

Environmental Management Plan – Drilling

Environmental Management Plan

Environmental Policy

The EMP shall be used in conjunction with the Review of Environmental Factors prepared for this project.

Scope

This procedure describes how Opensore Pty Ltd aims to implement an Environmental Management Plan (EMP).

The procedure is to be applied when environmental management is a requirement of the contract or otherwise as directed by the Managing Director.

The purpose of this Environmental management Plan is for Opensore Pty Ltd to be aware of their responsibilities in protecting the various local environments that may be affected by the contract works. The aim of the Environmental Management Plan is to minimize the effect of the work on the local environment.

This includes the control of siltation, noise and visual pollution, water quality, odour, traffic control and safety of workers.

As part of this contract, Opensore Pty Ltd shall undertake to minimise any environmental damage that may occur. The main concern for the Environmental Management Plan will be to prevent any sediment or excavated material reaching the stormwater system. As such, most of the control techniques shall be based principally around the use of sediment protection downstream from the proposed work within the work site area.

Scope of Works

The project generally includes the supply of all materials, labour, plant and equipment for the installation of directional bores and associated civil works.

The construction method will generally be trenchless but can be by open trench. If there is any change in scope of this work, then the EMP will be resubmitted for approval.

Environmental Management

The environmental safeguards relating to the works are as follows:

Project Performance Goals and Environmental Safeguards

Should a breach of environmental security be found and an adverse impact on the environment result the following procedure will apply. The Project Manager will be notified as soon as possible together with the relevant Authority depending on the nature of the breach.

Following the breach and subsequent notification, emergency rectification work will be done to minimise any adverse environmental impact until such time as more permanent work (should it be required) can be configured to reverse the environmental impact.

The following environmental safeguards will be applied.

Soil and Water Management

- All stormwater inlets will be protected with silt containment devices and checked at regular intervals to maintain effectiveness.
- All bulk material stockpiles will be fenced with silt stop fabric to prevent any erosion taking place, such fabric will be held in place by steel posts and where there is a possibility of runoff such stockpiles will be bundled.
- Open trench area will be minimised, and excess spoil disposed of properly. Where it is not practical to temporarily store excavated spoil on the grassed footpath areas the material will be contained by silt containment devices and any road areas swept as soon as possible and the lawn areas rehabilitated by re-seeding after completion of works.
- During times of high wind and low humidity where there is a chance of stockpiled material contaminating the air stockpiles will be watered or covered to prevent any compromise of air quality.

- Construction will not commence in periods of wet weather.

Noise Control

All noise generated by construction activities is to comply with the noise levels specified in the Environmental Protection Authority's Noise Control Manual. All vehicles and equipment will be fitted with silencing devices, where applicable.

Public and Visual Amenity/Community Liaison

To minimise the disruption to public and visual amenity the following safeguards will be implemented:

All construction equipment will be removed as soon as it is not required, including any material and refuse related to the works. This equipment will be stored in such a manner as to offer the least inconvenience to the local community. In addition, stockpiles and amenities sheds will be placed in a location with minimum visual impact where possible.

Traffic Management

Opensore Pty Ltd will conform to the local traffic regulations and take out the appropriate permits, provide plans etc.

OH&S and Public Safety Provisions

- Opensore Pty Ltd OH&S Policy will satisfy the requirements of the Occupational Health & Safety Act 2011 and Regulations.
- The site must be secured in accordance with SafeWork requirements while work is carried out and at the completion of the works all equipment and materials will be stored safely within the site.
- All open trenches will be protected by the use of trestles and barrier mesh, and warning signage (refer safe work plan).
- Signs placed warning the public of potential danger on site.

Waste Disposal

- All waste material generated will be handled and disposed of carefully to minimise the risk of pollution. All materials able to be recycled shall be separated and recycled at approved facilities.
- All construction waste shall be collected daily and disposed of at an approved facility. General garbage bins will be located on site.
- Liquid waste will be disposed of by use of a vacuum or similar system and taken to approved facility.

Dust Control

All stockpiles and excavations shall be kept either covered or in a wet state when necessary to prevent dust.

Flora

- Disturbed areas will be returned to their original condition promptly after the completion of the works.
- If required disturbed areas will be reseeded after completion of works.
- When required, barriers will be erected creating an exclusion zone around the trunks of trees to prevent them from damage by excavators etc operating in the immediate area.
- Materials stockpiles will not be placed around tree trunks.

Fauna

Disturbance of timber and rockeries will be minimised to avoid disturbance to potential reptile habitats.

Utilities and Services

If any service is damaged the relevant authority will be immediately notified.

Air Quality

All vehicles will be fitted with approved and properly maintained exhaust systems which comply with Australian Standards.

EMERGENCY PREPAREDNESS AND RESPONSE

General

- Potential emergency situations are identified prior to works commencing on site as part of the development of a project plan, environmental plan and or safety plan. Site specific emergency procedures/plans are documented by the Supervisor. It is the Supervisors responsibility to ensure the relevant document is updated.
- Emergency response arrangements are communicated to all personnel via pre-start meetings and tool box talks.
- Emergency drills are planned to be carried out twice per year as a minimum.
- Emergency personnel (Site Supervisors etc) receive training in emergency procedures appropriate to their allocated emergency response responsibilities and the degree of risk.
- Emergency equipment
- A formal assessment of the suitability, location and accessibility of emergency equipment on site is made by the Supervisor during the development of the relevant project plan, environmental plan and or safety plan.
- Emergency equipment, spill kits, fire extinguishers, exit signs, paths of travel, etc are reviewed at regular intervals by the supervisor and normally recorded in conjunction with any planned emergency or evacuation drills.
- Fire extinguisher inspections are carried out by an engaged service provider.

