

Site Memorandum

Project Name	Auckland Surf Park Community - Stage 2, 1320 and 1350 Dairy Flat Highway, 89 and 105 Lascelles Drive and 237 and 253 Postman Road, Dairy Flat, Auckland		
Memo Topic	Hazardous Substances and Industrial and Trade Activity Assessment		
Memo Date	23 January 2026	ENGEO Project No.	030297.000.001
To	Jody Jubber, Inovo Projects	Copy	
Author	Lotta Liddell	Reviewer	Jamie Rhodes

1 Statement of Qualifications and Experience

Lotta Liddell (Author)

I am an Associate Environmental Engineer at ENGEO Limited (ENGEO). ENGEO is an international consultancy specialising in geotechnical and environmental services. I have been employed at ENGEO since 2022.

I hold the qualification of a Master of Engineering from Leeds University in the UK which I completed in 1995. I am a Chartered Engineer (CEng) through the Institution of Civil Engineers and a Chartered Environmentalist (CEnv) through the Society for the Environment, both in the UK. I am a full member of the Institution of Civil Engineers (UK).

I have over 30 years of consulting experience in environmental engineering working in New Zealand, the United Kingdom, Hong Kong and Ghana. My experience includes hazardous substances assessment and management, contaminated land investigation, assessment, management and remediation, industrial and trade activity assessments, landfill assessments and environmental due diligence reporting and audits. I have prepared hazardous substances and industrial and trade activity assessments for a large number of projects throughout New Zealand and for a wide variety of proposed site uses including several data centres, a major hazardous facility for large -scale storage of hazardous substances, food manufacturing facilities, transport depots and waste sites.

Jamie Rhodes (Reviewer)

I am a Principal Environmental Engineer at ENGEO Limited (ENGEO). I have been employed at ENGEO since 2019.

I hold the qualification of a Bachelor of Engineering (Environmental) from the University of Melbourne in Australia which I completed in 2005. I am a Certified Environmental Practitioner (Site Contamination) Specialist.

I have over 20 years of consulting experience in environmental engineering, specialising in contaminated land investigation, assessment, management and remediation but also carrying out environmental expert witness work due diligence reporting and audits. I have been the project lead for a number of projects involving both contaminated land and hazardous substances assessments and have reviewed hazardous substances and industrial and trade activity assessments for projects for a wide variety of proposed site uses including data centres, a major hazardous facility for large-scale storage of hazardous substances and food manufacturing facilities.

2 Introduction

ENGEO Ltd was requested by ASP Bei Land Co Ltd C/- Inovo Projects to undertake a hazardous substances and industrial and trade activity assessment for an additional artificial intelligence (AI) data centre module at the site. This module, combined with the module consented under Stage 1 of the Auckland Surf Park Community, will form a hyperscale AI data centre campus. No changes are proposed to the data centre module consented under Stage 1. For this reason, the scope of this assessment relates to the additional module only. This work has been carried out in accordance with our signed agreement dated 18 December 2025. The purpose of the services is to support a resource consent application for the site.

This memo provides an assessment of the proposal with respect to the following parts of the Auckland Unitary Plan operational in part (AUP OP):

- Section E31 (Hazardous Substances)
- Section E33 (Industrial and Trade Activities)

3 Background

The wider property has an area of approximately 54 ha. Resource consent for Stage 1 of the Auckland Surf Park Community (ASPC) was approved under the COVID-19 Fast-track Consenting Act 2020 on 25 June 2024. The consented development comprises:

- Earthworks and vegetation removal and subsequent extensive re-landscaping of the site focused around the stream (Stream Park).
- Construction and operation of a surf park which included a surfing lagoon, restaurant(s), market space and 70 visitor accommodation units consisting of a lodge and eco-cabins.
- A solar farm.
- A standard data centre.
- Roading including the collector anticipated by the structure plan.
- Three waters infrastructure.

The Stage 2 proposal is for the expansion of the ASPC to include a hyperscale artificial intelligence data centre campus, three residential neighbourhoods, a village centre, work-live precinct, industrial precinct, subdivision and ancillary activities.

The Stage 2 proposal also involves variations to the development consented under Stage 1. These changes are described within the Assessment of Environmental Effects prepared by Barker and Associates.

The proposed data centre module will occupy 2.33 ha and is contained within the eastern portion of the wider property which is zoned Future Urban Zone (FUZ) under the AUP(OP). Proposed site plans (Drawing Nos. 4663\RC_8 .2 and 4663\RC_8. 3 RC03, dated 10 December 2025) prepared by Studio Pacific Architecture are attached (Attachment 1).

3.1 Stormwater Management

Stormwater at the site will be generated off the building roofs, outdoor plant yards, parking areas and roadways.

Roof water will be collected in downpipes and discharged to the on-site piped stormwater system.

The area used to park tankers whilst the underground fuel storage tanks are filled will be segregated from the remainder of the site by kerbs and rollover bunds. Stormwater generated in this area will be discharged to an appropriately sized SPEL Puraceptor Class 1 stormwater treatment separator (or equivalent) before being discharged to the on-site piped stormwater system. Prior to commencing fuel transfer to the underground tanks, the fuel delivery contractor will close a valve on the stormwater system. Closing the valve will trap significant leaks / spills on-site, preventing their discharge to the on-site piped stormwater system and facilitating removal. Once the transfer of fuel is complete and the transfer lines have been disconnected, the valve will be re-opened (assuming no significant leak or spill has occurred).

Surface water runoff from the outdoor plant yards, parking areas and roadways is collected in stormwater catchpits and slot drains and discharged to the on-site piped stormwater system. The on-site piped stormwater system conveys the stormwater to the northern end of the site, where it is discharged into a concrete channel which flows to the west along the northern site boundary. The stormwater is treated off-site as a part of the Surf Park Stormwater Master Plan. For full details of the stormwater management at the site reference should be made to Aurecon and McKenzie & Co civil engineering documentation.

3.2 Hazardous Substances

3.2.1 Hazardous Substances Storage

The site will have the following equipment, tanks and storage locations where hazardous substances will be present:

- Sixteen 2.4 MW gensets (Cat®3516E), each containing 466 L of Mobile Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40 and 488 L of Caterpillar Cat ELC (Extended Life Coolant) premix 50/50 with a 25,000 L double-skinned diesel fuel belly tank.
- Five 110,000 L double-skinned underground diesel fuel tanks into which fuel is pumped from delivery vehicles. The fuel is then distributed via a pumped pipe system to the belly tanks forming a part of the gensets on-site.
- One 600 L double-skinned diesel tank to power the diesel pump in the fire pump room.
- One 5000 L double-skinned tank for the storage of waste diesel generated on-site.

- The following substances will be present within the critical cooling system:
 - 1,376 L of R-1234ze(E) refrigerant gas (non-hazardous) (86 kg per unit, sixteen units on-site).
 - 560 L of Emkarate RL 46HB lubricating oil (35 L per unit, sixteen units on-site).
- The following substances will be present within the non-critical cooling system:
 - 100 kg of HFC-32 refrigerant gas within the SPLIT units (4 kg per unit, twenty-five units on-site).
 - 33.75 L of Daphne Hermetic Oil FW68DA lubricant within the SPLIT units (1.35 L per unit, twenty-five units on-site).
 - 78 kg of R410 refrigerant gas (non-hazardous) within the VRV systems (26 kg per unit, three units on-site).
 - 5.1 L of Daphne Hermetic Oil FCV68D lubricant within the VRV systems (1.7 L per unit, three units on-site).
- Small quantities of hazardous substances will be stored in a cleaner's cupboard in the administration building:
 - Small quantities (up to 80 L in total) of typical household cleaners (floor cleaners, hard surface cleaners etc.) for use in cleaning the facility, offices, and welfare areas.
 - Up to 20 L of hand sanitiser. These larger containers will be used to re-fill small bottles up to 0.5 L) in meeting rooms and on desks.

3.2.2 Equipment Excluded from the Assessment

The following substances and / or equipment have been excluded from the assessment, for the reasons outlined below.

- Li-ion batteries present in several locations within buildings at the site to provide backup power to critical services and IT racks. Advice provided by the Environmental Protection Agency¹ states that *'Batteries are considered to be manufactured articles and are not, therefore, covered by the HSNO Act. Although they may contain hazardous substances, the item has an end use function wholly dependent on its shape and design, which does not involve the intentional release of any hazardous component. Also, the primary function of the article does not lead to any (HSNO) hazardous effect.'* It is not intended that these articles will be opened on-site but rather that faulty batteries will be removed and replaced with a new battery. If a battery is dropped / damaged such that a spill occurs, the site's spill response procedure will be followed. The faulty battery and used spill response materials will be removed and disposed of by an appropriately license waste contractor.

¹ Environmental Protection Agency Information Sheet: Manufactured Articles, Deciding when a substance which is part of a manufactured item is or is not covered by the HSNO Act, October 2012¹ (EPA0145) available: <https://www.epa.govt.nz/assets/Uploads/Documents/Hazardous-Substances/Guidance/c155d5fc70/Manufactured-articles-info-sheet.pdf>

- Transformers will be located in the outdoor plant yards. These are proposed to be dry transformers with air as an insulating medium.

