

OVERVIEW

The following management plan for dust and air pollution has been prepared in respect to sand extraction works at 4079 Haag Road, Carburnup.

The work site conditions are such that the wind conditions may subject adjacent residences to nuisance from dust and wind borne material from the pit site during the course of the extraction.

DUST CONTROL – RESPONSIBILITY

Civil Infrastructure is responsible for controlling and minimizing the generation of dust on the work site.

We will comply with the provisions included in “Land Development Sites and Impacts on Air Quality – A guideline for the prevention of dust and smoke pollution from land development sites in Western Australia”, published by the Department of Environmental Protection in November 1996.

Our objective is to put in place measures to control and limit dust and air pollution generated from site works carried out by abstraction works from the commencement date to completion.

PREVENTATIVE MEASURES

Civil Infrastructure applies working methods to minimize dust and air pollution generation. Our Air Quality Management programme shows equipment, methods, haul routes, timings and dust control measures, and is based on progressive completion and stabilization of areas under construction.

We will monitor weather forecasts for wind velocity and direction and personnel will be placed on standby to undertake dust suppressions measures. Timing of construction to coincide with favourable weather conditions, i.e. at times of low winds.

A water cart and other methods of dust and air pollution control will be provided as required in compliance with DEP guidelines.

PUBLIC NOTIFICATION

If required, residents will be advised by letter drop or information board on site to advise the adoption of adequate measures to prevent the generation of unacceptable levels of dust. Notification will include contact details of stakeholders in the event of a complaint.

DUST NUISANCE – COURSE OF ACTION

Acceptable dust level at the work site will be estimated by visible dust crossing the site boundary and by comment from affected residents, indicating the potential for adverse dust impacts and the control measure to be implemented. All incidences of dust nuisance will be immediately referred to the Contract Superintendent by the Site Supervisor for advice on an appropriate course of action to be followed.

A register will be maintained to record dust related complaints from members of the public, issues arising and actions taken.

ENVIRONMENTAL PROCEDURE

AIR QUALITY (DUST CONTROL AND PLANT EMISSIONS)

Risk Detail

The potential for wind blown dust to be generated on a construction site is high. The amount of dust generated depends on planning, weather, activities, materials being worked, controls in place etc.

The other form of air pollution potentially generated on a construction site is from plant emissions. Such emissions are usually as a result of poorly maintained or old equipment being used.

Preventative Measures

The following preventative measures can be used to limit the amount of dust generated on site:

- (a) Programming work so that large sections of bare areas are not exposed at any one time, less than 2 Hectares to be open / un-rehabilitated.
- (b) use of water carts, sprinkler systems on stockpiles
- (c) limiting traffic to haul roads/definition of trafficable areas
- (d) use of street sweepers (when material on road is dry) to keep public and site hard stand roads free of dirt and to clean out any sand which may move into adjacent drainage systems
- (e) All trucks will be tarped (covered) when leaving the site laden
- (f) use of dust screens (shade cloth or similar on boundary fences)
- (g) provision of hardstand areas in high traffic zones i.e. site offices
- (h) use of hydro seeding to stabilize areas that would otherwise be left bare for extended periods of time and pose a dust hazard
- (i) maintaining machinery in accordance with manufacturers specifications so that emissions would comply with the State Environment Protection Policy (The Air Environment)
- (j) replacing old machinery when no longer operating efficiently
- (k) keeping dust suppression equipment on line for when it is needed
- (l) assessing whether dust-generating activities should be stopped in circumstances where preventative measures are not controlling the problem i.e. during periods of high wind speeds
- (m) vegetation should be mulched where possible, not burned on site
- (n) no fires permitted on site unless necessary approval has been obtained
- (o) ensure smooth surface areas are ripped or left rough to lower wind velocity at soil surface

Objective

Dust generation to be minimized and controlled at all sites including depot. Plant to be kept in good working order.

Target

Minimal dust moving off site and minimum dust on site. Zero complaints from residents, public, client, EPA or council. Plant to be operation according to manufacturer's specifications.

