



Prestons Waste Treatment Facility



Amendment Report

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Acronyms and Abbreviations

Acronym	Definition
ADG Code	Australian Dangerous Goods Code (NTC, 2022)
AEP	Annual Exceedance Probability
AQIA	Air Quality Impact Assessment
Arcadis	Arcadis Australia Pty Limited
ASS	Acid Sulfate Soil
ATPIA	Addendum Traffic Impact Assessment
CEMP	Construction Environmental Management Plan
Controlled waste NEPM	<i>National Environment Protection (Movement of Controlled Waste between States and Territories) Measure</i>
Council	Liverpool City Council
DA	Development Application
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
e.g.	for example
EIS	Environmental Impact Assessment
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulations	<i>Environmental Planning and Assessment Regulations 2021</i>
EPA	NSW Environmental Protection Authority
EPL	Environmental Protection License
FRNSW	Fire and Rescue NSW
GAC	Granular activated carbon
Hi-Quality	Hi-Quality Waste Treatment Services Pty Ltd (the Applicant)
HVAC	Heating, ventilation and air conditioning
IBC tank	Intermediate Bulk Container Tank
IPC	Independent Planning Commission
Km	Kilometres
L/s	litres per second
LGA	Liverpool Local Government Area
Liverpool LEP 2008	<i>Liverpool Local Environmental Plan 2008</i>
m	Metre
m ²	square metres
m ³	cubic meter

Acronym	Definition
NSW	New South Wales
NVIA	Noise and Vibration Impact Assessment
Draft OAQMP	Draft Operational Air Quality Management Plan
Draft OEMP	Draft Operational Environmental Management Plan
Draft OWMP	Draft Operational Waste Management Plan
PASS	Potential Acid Sulfate Soil
PCB	Polychlorinated Biphenyls
PFAS	Perfluoroalkyl and Polyfluoroalkyl Substances
Planning Systems SEPP	<i>State Environmental Planning Policy (Planning Systems) 2021</i>
PM	Particulate Matter
PMF	Probable Maximum Flood
RtS	Response to submission
RSW	Restricted solid waste
SEARs	Secretary's Environmental Assessment Requirements
SIAs	Specific Immobilisation Approvals
SSD	State Significant Development
SSD 9346594	State Significant Development application
Submissions Report	Response to Submissions Report
The Applicant	Hi-Quality Waste Treatment Services Pty Ltd
The Facility	The proposed building of which waste is received, treated, processed and disposed of at Prestons Waste Transfer Facility
The Proposal	Construction and operation of a Waste Treatment Facility for the receipt, treatment and storage of contaminated soils, water and sludges (as referred to in Appendix B Amended Proposal Description)
The Site	9-13 Whyalla Place, Prestons NSW
This Report	Amendment Report
Tpa	tonnes per annum
VCZ	Volcanic clinoptilolite zeolite
VOC	Volatile Organic Compound
WWTP	Wastewater Treatment Plant

Executive Summary

Hi-Quality Waste Treatment Services Pty Ltd seek to construct and operate a Waste Treatment Facility (the Proposal). The Proposal aims to provide a strategic waste treatment service that would play a key role in the delivery of construction and development within Western Sydney and the wider region.

The Proposal is State Significant Development (SSD) and Hi-Quality has prepared an Environmental Impact Statement (EIS) which was on public display between 19 November 2021 and 16 December 2021. Following the EIS exhibition, a Response to Submission (RtS) Report (Arcadis, 2023) was prepared to provide a summary and analysis of public submissions and a response to requests for further information and clarification on the assessment approach received from the Department of Planning, Housing and Infrastructure (DPHI, formally DPE) and other agencies during the EIS exhibition. The RtS Report was submitted to DPHI on 15 May 2023.

This Amendment Report has been developed to assess several minor amendments to the Proposal as exhibited in the EIS and described in the RtS Report. The amendments have arisen through Hi-Quality's stakeholder consultation and ongoing design developments.

The proposed amendments include:

- Changes to Proposal operations:
 - Removal of chemical oxidation as a treatment process onsite for soils and wastewater
 - Reduction in the proposed throughput of the Facility from 270,000 tpa to 210,500 tpa
 - Updates to the bay allocations and storage limits at any one time for each of the waste streams
 - Reduction in the number of waste codes to be accepted onsite
 - Reduction in the total storage volume of recovered recyclable material to be stored onsite from 100m³ to 50m³
 - Reduction in the number of office staff from 30 people to 21 people.
- Design refinements:
 - The arrangement of the bays and pits within the Facility have been updated to maximise the potential capacity of the Facility.
 - Updates to the water management and fire services infrastructure
 - The number of car parking spaces has been reduced from 40 (including one accessible parking space) to 36 (including one accessible parking space) to reflect the reduction in the number of office staff
- Clarifications in response to agency comments:
 - No Per- and polyfluoroalkyl substances (PFAS) contaminated soil will be accepted onsite above the Restricted Solid Waste (RSW) criteria
 - No Polychlorinated biphenyl (PCB) contaminated waste will be accepted onsite above the scheduled chemical waste criteria
 - Specific Immobilisation Approvals (SIAs) sought for the Site would reflect existing immobilisation technologies used in Australia and globally that have demonstrated scientific basis for immobilisation.
 - A proportion of the wastewater and packaged waste accepted at the Facility will meet the classification of Dangerous Goods Class 8, Packing Groups II and III under the Australian Dangerous Goods Code (NTC, 2022). The Facility will only accept wastewater and packaged waste with this classification in volumes of less than 25 tonnes and 50 tonnes, for Class II and III respectively. Once accepted onsite, the Class 8 Dangerous Goods will either be delivered directly to a designated tank within the wastewater treatment plant or a designated bay within the packaged waste storage area. By-products of the

treatment process would either undergo further treatment or would be disposed of at an appropriately licenced landfill, as described in Section 6.4.3 of the Draft Operational Waste Management Plan (OWMP). Additionally, two of the reagents to be used within the Wastewater Treatment Plant (WWTP) are also classified as Dangerous Goods Class 8 Packing Group II. These reagents would be stored separately above the Probable Maximum Flood (PMF) level.

- Further clarification has been provided around the management of spent treatment materials from the WWTP, including granular activated carbon (GAC) and volcanic clinoptilolite zeolite (VCZ)
- Hi-Quality have identified contingency measures in the event that a Trade Waste Agreement cannot be obtained (either for part or all of the proposed discharge volumes). In the event that not all water can be discharged to sewer, treated liquid waste would be collected within tankers and removed offsite for disposal.
- Subsequent documentation:
 - In response to NSW Environmental Protection Authority (EPA) queries a series of draft operational management plans have been prepared which outline how the Facility would operate and the relevant environmental controls which would be in place to manage potential risks.
 - A Hazard Risk Assessment risk assessment has been completed which considered 106 potential risks associated with the Facility's operation. Environmental controls have been embedded into the design and management procedures for the Facility, in order to minimise the impact of these potential risks. No High risks were identified as part of the risk assessment.

The proposed amendments do not change the type or significance of impacts assessed in the EIS and refined in the RtS Report. There are no changes to the construction or ongoing operational impacts assessed in the EIS associated with the amendments.

Revised management measures for the Proposal have been prepared and are included as Appendix C.

1 Introduction

Hi-Quality Waste Treatment Services Pty Ltd (Hi-Quality) (the Applicant) are seeking approval under Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to construct and operate a Waste Treatment Facility (Facility) for the receipt, treatment and storage of contaminated soils, water and sludges at their Site at 9-13 Whyalla Place, Prestons NSW (the Site).

