officer for more information; or
 - (c) **Contest the facts alleged and the penalty assessed in the NOAV.** This option may be selected if the alleged facts of the NOAV can be reasonably disputed and the penalty is considered inappropriate. Proper and complete documentation of Dust Control Measures should be submitted with the Option Letter. The owner/operator may contact the Code Compliance Officer for more information.
2. The NOAV also will identify the corrective action(s) and the date by which the corrective action(s) must be implemented. If the corrective action is intended to be a permanent change to the methods for dust mitigation on site, a modification to the Dust Control Plan must be filed by the owner/operator to incorporate the Control Measures specified by the NOAV.
3. If the owner/operator wishes to contest either the facts alleged and/or the penalty assessed in the NOAV, a meeting with the Compliance Review Committee must be scheduled. The owner/operator must contact the Code Compliance Officer and return the completed "Option Letter" within 14 calendar days of receiving the NOAV to schedule the Compliance Review Committee meeting.
4. The finding(s) and recommendation(s) of the Compliance Review Committee will be forwarded to the owner/operator in a Settlement Agreement. If the owner/operator agrees with the Settlement Agreement, a copy is signed and returned to the AQPA within 14 calendar days. It is forwarded to the Hearing Officer for adjudication and if there is a penalty involved, it must be paid within 5 calendar days of the adjudication date.

APPEALING A NOTICE OF VIOLATION

An owner/operator, who is not satisfied with the CRC decision, may request an appeal hearing. The appeal will be heard *de novo*. Thus, any information and/or evidence previously submitted and considered must be brought to the Air Quality Appeal Hearings and Adjudications.

A "Request for Hearing before the Nye County Hearing Officer" form (DCP 09) must be submitted to the AQPA. Appeal requests must be received within 14 calendar days of receipt of the Settlement Agreement. The Appeal Hearing process is described in Nye County Ordinance 316.

An owner/operator, who is not satisfied with the Hearing Officer's decision, may request an appeal hearing before the Board of County Commissioners (BOCC). The appeal will be heard *de novo*. Thus, any information and/or evidence previously submitted and considered must be brought to the Nye County Board of Commissioners Meeting.

There is a 10 calendar day time limit from the date of service of the Order of Adjudication in which to appeal the decision of the Nye County Hearing Officer. An "Appeal to the Nye County Board of County Commissioners from Order of the Nye County Air Quality Hearing Officer" form must be submitted to the Clerk of the Board along with a \$50.00 filing fee. The BOCC Appeal Hearing process is described in Nye County Ordinance 316.

PENALTY STRUCTURE

The penalty structure for calculation of fines is defined in the Nye County Pahrump Regional Planning District Penalty Policy Guidance Document. Penalties are assessed for violation(s) of the Nye County Code 15.28, including but not limited to:

- violations of the Dust Control Plan;
- failure to maintain soils in a damp, crusted, or stabilized condition, or to clean track-out from paved roads;
- emissions of Fugitive Dust;
- non-compliance with a Corrective Action Order;
- failure to post signs;
- failure to prepare, modify, or renew a Dust Control Plan;
- failure to pay any fee, fine or penalty.

The maximum penalty amount may not exceed \$10,000 per day per violation.

DUST CONTROL PLAN FEES

DCP 06

REQUIREMENTS:

- Pay fees as required for Dust Control Plan review.
- Pay fees as required for Dust Control Plan modification.
- Pay fees as required for Dust Control Plan renewal.

DUST CONTROL PLAN FEE STRUCTURE

Fees for Nye County technical review of Dust Control Plans required by this Handbook and final inspection at Dust Control Plan Closure shall be assessed as follows:

1. New or Renewed Dust Control Plan:

- a. Dust Control Plan applications having an aggregate disturbance of up to 1 acre - \$50.
- b. Dust Control Plan applications having an aggregate disturbance of greater than 1 acre - \$50/acre rounded up to the nearest full acre.

