Technical Specialist Memo – Hazardous Substances

To:	Warwick Pascoe – Principal Project Lead of Auckland Council; Brooke Dales from DCS on behalf of Auckland Council
From:	Sharon Tang, Senior Specialist, Specialist Unit, Planning and Resource Consents, Auckland Council
Qualifications & Relevant Experience:	I hold the following qualifications: Bachelor of Medicine, Postgraduate Diploma in Environmental Health Sciences, and Master of Public Health. I have 36 years' experience in the fields of environmental science and public health, with particular expertise in contaminated land, hazardous substances, water and wastewater quality, and health risk assessment. I am a full member of Australasian Land and Groundwater Association (ALGA). I have prepared technical assessments for resource consent applications, plan changes, notices of requirement for designation, and fast-track applications, and have appeared as an expert witness before consent authorities on multiple occasions.
Preparation in Accordance with the Code of Conduct:	I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses (**Code**), and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.
Date:	12 October 2026

1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name:	Auckland Surf Park (Stage 2)
Fast-Track application number:	FTAA-2606-1246 (EPA reference) and BUN60467823 /LUC60467824 (Auckland Council reference)
Site address:	1320 & 1350 Dairy Flat Highway, 89 & 105 Lascelles Drive, 237 & 253 Postman Road, Dairy Flat

2.0 Documents Reviewed

I have reviewed the following documents in the context of Chapter E31 (Hazardous Substances) of the Auckland Unitary Plan (AUP):

- *Auckland Surf Park Community - Stage 2: 1320 and 1350 Dairy Flat Highway, 89 and 105 Lascelles Drive, 237 and 253 Postman Road, Dairy Flat - Hyperscale Artificial Intelligence Data Centre, Integrated Residential Development, Town Centre, Live – Work Development, Associated Activities, Subdivision and Variation to Stage 1 Decision BUN60429155 - Assessment of Environmental Effects and Statutory Analysis (B&A, 8 June 2026) (AEE)*

- *Appendix 46: Hazardous Substances and Industrial and Trade Activity Assessment – 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 (ENGEO, 23 January 2026) (HSITA report)*
- *Appendix 47: Draft Environmental Management Plan - ASP Stage 2 Data Centre, Dairy Flat, Auckland (ENGEO, 20/01/2026) (draft EMP)*
- *Appendix 68: Auckland Surf Park Community Stage 1 and Stage 2 Comparison Table and Drawings*
- *Appendix 26: Civil Drawings Part 1 &2*
- *Appendix 27: Staged Scheme Plan*
- *Section 67 Matters - ASPC-S2 (B&A, 3/09/2026) regarding Item 5 Hazardous Substances*
- *Appendix 48 - Auckland Surf Park Community Water and Wastewater Treatment Plant Design Report*
- *Appendix 51: Environmental Management Plan -Surf Park Wastewater Treatment Plant (Apex Water, 17 March 2025) (EMP_WWTP)*
- *Appendix 52: Emergency Response Plan - Surf Park Wastewater Treatment Plant (Apex Water, 22 January 2026) (ERP_WWTP)*
- *Appendix 20: Live /Work Precinct – Auckland Surf Park Community Masterplan dated 5 June 2026*
- *Appendix 61- Auckland Surf Park Community Stage 2 - Draft Resource Consent Conditions dated 5 June 2026*
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3.0 Specialist Assessment

Proposal

3.1 The Auckland Surf Park Community (ASPC) Stage 2 proposal relates to the construction and operation of an artificial intelligence data centre and integrated residential development comprising approximately 500 residential units, including visitor accommodation, a village centre (including a childcare centre), work-live precinct, three residential neighborhoods, subdivision and associated activities over 54 hectares of land at 1320 & 1350 Dairy Flat Highway, 89 & 105 Lascelles Drive, 237 & 253 Postman Road, Dairy Flat (the site). The proposal also includes a variation to the previous decision for Auckland Surf Park Community (ASPC) Stage 1 approval, which was granted under the COVID-19 Fast-track Consenting Act 2020 on 25 June 2024.