We note that a proposed Vector Substation is shown on the wider site in some of the project drawings. This substation is excluded from the current Consent application. The substation and all equipment within it will be owned and operated by Vector who we understand will be dealing with any consenting requirements for this area.

4 Hazardous Substances Assessment (Section E31 of the AUP OP)

The hazardous substances that will be used and stored in 'greater than household volumes' at the site, are listed in Table A1 (Attachment 2); together with the volume present, the use or storage location and the hazard classifications that apply to each substance.

4.1 Activity Status

The activity status of facilities that use, store and dispose of hazardous substances is specified in Table E31.4.1, Table E31.4.2 and Table E31.4.3 of the AUP OP. Table E31.4.2 of the AUP OP relates to the storage of fertiliser in rural zones and, as such, is not applicable to this site.

Rule A5 of Table E31.4.1 specifies that the use, storage and disposal of hazardous substance sub classes 1.4, 1.5, 1.6, 6.1D, 6.1E, 9.1D and 9.2D is a permitted activity. The activity status of the use, storage and disposal of hazardous substances within other sub-classes depends on the volumes or amounts involved.

An assessment of the activity status of the facility in accordance with the criteria in Table E31.4.3 is included in Table A1 (Attachment 2). Table A1 demonstrates that:

- The storage and use of Class 2.1 flammable gas / aerosols will be a permitted activity under rule A86.
- The storage and use of non-hazardous gases will be a discretionary activity under rule A7 as it exceeds maximum quantities specified in rule A87.
- The storage and use of Class 3.1A and 3.1B flammable liquids will be a permitted activity under rule A89.
- The storage and use of Class 3.1D flammable liquids will be a discretionary activity under rule A7 as it exceeds maximum quantities specified in rule A91.
- The storage and use of Class 6.1C and 6.3-6.9 toxic substances will be a discretionary activity under rule A7 as it exceeds maximum quantities specified in A101.
- The storage and use of Class 9.1B, 9.2B, 9.3B and 9.4B ecotoxic substances will be a discretionary activity under rule A7 as it exceeds maximum quantities specified in A106.
- The storage and use of Class 9.1C, 9.2C, 9.3C and 9.4C ecotoxic substances will be a permitted activity under rule A108.
- The storage and use of high BOD5 (> 10,000 mg/l) substances will be a permitted activity under rule A110.

Overall the storage and use of hazardous substances at the site is a discretionary activity under Section 31 of the AUP.

4.2 Activity Standards

All activities listed in E31.4.1, Table E31.4.2 and Table E31.4.3 of the AUP OP must comply with the relevant standards listed in E31.6. In addition, as discretionary consent is sought, it is necessary to demonstrate that the facility is consistent with the objectives (E31.2) and policies (E31.3) outlined in the AUP OP for hazardous substances. An assessment of the proposed hazardous storage facility, in accordance with these standards, objectives and policies is provided in Table A2 (Attachment 3) and an assessment of the site with respect to the surrounding environment is provided in Attachment 4.

The site will be operated in accordance with a site-specific Environmental Management Plan (EMP), a draft copy of which is provided under separate cover. In addition, the site will have an Emergency Response Plan (ERP). Whilst this document has not yet been prepared it will likely be based on WorkSafe's Emergency Management Flipchart (available at: [wsnz_2510-emergency-response-a4-digital-v4-0-fa-lr.pdf](https://www.worksafe.govt.nz/_2510-emergency-response-a4-digital-v4-0-fa-lr.pdf) ([hazardoussubstances.govt.nz](https://www.hazardoussubstances.govt.nz))).

On this basis we consider that Table A2 (Attachment 3) and Attachment 4 demonstrate that the facility is consistent with the objectives and policies relating to Hazardous substances in Section E31 of the AUP OP.

5 ITA Activity Assessment (Section E33 of the AUP OP)

5.1 Industrial or Trade Activity Area

Based on the definition of an industrial or trade activity (ITA) provided in Section J1.4 (Definitions) of the AUP OP, the 'ITA activity area' of the site is approximately 1.16 ha, comprising the vehicle accessways (including the staff parking area) and outdoor plant yards. The ITA activity area is shown in Figure 1 (Attachment 5).

5.2 Activity Status

Tables E33.4.1 and E33.4.2 of the AUP OP list the activity status for the use of land for an industrial or trade activity and the discharge of contaminants from an industrial or trade activity area, respectively, based on the risk associated with the activity as given in Table E33.4.3 of the AUP OP.

The activity table (Table E33.4.3) does not include data centres, and therefore we consider that, provided the permitted activity standards for use of land for an industrial or trade activity (E33.6.1.1(1) to E33.6.1.1(12) of the AUP OP) are met:

- The use of land for a data centre is a permitted activity (Rule A3 of Table E33.4.1 of the AUP OP).

The industrial and trade activity area on-site requires stormwater treatment and hence permitted activity standard E33.6.1.2 of the AUP OP is not achieved. We therefore consider that as long as the controlled activity standards for discharge from an industrial or trade activity area (E33.6.2.2 of the AUP OP) are met:

- The discharge of contaminants from the site is a controlled activity (Rule A12 of Table E33.4.2 of the AUP OP).

5.3 Relevant Activity Standards

The activity standards that the activities on-site must comply with are listed in Table A3 (Attachment 6), together with our comments relating to compliance. Table A3 shows that the facility, as designed, should comply with the relevant activity standards as long as a site-specific environmental management Plan (EMP) is prepared and adhered to. A draft EMP has been prepared and is provided under separate cover.

6 Limitations

- i. We have prepared this memorandum in accordance with the brief as provided. This memorandum has been prepared for the use of our client ASP Bei Land Co Ltd C/- Inovo Projects, their professional advisers and the relevant Territorial Authorities in relation to the specified project brief described in this memorandum. No liability is accepted for the use of any part of the memorandum for any other purpose or by any other person or entity.
- ii. The assessments and recommendations in this memorandum are based on the information provided by the client at the time of our engagement. If the processes, or the substances stored or used, at the site are changed, it may be necessary to update this assessment as such changes may affect the consent status of the site.
- iii. This Limitation should be read in conjunction with the Engineering NZ / ACENZ Standard Terms of Engagement.
- iv. This memorandum is not to be reproduced either wholly or in part without our prior written permission.

Attachments

Attachment 1	Proposed site plans, Drawing Nos. 4663\RC_8 .2 and 4663\RC_8. 3 RC03, dated 10 December 2025 prepared by Studio Pacific Architecture
Attachment 2	Table A1: Assessment of the activities on-site in accordance with Table E31.4.3 - AUP. E31 Hazardous Substances
Attachment 3	Table A2: Hazardous Substances: Assessment Against Relevant Activity Standards
Attachment 4	Surrounding Area Assessment – ASP Stage 2 Data Centre
Attachment 5	Figure 1: Industrial and Trade Activity Area Plan
Attachment 6	Table A3: Industrial and Trade Activities: Assessment Against Relevant Activity Standards
Under Separate Cover	Draft Environmental Management Plan, prepared by ENGEO Ltd. (dated 20 January 2026)



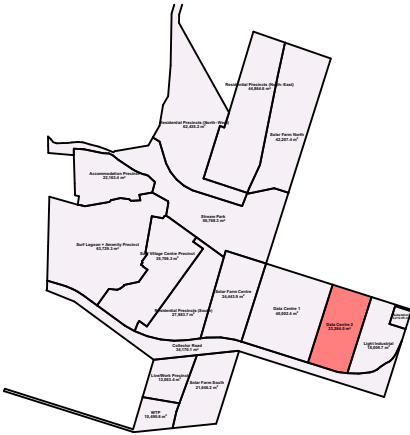
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Notes:

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Rev	Description	Date



INDICATIVELY)
IDED BY OTHERS.
TYEARS DRAWINGS

NO CHANGE TO SITE LAYOUT
AND ARCHITECTURE
APPROVED UNDER STAGE 1
BUN60429155

DATA CENTRE

DATA CENTRE

LIGHT INDUSTRIAL

LIGHT INDUSTRIAL

LIGHT INDUSTRIAL

LIGHT INDUSTRIAL

LIGHT INDUSTRIAL

LIGHT INDUSTRIAL

LIGHT INDUSTRIAL

SUBSTATION

REFER TO VECTOR
ELECTRICITY
DRAWINGS

10m Setback

LEGEND:

- Superlot boundary
- Footpath
- Footpath (Flush)
- Cycleway
- Lawn
- Planting
- Concrete surface
- Hoggin surface
- Sand play safety surface
- 10m stream offset riparian planting
- Timber boardwalk
- Site boundary
- NOR boundary (indicative)
- Stream centre line
- 10m stream offset line
- Stormwater ponds/ raingardens
- Stream Park timber buildouts
- Raised vege planters
- Buildings
- Lounge bench seats
- Rocks
- Timber nature trail/ play-along-the-way
- Picnic tables
- BBQ's
- Picnic shelter
- Bench seats
- Trees

Note: Where the masterplan extends beyond the scope of SPA's work, it is shown **indicatively**. For the relevant legend and detailed information, please refer to the respective consultants' drawings.

