

# Report

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## Preliminary Risk Screening - Train Support Facility

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### Prepared For

Pacific National

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## 1. INTRODUCTION

Advitech Pty Limited was engaged by Monteath and Powys to undertake preliminary assessment of the key issues relating to potential hazardous impacts associated with the operation of the proposed Pacific National Train Support Facility (TSF) at Greta, NSW. The purpose of the preliminary assessment is to inform the NSW Department of Planning (DoP) of the features of the existing environment, potential off site impacts on the surrounding land users and the nature of the proposed assessment methodology.

It should be noted that this report was prepared by Advitech Pty Limited for Pacific National ("the customer") in accordance with the scope of work and specific requirements agreed between Advitech and the customer. This report was prepared with background information, terms of reference and assumptions agreed with the customer. The report is not intended for use by any other individual or organisation and as such, Advitech will not accept liability for use of the information contained in this report, other than that which was intended at the time of writing.

## 2. BACKGROUND AND OBJECTIVES

Pacific National proposes to construct a TSF adjacent to the Great Northern Railway corridor at Greta, NSW. The proposed facility will allow Pacific National to manage its existing locomotive and coal wagon rolling stock and plan for future expansion of support infrastructure in line with growth of the Hunter Valley coal chain.

The proposed site is currently zoned 1(a) Rural under the Cessnock Local Environmental Plan (LEP) 1989. The proposed development is permissible under the current 1(a) Rural zoning.

The zoning is proposed to change to RU2 Rural Landscape under the draft LEP. A submission has been made to Cessnock City Council (CCC) to re-zone the site to an appropriate zoning such as SP2 Infrastructure.

The purpose of this report is to provide a screening assessment of the hazards associated with the storage of dangerous goods on the site in accordance with *State Environmental Planning Policy No. 33 - Hazardous and Offensive Development (SEPP 33)*. The purpose of the initial SEPP 33 risk screening is to exclude from more detailed studies those developments which do not pose significant risk.

### 3. PROPOSED LOCATION AND SURROUNDING LAND USERS

The site is located adjacent to the Great Northern Railway on the western side at Greta. The site is 2.4 km in length and extends southwest to the proposed Hunter Expressway corridor. Existing residential areas occur adjacent to the south eastern site boundary. **Table 1** shows the distance from the Pacific National site to each of the neighbouring land users.

**Table 1: Surrounding Land Users**

Land User	Distance (m)	Direction	Land Use Category <sup>1</sup>
Branxton Residents	400	NW	Residential
East Branxton Residents	1,000	N	Residential
Greta Residents	400	E	Residential
Closest Resident	Adjacent to boundary	SE	Residential
Southern Resident	300	S	Residential
North Rothbury Residents	1,800	W	Residential
Branxton Public School	1,000	NW	School
Greta Public School	500	E	School
Greta Sporting Complex	600	E	Sporting Complex
Branxton Light Industrial Area	1,200	NW	Industrial