3.2 The proposed Data Centre includes the storage of large quantities of diesel, coolant, engine oil, refrigerant gas and smaller quantities of other substances regulated under Chapter E31 of the AUP. These substances are required to support the operation of 16 emergency back-up generators and 16 chillers serving the Data Centre. Up to 9,500,000 litres (L) of diesel may be present on site at any time, stored in 21 separate tanks. The hazardous substances proposed to be stored on the Site are summarised below:

- 16 x 25,000 L above- ground, double- skinned diesel tanks
- 5 x 110,000 L underground, double- skinned diesel tanks
- 1 x 600 L diesel tank within fire pump room
- 1 x 5000 L waste diesel tank
- 16 x 488 L coolant within the generators
- 16 x 466L engine oil within the generators
- 16 x 86 kg refrigerant within the chillers

3.3 To service the Auckland Surf Park Community (ASPC), a new Water Treatment Plant (WTP) and a new Wastewater Treatment Plant (WWTP) are proposed within the south end of the wider site development. The operation of these facilities requires the storage and handling of various treatment chemicals associated with the processing systems. These chemicals are supplied both as packaged products (typically in containers ranging from 20 to 1,000L) and in bulk quantities delivered by tanker vehicles.

Bulk storage tanks with dedicated secondary containment bunding:

- Acetic acid (49%): 10m^3
- Sodium hydroxide (30%): 10m^3
- Sodium hypochlorite (1%): 10m^3
- Suphuric Acid (20%): 10m^3

Packaged chemical storage with secondary containment bunding

- Aluminum sulphate (28%): 2 x 1m^3
- Citric acid (49%): 2 x 1m^3
- Diesel: 0.4m^3 for emergency generator operation

Waste activated sludge (WAS)

- WAS: in waste bin or skip for disposal offsite.

Site descriptions and the surrounding environment relevant to this review

3.4 The proposed Data Centre (2.33 ha) is located adjacent to the ASPC Stage 1 Data Centre, which was granted in 2024 (Council's reference No. BUN60429155), within the eastern portion of the site. The nearest residential lifestyle dwelling is located approximately 75m from the proposed Data Centre. NorthShore Airport is located approximately 140m east of proposed Data Centre, on the opposite side of Postman Road, and is zoned Special Purpose.

3.5 The proposed Water Treatment Plant and Wastewater Treatment Plant will be co-located within a dedicated treatment compound at the southern end of the wider ASPC development site. The treatment compound is situated directly south of the live/work units and approximately over 300m southwest of the stage 2 Data Centre. The nearest existing dwelling located on land not owned by the developer is approximately 45m to the south of the proposed treatment compound boundary, with other existing dwellings are located approximately within 180m from the compound.

3.6 A groundwater bore used for potable water supply is located to the north of the proposed treatment plant site. The bore extends to a depth of more than 600m below ground level and is separated from the proposed treatment facilities by a significant vertical distance within the groundwater system.

3.7 The wider development site (54.0875 ha), and the surrounding land are zoned Future Urban Zone (FUZ) under the AUP. The surrounding land is predominantly rural or lifestyle in character.

3.8 Auckland Council GeoMaps indicate that the proposed Stage 2 Data Centre, WTP and WWTP are not located within a 1% Annual Exceedance Probability (AEP) floodplain.

Hazardous substance assessment

3.9 The applicant provides separate documents to assess the risk associated with hazardous substances relating to the Stage 2 Data Centre and the Treatment Plants.

Data Centre

3.10 The Hazardous Substances and Industrial and Trade Activity Assessment (HSITA) report prepared for the Stage 2 Data Centre concludes that overall discretionary activity consent is required under Rule E31.4.3 (A7) for the proposed storage, use and disposal of hazardous substances relevant to the Stage 2 Data Centre. This is because the quantities of hazardous substances proposed to be stored on the site, including substances that are potentially explosive, flammable, toxic to humans and ecotoxic, exceed the restricted discretionary thresholds for the Future Urban Zone under the following rules:

- Rule E31.4.3 (A87): non-hazardous gases (1.454 t compared with a threshold of 0.1 t)
- Rule E31.4.3 (A91): Class 3.1D flammable liquids (812.26 t compared with a threshold of 1 t)
- Rule E31.4.3 (A101): Class 6.1C and 6.3-6.9 toxic substances (820.746 t compared with a threshold of 0.3 t)
- Rule E31.4.3 (A106): Class 9.1B, 9.2B, 9.3B and 9.4B ecotoxic substances (812.26 t compared with a threshold of 10 t)

The quantities of Class 2.1 flammable gas and aerosols, Class 3.1A and 3.1B flammable liquids, and substances with a high biochemical oxygen demand (BOD5) (> 10,000mg/l) remain within the permitted thresholds under Rules E31.4.3 (A86), (A89), (A108) and (A110).