Maintenance

Dust control measures are to be maintained and soil will not be allowed to accumulate behind dust screens or other controls. Plant to be regularly serviced.

Measurement

Dust Measurement is to be by observation of the site manager and by comment from affected residents. Review of enquiry/complaint register to assess whether target has been met.

If machinery is emitting smoke continuously for longer than 10 seconds, during normal operation, then that piece of machinery will be serviced or replaced.

DUST AND AIR POLLUTION

Pollution relating to Dust and Airborne Pollution is caused by but not limited to;

Dust Plant and Equipment Movements and Wind erosion
Airborne Pollution Vehicle Exhaust, Burning off and Fires, Odors or Toxic Gas

Civil Infrastructure Supervisors and Operators are trained to be aware of what caused the pollution, and how it can be minimized on our construction sites.

We use the Environmental Procedure CI-EP-04 as a guide and training tool to assist in determining the impact and to measure the effect of our control measures.

Prior to commencing work, an assessment of the pollution risks and control measures shall be carried out and recorded in the Project Management Plan.

Control measures that Civil Infrastructure can use include;

Dust Use Water Cart or other means to keep tracks and work areas free of dust. Contain Plant movements to a minimum and do not destroy any more vegetation than is required.

Air Pollution Maintain exhaust and engine systems to reduce exhaust emission.

Supervisors and key staff including operators shall assess the risks associated with the pollution hazard, and take the necessary action from control measures above. Where a different type of pollution occurs, the Construction Manager shall be notified and new control measures developed, and passed onto the employees by Environmental Instructions through the toolbox meetings.

All employees are encouraged to notify supervisors of incidents, or practices that cause pollution of any kind, to allow them to be adequately controlled.

OVERVIEW

The following management plan for DIEBACK CONTROL has been prepared in respect to sand extraction works at 4079 Haag Road, Carburnup.

The area has been classified as uninterruptible and as such requires a management plan in place.

DIEBACK CONTROL – RESPONSIBILITY

Civil Infrastructure is responsible for controlling the risk of dieback spreading. We will comply with the provisions included in “Management of *Phytophthora* Dieback in Extractive Industries” – A Best Practice Guideline for the control of the spread of dieback, published by the Dieback Working Group in February 2007.

Our objective is to put in place measures to control the risk of dieback generated from site works carried out by abstraction works from the commencement date to completion.

PREVENTATIVE MEASURES

No.	Action Description	Rationale
1	Containment of surface water on site	Surface and sub-surface water are an efficient means for the spread of <i>Phytophthora</i> Dieback. Furthermore, increase in the soil moisture can greatly increase the impact of the pathogen on the surrounding native vegetation.
2	Signage	Inform personnel entering the site that it may be infested with <i>Phytophthora</i> Dieback
3	Dry weather operation only	Operation during wet weather is to be avoided for two reasons. Turbidity of runoff waters is higher and movement of soil pathogens is greater in wet weather conditions. Soil pathogens such as <i>Phytophthora cinamomi</i> are transferred in mud that sticks to vehicles working in moist soil conditions. This can be avoided by not working in these conditions.
4	Separation of pit operation from haulage route	Trucks entering the site must stay on a formed road that is free draining (i.e. does not have water running/ponding across it). Trucks must not enter the pit area. Loaders working the pit must stay within the pit area and load the trucks from the edge of the pit.
5	Rehabilitate using <i>Phytophthora</i> Dieback free material in <i>Phytophthora</i>	Only bring in certified <i>Phytophthora</i> Dieback free materials, (see rehabilitation plan).
6	Customer Notification	Advise potential customers that the material may be infested with <i>Phytophthora</i> Dieback.
7	Work up slope	By excavating the area up-slope there is a reduced risk of spreading the pathogen into non-infested areas.
8	Training	Train all staff about <i>Phytophthora</i> Dieback, its impact and management.
9	Secure Site	Secure the site using fencing to the excavated area to prevent uncontrolled access.