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AW Holdings Ltd

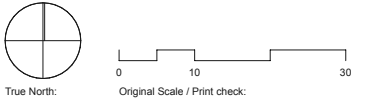
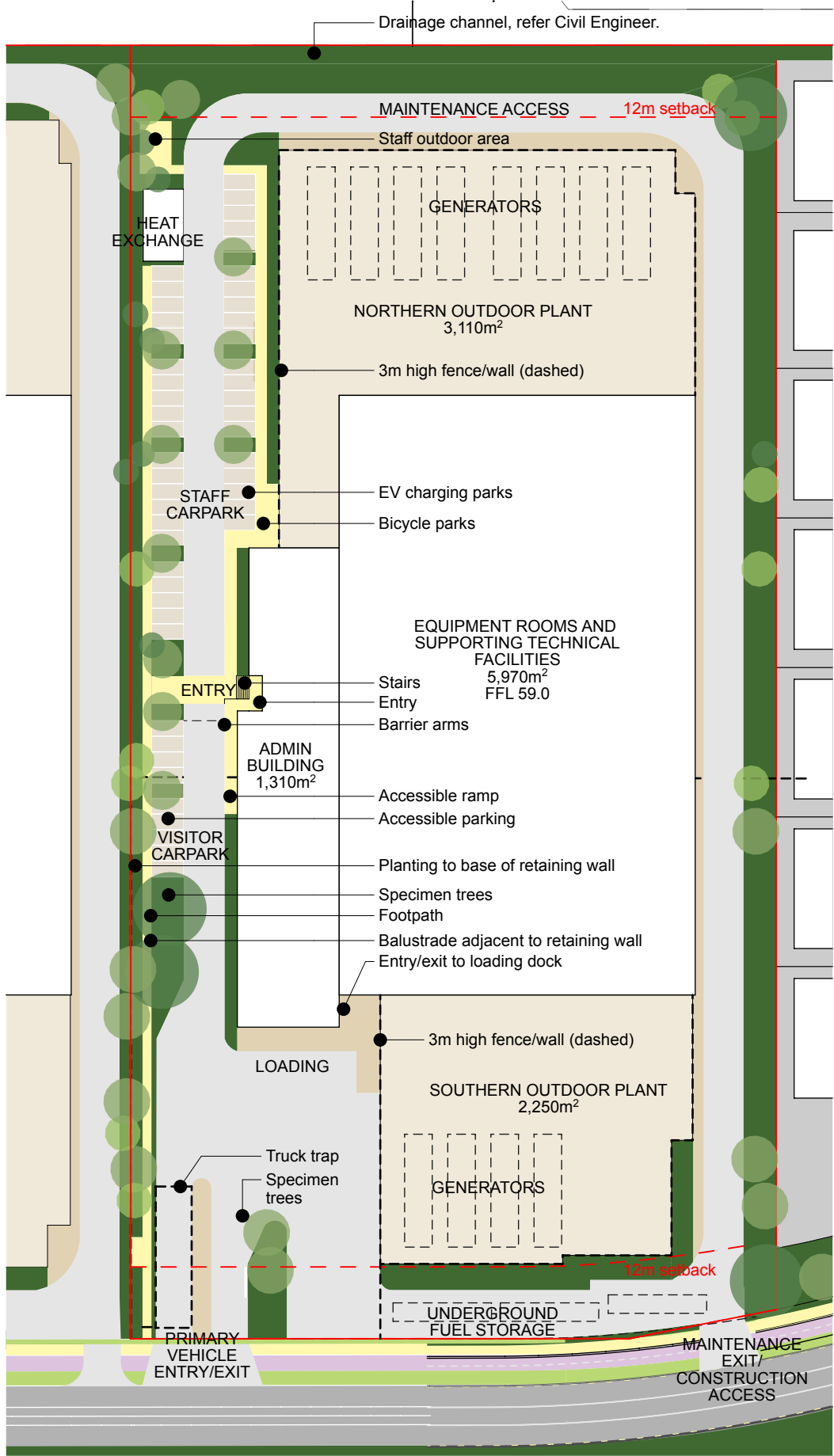
Project Title:
**Auckland Surf Park
Community**

at
Dairy Flat Highway, Auckland
#

Layout Name:
**DATA CENTRE
Data Centre**

Scale: 1:1500 Original Paper Size: A3

Job No.: 4663 Layout I.D.: RC_8.2 Revision:



Print in Colour

Notes:

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All dimensions to be checked on site.

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Rev	Description	Date

GENERAL DESIGN NOTES

Building

Areas are subject to change with structural and service considerations.

Outdoor Plant and Services

Design and size is representational only.

Landscape Design and Tree Location

Location and design is representational. Refer Open Space plan for design intent.

LEGEND:

- Lawn
- Planting
- Concrete surface
- Hoggin surface
- Sand play safety surface
- 10m stream offset riparian planting
- Timber boardwalk
- Site boundary
- NOR boundary (indicative)
- Stream centre line
- 10m stream offset line
- Stormwater ponds/ raingardens
- Stream Park timber buildouts
- Raised vege planters
- Buildings
- Lounge bench seats
- Rocks
- Timber nature trail/ play-along-the-way
- Picnic tables
- BBQ's
- Picnic shelter
- Bench seats
- Trees

Note: Where the masterplan extends beyond the scope of SPA's work, it is shown **indicatively**. For the relevant legend and detailed information, please refer to the respective consultants' drawings.

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Prepared For:
AW Holdings Ltd

Project Title:
Auckland Surf Park Community

at
Dairy Flat Highway, Auckland #

Layout Name:
**DATA CENTRE
Data Centre Site and
Landscape Plan**

Scale: 1:1000 Original Paper Size: A3

Job No.: 4663 Layout I.D.: RC_8.3 Revision:

Table A1: Assessment of the activities on site in accordance with Table E31.4.3 - AUP. E31 Hazardous Substances

Auckland Unitary Plan operational in part Permitted Activity Criteria					< 0.2t (40 m³)	< 0.1t (200 m³)	<0.1t	<1t	<0.3t	<10t	<30t	<40t
Auckland Unitary Plan operational in part Discretionary Activity Criteria					≥ 0.2t (40 m³)	≥ 0.1t (200m³)	≥ 0.1t	≥ 1t	≥ 0.3t	≥ 10 t	≥ 30t	≥ 40t
Activity Reference (Table E31.4.3) - AUP. E31 Hazardous Substances					A86	A87	A89	A91	A101	A106	A108	A110
Substance	Use/ storage location	Volume on site ¹	Approval Number	HSNO Classification	HSNO Classification							
					Class 2: Flammable gas/aerosol	Non-hazardous gases	Class 3 : Flammable Liquids		Class 6: Toxic	Class 9: Eco-toxic		
					2.1 (all)	All other non-hazardous gases	3.1A and 3.1B	3.1D	6.1C and 6.3-6.9	9.1B, 9.2B, 9.3B and 9.4B	9.1C, 9.2C, 9.3C and 9.4C	High BOD5 (>10,000 mg/l)
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 16	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 15	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 14	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 13	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 12	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 11	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 10	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 09	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 08	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 07	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 06	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 05	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 04	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 03	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 02	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
Caterpillar Cat ELC (Extended Life Coolant) Premix 50/50	Genset 01	488 L	HSR002606	6.1D, 6.3B, 6.4A, 6.9A, 9.3C					0.527		0.527	
DAPHNE HERMETIC OIL FVC68D	Within the VRV System	5.1 L	HSR002606	6.5B, 6.8B, 9.1C					0.005		0.005	
DAPHNE HERMETIC OIL FW68DA	Within the SPLIT units in the refrigeration system	33.75 L	HSR002606	6.5B					0.032			
Diesel fuel	Waste Diesel Tank	5000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				4.250	4.250	4.250		
Diesel fuel	Genset 16	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 15	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 14	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 13	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 12	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 11	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 10	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 09	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 08	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 07	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 06	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 05	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 04	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 03	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 02	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Genset 01	25000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				21.250	21.250	21.250		
Diesel fuel	Fire Pump Room	600 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				0.510	0.510	0.510		
Diesel fuel	Below Ground Tank 05	110000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				93.500	93.500	93.500		
Diesel fuel	Below Ground Tank 04	110000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				93.500	93.500	93.500		
Diesel fuel	Below Ground Tank 03	110000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				93.500	93.500	93.500		
Diesel fuel	Below Ground Tank 02	110000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				93.500	93.500	93.500		

Auckland Unitary Plan operational in part Permitted Activity Criteria	< 0.2t (40 m³)	< 0.1t (200 m³)	<0.1t	<1t	<0.3t	<10t	<30t	<40t
Auckland Unitary Plan operational in part Discretionary Activity Criteria	≥ 0.2t (40 m³)	≥ 0.1t (200m³)	≥ 0.1t	≥ 1t	≥ 0.3t	≥ 10 t	≥ 30t	≥ 40t
Activity Reference (Table E31.4.3) - AUP. E31 Hazardous Substances	A86	A87	A89	A91	A101	A106	A108	A110