1.1 Approval process to date

The following steps have been carried out as part of the approval process for the Proposal:

- Preparation of a Scoping Report (Golder, 2020) for submission to the Department of Planning, Housing and Infrastructure (DPHI)
- DPHI issued Secretary's Environmental Assessment Requirements (SEARs) on 14 October 2020
- Participation in ongoing community and stakeholder engagement
- An Environmental Impact Statement (EIS) was prepared to support the Proposal in accordance with the requirements of Part 4 of the EP&A Act. The EIS addressed the SEARs (Golder, 2021). The EIS was placed on public exhibition between 19 November 2021 and 16 December 2021
- Following the EIS exhibition, a Response to Submission (RtS) Report (Arcadis, 2023) was prepared to provide a summary and analysis of public submissions and a response to requests for further information and clarification on the assessment approach received from DPHI and other agencies during the EIS exhibition. The RtS Report was submitted to DPHI on 15 May 2023
- Following submission of the RtS Report, several agencies and DPHI have sought further clarification on the Proposal.
- Preparation of this Amendment Report to outline changes made in response to clarification raised during the RtS process (this Report).

This Amendment Report is being submitted to address comments received from Stakeholders as part of, and following, the RtS phase of the Proposal. An Amended Proposal description (Appendix B), Draft Operational Environmental Management Plan (OEMP – Appendix F), Draft Operational Air Quality Management Plan (OAQMP – Appendix G), Draft Operational Waste Management Plan (Appendix H), Draft Operational Traffic Management Plan (OTMP – Appendix I), a Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) and a Hazard Identification Report (Appendix L) have been prepared to support this Amendment Report.

The Amended Proposal Description provided in this Amendment Report supersedes the Updated Proposal Description provided in the RtS Report and the Proposal as described in the EIS. The findings of the impact assessments associated with the Proposal as presented in the EIS and clarified in the RtS Report remain applicable unless stipulated otherwise in this Report. A summary of the relevant up to date documentation is provided in the Document Status Table (Appendix D).

1.2 Overview of the Proposal

Since the timing of the RtS, several updates have been made to the Proposal. As a result, an Amended Proposal Description has been drafted (Appendix B). In summary, the Amended Proposal would accept the following waste types:

- Packaged waste
- Acid sulfate soil (ASS) and potential acid sulfate soil (PASS)
- Contaminated liquid and solid wastes.

Treatment methodologies for wastes include:

- Physical screening
- Chemical separation
- Bioremediation
- Immobilisation.

The Applicant is proposing to undertake Site upgrade works to optimise the existing Site to allow the processing and treatment of the waste streams listed above, with a throughput capacity of up to 210,500 tonnes per annum (tpa). The Site upgrade works would include installation of weighbridges, extension of the existing building, excavation of storage pits, construction of internal material storage bunkers, and installation of plant.

The Applicant proposes to construct and operate the works over two stages:

Stage 1:

- **Construction:** Construction works including:
 - Extension of the warehouse building
 - Installation of weighbridges
 - Internal fit out of the warehouse building, including installation of push walls and material bays
 - Installation of heating, ventilation and air conditioning (HVAC) and firefighting systems
 - Reconfiguration of the office and amenities block to add staff decontamination facilities, laboratory and office spaces.

Stage 1 construction would occur over approximately nine months.

- **Operation:** Stage 1 operations would include:
 - Storage, classification and transfer of contaminated soil, including ASS/PASS
 - Storage, classification and transfer of packaged waste in intact containers
 - Shredding of non-contaminated, inert packaged waste
 - Treatment of contaminated soil by bioremediation
 - Treatment of ASS
 - Treatment of contaminated soil in accordance with both general and specific immobilisation approvals (SIAs). Soil immobilisation may be undertaken using a mobile high shear mixer, at various locations within the building. Soil immobilisation treatment procedures are outlined in the draft Operational Waste Management Plan (OWMP).

Stage 2:

- **Construction:** Final construction works would be undertaken during Stage 2 and would include Internal fit out of the building areas that would accommodate the Stage 2 operations including installation of wastewater treatment plant (WWTP) equipment including tanks, silos, filters, pumping and dosing systems. Stage 2 construction would occur over approximately four months.

- **Operation:** Stage 2 operations would include:
 - All of the activities carried out during Stage 1
 - Storage, classification, transfer and treatment of contaminated liquids and sludges
 - Operation of the WWTP.

It is expected the Facility would operate as Stage 1 for a period of up to two years before construction and operation of Stage 2.

1.3 Overview of proposed amendments

Following the preparation of the RtS Report, a number of amendments have been made to the Proposal and an Amended Proposal Description has been prepared (Appendix B). Updated and Consolidated Plans have been prepared and are provided in Appendix E. A detailed description of Amendments made to the Proposal is provided in Chapter 5. A Conceptual layout of the Amended Proposal is provided in Figure 1-1. In summary the Amended Proposal Description (Appendix B) includes:

- **Changes to Proposal operations:** due to progression of design and in response to stakeholder feedback, the following aspects associated with the Proposal operations have been updated:
 - Chemical oxidation has been excluded from the Proposal as a treatment process onsite for soils and wastewater. The bays originally allocated to chemical oxidation have been reallocated to immobilisation and ASS
 - The proposed annual throughput of the Facility has been reduced from 270,000 tpa to 210,500 tpa. Additionally, the onsite storage limits for each of the waste streams at any one time have also been reduced
 - Bay sizing and waste type allocations have been updated. There would be a total of 32 bays and / or pits within the facility. Each of the soil bays measure five metres by five metres, segregated by concrete push walls which measure six metres in height. The storage volume for each of the bays is dependent on the characteristics of each individual soil batch (depending on the level of cohesiveness of the soil). Based on the dimensions of the bay it has been estimated that on average 60 cubic metres (m³) of soil material could be contained within each of the bays. The sludge and drill mud pits have been calculated to have a storage capacity of approximately 58 m³ of material based on the slope of the pit measuring 11 degrees
 - The number of waste codes to be accepted onsite has been reduced in response to stakeholder comments and review of the market (refer Annexure A to the Amended Proposal Description)
 - Reduction in the total storage volume of recovered recyclable material to be stored onsite from 100 m³ to 50 m³.
 - Hi-Quality has recently reviewed the number of staff likely to work in the office facilities within the Proposal and have determined that the number of office staff would be limited to 21 people at any one time rather than the maximum total of 30 identified in the EIS.
- **Design refinements:** due to progression of design, the following aspects associated with the physical description of the Proposal and the Site layout have been altered:
 - The arrangement of the bays and pits within the Facility have been updated to maximise the potential capacity of the Facility.
 - Water management infrastructure has been updated. The design of the leachate management system has been updated from bunding of blocks of bays to instead utilise the slope of the bays to contain waters. All Per- and polyfluoroalkyl substances (PFAS) bays will remain bunded. The entire building would be bunded with 250 mm bunds provided at each of the entries and exits to the building.

