Riskcon engineering

PROPOSED WAREHOUSE DEVELOPMENT LOT 1, 884 MAMRE ROAD, KEMPS CREEK, NSW

SEPP33 ASSESSMENT

Property Partners/Altis – 884 Mamre Road Development – SEPP33 Assessment
Document No. RCE-21058[884MamreRd-SEPP33]-RPTFinal(Rev0)-13Jul21
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A	19 Apr 21	Draft for Comment	Steve Sylvester	Renton Parker
B	31 May 21	Draft incorporating Sears details		
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EXECUTIVE SUMMARY

Introduction

Altis Property Partners (Altis) proposes to develop land at 884 Mamre Road, Kemps Creek, NSW (the Project). The land consists of 16 lots, one of which (Lot 2) will be developed with a single warehouse, located directly adjacent to Mamre Road. As part of the development, Dangerous Goods (DGs) are proposed for storage at the site and the Secretary's Environmental Assessment Requirements (SEARs) have been requested, which it is understood will requiring the storage of DGs to be assessed under State Environmental Planning Policy No.33 (SEPP33, Ref.1), requiring review of the proposed development using the document "Applying SEPP33" (Ref.1).

RiskCon Engineering Pty Ltd (RiskCon) has been commissioned to conduct the SEPP33 assessment of the Project, the objectives of which are to identify whether the quantities of Dangerous Goods proposed for storage in the warehouses within the Project do not exceed the SEPP33 threshold and, in the event any warehouses exceed the SEPP33 DG storage threshold values, to recommend a Preliminary Hazard Analysis study for the specific warehouse.

Methodology

The Secretary's Environmental Assessment Requirements (SEARs - Application No. SSD-17647189) require a number of conditions to be met as part of the Development Application for the proposed warehouse. The SEARs section relating to key issues includes a requirement to address hazards and risks. This section states that a preliminary screening must be carried out in accordance with SEPP33, providing details of the proposed storage of Dangerous Goods (DGs) and the location of these goods within each facility. Where the SEPP33 screening thresholds are exceeded, the SEARs require a Preliminary Hazard Analysis (PHA) to be conducted to demonstrate that the risks associated with the operations of facilities do not exceed acceptable risk criteria.

The methodology applied to the SEPP33 assessment of the Project was that recommended in "Applying SEPP33 - Hazardous and Offensive Developments"(Ref.1). The quantity of DGs stored in the warehouse within the Project was reviewed in turn against the threshold levels listed in SEPP33 (Ref.1) to identify whether the threshold levels are exceeded. In the event a threshold levels is exceeded, a PHA study is recommended. The results of the assessment are summarised below.

In addition to the requirement for a preliminary screening assessment, the SEARs also require details of fire and life safety systems which would be installed to service the development. BCA requirements and DG standards were reviewed and fire/life safety systems tabulated and confirmed for installation.

Brief Description of the Project

The Project comprises the construction, fit-out and operation of a single warehouses on Lot 1 of the overall development at 884 Mamre Road, Kemps Creek, NSW. The details of each warehouse are provided below:

- Lot 2 - Warehouses 1 - Floor Area 66,109 m^2, and
- Lot 2 – Warehouse 1 - Office Area 1,800 m^2 on two levels and a 200m^2 dock office.

Note: The overall development layout and warehouse locations are shown on **Figure 1.1**.

Summary and Conclusions

An analysis of the application of State Environmental Planning Policy No.33, Hazardous and Offensive Developments (SEPP33) was conducted for the proposed Altis development on Lot 2, 884 Mamre Road, Kemps Creek, NSW. The proposed development involves the construction of a single warehouses on Lots 2 within the development, with the remaining lots undeveloped at this stage of the project. The analysis was conducted based on a limited quantity of Dangerous Goods (DGs) stored and handled at each warehouse, noting that the development has considered the potential for warehouse tenants to store and handle limited DGs as part of their operations.

The analysis identified that the quantity of DGs held at each warehouse did not exceed the storage threshold levels listed in "Applying SEPP33"(Ref.1). It was also identified that the relatively low quantity of DGs stored and handled at the warehouses, and the type of operations proposed at the warehouses (i.e. warehouses are not dedicated DG storage facilities), it was unlikely to result in the maximum permissible transport quantity and number of vehicle operation listed in "Applying SEPP33"(Ref.1). In addition to the DG storage and transport assessments, a potentially offensive industry assessment was conducted, which identified that the operations at the site would not classify the warehouse as offensive.

Hence, based on the assessment conducted in this study, it is concluded that SEPP33 does not apply to the proposed development.

Based on the assessment conducted in this study and the results indicating that SEPP33 does not apply to the two warehouses within the development, it is concluded that the anticipated requirements of the Hazard and Risk Section of the SEARs are addressed.

The details of the fire and life safety systems which would be installed to service the development are documented to satisfy the National Construction Code (Building Code of Australia or BCA) and are described in the BCA report, submitted with the development documentation. Additional fire and life safety systems are installed to comply with the requirements of the relevant Australian standards. Where the site operates as a Distribution Centre (DC), AS/NZS 3833:2007 (Ref.4) will apply, where the site is not classified as a DC the individual standards relevant to each of the DGs stored and handled will apply. Based on compliance with the relevant Australian Standards, it is concluded that the risks are considered to be effectively controlled.

Table 1.1 lists the SEARs and report reference addressing each issue raised in the SEARs.

Table 1.1: SEPP33 Report References Addressing Each of the SEARs Issues

SEARs Issue	SEPP33 Report Reference Addressing the Issue
Hazards & Risks:	
- Preliminary Risk Screening, completed in accordance with State Environmental Planning Policy No.33 - Hazardous and Offensive Developments	Section 4.1
- Clear indication of Class, Quantity and location of all Dangerous Goods and hazardous materials associated with the development.	Table 4.1 - DG Class & Quantities Figure 4.1 - DG Locations

SEARs Issue	SEPP33 Report Reference Addressing the Issue
- Should a preliminary screening indicate that the project is “potentially hazardous” a Preliminary Hazard Analysis (PHA) must be prepared…. - Details of fire and life safety systems which would be installed to service the development	Section 4 -Study Results Section 5.1 Conclusions Section 2.3.2 Section 4.2

Recommendations

Notwithstanding the conclusion reached above, it is noted that tenants may require to store DGs at quantities exceeding those assessed in this study. Should a tenant require to store and handle additional DGs to those listed for the specific warehouse in this study, it is recommended that a review of the application of SEPP33 should be conducted and where required a Preliminary Hazard Analysis (PHA) study be performed should it be identified that SEPP33 applies to the specific warehouse.