2. Dust Control Plan Modifications:

Substantive Dust Control Plan modifications (all modifications other than point of contact), regardless of reason for modification:

- a. Projects having an aggregate disturbance of up to 1 acre - \$50
- b. Projects having an aggregate disturbance of greater than 1 acre - \$50/acre rounded up to the nearest full acre.

REQUIREMENTS:

- **Address all phases and stages of construction.**
- **Phases must have distinct physical boundaries.**
- **Include stage number, title, acreage, controls, and BMPs.**

CONTROL MEASURES

1. The Dust Control Plan must address all phases and stages of the construction project. For projects with large cut and fill requirements, the land not active after the cut and fill must be stabilized using a palliative or other approved Control Measure and vehicle access must be prevented. Owner/operators should also limit the area disturbed at any one time, to the extent possible.
2. The construction project may consist of a single phase or be divided into as many phases as the owner/operator chooses. Each phase must have distinct physical boundaries to make it easily identifiable.
3. When project stages are identified, the following information must be provided for each project stage:
 - a. Stage number and title;
 - b. Amount of acreage included in stage;
 - c. Control Requirements for activity; and
 - d. Best Management Practice control measures to be implemented to meet Control Requirements.

4. Project planning for dust control is an effective method for reducing potential emissions on a construction site. Project planning may include the following procedures:
 - a. Reducing the size of the staging area;
 - b. Disturbing only a portion of the overall site at one time;
 - c. Paving roadways as soon as possible;
 - d. Constructing block walls as soon as possible;
 - e. Planting perimeter vegetation with greater than 50 percent silhouette areas at the beginning of the project;
 - f. Limiting the number of ingress and egress points;
 - g. Paving parking lots as soon as possible;
 - h. For large cut and fill projects, stabilizing the portion of the construction site not being actively worked on for the period of time it is vacant; or
 - i. Confine import haul traffic to compacted or paved routes, where possible, to avoid picking up soil and rock in tire treads.

REQUIREMENTS:

- **Record use of Dust Palliatives and Suppressants.**
- **Record track-out conditions and cleanup.**
- **Notify Nye County when project is complete.**
- **Record verification of compliance with all applicable Dust Control Measures.**
- **Notify Nye County of compliance with a Notice of Alleged Violation or Order.**
- **Retain project records.**

CONTROL MEASURES

1. Document all use of Dust Palliatives on the Dust Palliative Information form DCP 06 (see Attachment 1: Dust Control Plan Forms).
2. Record track-out conditions daily and document cleanup measures taken.
3. Record other Dust Control Measures taken, including date, time, and amount of water applied for dust control purposes.
4. Notify Nye County of compliance with any Notice of Alleged Violation or Corrective Action Order issued.
5. Notify Nye County upon completion of project.
6. Retain all project records for one year or six months beyond project completion, whichever is greater.

REQUIREMENTS:

- **Monitor current weather conditions and weather predictions from the National Weather Service.**
- **Cease all construction activities if Fugitive Dust cannot be controlled.**

CONTROL MEASURES

1. When winds occur that cause Fugitive Dust emissions, despite adhering to all Best Management Practices, all construction activities must cease immediately, except the operation of water trucks, which may continue to operate.
2. Water trucks should continue to operate under these circumstances unless wind conditions are such that continued operation of watering equipment cannot reduce Fugitive Dust emissions or visibility is limited to an extent that it is hazardous to continue operating equipment.

BEST MANAGEMENT PRACTICES FOR DUST CONTROL

Best Management Practices (BMPs) are site-specific Dust Control Measures that are based on each project soil type, specific construction activities, phases and stages. These practices must be included in each Dust Control Plan and are established to meet the goal of reducing particulate emissions from construction sites. Additionally, some practices are designed for the purpose of reducing the amount of water needed for Dust Control.

1. Soil Type Categories

Soil types are classified into two categories (high (H) and low (L)) based on their Particulate Emission Potential (PEP). PEP is determined by soil silt content (measured by the soil percentage that will pass through a 200-mesh sieve).

