



Mackas Sand Pty Ltd

**OPERATIONS MANAGEMENT
PROCEDURE
LOT 218 AND LOT 220,
SALT ASH**

DRAFT

January 2014

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OPERATIONS MANAGEMENT PROCEDURE LOT 218 AND LOT 220, SALT ASH

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Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Mackas Sand Pty Ltd

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TABLE OF CONTENTS

1.0	Introduction	1
1.1	Project Background	1
2.0	Regulatory Requirements	1
3.0	Operations Management Procedure	3
3.1	Management of the Plant, Equipment and Vehicles	3
3.2	Site Operations	3
3.2.1	Landform Level Monitoring	3
3.3	Environmental Inductions and Training	4
4.0	Hydrocarbon Management and Spill Response Procedure	5
4.1	Hydrocarbon Storage	5
4.2	Refuelling Procedures	5
4.2.1	Refuelling of Equipment.....	5
4.3	Hydrocarbon Spill Response.....	5
4.3.1	Hydrocarbon Spill Sources	5
4.3.2	Spill Response Equipment.....	6
4.3.3	Spill Response Procedure	6
4.3.4	Notification Requirements.....	6
4.3.5	Remediation Plan	7
5.0	References	7

FIGURES

1.1	Locality Plan.....	1
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1.0 Introduction

1.1 Project Background

Mackas Sand operations on Lot 218 and Lot 220 are located approximately 25 kilometres north-east of Newcastle near Salt Ash in the Port Stephens Local Government Area (LGA), New South Wales (refer to **Figure 1.1**). Mackas Sand directors have operated sand extraction operations in the area since 1992. Lot 218 and Lot 220 are owned by the Worimi Local Aboriginal Lands Council.

Mackas Sand was granted Project Approval No. 08_0142 (PA 08_0142) on 20 September 2009 by the Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act 1979* to operate sand extraction operations at Lot 220 and Lot 218. It is estimated that in excess of 21 million tonnes of sand resource will be extracted from Lot 218 and Lot 220, with Lot 218 having an indefinite extraction life due to the ongoing movement of sand from the adjoining mobile dunes.