3.11 The HSITA report assesses and confirms that the proposal complies with the standards in E31.6 relating to site design, drainage systems, spill containment systems, and waste management. The report concludes that the facility is consistent with the objectives and policies for hazardous substances in Section E31 of the AUP, based on a risk assessment and supported by a draft Environmental Management Plan (EMP) and an Emergency Response Plan (ERP).

3.12 The hazards identified for the proposed Stage 2 Data Centre include:

- Leakages of hazardous substances (including lubricating oil and diesel) from tanks, plant, and equipment;
- Leakage from containers stored within the facility as a result of container damage; and
- Spillages of diesel during the refueling of underground diesel tanks.

3.13 The site layout has been designed, as far as practical, to mitigate potential effects on watercourses, the public, neighboring properties, and the facility from vehicle movements. Mitigation measures include physical separations through roadways, setbacks from site boundaries and high traffic roads, a one-way transportation route around the perimeter of the site and 3m-high fences or walls. In addition, the structural controls self-contained storage tanks, sufficient bunding area for storage drums, and an appropriately sized SPEL Puraceptor Class 1 stormwater treatment separator, which also serve as a secondary containment device when spill occurs during tank delivery and refueling process.

3.14 The draft Environmental Management Plan (EMP) prepared for the Stage 2 Data Centre outlines roles and responsibilities and includes a Hazard and Risk Analysis, together with the corresponding structural and operational measures to be implemented on the site to minimise the risk of incidents. These measures include alarms within the Building Management System (BMS) and/or Electronic Power Management System (EPMS) to identify operational or mechanical failures.

3.15 In addition to the proposed structural controls, the draft EMP includes the following key operational control measures:

- Designated storage areas to segregate impactable hazardous substances;
- A fully fenced facility with security personnel present at all times;
- Spill response and emergency response procedures;
- Warning signs and appropriately located spill kits;
- Use of trained fuel delivery contractors and implementation of approved fuel delivery procedures;
- Inspection, maintenance, site audit procedures;
- Waste management and disposal procedures, including for waste diesel;
- A stormwater operation and maintenance plan;
- Staff training program and record keeping;
- Maintenance of a hazardous substance inventory and associated safety data sheets;

- Obtaining and maintaining appropriate stationary container system compliance certificates; and
- Requirements for regular review and update of the EMP.

3.16 The HSITA report considers that there is no off-site hazardous substance storage or use activities of a scale that would give rise to significant cumulative effects. This is because hazardous substances associated with the surrounding pastoral land use or lifestyle residential activities, including agrichemicals and hydrocarbons, are unlikely to be stored in large quantities on neighbouring properties. The report concludes that, following the implementation of the proposed structural and operational control measures, the risks associated with the hazardous substances present on the site on people, property and the environment will be low.

Treatment Plants (WTP and WWTP)

3.17 that the proposed storage, use, and disposal of hazardous substances associated with the operation of the WTP and WWTP require resource consent as a **Discretionary Activity** under Rule E31.4.3(A7) of the Auckland Unitary Plan (AUP). This is because the quantities of hazardous substances proposed to be stored on-site, including substances classified as corrosive and toxic to human health, exceed the Restricted Discretionary Activity thresholds specified under Rules E31.4.3(A101) and E31.4.3(A102) for the Future Urban Zone.

3.18 The quantities of ecotoxic substances (Class 9) and substances with a high biochemical oxygen demand (BOD5) (> 10,000mg/l) are reported to remain below the applicable permitted thresholds under Rules E31.4.3 (A106), (A107), (A108), (A109) and (A110).

3.19 The *Water and Wastewater Treatment Plant Design Report* includes a qualitative risk assessment of the proposed operation and identifies the following hazards:
- Leakages from bulk chemical storage tanks, including tank failure;
- Spillage during bulk chemical delivery and tank filling operation; and
- Spillage during the handling and transfer of packaged chemicals.

3.20 Based on the *Water and Wastewater Treatment Plant Design Report* and the draft Environmental Management Plan (EMP), the proposed physical controls include:

- Appropriate separation distances between hazardous substance storage areas, sensitive activities and site boundaries;
- Bulk storage tanks incorporating secondary containment, tank level alarms and venting systems;
- Storage of packaged chemicals within designated bunded chemical storage areas;
- A bounded chemical delivery bay incorporating secondary containment and isolated drainage systems;
- Dedicated filling points for each bulk chemical storage tank;
- Digital tank level monitoring systems displaying current storage volumes and safe filling capacities;
- Dedicated overfill alarms, including flashing warning lights and audible sirens, for each bulk chemical storage tank; and

- Segregation of incompatible chemicals

3.21 A draft Environmental Management Plan (EMP) and Emergency Response Plant (ERP) have been prepared only for the proposed Wastewater Treatment Plant (WWTP). The EMP outlines the procedures for managing activities involving storage, handling and delivery of both bulk and packaged chemicals. It also identifies the structural and administrative controls to be implemented on the site to minimise the risk of incidents and to mitigate their potential consequences should an incident occur.