Figure 1 is a map of the Nye County portion of the Pahrump Valley delineating the soil PEP categories.

2. Best Management Practices

The following subsections list the current BMPs developed and approved for use in Nye County for dust mitigation for construction activities. The BMPs are organized alphabetically by construction activity.

The control requirements of each construction activity category to be conducted on the construction project must be met through implementation of control measures. Within most construction activity categories, there are choices of control measure(s) to be selected from to meet the control requirements. Control requirements are stated for each construction activity. All control measures that will be used to meet the control requirements on the construction project must be identified in the Dust Control Plan for each construction activity.

Control measures are presented by soil type category where applicable. Some control measures apply to construction activities regardless of soil type. The control measures selected to meet control requirements must address the soil type for the area in which the construction project is permitted (see Figure 1).

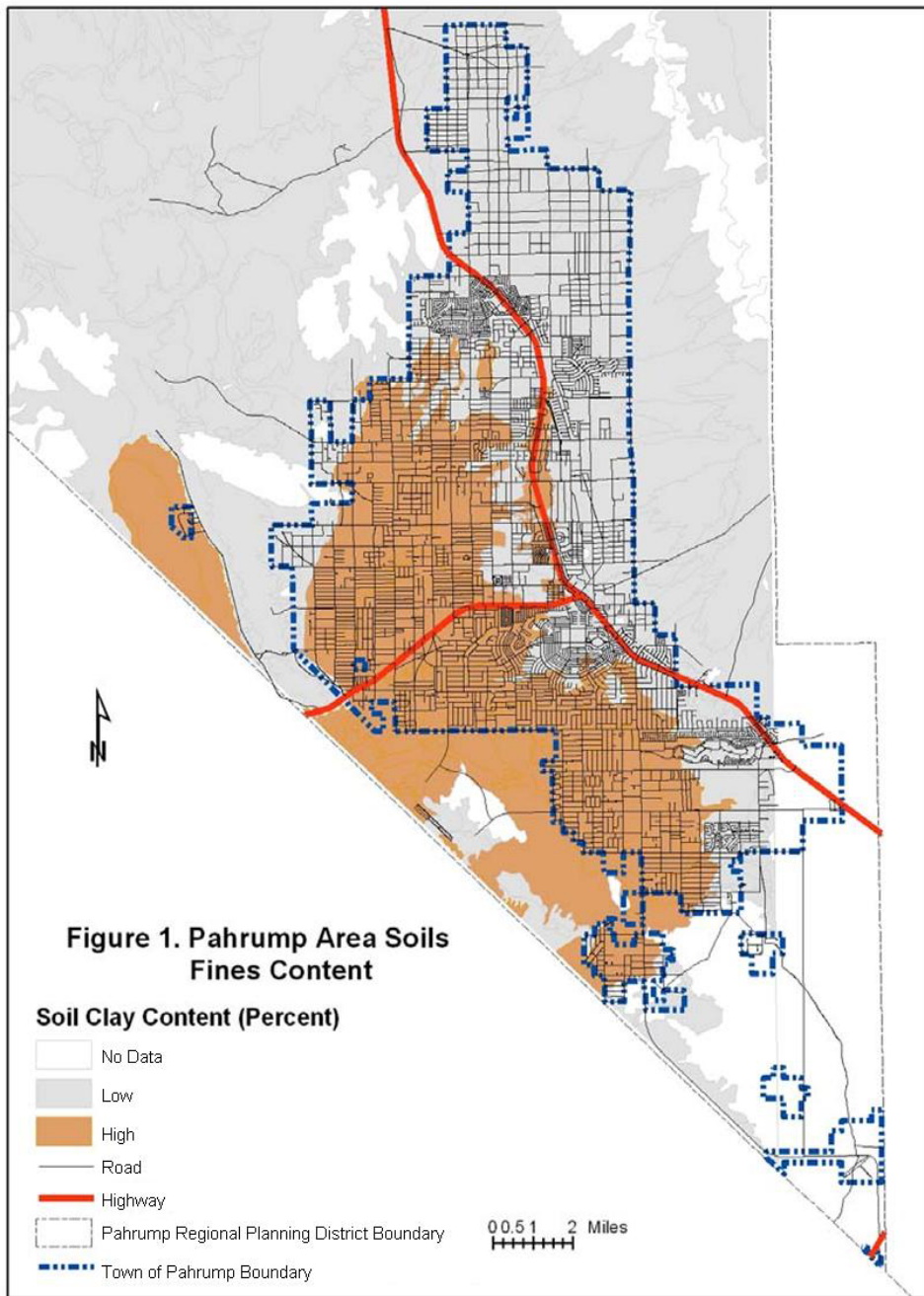
Control measures not currently listed in the Handbook may be proposed in a Dust Control Plan. Such unlisted control measures will be reviewed by Nye County and may require additional information regarding their effectiveness. Any control measure not listed in the Handbook must clearly meet the control requirements for an activity category.