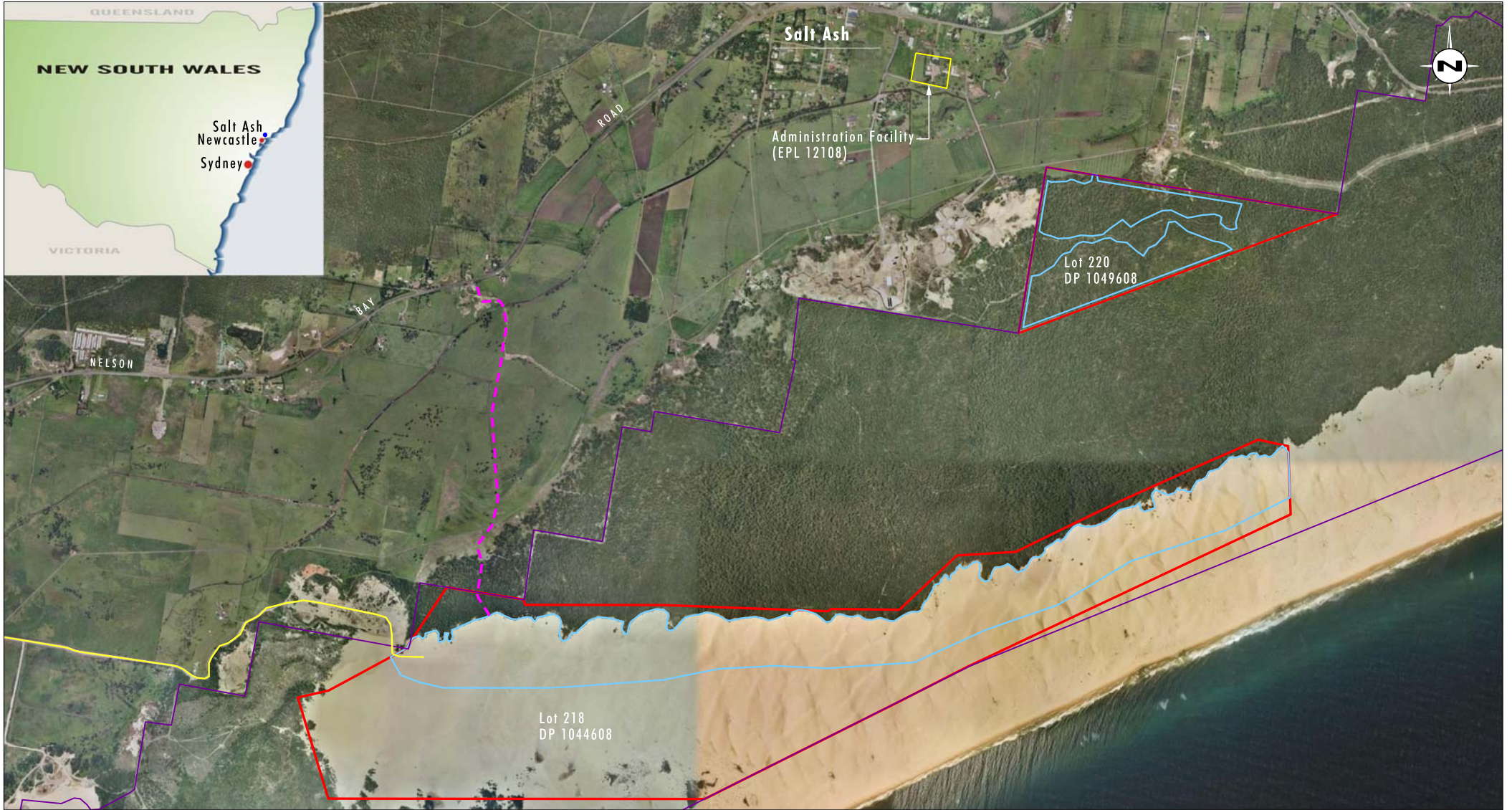
A modification to PA 08_0142 (MOD1) was approved on 30 September 2013 by the NSW Planning Assessment Commission (PAC) under delegation of the Minister for Planning and Infrastructure (DP&I). The modification includes a temporary reduction in extraction level and the approval of an alternate route to access Lot 218. The alternate route connects directly from Lot 218, northward to Nelson Bay Road, as depicted within **Figure 1.1**.

This Operations Management Procedure (OMP) has been prepared by Umwelt (Australia) Pty Limited (Umwelt) on behalf of Mackas Sand in accordance with the requirements of the approval under Clause 10(1) of the Hunter Water Regulation 2010 for engaging in extractive industry in the North Stockton Catchment Area dated 7 June 2012 (the approval) granted to Mackas Sand.

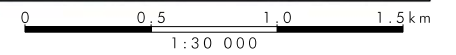
2.0 Regulatory Requirements

An Environmental Management Strategy (EMS) has also been prepared by Umwelt for Mackas Sand, in accordance with the requirements of PA 08_0142 (MOD 1). This OMP has also been developed in accordance with the management strategies contained within the EMS.

Clause 4 of Part 2 of the approval provides a number of conditions which are to be addressed by Mackas Sand. **Table 2.1** below details the conditions of Clause 4 Part 2 of the approval and also shows where these have been addressed within the OMP.