The key operational controls proposed within the EMP include:

- Standard operating procedures
- Staff training
- Approved chemical handlers
- Engagement of certified chemical suppliers and authorised transport operators
- Supervision of bulk chemical delivery, filling, and transfer operation
- Appropriate spill response plan and kits
- Routine monitoring, inspection, and maintenance system
- Regular auditing and review

4.0 Section 67 Information Gap

I have identified the following information gaps:

Description of Missing Information for Stage 2 Data Centre

Proposed Stage 5A vacant lot subdivision

4.1 The application does not assess the potential effects of the proposed Stage 2 Data Centre on the proposed Stage 5A vacant lot subdivision, which is located immediately adjacent to the Stage 2 Data Centre.

4.2 *Section 67 Matters - ASPC-S2 (B&A, 3/09/2026)* (Item 5 Hazardous Substances) confirms that the details of land development within the Stage 5A vacant lot have not yet been determined. It is acknowledged that any future development or land use within the Stage 5A lots would be subject to the relevant resource consent requirements applicable at that time of development. Any potential effects of proposed Stage 2 Data Centre on future land development within the Stage 5A lots can be considered and assessed as part of the relevant future consent process.

Cumulative effects

4.3 The risk assessment in the HSITA does not adequately assess potential cumulative effects, as it does not consider the direct adjoining ARCP Stage 1 Data Centre. The application documents do not confirm whether the Stage 1 and Stage 2 Data Centres will operate under a single management system. If both facilities are to be manged under the same system, the Stage 2 Data Centre could be regarded as an extension of the consented Stage 1 Data Centre, and the risks associated with both facilities should be assessed collectively within

the risk assessment and management framework. Alternatively, if the two facilities are to be operated independently, the potential cumulative effects arising from the adjacent ARCP Stage 1 Data Centre should be assessed and appropriately addressed in both the HSITA and the EMP. In either case, the assessment should include consideration of the flood hazard risk affecting a portion of the Stage 1 Data Centre and the potential implications of this hazard for cumulative risk across the Stage 1 and Stage 2 Data Centre developments.

4.4 *Section 67 Matters - ASPC-S2 (B&A, 3/09/2026)* (Item 5 Hazardous Substances) confirms that Data Centre 2 is proposed on a separate title and will be operated under a separate management system from the adjoint Data Centre 1. However, the response does not provide any further assessment or discussion of the potential cumulative effects associated with the operation of the two adjacent data centres. Accordingly, this information gap remains outstanding.

Description of Missing Information for Treatment Plants (WTP and WWTP)

4.1 The submitted Environmental Management Plan (EMP) and Emergency Response Plant (ERP) are currently in draft form and have been prepared only for the proposed Wastewater Treatment Plant (WWTP). The documents do not address storage and handling of hazardous substances associated with the proposed Water Treatment Plant (WTP), including sodium hypochlorite and sulphuric acid. Consequently, the potential cumulative effects arising from the combined operation of the WTP and WWTP have not been fully assessed. In addition, key information within the EMP remains incomplete. For example, the "*Hazard identification*" (Table 2.2) and "*Risk register*" (Table 2.6) have not been fully developed to identify and assess all relevant hazardous substance risks. Similarly, Section 3 (*Summary of Hazardous Scenarios*) of the ERP focuses primarily on incidents involving injury to onsite personnels and does not adequately consider broader hazardous substance scenarios, including events that could adversely affect neighboring sensitive activities, the surrounding environment, or critical infrastructure, such as the drinking water supply reservoir.