Substance	Use/ storage location	Volume on site ¹	Approval Number	HSNO Classification	HSNO Classification							
					Class 2: Flammable gas/aerosol	Non-hazardous gases	Class 3 : Flammable Liquids		Class 6: Toxic	Class 9: Eco-toxic		
					2.1 (all)	All other non-hazardous gases	3.1A and 3.1B	3.1D	6.1C and 6.3-6.9	9.1B, 9.2B, 9.3B and 9.4B	9.1C, 9.2C, 9.3C and 9.4C	High BOD5 (>10,000 mg/l)
Diesel fuel	Below Ground Tank 01	110000 L	HSR001441	3.1D, 6.1E, 6.3B, 6.7B, 9.1B				93.500	93.500	93.500		
EMKARATE RL 46HB	Chiller 16	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 15	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 14	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 13	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 12	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 11	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 10	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 09	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 08	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 07	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 06	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 05	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 04	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 03	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 02	35 L	HSR002606	9.1C							0.034	
EMKARATE RL 46HB	Chiller 01	35 L	HSR002606	9.1C							0.034	
Hand Sanitiser	Cleaner's Cupboard	20 L	HSR002552	3.1B, 6.4A			0.017		0.017			
HFC32 Refrigerant	Within the SPLIT units in the refrigeration system	100 kg	HSR001023	2.1.1A	0.100							
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 01	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 02	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 03	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 04	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 05	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 06	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 07	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 08	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 09	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 10	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 11	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 12	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 13	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 14	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 15	466 L	NA	Non-hazardous								0.409
Mobil Cat Diesel Engine Oil (DEO) CH-4 SAE 15W40	Genset 16	466 L	NA	Non-hazardous								0.409
R-410A Refrigerant	Within the VRV System	78 kg	NA	Non-hazardous		0.078						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 01	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 02	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 03	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 04	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 05	86 kg	NA	Non-hazardous		0.086						

Auckland Unitary Plan operational in part Permitted Activity Criteria	< 0.2t (40 m ³)	< 0.1t (200 m ³)	<0.1t	<1t	<0.3t	<10t	<30t	<40t
Auckland Unitary Plan operational in part Discretionary Activity Criteria	≥ 0.2t (40 m ³)	≥ 0.1t (200m ³)	≥ 0.1t	≥ 1t	≥ 0.3t	≥ 10 t	≥ 30t	≥ 40t
Activity Reference (Table E31.4.3) - AUP. E31 Hazardous Substances	A86	A87	A89	A91	A101	A106	A108	A110

Substance	Use/ storage location	Volume on site ¹	Approval Number	HSNO Classification	HSNO Classification							
					Class 2: Flammable gas/aerosol	Non-hazardous gases	Class 3 : Flammable Liquids		Class 6: Toxic	Class 9: Eco-toxic		
					2.1 (all)	All other non-hazardous gases	3.1A and 3.1B	3.1D	6.1C and 6.3-6.9	9.1B, 9.2B, 9.3B and 9.4B	9.1C, 9.2C, 9.3C and 9.4C	High BOD5 (>10,000 mg/l)
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 06	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 07	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 08	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 09	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 10	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 11	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 12	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 13	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 14	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 15	86 kg	NA	Non-hazardous		0.086						
Solstice ZE Refrigerant (R-1234ze(E))	Chiller 16	86 kg	NA	Non-hazardous		0.086						
Total					0.100	1.454	0.017	812.260	820.746	812.260	8.986	6.546
Assessed Activity Status					P	D	P	D	D	D	P	P

Notes:

- 1 - Quantities are given in t (tonnes) or l (litres) except all permanent or compressed gases which are measured in m3 (cubic metres) at standard temperature and pressure (20°C and 101.3 kPa).
- 2 - The tables specify the combined quantities of hazardous substances for each hazard classification. That is 0.5 tonnes of Class 5.1 + 0.25 tonnes of another Class 5.1 = 0.75 tonnes of Class 5.1. This 0.75 tonnes is the amount to use to assess which category of consent is required.
- 3 - Where distances are specified in the table they refer to the distance between the location of a hazardous substance and any part of a 'more sensitive zone'.
- 4 - Assessed consent Status: P - Permitted, C - Controlled, RD - Restricted Discretionary, D - Discretionary

Table A2: Hazardous Substances: Assessment Against Relevant Activity Standards

Standard		Comments
E31.6	All sites	
E31.6.1	Hazardous facilities site design (1) Any part of a hazardous facility involved in the manufacture, mixing, packaging, storage, loading, transfer, usage or handling of hazardous substances must be located designed, constructed and operated to ensure that: (a) on-site facilities are set back from the more sensitive uses and watercourses to comply with the distances specified in the activity tables above; and (b) hazardous substances are stored to: (i) ensure that in the event of an unintended spill or release substances are contained within the intended areas of the site; and prevent the accumulation of any solid, liquid, gas or vapour outside of the site area.	Complies No hazardous substances will be manufactured, mixed, or packaged on-site. The activities involving hazardous substances at the site are: - Storage of diesel fuel in purpose designed and built double skinned tanks associated with the emergency power and fire protection systems at the site. - The presence of coolant and lubricating oil in the gensets associated with the emergency power system. - The presence of refrigerant gas and lubricating oil within the cooling systems on-site. - Small quantities of hazardous substances (cleaning products, hand sanitisers etc.) associated with cleaning and maintenance activities. The outdoor plant yards, where significant volumes of hazardous substances are present (associated with the gensets and critical cooling system) are set back from the site boundaries, with the external roadways providing separation (horizontal) to neighbouring properties. Bulk storage of fuel in underground tanks is proposed to provide separation (vertical) to neighbouring properties. These tanks are located in the southern part of the site. These tanks are located over 200 m from the closest watercourse to the site (an unnamed tributary of the Rangitopuni Stream, located to the west of the site).

Standard		Comments
		The area where fuel tankers are parked during filling of the 110,000 L underground storage tanks is separated from the surrounding ground using kerbing and roll-over bunds. Runoff from the bunded area is discharged via a SPEL Puraceptor Class 1 stormwater treatment separator (or equivalent) before being discharged to the on-site piped stormwater system. A valve on the outlet to the stormwater system is closed before filling of the tanks commences to ensure that if spills occur during this activity, they will not enter the stormwater system. A draft Environmental Management Plan (EMP) has been prepared for the site which includes: • An inventory of the hazardous substances on-site. • Management and storage requirements. • Spill procedures. • Reference to an Emergency Response Plan (ERP). Further assessment of the design of the site is provided in the surrounding area assessment (Attachment 4).

Standard		Comments
E31.6.2	Site drainage systems (1) The site drainage systems (including for washwater) must be designed, constructed and operated to prevent the entry or discharge of hazardous substances into: (a) the stormwater or sewerage systems unless authorised by the relevant network utility operator; and air, land or water, including groundwater and potable water supplies, unless authorised by a resource consent or another rule in the Plan.	Complies No wash water is produced on-site. Stormwater generated on the building roof is collected in downpipes and discharged to the on-site piped stormwater system. The area used to park tankers whilst the underground fuel storage tanks are filled is segregated from the remainder of the site by kerbs and rollover bunds. Stormwater generated in this area is discharged via an appropriately sized SPEL Purceptor Class 1 stormwater treatment separator (or similar) before being discharged to the on-site piped stormwater system. A valve on the outlet to the stormwater system is closed before filling of the tanks commences to ensure that if spills occur during this activity, they will not enter the stormwater system. Surface water runoff from the outdoor plant yards, parking areas and roadways is collected in stormwater catchpits and a slot drain and discharged to the on-site piped stormwater system. The on-site piped stormwater system conveys the stormwater to the northern end of the site where it is discharged into a concrete channel which flows to the west along the northern site boundary. The stormwater is treated off-site as a part of the Surf Park Stormwater Master Plan. A draft EMP has been prepared for the site which contains: • An inventory of the hazardous substances on site. • Management and storage requirements. • Spill procedures. • Reference to an Emergency Response Plan (ERP).

Standard		Comments
E31.6.3	<i>Hazardous facilities spill containment system</i> (1) Any part of the hazardous facility site where a hazardous substance spill may occur must be serviced by a suitable spill containment system that is: (a) constructed from impervious materials resistant to all hazardous substances on-site; and (b) for liquid hazardous substances: (i) able to contain the maximum volume of the largest tank present plus an allowance for stormwater or fire water; (ii) for drums or other smaller containers, able to contain half of the maximum volume of substances stored, plus an allowance for stormwater or fire water; (iii) able to prevent any spill or other unintentional release of hazardous substances, and any stormwater and/or fire water that has become contaminated, from entering the stormwater drainage system, unless authorised by the relevant network utility; and able to prevent any spill or other unintentional release of hazardous substances, and any stormwater and/or fire water that has become contaminated, from discharging into air, land or water, including groundwater and potable water supplies, unless authorised by a resource consent or another rule in the Plan.	Complies Hazardous substances on-site are generally either: • stored in purpose designed and built double-skinned tanks (diesel); or • Contained within plant and equipment (chillers and gensets) which is integral to the operation of the facility and maintained in accordance with a formal maintenance programme. The plant and equipment in the facility will be monitored in a Building Management System (BMS) and an Electronic Power Management System (EPMS). If there is reduced performance, or a failure in the plant and equipment, for example as a result of a leak of the hazardous substances contained, alarms will be triggered in these systems and immediate action taken. A draft EMP has been prepared for the site (attached) which includes: • An inventory of the hazardous substances on site. • Management and storage requirements. • Spill procedures. • Reference to an Emergency Response Plan (ERP).

