

4.4 Dust Management Plan

Source Description	Primary Dust Control Measures	Thresholds / Triggers for Management	Contingency Dust Control Measures
Tipper wagons and Vehicle Traffic	- Add water to unpaved road surfaces if necessary. - Implement a speed limit of 5mph to slow vehicles and therefore reduce fugitive dust emissions. - Where access roads adjoin public highways, there is the potential for material to be tracked onto the paved public highway. If material is tracked onto public highways, and is creating dust, the road will be cleaned (ie. tracked material will be removed from the road surface using a road sweeper). - Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	- If tipper wagons or vehicle traffic emissions are occurring that may impact air quality beyond the property boundary: - If visible dust is being generated from tipper wagons or vehicle traffic; and/or - If the weather forecast indicates dry conditions and strong winds are likely. - Visual cues would be the primary trigger for mitigative action to be taken with respect to fugitive dust emissions. - If the weather forecast indicates dry weather and strong winds are likely, this is also a trigger for preventative dust management action to be taken. - Visual monitoring during site activities will be conducted by the site manager/ environmental officer to determine if contingency control measures should be implemented. - Spot checks will be conducted using a portable particulate monitor. If measured concentrations are approaching an Environment Air Quality Standard (see dust management plan), contingency control measures will be implemented. Initially, the threshold level will be 90% of the standard; however this may be refined with additional monitoring. - Complaints by nearby residents	- Apply water to roadways that are being used and producing dust. - Apply gravel to roadways approaching access points. - Cover tipper wagons on windy days if dust control measures are not sufficiently preventing dust movement. - Cease activities during high wind events or when dust emissions
Vehicle Fleet Operation	- Avoid engine idling. - Ensure construction fleet vehicles are maintained according to manufacturers' guidelines. - Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. - Implement a wheel jet washing system. - Adhere to site speed limits and designated roads.	- Periodic maintenance of construction vehicles. In addition, excessive or consistently black exhaust is a signal that an engine is not operating optimally - Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits. - Inspect on-site traffic routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. - Record all inspections of traffic routes and any subsequent action in a site log book.	- Replace worn or malfunctioning equipment. - Consider different scheduling and routing options

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Loading and Unloading	- Keep drop height onto stockpiles and tipper wagons to a minimum. - Empty loader bucket and tipper wagons (end dump) at rate to limit dust emissions. - Tipper wagons will not be loaded above the sides of the tipper wagons.	- If the weather forecast indicates dry conditions and strong winds are likely. - Visual cues will be the primary trigger for mitigative action to be taken with respect to fugitive dust emissions. - If the weather forecast indicates dry weather and strong winds are likely, this is also a trigger for preventative dust management action to be taken.	- Increase frequency of water spray usage. - Installation of engineered controls such as dust covers or collection mechanisms. - Cease activities during high wind events during
Stockpiled Materials (including aggregate piles or contaminated soil)	- Stockpiles should be located away from sensitive receptors e.g. residential, commercial and educational buildings, places of public access or other features, such as watercourses. - Where possible, ensure stockpiles are kept protected from wind erosion or enclosed or under sheeting. - Dusty materials can be damped with water sprays. - Orient piles to be parallel with the predominant wind direction. - Wind barriers (protective fences) of similar size and height to the stockpile may be used. - Keep stockpile height to a minimum. - Minimise drop height of conveyor to the stockpile.	- If visible dust is being generated from the stockpiles - If the weather forecast indicates dry conditions and strong winds are likely - Visual cues will be the primary trigger for mitigative action to be taken with respect to fugitive dust emissions. - If the weather forecast indicates dry weather and strong winds are likely, this is also a trigger for preventative dust management action to be taken. - Spot checks will be conducted using a portable particulate monitor. If measured concentrations are approaching an Environment Air Quality Standard (see dust management plan), contingency control measures will be implemented.	- Wet the stockpiles. - Cease activities at the stockpiles during high wind events or when dust emissions cannot be adequately controlled. - Cover the temporary stockpiles. - Construct a wind barrier.

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Demolition Activities	- Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust). - Bag and remove any biological debris or damp down such material before demolition. - Avoid burning of waste materials. - Materials should be removed from the site as soon as is practical. - Prolonged storage of debris on site or exposure to wind should be avoided. - Ensure good housekeeping at all times.	- Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes. - Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. Make the log available to LPA if required. - Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. - Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period. - All contractors and sub-contractors to be made aware of and sign-up to the dust management scheme.	Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
Trackout Specific	- Inspect on-site traffic routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. - Implement a wheel jet washing system	Record all inspections of traffic routes and any subsequent action in a site log book.	Ensure Roads are dampened down on a regular basis to prevent dust from arising.

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Source Description Earthworks	- Conduct topsoil stripping only during suitable wind and weather conditions, so as to minimise the generation dust. Topsoil stripping will be conducted in areas proposed for mining no more than two months before mining commences, wherever practical. - After re-establishment of the soil profile (post mining), vegetative cover will be established within 8 months, as part of the progressive rehabilitation program. - Move as little material as possible. While excavating, this translates to keeping drop heights as low as possible - Use a front-end loader where possible to place material instead of a bulldozer. - Progressive site stripping will be used to reduce moisture content loss and to retain soil integrity. - Stabilise surfaces and/or re-vegetate as soon as possible.	Thresholds / Triggers for Management - Monitor wind and weather forecasts (Bureau of Meteorology) and cease non-essential operations (i.e. topsoil stripping) during excessively windy conditions. - Material handling activities are occurring that may impact air quality beyond the property boundary: - If visible dust is being generated by material handling activities; and/or - If the weather forecast indicates dry conditions and strong winds are likely. - Visual cues will be the primary trigger for mitigative action to be taken with respect to fugitive dust emissions. - If the weather forecast indicates dry weather and strong winds are likely, this is also a trigger for preventative dust management action to be taken. - Visual monitoring during site activities will be conducted by the environmental consultant to determine if contingency control measures should be implemented. - Spot checks will be conducted using a portable particulate monitor. If measure concentrations are approaching an Environment Air Quality Standard (See Dust Management Plan) contingency control measures will be implemented.	Contingency Dust Control Measures - Wet the material when it is being handled. - Cease material handling operations during high wind events or when dust emissions cannot be adequately controlled