Figure 1.1: Layout of the Proposed Altis Development, 884 Mamre Road, Kemps Creek, NSW

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Abbreviations

Abbreviation	Description
DPIE	Department of Planning, Industry and Environment
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
DG	Dangerous Goods
PHA	Preliminary Hazard Analysis
DA	Development Application
M	metres
m^2	square metres
AS	Australian Standard
LPG	Liquefied Petroleum Gas
PG	Packing Group
Kg	kilogram
C1	Combustible Materials with a flash point ≥60^{o}C and ≤93^{o}C
C2	Combustible Materials with a flash point ≥93^{o}C
ADG	Australian Dangerous Goods Code

1.0 INTRODUCTION

1.1 Background

Altis Property Partners (Altis) proposes to develop land on the eastern side of Mamre Road, Kemps Creek, NSW. As part of the development, it will be necessary to submit a Development Application for the land for the proposed use. As part of the development process, Altis has requested the NSW Department of Planning, Industry and Environment (DPIE) to issue Secretary's Environmental Assessment Requirements (SEARs), which would include a requirement for a review of the proposed storage and handling of Dangerous Goods (DGs). Based on previous similar assessment, the SEARs would require the DGs to be assessed under State Environmental Planning Policy No.33 (SEPP33, Ref.1), which requires review of the proposed development using the document "Applying SEPP33" (Ref.1).

Altis has commissioned RiskCon Engineering Pty Ltd (RiskCon) to conduct a review of the proposed development with regards to the storage and handling of DGs. This document provides RiskCon's SEPP33 assessment of the proposed land use at Lot 2, 884 Mamre Road, Kemps Creek, NSW.

1.2 Objectives

The objectives of the SEPP33 assessment for the proposed Warehouse at Lot 2, 884 Mamre Road, Kemps Creek, NSW is to identify whether the quantities of Dangerous Goods proposed for storage at the various warehouses within the site area do not exceed the SEPP33 threshold and, in the event any warehouses exceed the SEPP33 DG storage threshold values, to recommend a Preliminary Hazard Analysis study for the specific warehouse.

1.3 Scope of Services

The scope of work for the study is for the SEPP33 assessment of the proposed Warehouses at 884 Mamre Road, Kemps Creek, NSW (the Project). The scope covers 1 warehouse on Lot 2 within the development as shown on **Figure 1.1** (it is noted that the overall development comprises 16 Lots, but only 1 Lot will be developed with a single warehouse). The scope includes the development of a report covering the warehouse, detailing maximum permissible storage quantities that would obviate the need for the application of SEPP33 to the development and the listing of fire and life safety systems to be installed at the site.

Figure 1.1: Layout of the Proposed Altis Development, 884 Mamre Road, Kemps Creek, NSW, showing Lot 2 Warehouse

2.0 METHODOLOGY

2.1 Study Requirements (SEARs)

As noted earlier, the Secretary's Environmental Assessment Requirements (SEARs) are expected to require a number of conditions to be met as part of the proposed Development Application, including a requirement to address hazards and risks. Based on previous experience with DG storage in warehouse facilities associated with SEARs, it is normally a requirement that a preliminary screening must be carried out in accordance with SEPP33, providing details of the proposed storage of Dangerous Goods (DGs) and the location of these goods within each facility. Where the SEPP33 screening thresholds are exceeded, SEARs associated with similar facilities require a Preliminary Hazard Analysis (PHA) to be conducted to demonstrate that the risks associated with the operations of facilities do not exceed acceptable risk criteria.

2.2 Study Background

The proposed development at 884 Mamre Road, Kemps Creek, NSW, will comprise sixteen (16) Lots, however, only one lot (Lot 2) will be developed at this stage of the Project. This lot will contain two warehouse adjacent to Mamre Road.

In order to provide operational flexibility for warehouse occupants, it is proposed to submit a SEPP33 assessment for the warehouses with an allowance for limited storage of Dangerous Goods (DGs). In many cases, warehouse facilities store limited DGs during logistics operations and short-term storage campaigns, hence, flexibility of storage and the ability to store limited quantities is a key function of efficient logistic operations.

Based on this, the warehouse will be reviewed, its use assessed and the maximum quantities of DGs selected that would be stored to allow future tenants to store DGs within the limits assessed within this study.

2.3 Study Approach

2.3.1 SEPP33 Assessment Approach

The following study approach was be applied:

- An overall review of the development and warehouse layout was conducted to determine whether maximum permissible quantities can be stored in the warehouse or whether the close proximity of other properties will require consolidation of the maximum permissible quantities distributed between the two closely located sites;
- Once the DG distribution was assessed, location of DGs within the warehouses was allocated, based on required layouts in SEPP33 (Ref.1, e.g. separation of flammable liquids from boundaries and other DGs, etc.);
- A layout for each warehouse was then developed and confirmed with the developer before final report completion;
- Once all DG quantities and layouts were confirmed a draft report was developed containing details of each warehouse location; and
- A final report was issued for submission with the development documentation.

The results of the study and fulfilment of the anticipated SEARs requirements are provided in **Section 4**.

2.3.2 Fire and Life Safety Systems Approach

In addition to the requirement for a preliminary screening assessment, the SEARs also require details of fire and life safety systems which would be installed to service the development. Those fire and life safety systems required under the National Construction Code (Building Code of Australia - NCC/BCA) are reported in the NCC/BCA Report, which is submitted with the development documentation.