*1: Land use category as defined in HIPAP No. 4*

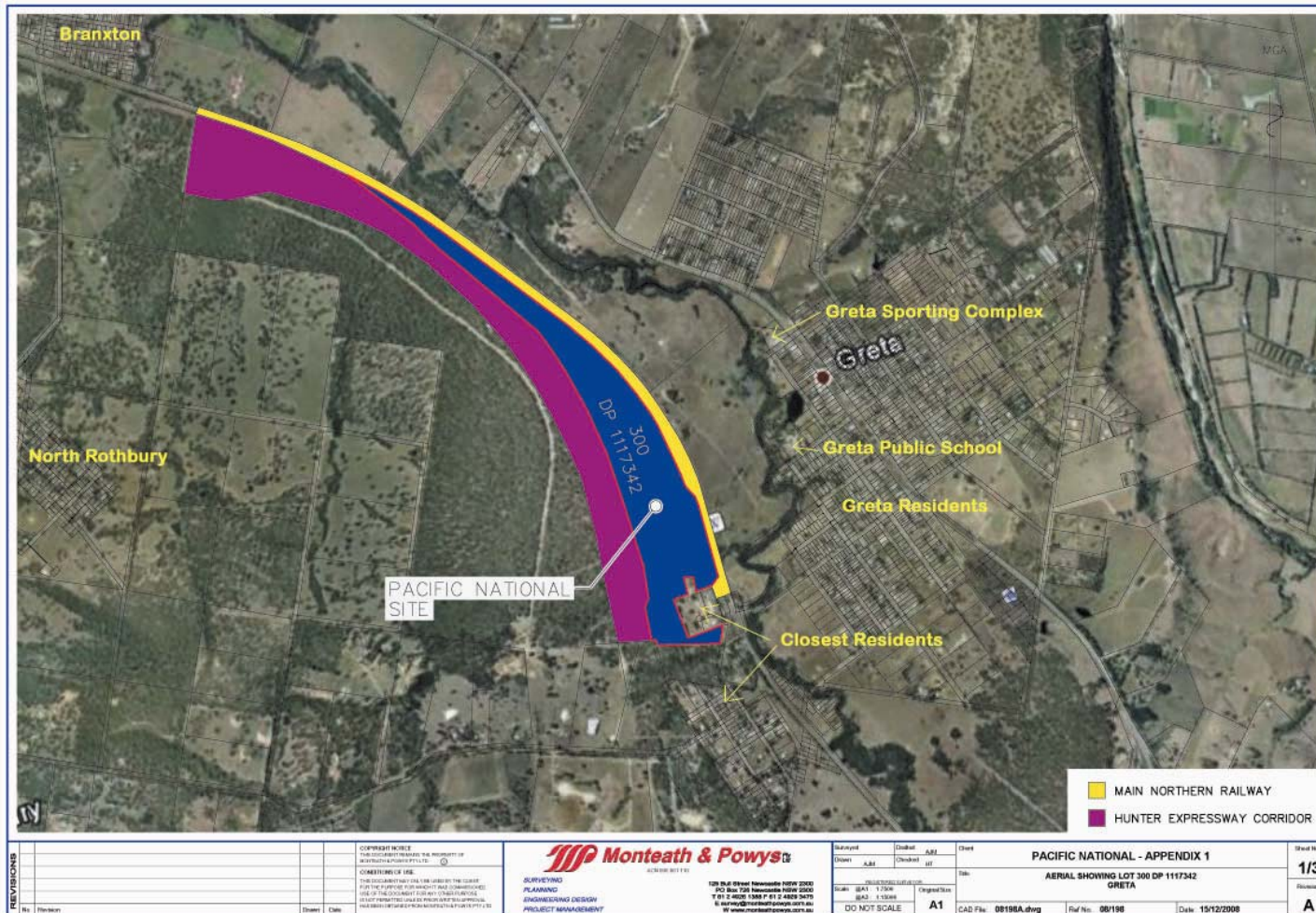


Figure 1: Site Location and Surrounding Land Users

## 4. FACILITY DESCRIPTION

The main purpose of the TSF will be to supply Pacific National trains with fuel, sand, water and oil and maintain the trains to enable Pacific National to meet the growing demand for the transport of coal from the mines in the Hunter Valley to the Port of Newcastle. The facility will provide routine inspections, provisioning activities and planned service maintenance on locomotives and wagons.

### 4.1 Dangerous Goods Storage

The site will store a variety of hazardous substances including:

- Diesel;
- Oil;
- Coolant;
- Detergent;
- Engine degreaser;
- LPG; and
- Paint.

**Table 2** lists the proposed storage quantities of each of the substances listed above. **Figure 2** shows the proposed layout of the site including the location of the diesel storage. The storage location of the other hazardous substances is not known at this stage. The design of all storage depots will comply with the relevant Australian Standards, i.e. *AS1940:2004 The Storage and Handling of Flammable and Combustible Liquids* and *AS/NZS 1596:2008 The Storage and Handling of LP Gas*.

## 5. STATUTORY REQUIREMENTS

Preliminary risk screening of the proposed development is required under *NSW State Environmental Planning Policy No 33 (SEPP 33)*. Where SEPP 33 identifies a development as potentially hazardous and/or offensive, developments are required to undertake a Preliminary Hazard Analysis (PHA) to determine the level of risk to people, property and the environment at the proposed location and in the presence of controls. Should the risk level exceed the criteria of acceptability or if the controls are assessed as inadequate to prevent offensive impacts on the surrounding land users, the development is classified as 'hazardous industry' or 'offensive industry' respectively and may not be permissible within most industrial zones in NSW.

A development may also be considered potentially hazardous with respect to the transport of dangerous goods. A proposed development may be potentially hazardous if the number of generated traffic movements (for significant quantities of hazardous materials entering or leaving the site) is above the cumulative annual or peak weekly vehicle movements. Table 2 in the document *Applying SEPP 33* (NSW Department of Urban Affairs and Planning (DUAP), 1994) outlines the screening thresholds for transportation. If the development's transportation of dangerous goods exceeds the thresholds a route evaluation study should be completed in accordance with the route selection guidelines prepared by the DoP.