Source: Google Earth



Legend

- Lot Boundaries (218 and 220)
- Mackas Sand and Soil Maintenance and Administration Facility
- Approved Extraction Areas
- North Stockton Catchment Area
- Approved Alternate Access Route
- Approved Access Route

FIGURE 1.1
Locality Plan

Table 2.1 – Hunter Water Regulation 2010 Approval (Clause 4 of Part 2)

Clause	Where Addressed in Document
(1) The Approval Holder must develop a procedure, to the satisfaction of HWC and the Office of Water, to address the management of operations at the site (Operations Management Procedure)	Section 1.1
(2) The Operations Management Procedure must:	OMP first submitted to relevant agencies on 7 September 2012
a) Be submitted to HWC and the Office of Water for approval within 3 months of the Date of Issue of this Approval	
b) Be consistent with the requirements for the method of Extractive Operations in clause 3; and	Sections 2.1 and 2.2
c) Include, but is not limited to, procedures for the following:	
i) Management of the plant, equipment and vehicles;	Section 2.1
ii) Site operations;	Section 2.2
iii) Environmental inductions; and	Section 3.4
iv) Environmental training.	Section 3.4

This OMP also contains a Hydrocarbon Spill Procedure (HSP) as required by Clause 5 of Part 2 of the approval. **Table 2.2** below details Clause 5 Part 2 of the approval and also where these conditions have been addressed within the OMP.

Table 2.2 – Hunter Water Regulation 2010 Approval (Clause 5 of Part 2)

Clause	Where Addressed in Document
(1) The Approval Holder must develop a procedure, to the satisfaction of HWC and the Office of Water, to manage a hydrocarbon spill on the Land (Hydrocarbon Spill Procedure).	Section 1.1
(2) The Hydrocarbon Spill Procedure must:	
(a) Be submitted to HWC and the Office of Water for approval within 3 months of the Date of Issue of this Approval;	Section 3.0
(b) Include, but is not limited to, a plan for the remediation of the land.	Section 3.0
(3) The Director-General may require that the Approval Holder vary any part of the Hydrocarbon Spill Procedure as a result of any incident or event which adversely impacted upon or had the potential to adversely impact up on the groundwater in the North Stockton Catchment Area.	Plan to be updated by Mackas Sand if requested by Director-General

In compliance with Clause 9 (3) and (4) of the approval, an Operations Report will be included within the Annual Review under Schedule 5, Condition 4 of PA 08_0142. The OMP will be reviewed with other plans, strategies and programs in accordance with Schedule 5, Condition 4A of PA 08_0142.

3.0 Operations Management Procedure

3.1 Management of the Plant, Equipment and Vehicles

All plant and equipment used in association with the Extractive Operations at Mackas Sand is to be operated, managed and maintained in a proper and efficient condition. Servicing and maintenance of all plant and equipment is to be undertaken as required. This includes machinery used for the purposes of monitoring and rehabilitation as required by Clause 3 (3) of the approval.

Clause 3 (2) of the approval states that 'the approval holder must remove all machinery used in the Extractive Operations from the Land at the end of each day's operation'. Mackas Sand has approval to operate for 24 hours a day. However, all mobile machinery not anticipated to be in active use is to be removed from Lot 218 or Lot 220. Vehicle storage locations are located outside of the North Stockton Catchment Area.

To provide that vehicle and equipment integrity is upheld and to minimise the potential for hydrocarbon spillage from equipment, ongoing inspection and maintenance of all vehicles will be undertaken by appropriate personnel on-site. In addition, there is minimal risk of hydrocarbon contamination from vehicles moving between Lot 220 and Lot 218 due to the distance between sites and the regular maintenance and care of plant. These measures minimise the risk of hydrocarbon spillages occurring on Lot 220 and Lot 218, whilst also minimising the risk of spillage if equipment travels between these sites. Any transport between the sites occurs on lands outside of the North Stockton Catchment Area.