- The car parking design for the Proposal has been revised to reflect the decrease in staff numbers and provide additional access space around the parking bays. The number of car parking spaces would be reduced from 40 (including one accessible parking space) to 36 (including one accessible parking space), resulting in a reduction of four parking spaces.
- The Fire services design has been updated in accordance with relevant standards and the EIS assessment. The following design elements are included in the designs: site connection, fire hydrant system, fire hose reels, portable fire extinguishers, fire detection systems and spent fire water management.
- **Clarifications in response to agency comments:** the Proposal description has been updated to clarify the waste types to be accepted on Site and the treatment types that would be subject to the SIAs that would be sought from the NSW Environmental Protection Authority (EPA). Clarifications include:
 - No PFAS contaminated soil will be accepted onsite above the Restricted Solid Waste (RSW) criteria
 - No Polychlorinated biphenyl (PCB) contaminated waste will be accepted onsite above the scheduled chemical waste criteria
 - SIAs sought for the Site would reflect existing immobilisation technologies used in Australia and globally that have demonstrated scientific basis for immobilisation.
 - A proportion of the wastewater and packaged waste accepted at the Facility will meet the classification of Dangerous Goods Class 8, Packing Groups II and III under the Australian Dangerous Goods Code (NTC, 2022). The Facility will only accept wastewater and packaged waste with this classification in volumes of less than 25 tonnes and 50 tonnes, for Class II and III respectively. Once accepted onsite, the Class 8 Dangerous Goods will either be delivered directly to a designated tank within the WWTP or a designated bay within the packaged waste storage area. By-products of the treatment process would either undergo further treatment or would be disposed of at an appropriately licenced landfill, as described in Section 7 of the Draft OWMP (Appendix H). Additionally, two of the reagents to be used within the WWTP are also classified as Dangerous Goods Class 8 Packing Group II. These reagents would be stored separately above the Probable Maximum Flood (PMF) level.
 - Further clarification has been provided around the management of spent treatment materials from the WWTP, including granular activated carbon (GAC) and volcanic clinoptilolite zeolite (VCZ)
 - Hi-Quality have identified contingency measures in the event that a Trade Waste Agreement cannot be obtained (either for part or all of the proposed discharge volumes). In the event that not all water can be discharged to sewer, treated liquid waste would be collected within tankers and removed offsite for disposal.
- **Subsequent documentation:** several additional documents have been drafted in response to Agency queries to provide further clarity around the Facility's operation, these documents include:
 - In response to EPA queries a series of draft operational management plans (Appendix F to Appendix I) have been prepared which outline how the Facility would operate and the relevant environmental controls which would be in place to manage potential risks.
 - A Hazard Identification Report (Appendix L) has been completed which considered 106 potential risks associated with the Facility's operation. Environmental controls have been embedded into the design and management procedures for the Facility, in order to minimise the impact of these potential risks.
 - A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared to provide further detail regarding the proposed safety and environmental controls specific to the management of liquid and hazardous waste and their associated risks (as identified in the Hazard Identification Report (Appendix L)).

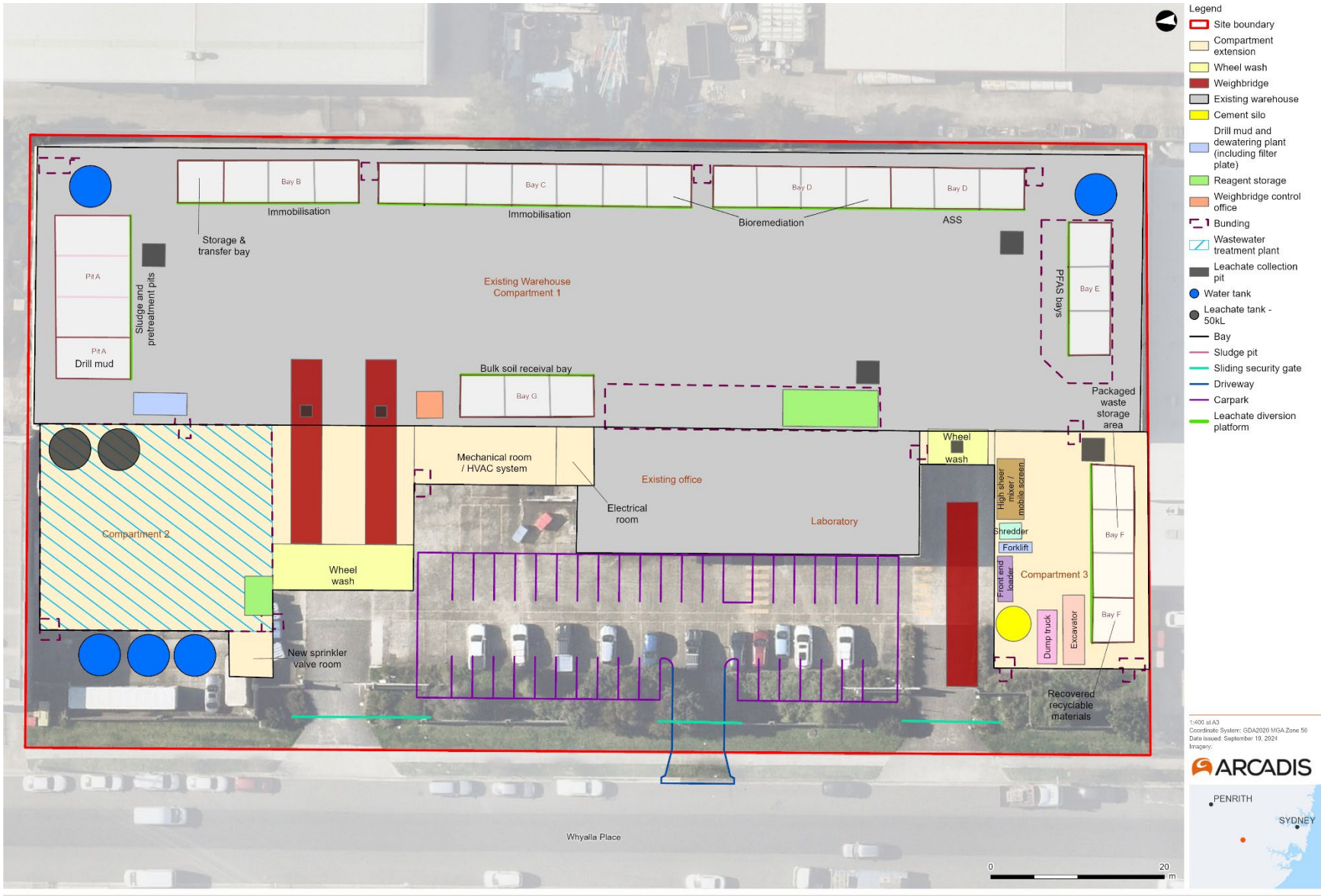


Figure 1-1 Facility conceptual site layout

1.4 Purpose of this Report

This Amendment Report has been developed in accordance with Appendix D to the *State Significant Development Guidelines* (DPIE, 2022). This Report is designed to be a standalone report which draws on relevant information from the EIS and RtS Report. This Amendment Report is structured as follows:

Table 1-1: Structure of this Amendment Report

Description	Section
An overview of the approval process to date, the proposal as described in the RtS Report and the proposed amendments	Chapter 1
An overview of the strategic context of the Proposal and identification of updates to the strategic context since exhibition of the EIS	Chapter 2
An overview of the statutory context of the Proposal	Chapter 3
A summary of engagement undertaken for the Proposal	Chapter 4
Responses to agency requests for further information and clarification following review of the RtS Report	Section 4.1
Responses to comments from the community received in response to the RtS Report	Section 4.2
An overview of the proposed amendments and their justification	Chapter 5
A review of the potential for changes to predicted environmental impacts associated with amendment to the Proposal	Chapter 6
Conclusion on the justification for the amendment	Chapter 7
Updated statutory compliance table	Appendix A
A description of the amended Proposal, incorporating updates to the Proposal since submission of the RtS Report	Appendix B
Waste type and treatment table	Annexure A to Appendix B
Revised environmental management measures	Appendix C
Document status table	Appendix D
Design Drawings	Appendix E
Draft Operational Environmental Management Plan (OEMP)	Appendix F
Draft Operational Air Quality Management Plan (OAQMP)	Appendix G
Draft Operational Waste Management Plan (OWMP)	Appendix H
Draft Operational Transport Management Plan (OTMP)	Appendix I
Hazardous Industry Guidance note (Whamcorp)	Appendix J
Liquid and Hazardous Waste Risk Identification and Minimisation Report	Appendix K
Hazard Identification Report	Appendix L

2 Strategic context

This chapter summarises the strategic context for the Proposal as presented in Chapter 3 of the EIS. The proposed amendments do not change how the Proposal aligns to this strategic context.