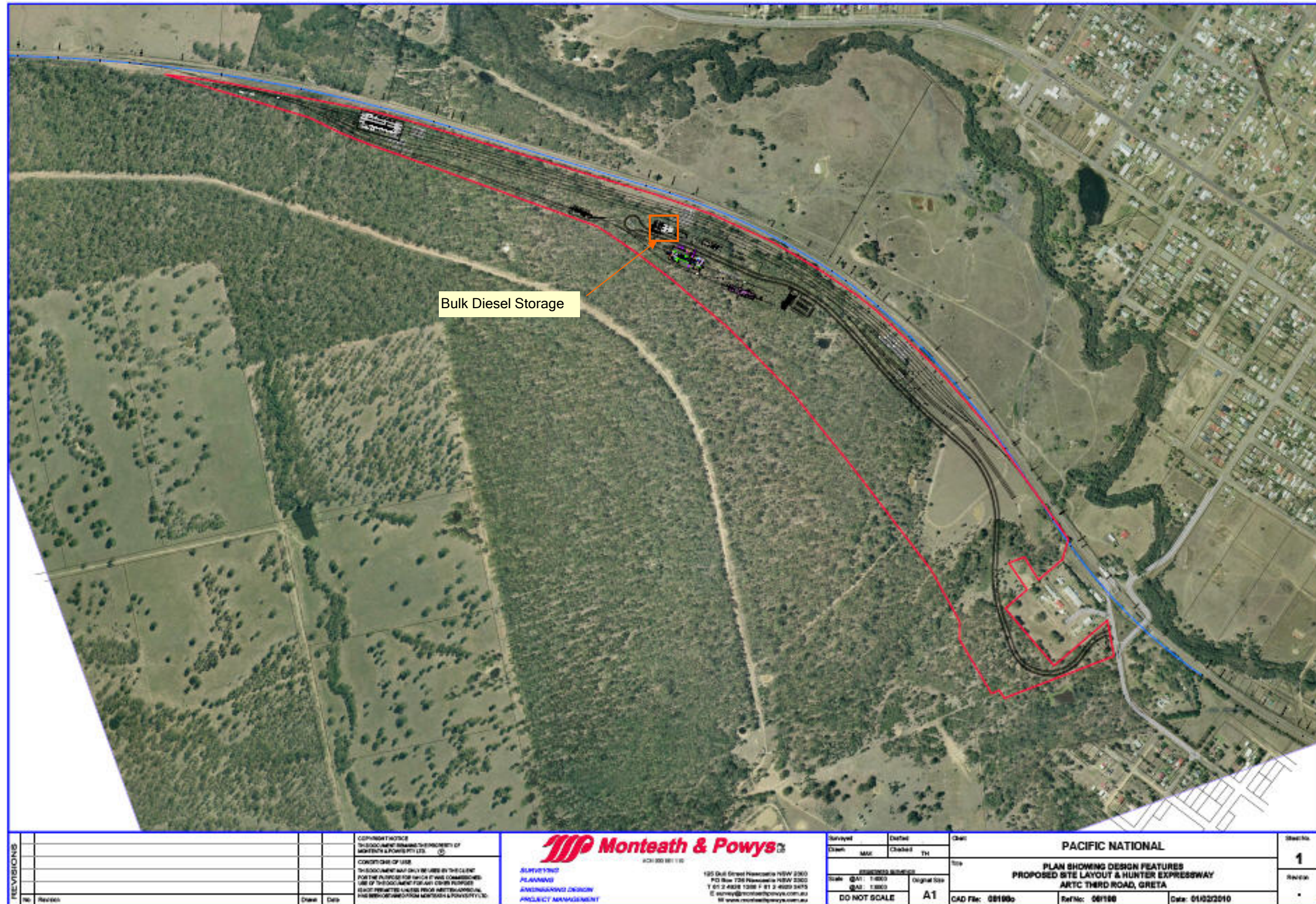


Figure 2: Site Layout

## 6. METHODOLOGY

### 6.1 Preliminary Risk Screening

Preliminary risk screening of the proposed development is required under SEPP 33 to determine the need for a PHA. The preliminary screening assesses the storage of specific dangerous goods classes that have the potential for significant off-site effects. Specifically, the assessment involves the identification of classes and quantities of all dangerous goods to be used, stored or produced on site with respect to storage depot locations.