Noting the site is storing Dangerous Goods, a review of the Australian Standards applicable to the specific DG storage classes was conducted and the relevant fire and safety requirements were listed and confirmed for installation at the site. A tabular representation of the requirements and installations has been presented in **Section 4.3**.

3.0 BRIEF DESCRIPTION OF THE WAREHOUSE DEVELOPMENT

3.1 Site Location and Surrounding Land Use

The Project is located in Kemps Creek, NSW, on the eastern side of Mamre Road. The area is predominantly rural, with a number of warehouse developments being implemented adjacent to Mamre Road (both eastern and western sides of the road). The land surrounding the site (north, south and west is currently undeveloped (rural)). The land across Mamre Road is also undeveloped (Rural).

Figure 3.1 shows the regional location of the Project and **Figure 3.2** shows the detailed location in the Kemps Creek area.

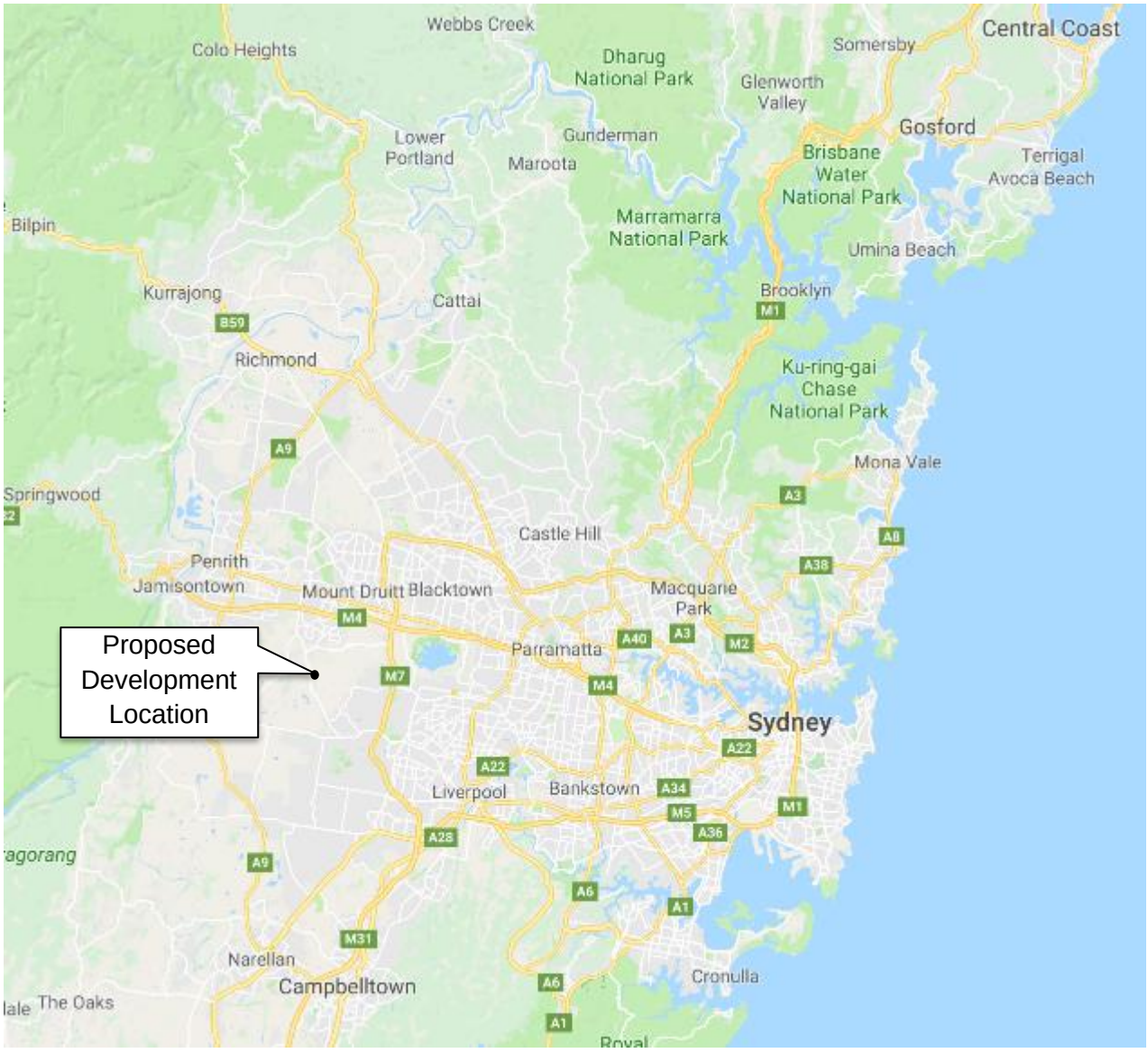

Figure 3.1: Regional Location of the Proposed Altis Warehouse Development, Kemps Creek

