



Fugitive Dust Control Measures

- Assess facility/site for areas w/ potential sources of fugitive dust
- Implement a fugitive dust control plan
 - Select control measure to use
 - Implement the plan
- Keep records of control measures



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Assess facility/site

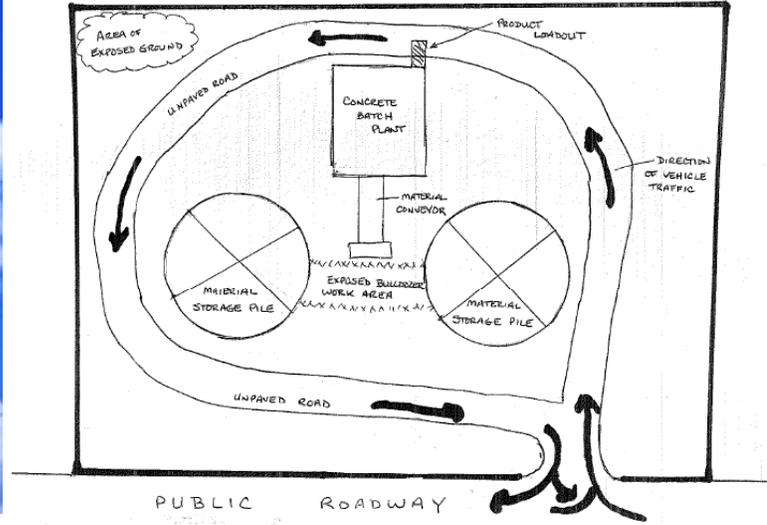
- Create map
- Analyze traffic patterns
- Decide on dust control measures
- Determine frequency of dust control



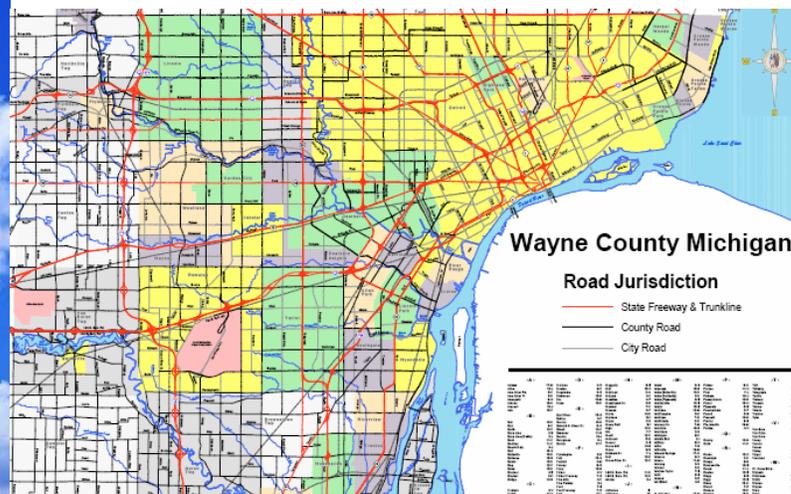
Assess facility/site



Facility Map



Municipalities





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Common Dust Control Measures

Start with preventative measures

- Minimize size of disturbed/exposed area
- Adjust work schedule (limit dusty work on windy days)
- Clean up dusty spills
- Eliminate trackout
- Apply dust suppressants



Trackout



Trackout





Dust Control Measures for Occasional Use Areas

- Vegetative ground cover
- Wind erosion controls
(e.g. bushes, fence)
- Apply dust suppressant



Dust Control Measures for Frequent Use Areas

- Pave haul roads/lots (at least entrance/exit)
- Place a layer of stone/coarse aggregate
- Enclose material storage/handling
- Cover material storage piles
- Water/sweep surfaces often
- Reduce speed limits
- Rinse vehicles leaving facility
- Apply dust suppressant



Fugitive Dust Control On-site Roadways

- Train workers
- Reduce vehicle speed on unpaved roads and lots to 10mph
- Apply dust suppressants



Fugitive Dust Control At the Entrance/Exit

- Establish a truck and wheel wash
- Provide an area of crushed gravel/stone to assist in dislodging PM
- Sweep street regularly



Driveways



Driveways



Driveways



Truck and Wheel Wash



Control Speed Limit



Fugitive Dust Control Street Sweeping



There's a sweeper here somewhere



More Street Sweeping



Sweepers (cont.)