Standard		Comments
E31.6.4	Hazardous facilities waste management (1) Any hazardous facility generating waste containing hazardous substances must dispose of these wastes to lawfully operated facilities or be serviced by a Council approved waste disposal contractor.	Complies Waste containing hazardous substances is only likely to be generated at the site as a result of maintenance activities or cleaning up accidental spills. Only small volumes of such waste are likely to be generated at a given time. Such wastes will be stored in a suitable container on site and will be removed offsite to an appropriately licenced facility as soon as possible. If waste fuel is generated on-site, it will be stored in the 5,000 L waste diesel tank and will be disposed of to an appropriately licenced facility.
E31.6.5	Temporary storage of fertilizer classed as sub-class 9.3B (Potash (KCl)) and 9.3C (Urea) for rural production activities (1) The storage location is located in excess of 30m from a watercourse. (2) The duration of the storage does not exceed 28 days within a 12 month period. (3) The substance stored is intended for rural production uses and is not to be sold for retail sale.	NA The site will not be used for rural production activities.
E31.2	Objectives	
	(1) The risks of hazardous facilities to people, property and the environment are minimised to acceptable levels while recognising the benefits of these facilities.	An assessment of the site with respect to the surrounding environment is provided in Attachment 4.

Standard		Comments
E31.3	Policies	
	(1) Manage hazardous substances by: (a) locating, designing, constructing and managing hazardous facilities to avoid or adequately mitigate adverse effects, including risks, to people, property and the environment; (b) identifying, assessing and managing cumulative effects of hazardous facilities so they do not increase to unacceptable levels of risk to people, property and the environment; and (c) locating land use activities so that the adverse effects of the transport of hazardous substances on roading infrastructure and other land use activities are minimised.	An assessment of the site with respect to the surrounding environment is provided in Attachment 4.
	(2) Require adequate separation distances between hazardous facilities and activities sensitive to hazardous facilities to avoid or adequately mitigate risk to people and property and to avoid reverse sensitivity effects.	An assessment of the site with respect to the surrounding environment is provided in Attachment 4.

1 Character of the Surrounding Area

The site is located in Dairy Flat, in an area that is currently predominantly agricultural, but which is expected to undergo significant development. The site and surrounding area are zoned as Future Urban Zone.

The closest land zoned as anything other than 'Future Urban Zone' is the North Shore Airport located approximately 140 m to the east of the site (beyond Postman Road). The Auckland International Pilot Academy land is zoned as 'Special Purpose Zone'. Land to the north and east of the airport, approximately 340 m from the site at the closest point, is zoned 'Residential - Large Lot Zone'.

Other sensitive land-uses located near the site include:

- Residential lifestyle blocks currently surround the site, with the closest house being approximately 75 m south of the site (231 Postman Road).
- A pond in the eastern part of the site (to be removed as a part of the site redevelopment).
- Auckland Council Geomaps shows an unnamed tributary of the Rangitopuni Stream flowing north and then northwest approximately 185 m to the west of the site (at the closest point).

2 Potential Sensitive Landuses, Activities and Receptors

The landuses surrounding the site (within about 200 m of the proposed data centre site boundary) are listed in Table 1.

Table 1: Surrounding Landuses

Direction	Landuse Zone	Address	Description	Distance from Site (m)
North	Future Urban	Lot 2 DP 204440, Postman Road, Dairy Flat	Pastoral land – No dwellings are present in this area.	120
		263 Postman Road	Pastoral land – No dwellings are present in this area.	20
		273 Postman Road	Lifestyle block. with a single dwelling and associated structures	25
		275 Postman Road	Lifestyle block with two dwellings and associated structures.	120
East	Future Urban	273 Postman Road	Balance of wider lot – currently pastoral land with a small pond but planned for redevelopment.	0
		Postman Road	Public Road	135
		234 Postman Road	Lifestyle block with one dwelling	190
		238 Postman Road	ADVS Civil construction Limited	165
		240 Postman Road	Accessway to lifestyle block with one dwelling	150
		244 Postman Road	Accessway to new subdivision (no residential properties have yet been constructed).	145
		300 Postman Road	North Shore Airport	165
South	Future Urban	203 Postman Road	Lifestyle block with a self-storage facility 'Acco Storage' in the southern portion of the property.	145
		207 Postman Road	Lifestyle block.	135
		231 Postman Road	Lifestyle block.	30
West	Future Urban	253 and 273 Postman Road and 1350 Dairy Flat Highway	Balance of wider lot – currently lifestyle blocks/ paddocks but planned for redevelopment.	0

3 Interaction with Natural Hazards

Reference to the Auckland Council Geomaps indicates the site is not located within any of the following:

- Flood prone area
- Flood sensitive area.
- Coastal Inundation zone (1% AEP or ARI).
- Tsunami evacuation zone.

A geotechnical investigation for the site has not yet been carried out, however the Geotechnical Investigation Report prepared by Aurecon New Zealand Limited (reference: 523578-W00001-REP-GG-0001 rev D) dated 13 October 2023 for the neighbouring land to the west states that “*The site is generally flat and therefore, slope stability is not of a concern.*” The report also states that “*The site soils are generally highly plastic silts and clays which are not susceptible to liquefaction triggering.*” The site is also generally flat, so we consider the findings of the report for the neighbouring land will likely apply to the site as well.

4 Potential Hazards and Exposure Pathways

The following hazardous substances will be present in ‘greater than household volumes’ at the site as a part of the following operations:

- Diesel stored in the genset belly tanks and five underground storage and distribution tanks.
- Diesel in the fire pump room for the diesel driven fire pump.
- Engine oil and coolant within the gensets.
- Refrigerant gas and lubricating oil within the cooling systems.
- Small quantities of hazardous substances associated with maintenance, cleaning and hygiene (waste diesel, floor cleaners, hard surface cleaners, hand sanitiser etc.).

The following potential exposure pathways relating to hazardous substances storage at the site have been identified at the site:

- Leakages of hazardous substances (lubricating oil, diesel) from tanks, plant and equipment.
- Spillages of diesel during fuel delivery.
- Leakage from containers stored within the facility as a result of containers being damaged.

5 Mitigation Measures Implemented On-Site

5.1 Site Design

The proposed data centre is located in an environment which is predominantly rural and also includes the North Shore Airport to the east. The site and surrounding area are zoned 'Future Urban' zone.

The site layout has been designed so that the areas where the majority of hazardous substances will be present, used or stored, i.e., the outdoor plant yards and building are in the centre of the site, with a perimeter roadway adjacent to the site boundary. This provides separation to neighbouring properties.

Bulk storage of fuel in underground tanks is proposed to provide vertical separation to neighbouring properties. These tanks are located in the southern part of the site. This location has been selected as it is a significant distance away from the watercourse (unnamed tributary of the Rangitopuni Stream) identified to the west of the site in Auckland Council Geomaps.

The site layout has been designed so that areas with high pedestrian and vehicle movements, such as the carparking areas, offices, and site entrances, are located in the western portion of the site. This ensures that the areas where hazardous substances are present, handled and stored are located away from areas of the site to which the public have access and where the greatest number of vehicle movements will occur.

The northern and southern plant yards will be surrounded by a 3-metre-high fence / wall to provide separation from the access roads on site and to reduce the risk of accidental damage as a result of vehicle movements.

The locations of hazardous substances storage and / or equipment containing hazardous substances have been selected so that, as far as possible:

- The only people accessing the areas will be maintenance / service personnel who are trained in the use and management of the relevant substances.
- Equipment is located at some distance from the roadways, and therefore the site boundaries, to reduce the risk of accidental damage and potential off-site impacts.
- The different types of equipment are separated on-site, minimising the risk of hazardous substances mixing or interacting during an incident or spill. The only substances on-site considered to be incompatible under the Health and Safety at Work (Hazardous Substances Regulations 2017 (HSW(HS)R)) are hand sanitiser and diesel fuel which are both incompatible with HFC-32 refrigerant gas. The HFC-32 refrigerant gas is present within the non-critical cooling system and hence in a different location from the areas of diesel use and storage. It is therefore considered highly unlikely that these substances will interact as this would require two separate pieces of equipment to fail at the same time; with spills large enough to migrate some distance from the failure point. The hand sanitiser will be stored and used inside the office areas in small enough quantities that migration outside the building is extremely unlikely.