Nye County will apply the following minimum criteria when evaluating any unlisted control measures that are proposed to meet the control requirements for a BMP:

1. The control measure technique is a new or alternative technology that is demonstrated to be equally or more effective in meeting the control requirement than the existing control measures; or
2. Site logistics do not practically allow for implementation of a listed control measure as written (e.g. road width or pre-existing barriers limit the size or width of a gravel pad); or
3. The owner/operator demonstrates that a listed control measure is technically infeasible due to site-specific or material-specific conditions, such that implementation of the control measure will not provide a benefit in reducing Fugitive Dust (e.g. pre-soaking screened, washed rock when handling).

Plan deviations from specific soil type BMPs in the form of a “downgrade” to the BMPs listed for a soil type with a lower PEP, or applying a control measure listed for all soil types in lieu of a specific soil type BMP, are not acceptable unless demonstrated to meet at least one of the above criteria.

FIGURE 1: PAHRUMP VALLEY SOIL TYPES MAP



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BACKFILLING

BMP 01

Definition: Filling area previously excavated or trenched.

Requirement: Stabilize backfill material when not actively handling.

- 01-1 Water backfill material to maintain moisture or to form a crust when not actively handling, or
- 01-2 Apply and maintain a Dust Palliative to backfill material to form a crust when not actively handling, or
- 01-3 Cover or enclose backfill material when not actively handling.

Requirement: Stabilize backfill material during handling.

- 01-4 Empty loader bucket slowly and minimize drop height from loader bucket, or
- 01-5 Dedicate water truck or large hose to backfilling equipment and apply water as needed.

Requirement: Stabilize soils at completion of backfilling activity.

- 01-6 Apply water and maintain disturbed soils in a stable condition until permanent stabilization is complete, or
- 01-7 Apply and maintain a Dust Palliative on disturbed soils to form a crust following backfilling activity.

CLEARING AND GRUBBING

BMP 02

Definition: Clearing and grubbing for site preparation and vacant land cleanup.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- 02-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate, or
- 02-2 Apply and maintain a Dust Palliative on surface soils where support equipment and vehicles will operate.

Requirement: Stabilize soils during clearing and grubbing activities.

- 02-3 **L:** Apply water during clearing and grubbing activities.
- 02-4 **H:** Apply water and surfactant or tackifier mixture during clearing and grubbing activities.

Requirement: Stabilize disturbed soils immediately after clearing and grubbing activities.

- 02-5 Water disturbed soils to form a crust immediately following clearing and grubbing activities, or
- 02-6 Apply and maintain a Dust Palliative on disturbed soils to form a crust immediately following clearing and grubbing activities.

Recommendations: Maintain live perennial vegetation and desert pavement where possible.

CUT AND FILL

BMP 03

Definition: Cut and/or fill soils for site grade preparation.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- 03-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate, or
- 03-2 Apply and maintain a Dust Palliative to surface soils where support equipment and vehicles will operate.