**Table 2** summarises the proposed inventory of Dangerous Goods (DG) in accordance with the *Australian Code for the Transport of Dangerous Goods by Road and Rail* (ADG Code) and compares the total storage quantity against the storage screening threshold in Table 3 and Figures 6 and 9 of *Applying SEPP 33* (DUAP, 1994). The dangerous goods to be stored on the site were grouped into their respective ADG classes. If more than one packaging group was present in an ADG class it was assumed that the total amount for that class was the more hazardous packaging group.

**Table 2: Hazardous Materials Inventory**

Substance	ADG Class	Packaging Group	Total Storage Capacity (m <sup>3</sup> )	Screening Threshold	
				Threshold Quantity (m <sup>3</sup> )	Distance to Site Boundary (m)
Diesel	C1	-	2000	-	-
Oil	C2	-	20	-	-
Paint	3	II	0.2	2	5
LPG	2.1	-	0.5	16	-
Coolant	NA	-	0.6	-	-
Detergent	NA	-	0.6	-	-
Engine degreaser	NA	-	0.2	-	-

## 6.2 Storage Quantity Screening

The proposed paint storage is well below the screening threshold for Class 3 substances of 2 m<sup>3</sup> and therefore is not considered potentially hazardous. Similarly the LPG is also well below the screening threshold for LPG of 16 m<sup>3</sup> and therefore is also classified as not potentially hazardous.

Diesel and oil are classified as combustible C1 and C2 respectively and are only classified as dangerous good Class 3 substances if they are stored with Class 3 substances. Due to the size of the site and the relatively small volume of paint to be stored, careful planning of the location of the paint storage will be considered to ensure there is sufficient distance from the paint to the diesel and oil storage areas.

Australian Standard, *AS 1940:2004 The Storage and Handling Of Flammable And Combustible Liquids* provides guidelines as to adequate separation distances between flammable and combustible storage depots. The diesel tank should be located at least one-sixth of the diameter of the tank or 1 m, whichever is greater, from any other flammable or combustible storage depot. The oil should be located at least 1 m from any other flammable or combustible storage depot and the paint should be located at least 3 m from any other flammable or combustible storage depot.

Coolant, detergent and engine degreaser are not classified as dangerous goods and therefore are not required to be included in the assessment.

## 6.3 Dangerous Goods Transport Screening

*Applying SEPP33* states that proposed developments may be deemed potentially hazardous if the numbers of generated traffic movements, for significant quantities of dangerous goods entering and leaving the site, are above the cumulative vehicle movements shown in Table 2 of the guideline.

The volumes and transport frequency of dangerous goods associated with the proposed site are presented in **Table 3**.

**Table 3: Estimated Vehicle Movements of Dangerous Goods**

Substance	DG Class	No. deliveries per annum	Typical quantity per delivery (m <sup>3</sup> )	Screening Threshold	
				Annual Movements	Quantity per load (tonne)
Paint	3	3	0.1	750	5
LPG	2.1	3	0.1	500	2

It is assumed that the paint will be delivered independently of the diesel and therefore it is only the paint and LPG that requires inclusion in the transport screening. The amounts of paint and LPG that will be delivered is well below the quantity and annual movement thresholds for each relevant dangerous goods class and therefore the development is not classified as potentially hazardous with respect to the transport of dangerous goods.

## 7. SUITABILITY AND CONSTRAINTS OF PROPOSED SITE



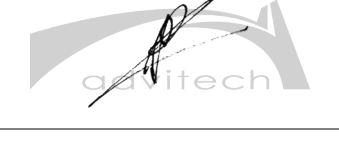
The SEPP33 screenings for storage and transport indicate that the development is not classified as 'potentially hazardous' and therefore will not require the preparation of a PHA. As such, the development is considered suitable with respect to the surrounding land users and will pose minimal risk to its neighbours.

## 8. REFERENCES

The following information was used in the preparation of this report:

1. Commonwealth Government, 1999, *Australian Code for the Transport of Dangerous Goods by Road and Rail* (ADG Code).
2. Department of Urban Affairs & Planning, 1994, *Applying SEPP 33*, New South Wales Government.
3. Department of Urban Affairs & Planning, 1992, *State Environmental Planning Policy No. 33-Hazardous and Offensive Development*, New South Wales Government.

## Endorsements

Function	Signature	Name and Title	Date
Written By		Clayton Sparke Environmental Scientist	5-03-2010
Checked By		Susan Kay Senior Environmental Scientist	5-03-2010
Authorised for Release By		Jeremy Pola Lead Environmental Scientist	5-03-2010

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