3.2 Site Operations

Methods of extraction will be undertaken in accordance with Schedule 3 of PA 08_0142. This refers to the basic operations undertaken within the approved extraction area including monitoring of the height of the extraction floor and final landform, use of machinery and other extraction equipment, storage of potential contaminants and vehicle refuelling. Features of the Extractive Operations include:

- Sand extraction and processing activities at Lot 218 and Lot 220 may be undertaken 24 hours per day, seven days per week. Extraction is undertaken using an excavator and dump trucks, with some material being sieved on site. Mackas Sand also has approval to operate a sand washing plant on Lot 220.
- Transport activities will be undertaken from Lot 218 and Lot 220 in accordance with Project Approval 08_0142 (MOD 1), Schedule 3, Condition 9 – i.e. transport is able to occur from 5 am to 10 pm Monday to Saturday, and 8 am to 12 pm Sundays and public holidays with agreement from relevant landowners.
- A maximum of 1,000,000 tonnes per year of sand products will be extracted from Lot 218 and a maximum of 1,000,000 tonnes per year will be extracted from Lot 220.
- The final landform will be at least one metre above the maximum predicted groundwater level and will be verified by topographic survey.

3.2.1 Landform Level Monitoring

Clause 3 (1) of the approval states that 'the approval holder must engage a suitably qualified and trained professional to monitor the height of the land from which sand is being extracted'.

Landform level monitoring is to be undertaken by an appropriately trained and qualified surveyor to monitor the current extraction area annually. The height of the land from which sand is being extracted is to be measured at least weekly by suitably trained on site staff by using an established and calibrated base station.

3.3 Environmental Inductions and Training

Mackas Sands aims to provide the necessary tools and training for its employees and contractors to enable the effective implementation of Mackas Sands management systems and to assist with the risk management process. A competency-based training scheme will be implemented to identify minimum qualifications and skills required, to ensure that adequate resources and training are provided to meet these requirements. All employees and contractors will be required to complete a structured site induction. The scope of the induction will include:

- legislative requirements;
- site layout and environmental sensitivities;
- standard operating procedures;
- incident reporting;
- community sensitivities and cultural awareness;
- health and social awareness;
- Work Health & Safety requirements; and
- Emergency Response Procedures.

Training will be ongoing to improve the environmental and social understanding, capabilities and performance of personnel and contractors. In addition, specific training will be provided to personnel involved in:

- maintaining and operating pollution control equipment;
- Aboriginal cultural awareness;
- handling and storage requirements for tank traps;
- storing and handling hydrocarbons;
- responding to environmental incidents and emergencies; and
- management of unexploded ordinances.

Records will be retained of all persons inducted.

4.0 Hydrocarbon Management and Spill Response Procedure

4.1 Hydrocarbon Storage

Clause 3 (4) of the approval states that grease, oil, fuels or other groundwater contaminants are not to be stored at Lot 220 or Lot 218. Grease, oil and other groundwater contaminants are stored within the existing storage facilities at the Mackas Sand and Soils administration and maintenance facility, located outside the North Stockton Catchment Area. The storage, handling and transport of dangerous goods at the Mackas Sand and Soils administration and maintenance facility will be undertaken in accordance with Australian Standard AS/1940 and the Dangerous Goods Code.

4.2 Refuelling Procedures

Any refuelling of equipment is to be undertaken by a suitably qualified and registered contractor to eliminate the need for storage of fuels or oils within the approved extraction areas on Lot 218 or Lot 220.

4.2.1 Refuelling of Equipment

Refuelling of mobile equipment occurs at the Mackas Sand and Soil administration and maintenance facility, or at the vehicle storage area at the northern end of the Alternate Access Route, as appropriate. Mackas Sand uses sieves and/or stockpilers at Lot 220 and Lot 218 that have limited mobility, being moved once or twice a year. Refuelling of plant with limited mobility offsite is not considered feasible. As such, refuelling of plant with limited mobility occurs within the extraction areas via the usage of mobile refuelling equipment. In order to minimise the risk of fuel spills, and the impact of spills should they occur, refuelling equipment consists of a fuel tank, spill catch tray and spill kit. An additional mobile spill kit is located within the extraction area to enable prompt clean up in the event of an accidental spill during refuelling activities. Any spills, should they occur, will be managed in accordance with **Section 4.3.3** to prevent fuel from contaminating the North Stockton groundwater source. Any contaminated material to be disposed of will be done so in accordance with relevant waste management requirements.