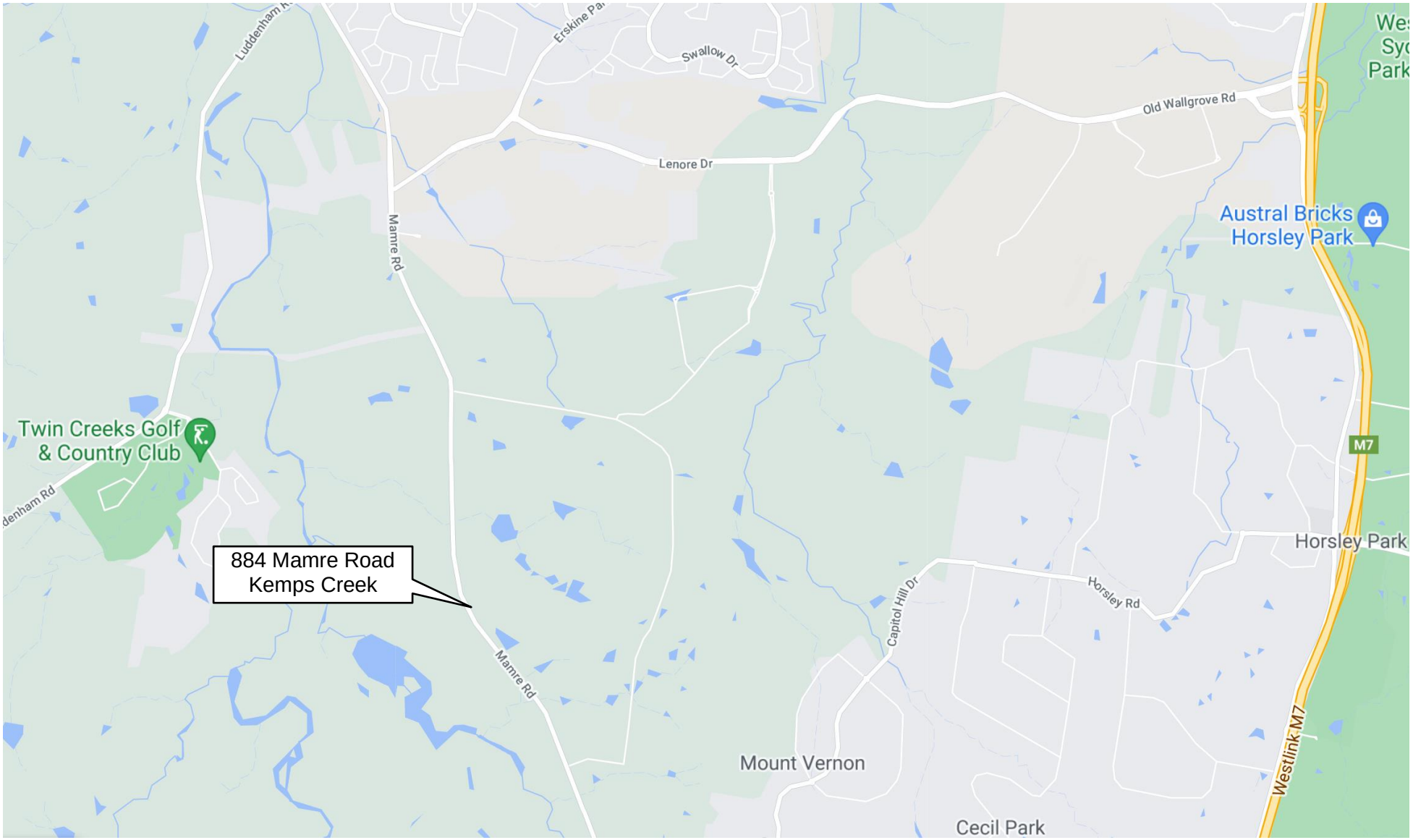

Figure 3.2: Location of the Proposed Altis Warehouse Development in Kemps Creek

3.2 Brief Description of the Proposed Project

Figure 1.1 shows the overall development layout. The overall development comprises 16 lots on a parcel of land on the eastern side of Mamre Road, Kemps Creek, NSW. The current Project comprises a single warehouses located on Lot 2 of the development.

Lot 2 Warehouse 1 will be 66,109 m^2 + 1 x 1,800 m^2 office space and 1 x 200m^2 dock office, located on the south-western corner of the warehouse building. The long axis of the building is located north/south, with the following property setbacks from the closest points on the boundaries -

- Northern Boundary – 10 m (closest part of Warehouse 1 to the northern boundary, separated by a fire trail and property setback);
- Eastern Boundary – 45 m (closest part of Warehouse 1 to the eastern boundary, separated by the warehouse operational forecourt);
- Southern Boundary – 15 m (closest part of Warehouse 1 to the southern boundary, separated by office car park); and
- Western Boundary - 28 m (closest part of Warehouse 1 to the western boundary, separated by road-widening setback, landscaping setback and building setback).

A 26.4 m wide access road is constructed on the southern boundary and a 24m wide road on the eastern side of the warehouse Lot. The entry to and exit from the site is located on the access road on the eastern side of the site, separate entrances are provided to minimise interaction between vehicles entering and leaving the site.