2.1 Summary of strategic context in the EIS

The following strategies were outlined in the EIS:

- **NSW Waste Avoidance and Resource Recovery Strategy 2014-21** (EPA, 2014): The Proposal aligns with national and state waste management objectives and would reduce the environmental risk of waste directly, through the treatment of contaminated soils, contaminated sludges and liquid wastes
- **NSW Waste and Sustainable Materials Strategy 2041 Stage 1 Plan: 2021–2027** (DPIE, 2021): The Proposal would contribute to addressing immediate and future capacity deficits within NSW as identified within the Strategy. The Proposal directly supports each of the focus areas of the strategy through providing capacity for waste treatment in the Western Sydney area, promoting a circular economy and increasing resource recovery and efficiency
- **Greater Sydney Region Plan: A Metropolis of Three Cities** (Greater Sydney Commission, 2018a): The Proposal supports the Plans' objective to optimise self sufficiency through developing greater localised precinct-wide waste processing capacity that promotes efficiency
- **Our Greater Sydney 2056: Western City District Plan** (Greater Sydney Commission, 2018b): The Plan recognises that as the District's population grows, there is a need for new recycling and resource recovery infrastructure to help manage the growth in waste. In providing for waste treatment and resource recovery of materials for reuse, the Proposal aims to keep resources circulating in our economy to maximise value, generate local jobs and minimise waste
- **Future Transport Strategy 2056** (TfNSW, 2022): The strategy outlines a number of new infrastructure projects which the Proposal is well placed to service., These include the Western Sydney Infrastructure Plan, the Western Sydney Airport, the Outer Sydney Orbital and Western Sydney Aerotropolis
- **NSW Waste Less, Recycle More Initiative** (EPA, 2016): The government initiative includes \$48 million in funding to support the development of new infrastructure for both municipal, commercial and construction and demolition waste materials. The Proposal is consistent with the aim of this funding by proposing new infrastructure for waste materials.

The proposed amendments are minor changes to the Proposal description and do not change the Proposal's contribution to the strategic planning documents listed above.

2.2 Changes since exhibition of the EIS

Following exhibition of the EIS in November 2021, the *Towards a Circular Economy: Enhancing the NSW Resource Recovery Framework* (EPA, 2023) was released:

2.2.1 Towards a Circular Economy: Enhancing the NSW Resource Recovery Framework

Towards a Circular Economy: Enhancing the NSW Resource Recovery Framework (NSW Resource Recovery Framework) sets out the actions the EPA will take to implement the recommendations of the Independent Review of the Resource Recovery Framework to improve recovery, reuse, and circularity of resources. The Resource Recovery Framework groups the 22 recommendations into seven themes. The key themes and the Proposal's alignment to those themes include:

- **Improving guidance and documentation for resource recovery orders and exemptions:** The Proposal would comply with the regulatory requirements of resource recovery exemptions and orders and facilitate the appropriate treatment of soils that may be subject to recovery orders and exemptions allowing resources to be reused in our economy to maximise value, generate local jobs and minimise waste.
- **Improving transparency, data, and accessibility:** The Proposal would comply with all waste tracking and documentation requirements and support the EPA in this regard.
- **Investigate regulatory framework changes:** The Proposal would comply with all regulatory requirements and ensure systems are in place to meet any new regulatory requirements that may occur; through implementation of the OEMP.
- **Embedding improvements in planning:** The Proposal would provide infrastructure to support waste treatment and management within the Western Sydney area, promoting a circular economy and increasing resource recovery and efficiency. As noted above, the Proposal is well placed to support a number of new infrastructure projects that are in the planning and development stages. These include the Western Sydney Infrastructure Plan, the Western Sydney Airport, the Outer Sydney Orbital and Western Sydney Aerotropolis.
- **Developing a more targeted regulatory approach:** In providing for waste treatment and resource recovery of materials for reuse, the Proposal aims to keep resources circulating in our economy to maximise value, and minimise waste. Hi-Quality welcomes EPA's commitment to achieve higher quality materials from waste generators and improve protections for consumers of recovered resources, such as those that would be generated by the Proposal.
- **Considering approaches to contaminants:** The EPA will take an evidence-based approach to identifying and managing asbestos contaminants as well as emerging contaminants. Hi-Quality would continue to engage with the EPA on appropriate treatment technologies and management of existing and emerging contaminants into the future.

The Proposal seeks to promote circular principles by treating soils to a level where they would be appropriate for reuse where feasible. Ultimately, the Proposal aims to maximise the recovery of resources, using known and approved treatment technologies, in line with the EPA requirements and strategies.

3 Statutory context

This chapter summarises the statutory context of the Proposal. This includes an overview of the State and Commonwealth approvals as presented in Chapter 3 of the EIS. The proposed amendments do not change the permissibility of the Proposal or approvals required.

An updated statutory compliance table for the amended proposal is provided in Appendix A of this report.

3.1 Overview of statutory requirements

As described in Chapter 3 of the EIS and Chapter 1 of the RtS Report, the Proposal is assessable under Part 4, Division 4.7 of the EP&A Act as State significant development.

At the time of exhibition of the EIS, the Proposal was assessable as State significant development by virtue of clause 23, Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011*, which refers to:

Waste and resource management facilities

(3) Development for the purpose of a resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste.

The Site is on land zoned IN3 Heavy Industrial Zoning under the *Liverpool Local Environmental Plan 2008* and the Proposal is therefore permissible under the EP&A Act.

3.2 Changes to the EP&A Regulation

Environmental Planning and Assessment Regulation 2000 was superseded by the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), following finalisation of the EIS. Transitional arrangements under Schedule 6, clause 3 of the *Environmental Planning and Assessment Regulation 2021* mean that the provisions of the *Environmental Planning and Assessment Regulations 2000* continue to apply to the Proposal.

3.3 Changes to State environmental planning policies

Following the finalisation of the EIS, 45 NSW environmental planning instruments were repealed and consolidated into new instruments. The consolidation was administrative and did not change the legal effect of the previous instruments.

The former *State Environmental Planning Policy (State and Regional Development) 2011* was incorporated in the *State Environmental Planning Policy (Planning Systems) 2021*. The Proposal is deemed State significant development in accordance with Clause 23 in Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021*.

3.4 Statutory compliance of the proposed amendments

Hi-Quality is proposing amendments to the Proposal described in the EIS and the RtS Report. This Amendment Report has been prepared in accordance with section 197(3) of the EP&A Regulation.

The proposed amendments do not change the permissibility of the Proposal. The assessment and approval requirements under the EP&A Act, including pre-conditions and mandatory considerations, are described in Chapter 3 of the EIS.

An updated statutory compliance table for the amended proposal is provided in Appendix A of this report.

4 Engagement

This Chapter outlines the consultation and engagement that has occurred during the EIS and RtS Report preparation, as well as consultation that has occurred subsequently, leading to the proposed amendments.

4.1 Agency engagement

4.1.1 Overview

Hi-Quality is committed to undertaking meaningful community and stakeholder engagement and consultation throughout the life of the Proposal. Agencies were consulted to inform the EIS and planning of the Proposal. A summary of the consultation with government agencies during preparation of the EIS is provided below:

- Consultation with Liverpool City Council regarding clarification of Council's comments on the SEARs including stormwater management information for the Site. In addition, clarification was sought on potential management plan requirements should the Proposal be approved
- Consultation with the EPA was carried out. The EPA advised at the time that they had no further comment other than what has been provided in comments to the SEARs for the Proposal
- Consultation with Environment, Energy & Science Group referring to the Biodiversity Waiver that was received in correspondence for the Proposal
- Consultation with Heritage NSW regarding the need for an Aboriginal Cultural Heritage Report (ACHAR). Heritage NSW identified that an ACHAR was not required for assessment of the Proposal
- Consultation with NSW Fire and Rescue has been sought through phone contact. NSW Fire and Rescue provided comments to the SEARs that they seek to provide comment once approvals have been granted
- Consultation with Sydney Water regarding the Trade Waste Application was undertaken 18 September 2020 with Sydney Water advising a Tappin Application should be made closer to EIS approval
- Consultation with Transport for NSW was carried out in relation to confirming the status of nearby road project upgrades.