4.3 Hydrocarbon Spill Response

4.3.1 Hydrocarbon Spill Sources

Potential sources of hydrocarbon spills include fuel tank ruptures of diesel or spills of oils associated with hydraulic hose line faults on operating equipment. Spill response procedures are presented in **Section 4.3.3**, with further detail provided within the Mackas Sand Pollution Incident Response Management Plan (PIRMP) for EPL 13218.

4.3.2 Spill Response Equipment

Appropriate hydrocarbon spill control measures are to be implemented in the event of a spill and relevant spill response equipment is maintained at site. The key requirements of a spill response system include the following:

- adequate resources (e.g. personnel and equipment) are to be available on site to contain the spill and minimise the potential for environmental harm; and
- an appropriate number of spill kits are available at key locations across the site including hydrocarbon storage and refuelling facilities. Spill kits are to be inspected as part of an ongoing monitoring program to provide that they are adequately stocked in the event of a hydrocarbon spill.

4.3.3 Spill Response Procedure

In the event of a hydrocarbon spill, the following procedures and actions will be undertaken to prevent harm to the surrounding environment including any nearby surface and groundwater receivers:

- the spill will be contained using site spill cleanup kits which will be used to soak up free hydrocarbon;
- in the case of a large spill, temporary bunds will be constructed around the immediate area to stop the lateral spread of free hydrocarbon. Suitable material will also be used to absorb the excess free hydrocarbon;
- any spill resulting from refuelling of stationary equipment on Lot 220 or Lot 218 will be managed using a mobile spill kit;
- any contaminated material to be disposed of will be done so in accordance with statutory waste management requirements;
- relevant regulatory authorities will be notified if the spill has caused, or has the potential to cause material harm to the environment, as defined within Section 147 of the *Protection of the Environment and Operations Act 1997* (POEO Act) (refer to **Section 4.3.4**). In the event that the spill has not resulted, or had the potential to result in material harm to the environment, details of the spill will be recorded and reported to relevant regulatory authorities via the Annual Review;
- further environmental monitoring will be undertaken if required; and
- investigation into the cause of the incident and develop remediation plan in consultation with relevant stakeholders will be undertaken, if required (refer to **Section 4.3.5**).

4.3.4 Notification Requirements

Condition 2 of Schedule 5 of Project Approval 08_142 (MOD 1) requires any incident which causes (or may cause) material harm to the environment be reported to the relevant authorities including the Department of Planning and Infrastructure (DP&I) within 24 hours of the incident being recorded. Mackas Sand will also report any incidents which may cause material harm to the environment in accordance with the *Protection of the Environment Legislation Amendment Act 2011*, which requires immediate notification of the Environmental Protection Authority (EPA) via the phone number 131 555 and in accordance with the Mackas Sand PIRMP.

4.3.5 Remediation Plan

Following a hydrocarbon spill, any contaminated material will be disposed of in accordance with the requirements of the Mackas Sand EPL and the *Protection of the Environment Operations Act 1997* and supporting regulations. In the event that the spill has caused material harm to the environment a remediation plan to detail clean up and disposal of material will be developed in consultation with regulatory authorities, in accordance with Condition 26 of Schedule 3 of Project Approval 08_142 (MOD 1).

Clause 6 (1) and Clause 6 (2) of the approval also requires the proper and ongoing rehabilitation of Lot 218 and Lot 220. Mackas Sand is to remediate the land at Lot 218 and Lot 220 in accordance with the Landscape Management Plan (LMP) (Umwelt, 2014a), with particular reference to Section 3 to Section 6, including (but not limited to) rehabilitation objectives; completion criteria; short, medium and long term rehabilitation strategies; rehabilitation monitoring; and long term management strategies. Rehabilitation of Lot 220 will progress in accordance with the LMP.

5.0 References

Umwelt (Australia) Pty Limited 2014a. Mackas Sand Pty Limited Landscape Management Plan (including Rehabilitation Management Plan and Long Term Management Strategy).



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