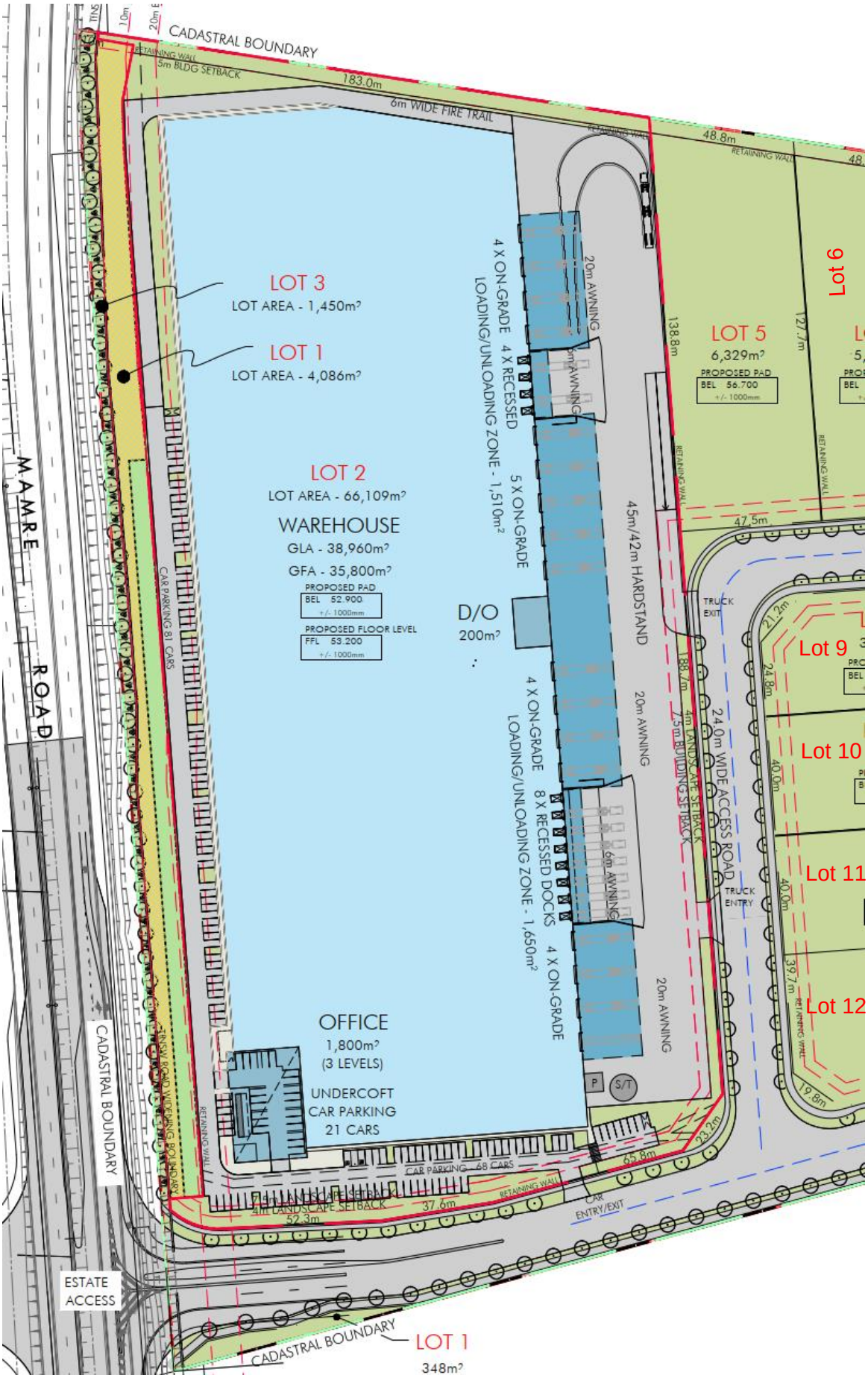

Figure 3.3: Layout of Warehouses 1 on Lot 1

4.0 STUDY RESULTS

The applicable screening thresholds for the warehouse have been extracted from Applying SEPP33 (Ref.1) and are included at **Appendix A**. These screening thresholds have been used to determine acceptable levels of DGs that may be held in the warehouse.

4.1 SEPP 33 Storage Assessment (Warehouses 1)

4.1.1 SEPP33 Storage Assessment (Warehouse 1)

Figure 4.1 shows the layout of Warehouse 1, including the location of DGs within the warehouse. The figure also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

The quantity of DGs that are proposed for storage in the warehouses is shown in **Table 4.1**. Threshold limits for the application of SEPP 33 to Warehouses 1 are also presented in **Table 4.1** along with maximum DG quantities that will be stored in the warehouse. **Figure 4.2** shows the maximum permissible quantity of flammable liquids that may be stored in the warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the boundary (Ref.1).

Table 4.1 shows that threshold quantities are not exceeded at Warehouses 1 and **Figure 4.2** shows that the maximum permissible storage quantities of flammable liquids is not exceeded, hence, SEPP 33 does not apply to the stored materials, as all DGs are under the screening threshold.