4.2 While the *Water and Wastewater Treatment Plant Design Report* includes a qualitative risk assessment and proposes risk management measures (refer Table 28 and 32), the assessment does not appear to consider the cumulative risks associated with the co-location of the WTP and WWTP. In particular, the assessment does not adequately evaluate the combined effects of hazardous substance storage and handling activities on the Live/Work units located immediately north of the treatment compound. Furthermore, the colocation of WTP and WWTP, together with the presence of sensitive onsite water supply infrastructure, including the reservoir, raises concerns regarding the potential contamination of the potable water supply resulting from chemical spills, loss-of- containment events, inappropriate chemical delivery or handling practices, fire, or other emergency incidents. The application documents, including the EMP and ERP, do not specifically identify these potential hazard pathways, nor do they provide a comprehensive assessment of the associated risks and proposed mitigation measures. Accordingly, further assessment is required to demonstrate that the potential adverse effects on sensitive receivers and critical water supply infrastructure have been adequately considered and appropriately managed.

Why is this Information Essential?

4.3 An assessment of the potential cumulative effects arising from both on-site and off-site hazardous facilities is essential that such effects are appropriately identified and considered in the site design, operation procedures, and emergency management planning.

4.4 The quantities of hazardous substances proposed to be stored and used across the wider site significantly exceed the permitted thresholds for the Future Urban Zone. In the absence of the information identified above, the potential cumulative effects associated with hazardous substance activities on and adjacent to the site may be underestimated, thereby limiting the opportunity to identify and implement appropriate site design, mitigation and management measures. The additional information required is considered necessary to enable a robust assessment of actual and potential effects and to support an informed decision by the independent expert consenting panel.

5.0 Recommendation

5.1 Subject to the information gaps identified in Section 4 being satisfactorily addressed, I support the application based on the information currently available.

6.0 Proposed Conditions

Data Centre 2 Precinct

6.1 I support the following proposed conditions relevant to hazardous substance:

- Proposed condition 276 and 277: Requirements for secondary containment for onsite fuel storage and the detailed design of the treatment system;
- Proposed conditions 283 and 284: Requirements for submitting a final Environmental Management Plan (EMP) and maintaining a current copy of the EMP onsite;
- Proposed condition 285 and 286: Requirements for the developing and implementation of a Spill Response Plan and the provision and maintenance of suitable spill kits onsite;
- Proposed conditions 287 and 288: Requirements for review and updating of the EMP and annual reporting; and
- Proposed condition 289: Requirement relating to fuel deliveries

6.2 I consider that an additional condition is required to ensure that the proposed SPEL Puraceptor Class 1 stormwater treatment separator is installed within the identified high-risk area:

Condition xxx: The refueling area associated with the underground diesel tanks must be bunded. Any discharge from this area must be directed to a SPEL Puraceptor Class 1 stormwater treatment separator prior to entering the stormwater drainage system.

Wastewater -Water Treatment Precinct and Disposal Fields

6.3 I recommend that the proposed Condition 313 be amended to require the Environmental Management Plan (EMP) to address both the proposed Water Treatment Plan (WTP) and the Wastewater Treatment Plant (WWTP). To reflect this broader scope, the document should be renamed the WTP and WWTP Environmental Management Plan (EMP).

In addition to the matters identified in associated Advice Note, I recommend that the EMP includes a comprehensive risk register as part of the condition, including the following information.

- Identification of potential hazards associated with the storage, handling, transfer, and use of hazardous substances across both treatment plants;
- Assessment of the risk ranking;
- Details of the proposed engineering, physical, and operational controls to avoid, remedy, or mitigate the identified risks;
- The residual risk ranking following implementation of the proposed controls;
- Consideration of risks to sensitive receptors located both within and surrounding the treatment plant compound, including potable water supply infrastructure, the proposed live/work units, and other nearby sensitive activities.

6.4 I recommend that the proposed condition 324 be amended as follow:

"*Prior to the commencement of the operation of the Water Treatment Plant (WTP) and Wastewater Treatment Plant (WWTP), a final Emergency Response Plan (ERP) must be submitted to Council for certification. The objective of the ERP is to identify and mange risks to on-site personnels, sensitive infrastructure (including potable water supply infrastructure), neighbouring sensitive activities, and the wider environment in the event of an emergency. The ERP must specifically consider risks associated with the storage, handling, transfer, and use of hazardous substances and must address potential effects on sensitive receivers located within and adjacent to the treatment plant compound, including the proposed Live/Work Units.*

The final ERP must be prepared in general accordance with the application documents referenced in Condition (1).

The ERP must also include notification procedures to immediately advise the Auckland Surf Park Community Residents Society by email, phone or text of any accidental overflows, emergency discharges and/or breaches of the discharge consent conditions."

6.5 Subject to the amendments recommended above, I support the proposed Conditions 338 (except for rename of the EMP) to 342, which relate to management of hazardous substance during the site operation.