Consultation that has occurred since the EIS is summarised below in Section 4.1.2.

4.1.2 Engagement undertaken and issues raised

This section summarises the feedback received from government agencies on the Proposal since the RtS Report, where Hi-Quality has been able to accommodate the requests of the agencies the design has been amended.

4.1.2.1 NSW Fire and Rescue

A letter response was received from FRNSW on the 24 May 2023 in response to DPHI correspondence regarding the RtS Report. Table 4-1 presents the key comments raised and Hi-Quality's response.

Table 4-1 Response to NSW Fire and Rescue

Advice	Detail	Response / Comment
No further comments	<p>FRNSW note responses at 4.2 of the RtS Report, when implemented, would satisfy the recommendations made by FRNSW in our previous letter concerning this matter dated 28 March 2022 (D22/23521).</p> <p>FRNSW therefore submit no further comments or recommendations for consideration, nor any requirements beyond that specified by applicable legislation at this stage.</p>	<p>While FRNSW noted no further information was required, the Applicant has updated the Fire Services Design (provided in Appendix E3) to this Amendment Report.</p> <p>A description of the additional fire services incorporated into the Facility design is provided in Section 5.2.4.</p>

4.1.2.2 Sydney Water

A letter response was received from Sydney Water on the 29 May 2023 in response to DPHI correspondence regarding the RtS Report. Table 4-2 presents the key comments raised and Hi-Quality's response.

It is noted that further, ongoing, email correspondence has continued with Sydney Water. A draft Section 73 feasibility application was prepared and submitted to Sydney Water in July 2024. Sydney Water has requested further information on the operation of the Facility and for discharge volumes to be provided by a hydraulic consultant. This further information is being prepared and will be submitted to Sydney Water October 2024 and finalised following project approval.

Table 4-2 Response to Sydney Water comments

Advice	Detail	Response / Comment
Water servicing coordinator	<p>Sydney Water notes that the proponent plans to consult with a Water Servicing Coordinator and lodge a feasibility application during the detailed design phase. However, as per previous advice dated 22nd of September 2020 and 18th of January 2022, the proponent was informed by Sydney Water to contact a Water Servicing Coordinator to inform the design process and submit a feasibility without delay. This is a critical step to ensure the development meets Sydney Waters requirements and to confirm that Sydney Water has the capacity to service the development.</p>	<p>Hi-Quality notes Sydney Water's comments. A preliminary draft feasibility assessment was lodged in July 2024. In response to the application Sydney Water raised a case identification number for the Facility, and identified areas where additional information was requested. In response to the request for further information, Hi-Quality provided:</p> <ul style="list-style-type: none"> • The Draft OWMP to provide an outline of the key operational elements of the Proposal • The Amended Proposal Description

Advice	Detail	Response / Comment
Feasibility application	<p>The proponent has yet to submit a feasibility application with Sydney Water. Lodging the feasibility application during the detailed design phase may result in potential delays to the development due to possible objections by Sydney Water at later application stages. Please note that Sydney Water does not hold capacity within our network for possible development needs.</p>	<ul style="list-style-type: none"> Information regarding daily water use and proposed discharge volumes (including under a peak day) The latest Hydraulic Design drawings <p>The updated feasibility assessment will be relogged in October 2024 with the additional information requested by Sydney Water.</p> <p>In parallel, Hi-Quality has considered alternate options should Sydney Water not be able to accommodate the discharge volumes (either in full or in part). This is described in Section 5.3.5.</p>
Feasibility requirements	<p>If the development presents potentially large water servicing demands or impacts on our wastewater network are anticipated, further investigation may be required to determine the servicing requirements for the site.</p>	<p>Noted.</p> <p>Section 4.10 of the OEMP outlines predicted water usage rates for key onsite activities:</p> <p>Potable water usage is for the Prestons WTF and ancillary facilities is anticipated to be around 126.12 kL/year. This covers the water usage required for the kitchen and ablution facilities.</p> <p>Total water usage for process applications and dust suppression is estimated be around 4,000 kL/year. This includes:</p> <ul style="list-style-type: none"> 1,000 kL/year for dust suppression and moisture conditions 2,500 kL/year for wheel wash and truck wash activities 500 kL/ year for bioremediation. <p>Further information regarding proposed discharge volumes is in the process of being provided to Sydney Water within an updated feasibility application (October 2024).</p>
	<p>The proponent’s response (page 13) notes that: “During Stage 1 water from the leachate collection system would be captured in temporary holding tanks and tested <i>and either disposed of to sewer, if it meets the requirements of a trade waste agreement with Sydney Water, or tankered offsite for disposal</i>”.</p> <p>The potential quantity and volume is required to be assessed via the feasibility process.</p>	<p>Hi-Quality notes Sydney Water’s comments and will provide further information has provided further information as part of the feasibility application. Minimal leachate is expected at the Facility, with a maximum of 50 litres daily.</p>
	<p>It is recommended that a Water Servicing Coordinator is engaged, and a Feasibility application is lodged with Sydney Water prior to a Section 73 application being made.</p>	<p>Hi-Quality notes Sydney Water’s comments. A preliminary draft feasibility assessment was lodged in July 2024. In response to the application Sydney Water raised a case identification number for the Facility, and identified areas where additional</p>

Advice	Detail	Response / Comment
	<p>We advise you do this as soon as possible to prevent potential delays to any future development approvals or servicing strategy.</p>	<p>information was requested. In response to the request for further information, Hi-Quality provided:</p> <ul style="list-style-type: none"> • The Draft OWMP to provide an outline of the key operational elements of the Proposal • The Amended Proposal Description • Information regarding daily water use and proposed discharge volumes (including under a peak day) • The latest Hydraulic Design drawings <p>The updated feasibility assessment will be relogged in October 2024 with the additional information requested by Sydney Water.</p> <p>In parallel, Hi-Quality has considered alternate options should Sydney Water not be able to accommodate the discharge volumes (either in full or in part). This is described in Section 5.3.5.</p>
<p>Water Servicing Coordinator</p>	<p>Water Servicing Coordinators manage applications for feasibility applications. All Water Servicing Coordinators have designer accreditation and can provide design services.</p> <p>Please follow this link to find a list of Water Servicing Coordinators: Water servicing coordinators (sydneywater.com.au).</p>	<p>Hi-Quality notes Sydney Water’s comments. A draft feasibility application has been submitted. Hi-Quality will work with Sydney Water during the detailed design phase to accommodate any design solutions suggested by Sydney Water where possible.</p>
<p>Trade Waste</p>	<p>The proponent will be required to request permission to discharge trade wastewater to Sydney Water’s sewerage system. You must obtain Sydney Water approval for this permit before any business activities can commence. It is illegal to discharge Trade Wastewater into the Sydney Water sewerage system without permission.</p> <p>For additional information relating to trade waste the proponent can contact businesscustomers@sydneywater.com.au.</p>	<p>Noted. Hi-Quality has commenced discussions with Sydney Water in relation to the Trade wastewater licence.</p>

4.1.2.3 Department of Planning and Environment – Environment and Heritage Group

A letter response was received from the Environment and Heritage Group (EHG) of the DPHI on the 2 June 2023 in response to DPHI correspondence. Table 4-3 presents the key comments raised and Hi-Quality's response.