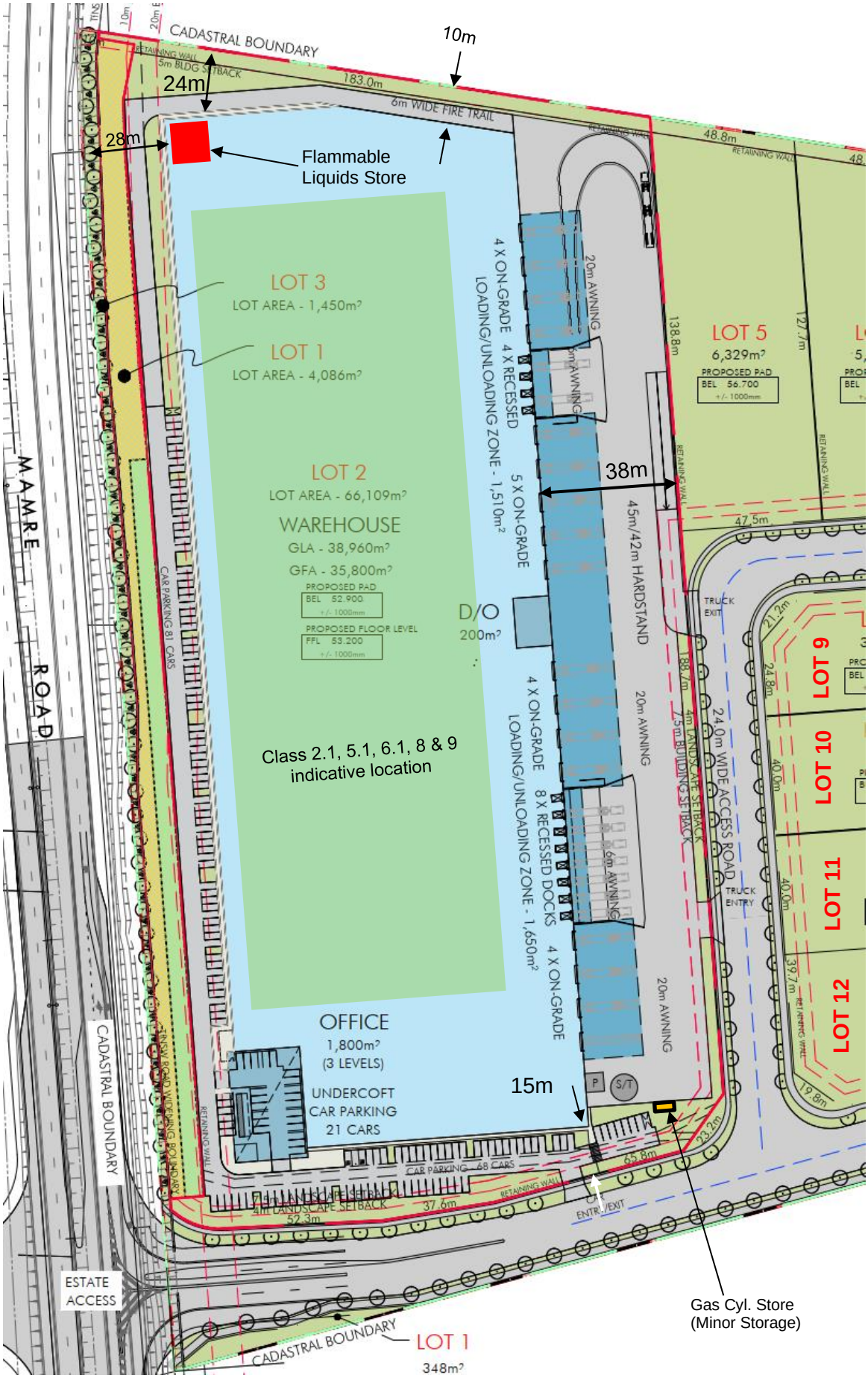

Figure 4.1: Lot 1 – Warehouse 1 Layout showing DG Locations

Table 4.1: Quantities of DGs Stored in Warehouses 1 and SEPP33 Threshold Values for the Specific DGs Stored

Class	Description	PG	Quantities Stored Warehouse 2	SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
2.1	Aerosols	-	<7,000 kg (LPG)	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)		
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	650,000 kg	NO (See Fig. 4.4 & Note 1 below)
4.1	Flammable Solids	II & III	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	20,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	II & III	20,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids store is located on the north-western corner of Warehouse 1, with the closest boundary to the north being 24m from the bund of the flammable liquids store. The distances to the other boundaries from the storage area is greater than the distances to the north, hence, the boundaries are well separated from the warehouse and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.2**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg).

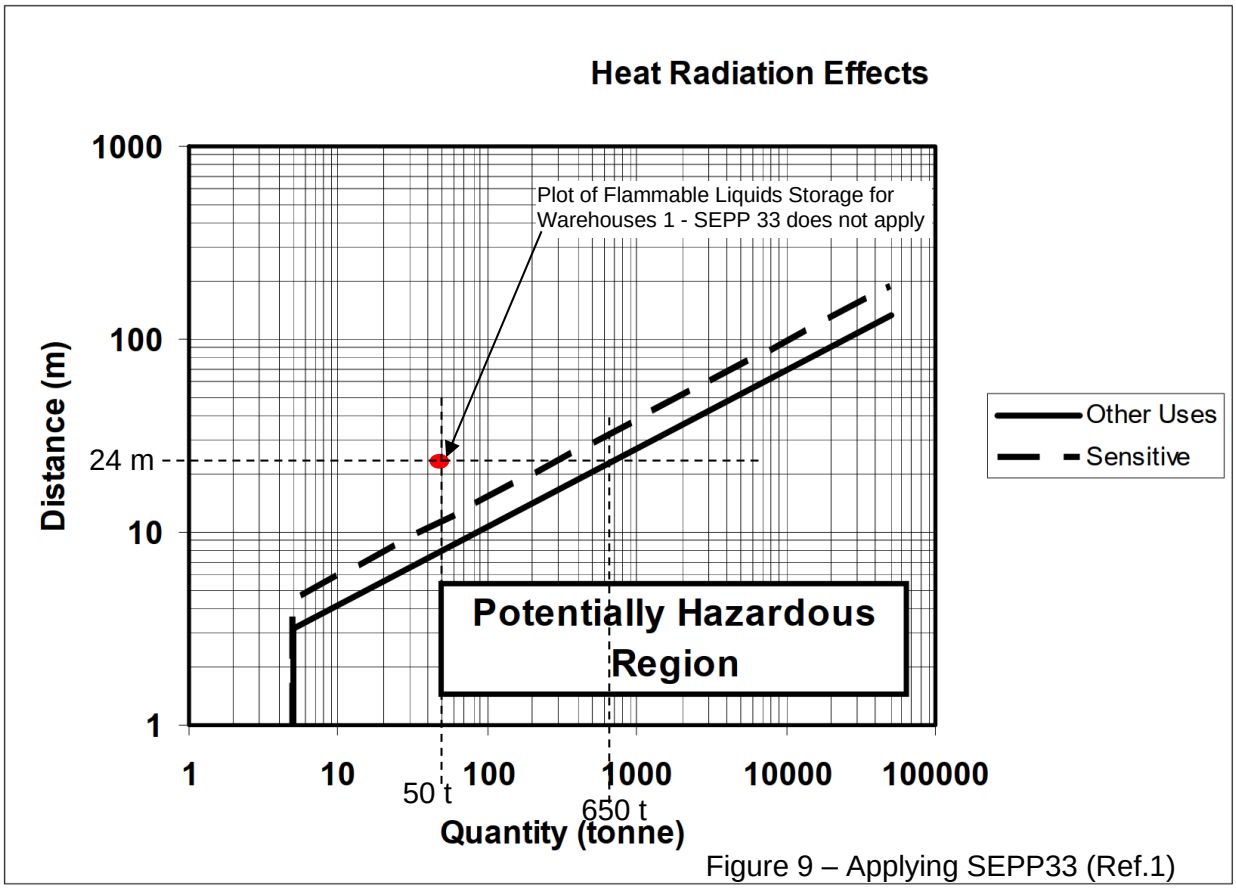

Figure 9 – Applying SEPP33 (Ref.1)

Figure 4.2: Lot 9 – Flammable Liquids Storage SEPP33 Assessment - Warehouse 1

4.1.2 SEPP 33 Transport Assessment (Warehouse 1)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouses 1. As the total quantiites to be stored in the warehouse is below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.2** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouses to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.2: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 1

Class	Minimum Load Quantity	Maximum Storage within the Warehouse
2.1 (aerosols)	4 tonnes	7 tonnes
2.1 (Cylinders)		1 tonne
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	4 tonnes
5.1	5 tonnes	4 tonnes
6.1	3 tonnes	2 tonnes
8	5 tonnes	20 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in the warehouse (Warehouse 1) and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehciles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.2**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG (Ref.2) as appropriate with the loads being carried.