Fugitive Dust Control Storage Piles

- Enclose storage and handling areas
- Cover piles when not in use
- Use dust suppression measures when needed



Storage Pile Management



Fugitive Dust Control Earth Moving

- Conduct activity on less windy days
- Reduce wind effects with windbreaks where practicable
- Require tarpaulins for all haul vehicles



Dust Suppressants

Purpose: Attract moisture, bind dust particles, seal surface





Common dust suppressants

- Water
- Chloride salts
- Lignin (pulp/paper by-product)
- Vegetable-based products (e.g. SBF)
- Polymer solutions
- Emulsified asphalt or resin solutions



Watering

- Typically cheapest dust control method
- Only provides temporary control
- Weather conditions dictate reapplication frequency



Watering (cont.)

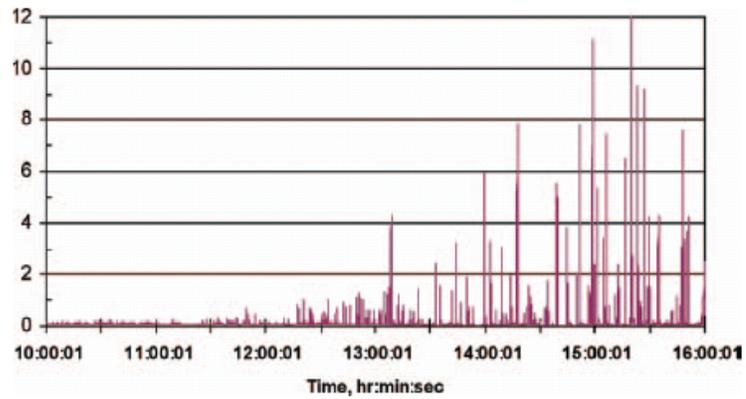


Figure 1—Instantaneous dust concentrations from haul trucks on test section of road as it is initially wetted and allowed to dry.



Effective Watering



Watering – less effective method



Watering controlling dust, but not runoff



Watering controlling dust, but not runoff (cont.)



Dust Suppressants

- Chloride solutions
 - attract moisture, reduce evaporation
 - corrosive, negative impacts on aquatic/plant life
- Vegetable-based products
 - non-corrosive, typ. non-toxic, less trackout
 - can be odorous, sticky



Dust Suppressants (cont.)

- Polymer solutions, resins and emulsified asphalt, lignin
 - binds surface dust, less trackout, long lasting
 - potentially toxic effects on surface water



Don't apply to paved surfaces



Avoid contaminating other media



Use Approved Dust Suppressants

DEQ Guidance on Dust Suppressants

Dust suppressants are used to minimize fugitive dust emissions and control erosion and maintenance costs on unpaved roads and lots. The mechanisms by which suppressants abate dust vary with product type, some form crusts or protective surfaces on the soil, others act as binding agents causing particles to agglomerate together, and some absorb moisture to the soil particles.

Potential environmental impacts of dust suppressants include surface and groundwater quality deterioration, soil contamination, toxicity to soil and water biota, toxicity to humans during and after application, air pollution from volatile dust suppressant components, accumulation in soils, changes in hydrologic characteristics of the soils, and impacts on native flora and fauna populations.



Figure 2-1. Conceptual model of the various uses of dust suppressants and the potential environmental consequences.

Source: Potential Environmental Impacts of Dust Suppressants, "Aiding Good" Times Search, An Update.



Fugitive Dust Control Log (cont.)

Self-Inspection Checklist: Weather Log

Date	Temperature	Wind Speed/Direction	Amt. of Rainfall	Comments