Requirement: Pre-water soils.

- 03-3 Dig a test hole to depth of cut or equipment penetration to determine if soils are moist at depth. Continue to pre-water if not moist to depth of cut, and
- 03-4 **L:** Pre-water with sprinklers or wobblers to allow time for moisture penetration, or
- 03-5 **L:** Pre-water with water trucks or water pulls to allow time for moisture penetration.
- 03-6 **H:** Pre-water with a water and surfactant or tackifier mixture using sprinklers or wobblers to allow time for moisture penetration, or
- 03-7 **H:** Pre-water with a water and surfactant mixture or tackifier using water trucks or water pulls to allow time for moisture penetration.

Requirement: Stabilize soils during cut activities.

- 03-8 Apply water to depth of cut prior to subsequent cuts using water truck or water pull, or
- 03-9 No cut activities, fill only.

Requirement: Stabilize soils after cut and fill activities.

- 03-10 Water disturbed soils to form a crust following fill and compaction, or
- 03-11 Apply and maintain a Dust Palliative on disturbed soils to form a crust following fill and compaction.

See also: BMP 05: DISTURBED LAND – Long-Term Stabilization if no activity will occur within 30 days.

DISTURBED SOIL

BMP 04

Definition: Disturbed soil areas throughout project site including area between structures.

Requirement: For each non-linear project of five acres or more to be permitted; install perimeter wind barrier three feet or more in height made of material with a porosity of 50 percent or less.

Requirement: Limit vehicle traffic and disturbance of soils where possible.

- 04-1 Limit vehicle traffic and disturbance of soils with the use of fencing, barriers, barricades, and/or wind barriers.

Requirement: Stabilize and maintain stability of all disturbed soils throughout construction site.

Note: The owner/operator must choose one or both of the following.

- 04-2 Apply water to stabilize disturbed soils. Soils must be kept in a sufficiently damp, crusted or covered condition, and/or
- 04-3 Apply and maintain a Dust Palliative based on soil type and future plans.

Requirement: Soil conditions, including preventive and corrective measures, must be recorded every day the construction project is active.

- 04-4 Record soil conditions and dust control actions in daily project records.

Recommendations: If interior block walls are planned, install as early in the construction as possible.

See also: BMP 05: DISTURBED LAND – Long-Term Stabilization, if no continuing activity will occur within 30 days.

DISTURBED LAND – Long-Term Stabilization

BMP 05

Definition: Large tracts of disturbed land that will not have continuing activity for more than 30 days.

Requirement: Stabilize soils.

- 05-1 Apply and maintain a Dust Palliative on disturbed soils for long-term stabilization, or
- 05-2 Stabilize disturbed soils with vegetation for long-term stabilization, or
- 05-3 Pave or apply surface rock for long-term stabilization, or
- 05-4 Use wind breaks in accordance with a site-specific plan, or
- 05-5 Apply water and maintain soils in a visible damp or crusted condition for temporary stabilization.

Requirement: Prevent access to limit soil disturbance.

- 05-6 Prevent access by fencing, ditches, vegetation, berms or other suitable barrier or means.

Recommendations: Plant perimeter vegetation early. Use of native and drought-tolerant plants with greater than 50 percent silhouette area is encouraged.

See also: BMP 06: DUST PALLIATIVE – Selection and Use.

DUST PALLIATIVE – Selection and Use

BMP 06

Definition: Selection and use of chemical and organic dust suppressing agents and other dust palliatives.

Requirement: Follow the “Policy on Dust Palliatives Use In the Pahrump Regional Planning District, Nye County, Nevada” (Attachment 2).

Requirement: Record use of Suppressants and Dust Palliatives and retain records (Attachment 1, Form DCP 06).

Requirement: Follow applicable federal and state regulations.

Requirement: Select method of long-term stabilization taking into consideration future land use.