Table 4-3 Response to DPHI Environment and Heritage Group comments

Advice	Detail	Response / Comment
Flooding	EHG's previous flooding advice on the SSD's Environmental Impact Statement dated 16 December 2021 related to the development of a Flood Emergency Response Plan (FERP) and the required backup services to support the FERP. These requirements have been addressed in the submitted RtS Report. As such, EHG provides no further comment relating to flooding.	Noted
Landscape plan	To assist in mitigating heat island effects from the proposed development and to improve future biodiversity values of the site, EHG recommends that a Landscape Plan is prepared to address the loss of existing landscaping works. This Plan should maximise the use of locally indigenous species and specify the species that will be used, the pot size (100L for trees and 200mm for shrubs) and diversity/number of replacements as well as the required maintenance schedule (minimum of two years). The preparation and implementation of the Landscape Plan could be addressed via the inclusion of appropriate conditions of consent.	Hi-Quality note EHG's comments and agree to prepare a Landscape Plan for the Proposal. An updated Environmental Management Measure has been included (G3) to confirm this commitment (refer Appendix C).

4.1.2.4 Liverpool City Council

A letter response was received from Liverpool City Council (Council) on the 6 June 2023 in response to DPHI correspondence in relation to the RtS Report. Council has confirmed their satisfaction with Hi-Quality's response to their concerns raised in comments provided on the 20 December 2021.

Council has provided the following proposed Conditions of Consent for the development, which have been provided and responded to in Table 4-4.

A further meeting was held with Council on 12 December 2023 to discuss the comments regarding flooding planning considerations. A letter was sent to Council in response to comments raised during the meeting to confirm based on the Preliminary Risk Screening Assessment (PRSA) completed by Golder (2021), that the Proposal is not required to meet a flood planning level of the Probable Maximum Flood (PMF). However, all reagents and packaged waste classed as Dangerous Goods would be stored above the PMF level on elevated racking and be stored in accordance with the relevant Australian Standards. Further clarification on the handling of Dangerous Goods at the Facility is provided in Section 5.3.4, the Amended Proposal Description (Appendix B), the Liquid and Hazardous Waste Risk Identification and Minimisation Report (Appendix K) and Letter from Whamcorp regarding Dangerous Goods (Appendix J).

Table 4-4 Response to Liverpool City Councils comments

Time period	Proposed condition	Response / Comment
A. Traffic Planning Considerations		
Council’s Transport Management Section has reviewed the addendum traffic and parking assessment and should the application be determined the following traffic related conditions are to be included as consent conditions:		
Prior to Issue of Construction Certificate	<p>1. A layout of the proposed development car parking areas and access arrangements (including, EV charging space, driveways, grades, turn paths, sight distance requirements in relation to aisle width/lengths, and parking bay dimensions) shall be prepared in accordance with AS 2890.1-2004, AS2890.6-2009 and AS 2890.2-2018 for heavy vehicle usage and submitted to Council for review.</p> <p>In addition, the Applicant must submit the design plans for any proposed works within the public road reserve and street lighting improvement fronting development site to Council for review, if required, approval and provide a copy of the endorsed documents to the Certifier for approval.</p>	<p>Detailed design of the facility will be carried out in alignment with the referenced Australian Standards.</p> <p>Hi-Quality agree to prepare this for submission to Council for review and approval, if required.</p>
	<p>2. Detailed assessment is to be carried out to assess whether parking restriction is required to maintain adequate sight distance at the driveway. The assessment report is required, parking restriction is to be submitted to Council for the Liverpool Traffic Committee approval. The access arrangement and car parking design after Council’s endorsement is to be approved by the Certifier.</p>	<p>Hi-Quality agree to prepare this for submission to Council for review and approval during the post approval phase.</p>
	<p>3. The applicant shall submit a Section 138 <i>Roads Act 1993</i> application to Council for any proposed new driveway and road work in, on or over a public road including the payment of application and inspection fees.</p>	<p>Noted.</p>
	<p>4. An Operational Traffic Management Plan (OTMP) should be prepared by an accredited practitioner and submitted to and endorsed by Council’s Transport Management Section as part of the development consent conditions. The OTMP is to include measures to manage traffic</p>	<p>A Draft Operational Traffic Management Plan (OTMP) has been prepared by Stanbury Traffic Planning for the Facility. This is provided in Appendix I. The Draft OTMP will be updated following project approval as part of the detailed design phase.</p>

Time period	Proposed condition	Response / Comment
	<p>and parking impacts of the proposed day to day use and ensure safe vehicle movements on the subject site as well as surrounding roads.</p> <p>5. A Construction Traffic Management Plan (CTMP) detailing updated construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control should be prepared for future developments and submitted to and endorsed by Council’s Transport Management Section prior to the issue of a Construction Certificate. The CTMP is to outline the need for a Road Occupancy Permit issued by Council or Transport Management Centre if required. Works within the road reserve shall not commence until the construction traffic management plan has been endorsed</p>	<p>Noted.</p> <p>Hi-Quality has committed to this in management measures G1 and TT1 (see Appendix C).</p>
<p>During construction</p>	<p>6. All works within the road reserve shall be constructed by the applicant, at no cost to Council, and all signage is to be in accordance with the TfNSW Traffic Control at Worksites Manual and the TfNSW Delineation Guideline.</p>	<p>Noted.</p>
	<p>7. If a works zone is required, an application must be made to Council’s Transport Management Section. The application is to indicate the exact location required and the applicable fee is to be included. If parking restrictions are in place, an application to have the restrictions moved, will need to be made.</p>	<p>Noted.</p>
	<p>8. Notice must be given to Council’s Transport Management Section of any interruption to pedestrian or vehicular traffic within the road reserve, caused by the construction of this development. A Traffic Control Plan, prepared by a suitably accredited practitioner must be submitted to and approved by Council’s Transport Management Section, at least 7 days prior to implementation. This includes temporary closures for delivery of materials, concrete pours etc.</p>	<p>Hi-Quality has committed to a Construction Traffic Management Plan in management measures G1 and TT1 (see Appendix C). The requirement for a Traffic Control Plan will be included in the Construction Traffic Management Plan.</p> <p>Hi-Quality notes Council’s requirement and will submit the Traffic Control Plans for any works that would interrupt traffic or pedestrian movements within the road reserve to Council’s Transport Management Section a minimum of 7 days prior to works.</p>

Time period	Proposed condition	Response / Comment
	<p>9. Applications must be submitted to and approved by Council's Transport Management Section for any road closures. The applicant is to include a Traffic Control Plan, prepared by a suitably qualified person, which is to include the date and times of closures and any other relevant information.</p>	<p>Hi-Quality notes Council's comment and agrees to prepare this for submission to Council for review and approval, if required, a minimum of 7 days prior to the proposed works.</p>
	<p>10. All the construction vehicles shall enter and exit the site in a forward direction.</p>	<p>Noted. This requirement will be stipulated in the Construction Traffic Management Plan that will be developed in accordance with management measures G1 and TT1 (see Appendix C).</p>
	<p>11. Parking for all construction workers should be accommodated within the development site.</p>	<p>Noted.</p>
<p>Prior to Occupation</p>	<p>12. Prior to the issue of an Occupation Certificate, the Principal Certifying Authority shall ensure that all works associated with a S138 Roads Act approval or S68 Local Government Act approval have been inspected and signed off by Liverpool City Council.</p>	<p>Noted.</p>
	<p>13. All the approved roadworks, traffic control devices, pedestrian crossings, signposting, line marking and street lighting are to be completed to Liverpool Council requirements, at no expense to Council or Transport for NSW.</p>	<p>Noted</p>
	<p>14. Council's on-street assets such as footpath shall be protected at all times. Any damages shall be rectified by the applicant, at no cost to Council, and to Council's satisfaction.</p>	<p>Noted</p>
<p>Post Occupation</p>	<p>15. The Operational Traffic Management Plan (OTMP) must be in place and implemented at all times. The OTMP is to be reviewed 12 months after the full operation including intersection performance assessment of the Whyalla Place/Jedda Road intersection, potential queueing out of the subject site.</p> <p>The review is to be carried out by an independent traffic engineer to identify whether improvement works are required to ensure that the intersection operates with a satisfactory level of service. The report is to</p>	<p>Hi-Quality has committed to this in management measures G2 and TT1 (see Appendix C). A draft OTMP has been prepared and provided in Appendix I.</p>