Hazardous Substances

Hazardous substances are controlled on site through the use of a Substances Register. This register is to be maintained by the supervisor and is to list all substances expected to be used on site as well as record any unexpected substances brought onto site during the works. The register is to identify the status of the substance as being hazardous/dangerous, expected quantity, trade(s) expected to use the substance and to reference current valid SDS for the substance.

Response

In the case of any environmental incident, the intent is to prevent pollution, prevent further pollution and to minimise the impact on the environment. The following steps will be employed as appropriate:

- Evacuate all non-essential personnel.
- Call emergency services when required.
- Deploy spill kits to stop liquids migrating to waterways and drains.
- Extinguish fires with the correct equipment and only when it is safe to do so.
- All such incidents are to be reported immediately to the supervisor and either of directors.
- Upon report, a Corrective Action will be started and managed until a successful resolution of the incident.

ORGANISATION AND PERSONNEL / RESPONSIBILITIES AND AUTHORISATIONS

The Directors have overall responsibility for ensuring that environmental impact assessments and environmental management planning are carried out by suitably qualified/experienced staff and/or environmental specialists.

The Directors of Opensore Pty Ltd are responsible for:

- Implementing the Environmental Management Plan.
- Arranging periodic inspections/environmental audits.
- Instructing project personnel on how to comply with the Company's environmental policy and procedures.

The Project Manager is responsible for ensuring that all erosion and sediment control procedures are carried out and that all necessary control structures are installed and maintained.

The Site Supervisor is responsible for implementing routine environmental control measures including regular inspections and maintenance as required, in accordance with the Environmental Management Plan.

RESPONSIBLE

Paul Martin

Openshore Pty Ltd – Director

0431 510 767

Endorsed

Client Representative:

Signature:

Environmental Risks & Control Measures

RISK AREA	SAFEGUARDS	RESPONSIBILITY
Construction Phase	After site establishment and installation of environmental measures, Openshore Pty Ltd will commence pipe laying activities. Environmental protection measures will be checked, maintained regularly to ensure their effectiveness. Under no circumstances will sediment from the construction work be allowed to adversely affect the local environment.	Site Supervisor
Sediment Erosion Control	In line with standard practice, erosion and runoff controls, in the form of silt traps and water bars, will be installed around any materials stockpiles. Work will be completed as soon as is practicable so as to minimize any possibility of erosion taking place.	Site Supervisor
Disposal of Waste	The silt traps and water bars will be regularly cleaned and maintained to ensure their effectiveness. All waste materials will be collected from the site and placed in waste skips when appropriate and then disposed of an approved tip. In the unlikely situation that waste materials are to be stockpiled on site for short periods, then the situation and runoff safeguards will be put in place to minimize any impacts on the local environment.	Site Supervisor
Water Quality	Safeguards outlined earlier to protect the stormwater system from any runoff or siltation in relation to the site activity will be followed.	Site Supervisor
Odour Control and Air Quality	Odours have not been identified as any sort of issue, should they become a problem they will be dealt with in an appropriate and approved manner Dust Control – sites will be monitored and any dust will be suppressed by water spraying. In relation to the existing site conditions and the nature of the work, it is not expected that dust will pose a problem in this case	Site Supervisor

RISK AREA	SAFEGUARDS	RESPONSIBILITY
Mitigation of Noise	The equipment (excavators, compressors, trucks etc) used for the proposed work will in effect generate some noise but will comply with	Site Supervisor

	the noise levels specified in the EPA Noise Control Manual. Silencing devices will be used where possible. Consideration will be made for the position of night lights and the use of low decibel night lights will be used. Use of low voltage LED beacons/arrow boards will be used on Traffic Control vehicles to prevent excessive idling.	
Visual Impacts	Working space on the work sites will be minimized and measures will be in place to keep the site tidy and clean. Rehabilitation of the site will be carried out in accordance with the requirements of the Local Authority. Traffic control signs will be positioned correctly and neatly on the road shoulder to lessen the visual impact.	Site Supervisor
Safety Risks to the Workers and the Public	Public and Safety Worker Provisions - To ensure public safety the worksite will be fenced off where appropriate, warning signs will be erected at all work locations, - All workers have approved certification - Site supervision will be conducted, and site safety will be closely monitored by the Job Supervisor - Safety vests and helmets will be worn at all times. - All equipment and materials will be safely stored.	Site Supervisor
Frac out of Drilling Fluid	If occurring on the surface, a hole will be dug at the point and a pump set up to return the water to the mud cleaning system. If occurring underground, a sealing agent will be pumped down the hole and left stagnant for 20 to 30 minutes. Drilling will then recommence at a low pumping pressure until the operators are sure the frac out has been sealed.	Site Supervisor
Acid Sulphate Soil	Any acid sulphate soil will be stockpiled, separately, adjacent to the trench or excavation, within a sediment or silt fence. Run off from these piles will be contained with the use of an impervious membrane in conjunction with the silt fence. Stockpiles will be treated with Lime for neutralisation immediately. Acid Sulphate soils will be re-deposited at least 0.5m below the pre-existing water table.	Site Supervisor

RISK AREA	SAFEGUARDS	RESPONSIBILITY
Flora & Fauna	Traffic control signs will be positioned where possible, away from flora to avoid damaging the environment. Consideration will be made for where the vehicles will be parked.	Site Supervisor