- 06-1 For traffic area applications use Table 1: Traffic Area Application Requirements, Appropriate Use of Liquid Dust Palliatives and Application Rates, from the Policy on Dust Palliatives Use In the Pahrump Regional Planning District, Nye County, Nevada, or
- 06-2 For non-traffic area applications use Table 2: Non-Traffic Area Application Requirements, Appropriate Use of Liquid Dust Palliatives and Application Rates, from the Policy on Dust Palliatives Use In the Pahrump Regional Planning District, Nye County, Nevada.

IMPORTING/EXPORTING SOILS, ROCK AND OTHER BULK MATERIAL

BMP 07

Definition: Importing or exporting of soils, aggregate, decorative rock, debris, Type II and other bulk material.

Requirement: Limit visible dust opacity from vehicular operations.

- 07-1 Apply water and limit vehicle speeds to 15 mph on the work site, or
- 07-2 Apply and maintain a Dust Suppressant on haul routes.

Requirement: Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage.

Requirement: Maintain 12 inches of freeboard to minimize spillage.

Requirement: Stabilize materials during transport on site.

- 07-3 Use tarps or other suitable enclosures on haul trucks, or
- 07-4 Stabilize materials with water.

Requirement: Clean wheels and undercarriage of haul trucks prior to leaving construction site.

Recommendations: Check State and local laws, regarding the hauling of bulk materials on public roadways.

See also: BMP 12: TRACK-OUT PREVENTION AND CLEANUP.

BMP 15: TRUCK LOADING.

LANDSCAPING

BMP 08

Definition: Installation of sod, decorative rock, desert or other landscape materials.

Requirement: Stabilize soils, materials and slopes during handling.

- 08-1 **L:** Apply water prior to leveling or any other earth moving activity to keep the soils moist throughout the process.
- 08-2 **H:** Apply a water and surfactant or tackifier mixture prior to leveling or any other earth moving activity to keep the soils moist throughout the process.

Requirement: Stabilize soils, materials and slopes at completion of activity.

- 08-3 Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slope, or
- 08-4 Apply water and maintain sloping surfaces in a crusted condition, or
- 08-5 Maintain an effective cover over materials.

PAVING/SUB-GRADE PREPARATION

BMP 09

Definition: Sub-grade preparation for paving streets, parking lots, etc.

Requirement: Stabilize soils prior to activities.

- 09-1 Pre-water sub-grade surface until adequate moisture content is reached and maintained.

Requirement: Stabilize soils during activities.

- 09-2 Maintain at least 70 percent of optimum moisture content for Type II material while aggregate is being applied.

Requirement: Stabilize soils following activities.

- 09-3 Place tack coat on Type II aggregate base immediately after it is applied, or
- 09-4 Apply water to Type II aggregate base immediately after it is applied.

Requirement: Stabilize adjacent disturbed soils following paving activities.

- 09-5 Stabilize adjacent disturbed soils following paving activities by crusting with water, or
- 09-6 Stabilize adjacent disturbed soils following paving activities by applying a Dust Palliative, or
- 09-7 Stabilize adjacent disturbed soils following paving activities with immediate landscaping activity or installation of vegetative or rock cover, or
- 09-8 Ensure that soils remain undisturbed adjacent to paving activities.

STAGING AREAS

BMP 10

Definition: Staging areas, equipment storage and material storage areas.

Requirement: Limit visible dust opacity from vehicular operations.

- 10-1 Limit vehicle speeds to 15 mph in the staging area and on all unpaved access routes, or
- 10-2 Apply and maintain a Dust Suppressant on all vehicle traffic areas in the staging areas and unpaved access routes.

Requirement: Stabilize staging area soils during use.

- 10-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate, or
- 10-4 Apply and maintain a Dust Palliative to surface soils where support equipment and vehicles will be operated.

Requirement: Stabilize staging area soils at project completion.