Time period	Proposed condition	Response / Comment
	be submitted to Council for review, if required, identified improvements is to be carried out by the proponent to Council’s satisfaction.	
	16. All loading and unloading must take place on the subject site. Goods and/or waste or extraneous material must not be stored in the vehicular manoeuvrings and parking areas. Those areas must be kept clear at all times for the free movement of vehicles.	Hi-Quality has committed to this in management measure MW9 (see Appendix C).
	17. The operator of the development must not permit the reversing of vehicles onto or away from the road reserve. All vehicles must be driven forward onto and away from the development and adequate space must be provided and maintained on the land to permit all vehicles to turn in accordance with AS 2890.	Noted. The proposed traffic flow would operate in one-way with heavy vehicles entering and exiting the Site in a forward direction.
B. Flooding Planning Considerations		
<p>The proposed development site is located within the Maxwells Creek catchment. The site is not affected by flooding under 1% Annual Exceedance Probability (AEP) event. However, it is affected by the Probable Maximum Flood (PMF) event.</p> <p>The proposed waste treatment facility is considered as a sensitive and hazardous development. The flood planning level for a sensitive and hazardous development is the Probable Maximum Flood (PMF) level, which is 24.5m AHD. However, the proposed waste treatment facility will be mostly located within the existing buildings, which are below the PMF (24.5m AHD) level. The applicant has requested to consider the proposed development as a concessional development and has proposed minimum floor level for new building extensions at a level of 23.6m AHD (1% AEP flood Plus 500mm freeboard).</p> <p>Considering the compatibility with the existing building floor levels and operational constraints, the minimum floor level of the building extensions at a level of 23.6m (1% AEP flood Plus 500mm freeboard) can be accepted. However, any potentially hazardous material shall not be stored below the Probable Maximum Flood (i.e., 24.5m Australian Height Datum). The proposal is supported subject to fulfilling the following conditions.</p>		
Prior to Issue of Construction Certificate	1. All floor levels of the new building extensions shall be no lower than the 1% AEP flood Plus 500mm freeboard (i.e., 23.1m + 0.5m = 23.6m Australian Height Datum).	<p>Consolidated Plans have been provided in Appendix E, showing floor levels for the new building extensions.</p> <p>Hi-Quality has committed to this in management measure SW4 of the RtS report and reproduced in Appendix C.</p>
	2. The structure shall be constructed from flood compatible building components below the Probable Maximum Flood (i.e., 24.5m Australian Height Datum).	Consolidated Plans have been provided in Appendix E, showing key building components and structural design.

Time period	Proposed condition	Response / Comment
		Hi-Quality has committed to this in management measure SW4 of the RtS Report and reproduced in Appendix C.
	3. An engineer's report shall be required to certify that the structure can withstand the forces of floodwater including debris and buoyancy up to and including the Probable Maximum Flood (i.e., 24.5m Australian Height Datum).	Hi-Quality has committed to this in management measure SW4 of the RtS Report and reproduced in Appendix C.
	4. Wastewater generated from the site including petroleum and other hazardous chemicals shall not be discharged into downstream site or Council's stormwater system. Appropriate pollution control measures shall be provided to collect, treat and dispose hazardous pollutants from the site.	Noted. Hi-Quality has commenced discussions with Sydney Water in relation to the Trade wastewater licence. Wastewater would be treated to the requirements of the Trade wastewater license prior to discharge.
	5. On-site water quality treatment facilities shall be provided to ensure that stormwater runoffs leaving the site comply with Council's water quality standards. The treatment facilities shall capture all gross pollutants and liquid contaminants from the stormwater before discharging it to downstream or Council stormwater system. Water quality treatment works shall be designed using MUSIC modelling software and the water quality treatment system performance shall be verified using Council's MUSIC link.	Noted. Hi-Quality has commenced discussions with Sydney Water in relation to the Trade wastewater licence.
Prior to Issue of Occupation Certificate	6. An evacuation plan shall be developed and maintained, including suitable warning systems, signage and exits, to ensure the safe evacuation of people during floods up to and including the Probable Maximum Flood.	Noted. Hi-Quality has committed to this in management measure FIM3 of the RtS Report and reproduced in Appendix C.
Conditions Relating to Use	7. There shall be no storage of materials below the Probable Maximum Flood (i.e., 24.5m Australian Height Datum), which may cause pollution or be potentially hazardous during any flood.	Any materials that are considered to be a Dangerous Goods or hazardous waste will be stored above the Probable Maximum Flood (PMF). This would include both hazardous waste and reagents that are considered to be Dangerous Goods. It is not possible to prohibit the storage of all waste material to being above the PMF. As outlined in the RtS Report it is considered that under the Liverpool DCP,

Time period	Proposed condition	Response / Comment
		<p>the Site falls under the definition of ‘concessional development’ as it is a change of use which does not increase flood risk, having regard to property damage and personal safety. An assessment against the requirements of SEPP 33 (now the Resilience and Hazards SEPP 2021) was carried out as part of the EIS, concluding that the facility would not constitute a ‘potentially hazardous’ facility due to the limits of dangerous goods to be stored onsite. This has been confirmed by a Dangerous Goods specialist (see Appendix J).</p> <p>The Proposal incorporates a range of measures to minimise the potential for polluting discharges and is anticipated to be meet full compliance with its (future) Environmental Protection Licence. Consequently, the designations within Table 3 of the Liverpool DCP for ‘Commercial and Industrial’ land uses are considered more appropriate than ‘sensitive uses & facilities’. Commercial and industrial development are not required to be above the PMF, rather need to be above the 1% AEP +0.5m freeboard. Additionally:</p> <ul style="list-style-type: none"> • The Site is located outside the 1% Annual Exceedance Probability (AEP) flood extent (an elevation of 23.1 m AHD). The area is classified on Council’s online mapping as a low flood risk area, with a flood planning level of the 1% AEP plus 0.5m freeboard (equating to 23.6m AHD). • The Site is considered to have a relatively high level of flood immunity, up to and including the 1 in 500 year event and above the 1% AEP event. Given that the larger catchment area for Cabramatta Creek is less than 1000 km², the recommended AEP for the PMF is 10⁻⁷. This equates to a probability of it occurring of less than 1 in 10,000,000 years. <p>Additionally, the Facility is enclosed with rollover bunding (250mm) at all entry and exit points. Whilst the primary purpose of the bunding is to contain spills within the Facility, the bunding would also act in keeping floodwaters out in the case of an extreme weather event.</p> <p>The Facility would provide a critical piece of infrastructure within the Sydney region. There is currently a shortage of facilities within Sydney that are capable of receiving or treating contaminated wastes.</p>

Time period	Proposed condition	Response / Comment
		<p>In many cases, waste must be transported to Queensland or Victoria for disposal or treatment and is often left in situ for extended periods of time (often potentially in flood prone areas) awaiting transportation interstate. The Proposal offers a centralised, regulated and environmentally responsibly managed facility to receive, store and treat contaminated material. Consequently the environmental outcomes that can be achieved once the Proposal is operational are likely far superior than the current status quo.</p>

4.1.2.5 Transport for NSW

A letter was received from Transport for NSW (TfNSW) on 9 June 2023 in response to DPHI correspondence regarding the RtS Report. Table 4-5 presents the key comments raised in Hi-Quality's response.