4.1.3 Offensive Industry Assessment

The warehouses will be used for the storage general goods and quantities of Dangerous Goods below SEPP33 levels. All materials will be held in closed packages and opening of packages and decanting of products is not planned for the site.

A review of the Protection of Environmetal Operations (POEO) Regulation 2010 (the Regulation) indicates that chemical storage facilties would trigger the application of the Regultion where chemicals are stored in excess of 2,000 tonnes. The maximum quantity of chemicals stored in Warehouse 1 does not exceed 128 tonnes, which includes those chemicals not subject to SEPP33.

Based on the above review of the proposed operations at Warehouse 1 and the maximum quantity of DGs stored in relation to the POEO Regulation 2010, there will be no requirements for an environmental operations licence from the Environmental Protection Authority (EPA), hence, the

site is not considered to cause offense to the surrounding land uses and SEPP33 would not be applicable under the offensive component of SEPP33.

4.2 Fire and Life Safety Systems

The details of the fire and life safety systems which would be installed to service the development will be designed to satisfy the Building Code of Australia and are described in detail in the Building Code of Australia (BCA) report for the development. A summary of the main components installed at the site are included in the following sub-sections.

4.2.1 Fire Safety Systems

As noted above, the BCA "drives" the key requirements for fire safety, supported by relevant requirements from Australian Standards and recognised industry codes. Based on these requirements, a range of fire safety systems will be installed at the site including the following, :

- Early Suppression Fast Response (ESFR) sprinklers throughout the whole warehouse;
- Fire water tank and two diesel driven fire water pumps providing flows and pressures as per AS 2419 (Ref.5) and AS 2118 (Ref.6);
- A site wide fire hydrant system installed to comply with AS 2419 (Ref.5), including a fire main booster connection;
- Fire Hose Reels installed to AS 2441 (Ref.7);
- Fire Extinguishers installed to AS 2444 (Ref.8);
- Smoke detectors and alarms via the Fire Indicator Panel;
- Fire Indicator Panel (FIP) installed to manage the fire alarm system and to allow the Combat Agency (Fire & Rescue NSW) to rapidly identify the location of the fire on arrival at the site.

These systems meet and exceed the requirements of the various Australian Standards for the storage and handling of Dangerous Goods (DGs), based on the type and quantity of DGs stored at the site.

4.2.2 Life Safety Systems

The following life safety systems (including "software" systems) will be installed at the site:

- An Early Warning and Intercommunication System (EWIS) will be installed at the site and operated through the FIP, allowing personnel to be alerted to a fire event so that evacuation can be effected;
- Break glass alarm system, which allows personnel to activate an alarm from points within the warehouse and call for assistance if required;
- Site Emergency Response Plan will be developed, including evacuation procedures and the selection of safe assembly points, evacuation drills will be conducted to ensure al personnel are aware of the evacuation and safe assembly process;
- Compliance with the Work Health and Safety Regulation 2017 including the following document and procedure development -
- Minor Storage - where the quantity of DGs is within the "Minor Storage" category (Schedule 11, WHS Regulation), a site DG Register and DG Risk Assessment will be developed, including risk control measures;

- Placard Storage - in addition to the DG Register & Risk Assessment, where the quantity of DGs exceeds the “Minor Storage” category but is within the “Placard Site” category, a placard schedule will also be developed identifying the location of DG placards throughout the site (this will include the installation of placards at the identified locations);
- Manifest Site - in addition to the DG Register, Risk Assessment and Placard Schedule, where the quantity of DGs exceeds the “Placard Site” category but is within the “Manifest Site” category, additional documents will be prepared including Site Manifest (compliant with Schedule 12 of the WHS Regulation), an Emergency Response Plan (see Section 4.2.1) and notification of the storage quantities to SafeWork NSW.

The implementation of the “Software” systems (i.e. plans and procedures) provides a key link to the effective use of the hardware systems (fire safety systems) and is an integral part of the overall life safety functions at the site.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

An analysis of the application of State Environmental Planning Policy No.33, Hazardous and Offensive Developments (SEPP33) was conducted for the proposed Altis development on Lot 2, 884 Mamre Road, Kemps Creek, NSW. The proposed development involves the construction of a single warehouses on Lot 2 within the development, with the remaining lots undeveloped at this stage of the project. The analysis was conducted based on a limited quantity of Dangerous Goods (DGs) stored and handled at each warehouse, noting that the development has considered the potential for warehouse tenants to store and handle limited DGs as part of their operations.

The analysis identified that the quantity of DGs held at each warehouse did not exceed the storage threshold levels listed in “Applying SEPP33”(Ref.1). It was also identified that the relatively low quantity of DGs stored and handled at the warehouses, and the type of operations proposed at the warehouses (i.e. warehouses are not dedicated DG storage facilities), it was unlikely to result in the maximum permissible transport quantity and number of vehicle operation listed in “Applying SEPP33”(Ref.1). In addition to the DG storage and transport assessments, a potentially offensive industry assessment was conducted, which identified that the operations at the site would not classify the warehouse as offensive.

Hence, based on the assessment conducted in this study, it is concluded that SEPP33 does not apply to the proposed development.

Based on the assessment conducted in this study and the results indicating that SEPP33 does not apply to the two warehouses within the development, it is concluded that the anticipated requirements of the Hazard and Risk Section of the SEARs are addressed.

5.2 Recommendations

Notwithstanding the conclusion reached above, it is noted that at some future stage tenants may require to store DGs at quantities exceeding those assessed in this study. Should a tenant require to store and handle additional DGs to those listed for the specific warehouse in this study, it is recommended that a review of the application of SEPP33 should be conducted and where required a Preliminary Hazard Analysis (PHA) study be performed in accordance with HIPAP No.6 (Ref.3) should it be identified that SEPP33 applies to the specific warehouse.

6.0 REFERENCES

1. Applying SEPP 33 (2011), “Hazardous and Offensive Development Application Guidelines”, NSW Department of Planning and Infrastructure.
2. “The Australian Code for the Transport of Dangerous Goods by Road and Rail”, known as The Australian Dangerous Goods Code or ADG, ed. 7.3, 2015, Federal Office of Road Safety, Canberra, ACT
3. Hazardous Industry Planning Advisory Paper No.6 (2011) – Guidelines for Hazard Analysis, NSW Department of Planning & Industry.