- 10-5 Apply a Dust Palliative, or
- 10-6 Apply screened or washed Type II aggregate, or
- 10-7 Use wind breaks in accordance with a site-specific plan, or
- 10-8 Chip seal, or
- 10-9 A completed project will stabilize staging area with buildings, chip seal, pavement, and/or landscaping, or
- 10-10 Apply water to form an adequate crust, and prevent access.

Recommendations: Limit size of staging areas.

Limit ingress and egress points.

See also: BMP 12: TRACK-OUT PREVENTION AND CLEANUP

STOCKPILING

BMP 11

Definition: Stockpiling of emissible or excavated material for future use or export.

Requirement: To the extent possible, maintain stockpile to avoid steep sides or faces.

- 11-1 Stockpiles will not be constructed over eight feet in height, or
- 11-2 Stockpiles constructed over eight feet high must have a road bladed to the top to allow water truck access or must have a sprinkler irrigation system installed, used and maintained.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- 11-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate, or
- 11-4 Apply and maintain a Dust Palliative on surface soils where support equipment and vehicles will operate.

Requirement: Stabilize stockpile materials during handling.

- 11-5 Remove material from the downwind side of the stockpile, when safe to do so, and

Note: Include 11-5 above, in addition to the appropriate control measure for the appropriate soil type, selected from the following.

- 11-6 **L:** Apply water during stacking, loading and unloading operations.
- 11-7 **H:** Apply a water and surfactant or tackifier mixture during stacking, loading and unloading operations.

Requirement: Stabilize stockpiles at completion of activity.

- 11-8 Water stockpiles to form a crust immediately at the completion of activity, or
- 11-9 Apply and maintain a Dust Palliative to all surfaces of the stockpiles, or
- 11-10 Provide and maintain wind barriers on three sides of the pile. The length of the barrier at least must be equal to the length of the stockpile, and placed at a distance from the stockpile not more than twice the height of the stockpile. The barrier height must be at least equal to the stockpile height, and made of material with a porosity of 50 percent or less, or
- 11-11 Apply a cover or screen to stockpiles.

TRACK-OUT PREVENTION AND CLEANUP

BMP 12

Definition: Prevention and cleanup of mud, silt and soils tracked out onto paved roads.

Requirement: In soils that have a PEP classification of “High,” pave construction roadways as early as possible.

Requirement: Use of soil to create a ramp for vehicle access over a curb is prohibited.

Requirement: Track-out conditions, including preventive and corrective measures, must be recorded daily for every day that the construction access is used by vehicles.

12-1 Record soil conditions and dust control actions in daily project records.

Requirement: Prevent dust emissions from track-out.

12-2 Immediately clean track-out from paved surfaces to prevent fugitive emissions. Track-out must not extend a distance of 50 feet or more, or

12-3 Maintain dust control during working hours and clean track-out from paved surfaces at the end of the work shift/day. Track-out must not extend 50 feet or more and must be cleaned daily, at minimum.

Requirement: Install and maintain track-out control devices in effective condition at all access points where paved and unpaved access or travel routes intersect.

12-4 Install gravel pad(s) consisting of one to three inch rough diameter, clean, well-graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by three inches deep, and, at minimum, 50' or the length of the longest haul truck, whichever is greater. Re-screen, wash or apply additional rock in gravel pad to maintain effectiveness, or

12-5 Install wheel shakers. Clean wheel shakers on a regular basis to maintain effectiveness, or

12-6 Install wheel washers. Maintain wheel washers on a regular basis to maintain effectiveness, or

12-7 Install wheel shakers in the event that track-out cannot be controlled with gravel pads, or

12-8 Install wheel washer in the event that track-out cannot be controlled with gravel pads and wheel shakers, or

12-9 Road vehicles will only operate on stabilized surfaces.

(Continued on next page)

Requirement: All exiting traffic must be routed over selected track-out control device(s).

- 12-10 Clearly establish and enforce traffic patterns to route traffic over selected track-out control device(s), and limit site access to routes with track-out control devices in place by installing effective barriers on unprotected routes.