It is essential for the operation of the data centre that all the equipment containing hazardous substances is well maintained and in good condition. The plant and equipment in the facility will be monitored in a Building Management System (BMS) and an Electronic Power Management System (EPMS). If there is reduced performance or a failure in a piece of plant or equipment, for example as a result of a leak of the hazardous substances contained, alarms will be triggered in these systems and prompt action taken. In addition, the equipment will be inspected and maintained in accordance with a detailed maintenance plan.

5.2 Stormwater Drainage and Treatment

Stormwater at the site will be generated off the building roofs, outdoor plant yards, parking areas and roadways.

Roof water will be collected in downpipes and discharged to the on-site piped stormwater system.

The area used to park tankers whilst the underground fuel storage tanks are filled will be segregated from the remainder of the site by kerbs and rollover bunds. Stormwater generated in this area will be discharged to an appropriately sized SPEL Purceptor Class 1 stormwater treatment separator (or equivalent) before being discharged to the on-site piped stormwater system. Prior to commencing fuel transfer to the underground tanks, the fuel delivery contractor will close a valve on the stormwater system. Closing the valve will trap significant leaks/ spills on site, preventing their discharge to the on-site piped stormwater system and facilitating removal. Once the transfer of fuel is complete, and the transfer lines have been disconnected, the valve will be re-opened (assuming no significant leak or spill has occurred).

Surface water runoff from the outdoor plant yards, parking areas and roadways is collected in stormwater catchpits and slot drains and discharged to the on-site piped stormwater system. The on-site piped stormwater system conveys the stormwater to the northern end of the site, where it is discharged into a concrete channel which flows to the west along the northern site boundary. The stormwater is treated off-site as a part of the Surf Park Stormwater Master Plan. For full details of the stormwater management at the site, reference should be made to Aurecon and McKenzie & Co civil engineering documentation.

5.3 Emergency Management Planning

The site-specific site environmental management plan (EMP) includes details of both structural and procedural measures that have been implemented at the site to minimize the risk of incidents occurring on site. These measures include:

- A requirement for regular inspections to ensure storage areas remain clean and tidy and to ensure that any spills or leaks are identified and can be remedied in a timely manner.
- A spill procedure, the presence of spill kits and training for workers in both the spill procedure and the use of spill kits.

A site-specific Emergency Response Plan (ERP) will also be prepared for the site, which covers emergency management requirements.

5.4 Monitoring and Maintenance Schedules

The EMP for the site includes the following monitoring and maintenance requirements:

- Weekly inspections of areas where hazardous substances are stored.
- Monthly audits of the entire site.
- Regular maintenance of the on-site stormwater system, including the SPEL Puraceptor Class 1 stormwater treatment separator.
- Equipment on-site will be inspected and maintained in accordance with a detailed maintenance plan.

6 Hazard and Risk Analysis

With the exception of diesel and small quantities of cleaning substances and hand sanitiser, all the hazardous substances on-site are 'in use' rather than 'in storage'. This is an important distinction as the substances 'in use' are not manually handled but are contained within equipment. The risk of spills during operation is therefore minimal, if not eliminated. Whilst a risk of leaks remains, leakage of substances from equipment will lead to alarms, and / or failure of equipment and will therefore be identified rapidly.

Operational / mechanical failures will result in alarms in the Building Management System (BMS) and / or Electronic Power Management System (EPMS). As the equipment (cooling system and generators) are integral to the operation of the facility, the operator has management systems requiring incidents / alarms to be addressed promptly.

It is noted that the total volume of substances present on the site is a function of the number of units of a particular type of equipment, rather than because a particular type of equipment contains a large volume of substance. For example, up to 9,500,000 L of diesel may be present on-site at any time, however this will be stored in 21 separate units. The maximum volume of a spill, should one occur, is likely to be limited to the volume of one of the largest units i.e., up to 110,000 L (the volume of the underground fuel storage tanks). The likelihood of several, or all of the units being catastrophically damaged at the same time is considered to be very low.

Hazardous substances will not routinely be transported to site. Most of the substances present on-site are contained in equipment and will therefore only be brought to site in small volumes during maintenance. The main exception is diesel which is stored to power the emergency generators on-site. The tanks will therefore require filling only after a disruption to the mains power supply, or after test runs of the generators, rather than on a regular basis. When required, diesel will be brought to site in standard fuel delivery tankers under a contract with a fuel delivery company whose drivers are trained in issues related to fuel delivery.

Risks associated with hazardous substances storage at the site are mitigated by:

- Locating the equipment areas to the south and north of the site, away from pedestrian routes and carparking areas to minimise the risk of accidental damage.
- Using the external roadway to offset the outdoor plant yards from the site boundary, thereby reducing the risk to or from neighbouring sites.

- Providing a one-way transportation route around the outside of the site to reduce the need for vehicle manoeuvring and hence reducing the risk of accidental damage.
- Providing separation (kerbs, landscaping and fencing/ walls between the equipment and tanks and the perimeter road to reduce the risk of accidental damage.
- Locating equipment away from the perimeter of the plant yards yard as far as possible to provide additional separation.
- Reducing the number of locations where diesel fuel is handled by using a piped system to carry diesel from the underground storage tanks to the genset belly tanks.
- Providing additional spill protection measures (shut-off valve and bunding) and stormwater treatment (SPEL Puraceptor Class 1 stormwater treatment separators) to the area where tankers park during the filling of the underground tanks.
- Using a fuel delivery company that has tanker drivers who are trained in the use of the refuelling equipment and handle diesel fuel as an integral part of their job.
- Providing spill kits and fire extinguishers in locations that are easily accessible from areas where hazardous substances are present, handled or stored.
- The site is manned by security staff 24 hours a day, seven days per week. On-site staff can respond immediately should a spill occur and any other issues relating to the equipment on-site are responded to quickly.
- An environmental management plan (EMP) has been prepared for the site, summarising the measures implemented on-site to manage hazardous substances, which includes:
 - Details of secondary containment that will be implemented on-site.
 - Regular inspections to ensure storage areas remain clean and tidy with no evidence of spills.
 - Spill procedures and reference to an emergency response plan (ERP).

An assessment of the hazards and risks associated with the site, including a description of mitigation measures is provided in Table 2. In summary:

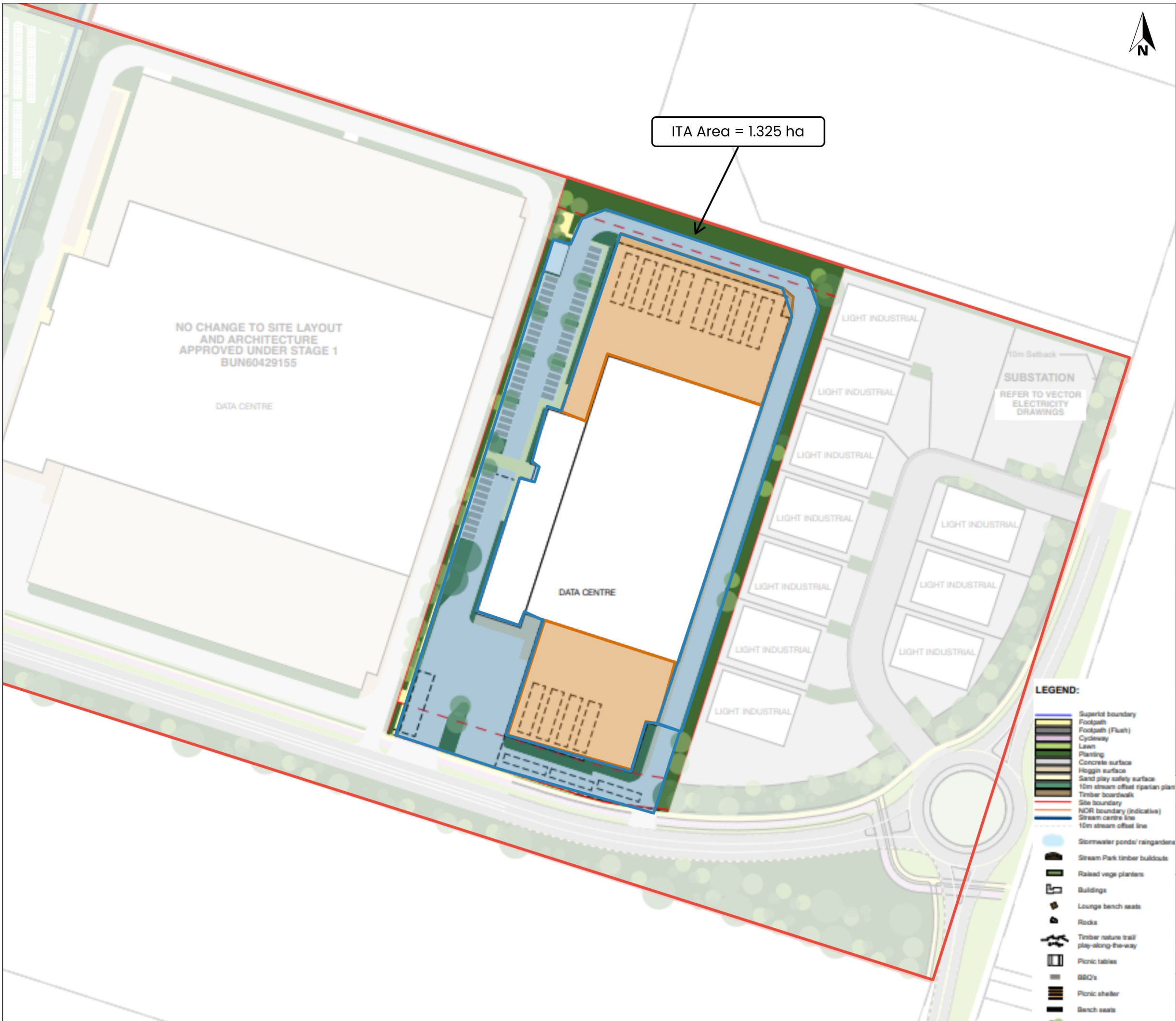
- The risk of direct discharges of contaminants to nearby watercourses is considered to be low.
- The risks associated with the hazardous substances that will be present at the site on people, property and the environment is also considered to be low.

