

## 4.5-g DUST CONTROL

Alternate Names: Fugitive Dust Management, Wind Erosion Control, Airborne Particulate Control

### DESCRIPTION

Airborne dust control is the practice of preventing exposed soil or other particulate materials 10 microns or less in size from becoming windborne. Dust can be carried off-site, increasing the likelihood of sedimentation and pollution of water bodies. Airborne particles also pose a threat to human health. Dust particle size equal to or smaller than 2.5 microns may contribute to an inhospitable working environment and create risk factors that may impair respiratory health.

### APPLICABILITY

Dust control BMPs are appropriate and required during the following construction activities:

- Driving construction vehicles on unpaved roads and areas.
- Moving construction vehicles on-site and off-site that may involve sediment tracking onto paved roads.
- Constructing and maintaining soil and material storage piles.
- Exposing soils, including vegetation clearing, root grubbing, and soil grading.
- Conducting final grading / site stabilization.
- Batch dropping from front end loaders.
- Drilling / blasting.
- Where concrete dust and debris result from construction or demolition activities.
- Slurries and dust containing Portland Cement Concrete (PCC) or asphalt concrete (AC) are generated from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.

### Advantages

- Complies with Federal, California, and Nevada air pollution control laws.
- A number of techniques are readily available and easy to install and maintain.
- Can substantially prevent airborne particulate matter, by limiting the amount of exposed soil and requiring implementation of BMPs.
- Prevents water quality degradation from wind-blown sediments.
- Reduces the negative visual impression made by poorly managed construction sites.
- Complaints regarding dust pollution are few when dust control BMPs are in place.

### Disadvantages

- Certain techniques are effective for only short periods and may need frequent daily applications to be effective.

BMP DESIGN APPROACH	
<input checked="" type="checkbox"/>	Pollutant Source Control
<input type="checkbox"/>	Hydrologic Source Control
<input type="checkbox"/>	Stormwater Treatment
SCALE OF APPLICATION	
<input checked="" type="checkbox"/>	All SFR and MFR < 1 acre
<input checked="" type="checkbox"/>	MFR 1-5 Acre and CICU < 5 acres
<input checked="" type="checkbox"/>	MFR and CICU > 5 acres and all WQIPs
TYPE OF APPLICATION	
<input checked="" type="checkbox"/>	Temporary
<input type="checkbox"/>	Permanent

- Some techniques (e.g. wet suppression), if not applied properly, may cause more erosion than they prevent (e.g. soil loss by running water exceeds soil loss by wind).

## DESIGN CONSIDERATIONS

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- Limit soil disturbance activities on windy days.
- Plan and schedule construction grading to disturb the least amount of land possible at one time.
- Establish Construction Boundary Fencing to identify the limits of soil disturbance and minimize generation of airborne dust.
- Stabilize those portions of project areas where project elements have been completed before disturbing additional land.
- Plan construction traffic access routes in the same locations as future roads where possible. Pave these roads when appropriate to limit the amount of exposed soil.
- Use non-potable water for wet suppression techniques when feasible.
- Maintain existing vegetation as wind breaks whenever feasible, to minimize wind erosion of soils.
- Give special attention to dust control in windy or wind-prone areas, such as ridgetops or near canopy openings caused by public roads.

## INSTALLATION

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Install appropriately-identified dust control BMPs at the onset of construction and inspect them periodically throughout the project duration. Stabilize exposed soil by converting to permanent BMPs as soon as practical.

Use one or more of the following methods to control dust:

- Install temporary/permanent vegetation and organic mulch. Ensure application is in accordance with fire defensible space specifications as outlined in *Living with Fire: A Guide for the Homeowner, Lake Tahoe Basin Edition* and Chapter 5 Soil and Vegetation Management, Section 5.3.2.5 Fire Defensible Space.
  - Lightly mulch (less than 1 inch thickness) or blanket exposed soil in a project area that will be left for a short period, but disturbed again at a later date.
  - Blanket with geotextiles or vegetate exposed soil that will remain exposed for an extended period of time and disturbed again at a later date. Use native and adapted plants from the TRPA approved species list.
- Install barriers
  - Vegetation, solid board fences, snow fences, burlap fences, and similar structures can be used to control air currents and reduce wind erosion of soil. Barriers placed at right angles to prevailing wind currents (similar to snow fences) at 15-foot intervals are effective in controlling wind erosion.
- Manage street sweeping (also refer to Section 4.5-o Sweeping)

- Remove dust deposited by vehicles and equipment on paved surfaces as soon as possible, through the use of vacuum trucks, street sweepers, and brooms.
- Do not use leaf blower machines to pick up and move sediment/other material from streets and pathways because it results in increased levels of airborne particulate matter.
- Surface travel ways with gravel (also refer to Section 4.5-h for more details regarding Vehicle Ingress Egress Management)
  - Apply stone and gravel mulches to bare soil roadways and for areas needing temporary dust control/stabilization.
- Limit vehicle tracking and movement (also refer to Section 4.5-h for more details regarding Vehicle Ingress Egress Management)
  - Use vehicle wash stations to remove dirt and debris before they can be transported onto public roadways and entrained by the wind.
  - Limit on-site traffic to 5 miles per hour. (The slower the traffic, the less likely dust will be created).
  - Limit the number of vehicles/equipment on a site at a given time.
- Prevent wind erosion of soil stockpiles (also refer to Section 4.5-n for more details regarding Stockpile Management).
  - Use silt fences, fiber rolls, and waterproof covers to prevent wind and water erosion of material stockpiles.
- Cover haul truck loads
  - Cover all open-bed trucks to prevent wind erosion of transported materials.
- Apply water to soils (“wet suppression”)
  - Sprinkle disturbed soils with an even distribution of water as needed to keep soils moist to a depth of 2 to 3 inches, but do not saturate them. Repeat several times daily as necessary. Water application should not produce runoff or visual signs of soil erosion.
- Vacuum slurry and cuttings during concrete cutting and surfacing operations and do not allow them to enter natural or constructed stormwater conveyances. Pick up residue from grinding operations by means of a vacuum attachment to the grinding machine. Do not allow saw cutting residue to flow across the pavement or be left on the surface of the pavement. Collect and place in a temporary concrete washout facility.

## INSPECTION AND MAINTENANCE

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- Review weather forecasts daily to assist in determining when dust control BMPs will be necessary.
- Visually monitor effectiveness of dust control measures. If dust control problems are found, remedy them immediately.
- Educate construction personnel to ensure that dust control measures are being properly implemented.