TRAFFIC – Unpaved Routes and Parking Areas

BMP 13

Definition: Construction related traffic on unpaved interior and/or access roads and unpaved employee/worker parking areas.

Requirement: Limit visible dust opacity from vehicular operations.

- 13-1 Limit vehicle speeds to 15 mph on all unpaved routes and parking areas, or
- 13-2 Apply and maintain a Dust Palliative on all vehicle travel areas.

Requirement: Stabilize all haul routes.

- 13-3 Apply water to haul routes and maintain in a stabilized condition, or
- 13-4 Apply a Dust Palliative to haul routes and maintain in a stabilized condition, or
- 13-5 Apply gravel to haul routes and maintain in a stabilized condition, or
- 13-6 Supplement a Dust Palliative or aggregate applications with watering, if necessary.

Requirement: Stabilize all off-road and parking areas.

- 13-7 Apply water to off-road traffic and parking areas and maintain in a stabilized condition, or
- 13-8 Apply gravel to off-road traffic and parking areas and maintain in a stabilized condition, or
- 13-9 Apply recycled asphalt (or other suitable material) to off-road traffic and parking areas and maintain in a stabilized condition, or
- 13-10 Apply and maintain a Dust Palliative (designed for vehicle traffic) to off-road traffic and parking areas and maintain in a stabilized condition.

Recommendations: Use of bumps or dips for speed control is encouraged.

Pave as soon as possible.

TRENCHING

BMP 14

Definition: Trenching with track or wheel mounted excavator, shovel, backhoe, or trencher.

Requirement: Stabilize surface soils where trenching equipment, support equipment, and vehicles will operate.

- 14-1 Pre-water and maintain surface soils in a stabilized condition where trenching equipment, support equipment, and vehicles will operate, or
- 14-2 Apply and maintain a Dust Palliative to surface soils where trenching equipment, support equipment, and vehicles will operate.

Requirement: Presoak soils prior to trenching activities.

- 14-3 Pre-water surface, pre-trench to 18" depth, soak soils via pre-trench prior to deep trenching, and
- 14-4 **L:** Presoak soils with water using sprinklers or wobblers, or
- 14-5 **L:** Presoak soils with water using water trucks.
- 14-6 **H:** Presoak soils with a water and surfactant or tackifier mixture using water trucks, or
- 14-7 **H:** Presoak soils with a water and surfactant or tackifier mixture using sprinklers or wobblers.

Requirement: Stabilize soils during trenching activities.

- 14-8 **L:** Complete trenching with a dedicated water truck or large hose, maintaining water as needed to prevent dust, or
- 14-9 **L:** Use spray nozzles mounted on trenching machine.
- 14-10 **H:** Complete trenching with a dedicated water truck or large hose, maintaining a water and surfactant or tackifier mixture as needed to prevent dust.

Requirement: Stabilize soils at the completion of trenching activities.

- 14-11 Use water to form a crust on excavated soil windrow as it is formed, or
- 14-12 Use a Dust Palliative to form a crust on excavated soil windrow as it is formed.

Recommendations: Wash mud and soils from equipment at completion of trenching to prevent crusting and drying of soils on equipment.

See also: BMP 01: BACKFILLING, if applicable.

TRUCK LOADING

BMP 15

Definition: Loading trucks with materials including construction and demolition debris, rock and soils.

Requirement: Ensure all loads are covered prior to leaving the construction site and traveling on public roadways.

Requirement: Stabilize surface soils where loaders, support equipment and vehicles will operate.

- 15-1 Pre-water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate, or
- 15-2 Apply and maintain a Dust Palliative on surface soils where loaders, support equipment and vehicles will operate.

Requirement: Stabilize material during loading.

- 15-3 Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping, and

Note: The owner/operator must select 15-3 in addition to one of the following.

- 15-4 **L:** Mix material with water prior to loading.
- 15-5 **H:** Mix material with a water and surfactant or tackifier mixture prior to loading, or
- 15-6 **H:** Spray material with a water and surfactant or tackifier mixture while loading.