Table 2: Hazard Risk Assessment

Hazard	Potential Contaminant	Risk To? (Potential Receptor)	How? (Potential Exposure Pathway)	Likelihood (assuming no mitigation measures are in place)	Consequence	Assessed Risk	Mitigation
Environmental Spill from gensets	Diesel, Lubricating Oil, Coolant	Site workers Neighbouring properties Stormwater system and receiving water bodies	Leakage from tanks or equipment Damage due to vehicle movements Vandalism	Likely	Major	High Risk	Design of the facility to locate the equipment at some distance from the site boundaries and to reduce risk of vehicle damage. Diesel is stored in purpose-designed and constructed double-skinned tanks. The remaining substances present on site are 'in -use'. A leak of these substances would cause equipment to fail or function sub-optimally which would trigger an alarm in the Building Management System (BMS) and / or Electronic Power Management System (EPMS). As the equipment is integral to the operation of the facility, the operator has management systems requiring incidents/alarms to be addressed promptly. Diesel is pumped to the belly tanks via a piped system to reduce the risks associated with manual handling. Maintenance of the gensets is carried out by appropriately trained operatives in accordance with a formal maintenance plan. The site is fully fenced. Site is manned 24 hours per day, seven days per week. EMP for the site requires regular inspections of the areas where hazardous substances will be present. Warning signs and spill kits. ERP.
Environmental Spill from underground fuel storage tanks	Diesel	Stormwater system and receiving water bodies Groundwater	Operator error Leakage from tanks or equipment Damage due to vehicle movements Vandalism	Likely	Major	High Risk	Use of underground tanks to reduce risk of vehicle damage and vandalism. Diesel is stored within purpose designed double-skinned tanks. Delivery of diesel is by a reputable contractor whose drivers are trained in the equipment they use and in handling fuel. A regular reconciliation is specified in the EMP with the aim of identifying leakage or unaccounted losses of fuel from the tank. Site is manned 24 hours per day, seven days per week. EMP for the site requires regular inspections of the areas where hazardous substances will be present. Warning signs and spill kits. ERP.
Environmental Spill from cooling system	Lubricating oil, refrigerant gas	Site workers Neighbouring properties Stormwater system and receiving water bodies	Leakage from tanks or equipment Damage due to vehicle movements Vandalism	Moderate	Moderate	Significant Risk	Design of the facility to locate the equipment at some distance from the site boundaries and to reduce risk of vehicle damage. Hazardous substances present are 'in -use'. A leak of these substances would cause equipment to fail or function sub-optimally which would trigger an alarm in the Building Management System (BMS) and / or Electronic Power Management System (EPMS). As the equipment is integral to the operation of the facility, the operator has management systems requiring incidents/alarms to be addressed promptly. The site is fully fenced. Site is manned 24 hours per day, seven days per week. EMP for the site requires regular inspections of the areas where hazardous substances will be present. Warning signs and spill kits. ERP.

Hazard	Potential Contaminant	Risk To? (Potential Receptor)	How? (Potential Exposure Pathway)	Likelihood (assuming no mitigation measures are in place)	Consequence	Assessed Risk	Mitigation
Other environmental spill	Cleaning substances, hand sanitiser	Site workers Neighbouring properties Stormwater system and receiving water bodies	Operator error Leakage from containers	Moderate	Minor	Moderate risk	These substances are used and stored in relatively small volumes within the building. EMP for the site requires regular inspections of the areas where hazardous substances will be present. Warning signs and spill kits. ERP.
Vehicle Movements	Fuel, oils, any substances / items carried by the vehicle	Site Workers Stormwater system and receiving water bodies	Traffic accident	Likely	Major	High Risk	The facility is fenced and gated to prevent unauthorised access. Delivery of diesel is by a reputable contractor with trained drivers. Site speed limits and signage. One-way traffic system along perimeter road. Site is manned 24 hours per day, seven days per week.
Fire (on-site)	Smoke, vapour and particulates as a result of uncontrolled burning	Site workers Neighbouring properties	Flammable gas or vapours coming into proximity to sources of ignition (e.g. vehicle engines, electrical sparks, electronic charges, smoking, vandalism) Poor housekeeping (presence of rubbish, lack of signage etc.) Equipment malfunction Accidental event / vandalism	Likely	Major	High Risk	Purpose designed and built double skinned tanks for diesel storage. Routine monitoring and maintenance of all equipment containing hazardous substances in accordance with the EMP and the operator's maintenance manual. EMP for the site requires regular inspections of the areas where hazardous substances will be present. The site has an automated sprinkler system and fire extinguishers. Site is manned 24 hours per day, seven days per week. No smoking signs. ERP
Fire from other sources (off-site)	Smoke, vapour and particulates as a result of uncontrolled burning	Site workers Equipment and fuel storage	Fire carried towards facilities. Can be exacerbated by poor housekeeping (presence of rubbish, dense vegetation, lack of signage etc)	Unlikely	Major	Significant Risk	Flammable substances held on-site are offset from the site boundary by the external roadway. The site has an automated sprinkler system and fire extinguishers. Site is manned 24 hours per day, seven days per week. EMP for the site requires regular inspections of, and removal of rubbish from, the areas where hazardous substances will be present. ERP.
Mixing of incompatible substances	Various chemicals	Site Neighbouring properties	Mixing of chemicals stored on-site Mixing of chemicals from on site with chemicals from other sites	Rare	Major	Significant Risk	Although incompatible substances (hand sanitiser, diesel and R32 Refrigerant gas) will be present on-site, they are located in such a way that it is very unlikely they would mix in the event of a spill. A small volume (< 2 L) of R32 refrigerant gas is present in each of the SPLIT units in the non-critical cooling system whilst the diesel is present in the gensets and underground storage tanks. Even in the unlikely situation that both the SPLIT chiller systems and diesel generator sets leak at the same time, it is considered unlikely that the substances would come into contact. The hand sanitiser will be stored and used inside the building office areas in small enough quantities that migration outside the building is extremely unlikely. Land directly surrounding the site in all directions is currently used for agriculture / lifestyle blocks. Whilst it is possible that landowners store some agrichemicals, these are unlikely to be held in large volumes and will likely only be stored in buildings. The closest buildings to the site are approximately 75 meters south of the site. It is possible that hydrocarbons (fuels, oils) may be used or stored on some neighbouring properties. These substances are unlikely to be incompatible with substances at the data centre site, apart from the R-32 refrigerant gas, which, as mentioned is present in such small volumes in each unit that the likelihood of mixing is incredibly low.

Hazard	Potential Contaminant	Risk To? (Potential Receptor)	How? (Potential Exposure Pathway)	Likelihood (assuming no mitigation measures are in place)	Consequence	Assessed Risk	Mitigation
Cumulative risks due to neighbouring properties	Various chemicals	Site workers Neighbouring Properties	Migration of waste Migration of gas / vapour Fires Explosion	Rare	Major	Significant Risk	The sites immediately to the north, east, south, and west of the site are currently mainly used as pastoral land. Whilst some buildings and houses are present, they are all more than 75 m from the data centre boundary. It is considered unlikely that significant volumes of hazardous substances are stored at any of the properties within a 200 m radius of the proposed site boundaries. The surrounding area is predominantly zoned as ‘Future Urban’. It is possible that facilities that require the storage of large quantities of hazardous substances will be proposed in the future. It is assumed that any future facilities will be managed in accordance with relevant regulations, including the consideration of the surrounding environment, and that they too will have environmental management plans, health and safety procedures and emergency response plans in place.