Appendix A

DATA EXTRACTED FROM "APPLYING SEPP33"

A1. SCREENING METHODS

Figure A.1, extracted from "Applying SEPP33" provides details on the application of Figures or Tables from the same document to determine the applied screening Threshold. It shows that:

- for LPG, Table 3 shall be used;
- for Class 3 PG II and III, Figure 9 shall be used (note: Class 3 PGI materials will not be stored at the facility);
- for Class 4, Class 5, Class 6, and Class 8, Table 3 shall be used;
- Class 9 is not subject to SEPP33;
- Combustible Liquids is not subject to SEPP33; and
- For transport, Table 2.

Class	Method to Use/Minimum Quantity
1.1	Use graph at Figure 5 if greater than 100 kg
1.2-1.3	Table 3
2.1 — pressurised (excluding LPG)	Figure 6 graph if greater than 100 kg
2.1 — liquefied (pressure) (excluding LPG)	Figure 7 graph if greater than 500 kg
LPG (above ground)	table 3
LPG (underground)	table 3
2.3	table 3
3PGI	Figure 8 graph if greater than 2 tonne
3PGII	Figure 9 graph if greater than 5 tonne
3PGIII	Figure 9 graph if greater than 5 tonne
4	table 3
5	table 3
6	table 3
7	table 3
8	table 3

Figure A.1: Screening Method to be Used

Figure 9 and Table 3 from "Applying SEPP33" have been extracted and are shown in **Figure A.2**, and **Figure A.3** respectively.

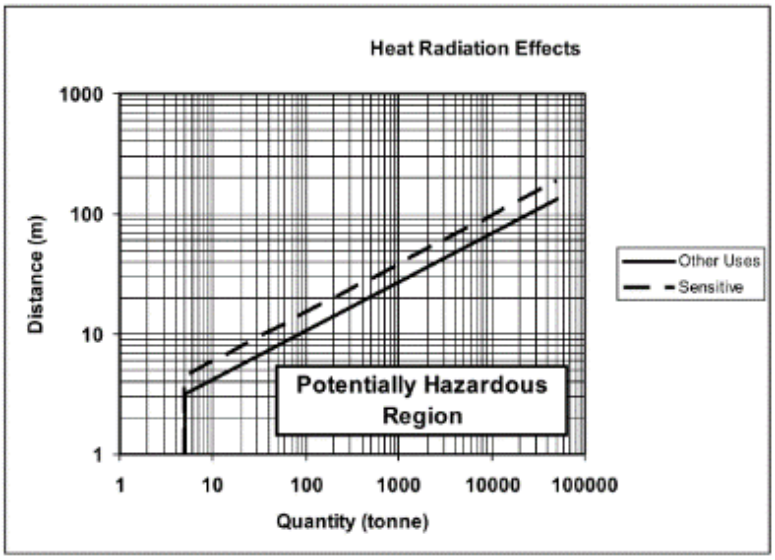

Figure A.2: Class 3 PGII and PGIII Flammable Liquids

Table 3: General Screening Threshold Quantities

Class	Screening Threshold	Description
1.2	5 tonne	or are located within 100 m of a residential area
1.3	10 tonne	or are located within 100 m of a residential area
2.1	(LPG only — not including automotive retail outlets')	
	10 tonne or16 m^3	if stored above ground
	40 tonne or 64 m^3	if stored underground or mounded
2.3	5 tonne	anhydrous ammonia, kept in the same manner as for liquefied flammable gases and not kept for sale
	1 tonne	chlorine and sulfur dioxide stored as liquefied gas in containers <100 kg
	2.5 tonne	chlorine and sulphur dioxide stored as liquefied gas in containers >100 kg
	100 kg	liquefied gas kept in or on premises
	100 kg	other poisonous gases
4.1	5 tonne	
4.2	1 tonne	
4.3	1 tonne	
5.1	25 tonne	ammonium nitrate — high density fertiliser grade, kept on land zoned rural where rural industry is carried out, if the depot is at least 50 metres from the site boundary
	5 tonne	ammonium nitrate — elsewhere
	2.5 tonne	dry pool chlorine — if at a dedicated pool supply shop, in containers <30 kg
	1 tonne	dry pool chlorine — if at a dedicated pool supply shop, in containers >30 kg
	5 tonne	any other class 5.1
5.2	10 tonne	
6.1	0.5 tonne	packing group I
	2.5 tonne	packing groups II and III
6.2	0.5 tonne	includes clinical waste
7	all	should demonstrate compliance with Australian codes
8	5 tonne	packing group I
	25 tonne	packing group II
	50 tonne	packing group III

Note: *The classes used are those referred to in the Australian Dangerous Goods Code and are explained in Appendix 7.*

Figure A.3: General Screening Threshold Quantities

Product will be transported to and from the warehouses/industrial facility; hence, it is necessary to review the implications the transport of DGs will have on the surrounding arterial roads. Table 2 from "Applying SEPP33" has been extracted and is shown in **Figure A.4**.

	Vehicle Movements		Minimum quantity*	
	Cumulative	Peak	per load (tonne)	
Class	Annual *or*	Weekly	Bulk	Packages
1	see note	see note	see note	
2.1	>500	>30	2	5
2.3	>100	>6	1	2
3PGI	>500	>30	1	1
3PGII	>750	>45	3	10
3PGIII	>1000	>60	10	no limit
4.1	>200	>12	1	2
4.2	>100	>3	2	5
4.3	>200	>12	5	10
5	>500	>30	2	5
6.1	all	all	1	3
6.2	see note	see note	see note	
7	see note	see note	see note	
8	>500	>30	2	5
9	>1000	>60	no limit	

Figure A.4: SEPP33 Transport Thresholds

*If quantities are below this level, the potential risk is unlikely to be significant unless the number of traffic movements is high.

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