- Legend**
- ITA Area – Roadways and Fill Points
 - ITA Area – Outdoor Plant Yards
 - Site Boundary
 - Site Plan

0 25 m 50 m
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Produced by **Datanest.earth**

Title: ITA Area Plan		
Client: ASP Bei Land Co Ltd C/- Inovo Projects		Size: A3
Project: ASP Stage 2 Data Centre	Drawn: SM	Figure No.: 1
Date: 16-01-2026	Checked: LL	
Proj No: 30297.000.001	Scale: 1:1350	Version: 1

- LEGEND:**
- Superlot boundary
 - Footpath
 - Footpath (Flush)
 - Cycleway
 - Lawn
 - Planting
 - Concrete surface
 - Hoggin surface
 - Sand play safety surface
 - 10m stream offset riparian plan
 - Timber boardwalk
 - Site boundary
 - NOR boundary (indicative)
 - Stream centre line
 - 10m stream offset line
 - Stormwater ponds/ raingardens
 - Stream Park timber buildouts
 - Raised verge planters
 - Buildings
 - Lounge bench seats
 - Rocks
 - Timber nature trail play-along-the-way
 - Picnic tables
 - BBQ's
 - Picnic shelter
 - Bench seats

Table A3: Industrial and Trade Activities: Assessment Against Relevant Activity Standards

Standard		Comments
E33.6.1.1	Permitted Activities - Use of land for an industrial or trade activity	
E33.6.1.1(1)	Wastewater and washwater produced by industrial or trade activities must be disposed of on-site via the sanitary sewer, subject to approval from Watercare, or it must be collected, either for recycling or disposal, to a system or facility with all the appropriate authorisations to accept wastewater of that type. For the purposes of this rule, wastewater or washwater also includes: (a) boiler blow down and condensate; (b) all waste liquids generated or collected as part of an industrial or trade activity; (c) cooling tower water excluding vapour; and (d) condensate from air compressors.	Complies No wastewater or washwater will be generated as a result of the industrial and trade activities carried out at the site.
E33.6.1.1(2)	A spill response plan is prepared where any environmentally hazardous substance is handled, used or stored on land at a quantity greater than used for domestic purposes. These plans must meet the requirements of Table E33.9.1 as relevant and be supplied to the Council on request.	Complies A spill response plan is included in the draft Environmental Management Plan (EMP) that has been prepared for the site. A site-specific emergency response plan (ERP) is referenced in the draft EMP and will be prepared prior to operation of the site commencing.
E33.6.1.1(3)	For environmentally hazardous substances in quantities covered by Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, a spill response plan prepared in accordance with those regulations will be considered to comply with Standard E33.6.1.1(2) provided the emergency spill response plan also explicitly addresses matters (vi) to (x) in Table E33.9.1.	Complies The Hazardous Substances (Emergency Management) Regulations 2001 were revoked by regulation 4(1) of the Hazardous Substances (Health and Safety Reform Revocations) Regulations 2017. Notwithstanding the above the draft EMP covers the requirements with respect to spill response.

Standard		Comments
E33.6.1.1(4)	For environmentally hazardous substances not covered by Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, a spill response plan prepared in accordance with Council's factsheet 'Being Prepared for a Spill' will be considered to comply with Standard E33.6.1.1(2).	Complies A draft EMP has been prepared for the site. This draft EMP includes a spill procedure and references the site's ERP.
E33.6.1.1(5)	When the quantity of environmentally hazardous substances stored above the ground exceeds that used for domestic purposes, it must be stored: (a) in a container and in a manner that prevents the entry of rainwater into the container; and (b) within a secondary containment device or within a containment system that is constructed of impervious materials that are resistant to chemical attack from the substances contained therein.	Complies Storage measures for hazardous substances are specified in the draft EMP and comply with the stated requirements.
E33.6.1.1(6)	For environmentally hazardous substances in quantities covered by Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, storage requirements in accordance with those regulations will be considered to comply with Standard E33.6.1.1(5).	Complies The Hazardous Substances (Emergency Management) Regulations 2001 were revoked by regulation 4(1) of the Hazardous Substances (Health and Safety Reform Revocations) Regulations 2017. The management of hazardous substances at a workplace in New Zealand is now governed by: • Health and Safety at Work (Hazardous Substances) Regulations 2017. • Hazardous Substances (Hazardous Property Controls) Notice 2017, EPA Consolidation 30 April 2021. The draft EMP documents the measures that are implemented at the site to meet the requirements of these rules and regulations. Storage measures that comply with the requirements of the Health and Safety at Work (Hazardous Substances) Regulations 2017 are specified in the draft EMP.

Standard		Comments
E33.6.1.1(7)	For environmentally hazardous substances not covered by Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, storage requirements in accordance with council's factsheet 'Above Ground Storage' noting the following bund sizing criteria for secondary stage storage, will be considered to comply with Standard E33.6.1.1(5) where: (a) for tanks the bund has a storage capacity of at least 110 per cent of the capacity of the largest tank taking into account the volume displaced by any equipment and/or materials stored within the bund; and (b) for drums the bund has an effective storage height of at least 100mm, allowing for any sloping ground, and the bund is set back from the drums by a distance equal to half the height of the stacked or stored drums.	Complies Storage measures for hazardous substances are included in the draft EMP and comply with the stated requirements.
E33.6.1.1(8)	All secondary containment devices must be designed, constructed and managed so that uncontaminated rainwater and stormwater runoff is prevented from flowing into the contained area.	Complies Storage measures are specified in the draft EMP. Double skinned tanks are specified for the diesel tanks.
E33.6.1.1(9)	Weekly inspections must be undertaken and recorded to check that environmentally hazardous substances are stored and/or contained appropriately except as follows: (a) National Grid - monthly inspections; (b) electricity substations – annual inspections; and (c) unmanned depots or facilities - monthly inspections.	Complies The draft EMP states that routine inspections of hazardous substance areas will be carried out weekly. A template record form is included in the draft EMP.
E33.6.1.1(10)	A regular reconciliation process must be undertaken for any environmentally hazardous substance stored in an underground storage tank that will identify any leakage or unaccounted losses of material from the tank.	Complies A regular reconciliation process will be undertaken on the five underground diesel storage tanks, as specified in the EMP

Standard		Comments
E33.6.1.1(11)	Any waste compactors and bins must be located and operated in such a manner that prevents leachate or waste leaking from them.	Complies There will be no waste compactors on site. Waste storage areas will be managed in accordance with good practice. The location and management of waste storage areas are detailed in the draft EMP.
E33.6.1.1(12)	All on-site vehicle re-fuelling areas must be segregated and housed under cover, and/or surrounded by a drain that drains to an appropriately designed and sized stormwater treatment and spill containment device fitted with a shut-off valve.	Complies No refuelling of vehicles will be carried out on-site.
E33.6.1.1(13)	Operations must be undertaken in accordance with an environmental management plan specific to the industrial or trade activity. This plan must be prepared in accordance with Table E33.9.2, and supplied to Council upon request.	Complies A draft, site-specific EMP has been prepared for the site. This document will be finalised prior to the site becoming operational and is a living document which will be updated as necessary during the operation of the facility.
E33.6.1.1(14)	Where the industrial or trade activity is located within a sewage treatment facility then the wastewater generated on site by that industrial or trade activity may be disposed of within that facility.	NA The site is not a sewage treatment facility.
E33.6.1.2	Permitted Activities – Discharge from an industrial or trade activity area	
E33.6.1.2(1)	The discharges of contaminants from an industrial or trade activity area must result in less than minor adverse environmental effects on the receiving environment without the need for stormwater treatment (with the exception of on-site vehicle refuelling areas requiring stormwater treatment and spill contaminant devices under the permitted activity Standard E33.6.1.1(12)).	Does not comply Runoff from the industrial trade activity areas on site (the roadways plant yards and area where the tankers park to fill the underground diesel storage tanks) requires stormwater treatment. As such the permitted activity criterion is not complied with and a controlled activity consent will be required for the discharge of contaminants from an industrial or trade activity area.

Standard		Comments
E33.6.2.2	Controlled Activities - Discharge from an industrial or trade activity area	
E33.6.2.2(1)	The activity must comply with the relevant 'Use of land for an industrial or trade activity' in Standard E33.6.1.1.	Complies. See assessment above.
E33.6.2.2(2)	Treatment devices to treat the discharge of contaminants from the industrial or trade activity area are installed and operated to avoid, remedy or mitigate adverse environmental effects.	Complies Diesel fuel is stored on-site to power emergency systems (generators and the fire pump). The diesel is stored in five underground tanks in the southern part of the site. The area used to park tankers whilst the underground fuel storage tanks are filled will be segregated from the remainder of the site by kerbs and rollover bunds. Stormwater generated in this area will be discharged to an appropriately sized SPEL Purceptor Class 1 stormwater treatment separator (or equivalent) before being discharged to the on-site piped stormwater system. Prior to commencing fuel transfer to the underground tanks, the fuel delivery contractor will close a valve on the stormwater system. Closing the valve will trap significant leaks / spills on-site, preventing their discharge to the on-site piped stormwater system and facilitating removal. Once the transfer of fuel is complete and the transfer lines have been disconnected, the valve will be re-opened (assuming no significant leak or spill has occurred). The on-site piped stormwater system conveys the stormwater to the northern boundary where it is discharged into a concrete channel which flows to the west along the northern site boundary. The stormwater is treated off-site as a part of the Surf Park Stormwater Master Plan.