Table 4-5 Response to TfNSW comments

Advice	Detail	Response / Comment
Construction traffic	A Construction Pedestrian Traffic Management Plan (CPTMP) detailing construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control should be submitted to Council for approval prior to the issue of a Construction Certificate.	Noted. Hi-Quality has committed to this in management measure G1 and TT1 of the RtS Report and reproduced in Appendix C.
Proposed car parking areas	The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, turn paths, sight distance requirements in relation to landscaping and/or fencing, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1-2004, AS2890.6-2009 and AS 2890.2-2018 for heavy vehicle usage. Parking Restrictions may be required to maintain the required sight distances at the driveway.	Detailed design of the facility will be carried out in alignment with the referenced Australian Standards. It is noted that design of the Proposal has progressed since submission of the RtS Report and an updated arrangement for parking is presented in this Amendment Report (Appendix E), which reflects the reduction in parking spaces due to the reduction in office staff to be accommodated at the facility.
Parking and swept path diagrams	Parking provision and swept path diagrams are to be provided to Council's satisfaction.	Hi-Quality has prepared a draft Operational Traffic Management Plan (OTMP) which is provided in Appendix I. This includes updated swept path diagrams and displays the parking provisions. The final OTMP, to be prepared following project approval, can be provided for Council review as required.

4.1.2.6 NSW Environment Protection Authority

A brief summary of the correspondence and consultation with the EPA since exhibition of the EIS is provided below:

- A letter response was received from the EPA dated 14 January 2022, in response to exhibition of the EIS. The information provided in the RtS Report satisfied all issues raised in the EPA's submission in relation to noise; however issues the EPA required further information and clarification on waste management and the air quality impact assessment
- A letter response was received from the EPA on the 27 June 2023 in response to DPHI correspondence regarding the RtS Report, outlining the further information requirements and clarifications sought
- A meeting was held with the EPA on 31 July 2023 to seek further clarification on the matters raised by EPA in the letters of 27 June 2023 and 14 January 2023
- A meeting was held with the EPA on 4 October 2023 to clarify EPA's position on the acceptance of PFAS contaminated soils at the Site.
- A meeting was held with DPHI and EPA on 29 April 2024 to discuss the key concerns raised by the EPA and DPHI in the above correspondence.
- A further meeting with the EPA was held on 17 June 2024 to clarify the key remaining concerns
- Further email correspondence, and offers for further meetings, were provided to the EPA ahead of lodgement of this Report to DPHI.

Table 4-6 summarises the issues raised by the EPA through their letter submissions from June and August 2023, as well as their submission from 4 December 2023 in response to the first draft of the Amendment report. These comments have been consolidated for readability. It is noted that section references made within the EPA comments may no longer be applicable due to subsequent document updates.

Table 4-7 summarises the EPA's most recent comments on the Amendment Report and Operational Management Plan submission, these comments are dated from 26 April 2024.

Table 4-6 Response to the EPAs’ comments from June-August and 4 December 2023

EPA Query (including date of query)	Response/Comment	Reference
Air quality, odour and noise		
<p>June – August 2023 In relation to air and odour impacts– a new report has been provided which still has some matters that require addressing</p>	<p>To support the RtS, a revised Air Quality Impact Assessment (AQIA) was prepared by Zephyr, which superseded the original EIS AQIA prepared by Golder.</p> <p>As described in Section 6.2 of this Amendment Report, the inconsistencies between the findings of the Golder AQIA and the Zephyr AQIA are as a result of differences in the metals emission rates adopted between the two assessments. The revised AQIA by Zephyr adopted the maximum metal concentrations possible to (comply with internal health and safety requirements) within the pre-filtered air within the building to provide a conservative emissions estimate. The combined filter efficiencies for different particle size groups were then applied to the building air to calculate the reduced particulate matter (PM) emissions post-filtration.</p> <p>The dispersion model used in the Golder AQIA was AERMOD, incorporating the meteorological pre-processor AERMET. The dispersion modelling completed for the Revised AQIA used CALPUFF and the CALMET pre-processor. Both these models are approved for use in NSW and either would be suitable for the subject AQIA.</p> <p>It is considered valid to refer to predicted impacts from the Golder AQIA for the pollutants not modelled in the revised AQIA as the Golder AQIA emission assumptions used are highly conservative. Only where the Golder AQIA presented ground level concentration impacts in excess of their respective air quality criterion have these been re-evaluated within the Revised AQIA (where more realistic/appropriate assumptions have been assessed). For this reason, only arsenic and chromium have been assessed within the Revised AQIA.</p>	<p>Section 6.2 of this Amendment Report</p> <p>Draft OAQMP (Appendix G)</p>
<p>4/12/2023 The EPA requests the submission of the draft OAQMP as part of the ADR.</p>	<p>A draft Operational Air Quality Management Plan (OAQMP) has been prepared as part of the Draft Operational Environmental Management Plan (OEMP) and is provided in Appendix G.</p>	<p>Draft OAQMP (Appendix G)</p>
<p>June – August 2023 In relation to noise impacts – The new information satisfies all issues raised in the EPA’s submission in relation to noise.</p>	<p>This comment has been noted.</p>	<p>N/A</p>

EPA Query (including date of query)	Response/Comment	Reference
Plans		
<p>4/12/2023 A consolidated set of plans for the facility is required. Several of the plans are merely scattered throughout the ADR, EIS and Appendix B as figures which are difficult to read, not to scale and not in accordance with the requirements of the Environmental Planning and Assessment Regulations 2021 for plans. The inadequacy of the plans has been a constant issue identified by the Department and the EPA.</p> <p>4/12/2023 The bay sizing is nominated in text and not reflected on a scaled floor plan with dimensions.</p>	<p>An updated and consolidated set of plans has been prepared by SMEC for the proposed Facility (Appendix E of this Amendment Report).</p> <p>These plans have been prepared to a scaled floor plan with dimensions (a scale and north arrow are provided in each figure).</p>	<p>Consolidated design drawings (Appendix E)</p>
PCBs and PFAS		
<p>June – August 2023 The following specific queries have been raised in regard to Waste management:</p> <p><i>Some of the key matters to be addressed prior to determination – Waste Management:</i></p> <p>a) Inclusion of hazardous chemicals</p> <p><i>The EPA reiterates that waste such as PFAS contaminated soil, asbestos, PCB waste etc. are not suitable for receipt at the proposed facility.</i></p> <ul style="list-style-type: none"> June – August 2023 In relation to Waste Management – a substantial portion of the information requested in the EPA’s correspondence of 14 January 2022 has not been provided. Without this information, the EPA is unable to adequately assess the potential impacts to the environment and community from 	<p>As noted, in the Amended Proposal Description (Appendix B) the following wastes would not be received at the Site:</p> <ul style="list-style-type: none"> Scheduled PCB contaminated material (see Section 5.3.2 of this Amendment Report) PFAS contaminated soil above the restricted solid waste criteria (see Section 5.3.1 of the Amendment Report) Asbestos containing material <p>Each of the above are listed as non-conforming waste that would be automatically rejected. Section 5.8 of the draft OWMP (Appendix H) outlines a non-conforming waste procedure, and an unexpected finds procedure is in place within these management plans to manage non-conforming wastes.</p> <p>Section 6.2.3 of the OWMP outlines the specific management measures proposed for the storage of PFAS contaminated soil. Table 6-15 of the OWMP has been updated to provide clarification regarding the specific criteria for acceptance of PFAS contaminated material. PFAS contaminated soils above the levels prescribed in Table 6-15 would not be accepted at the facility.</p> <p>Review of the market has confirmed that there is a crucial need for facilities that accept PFAS contaminated soils within NSW. The Project would not treat PFAS contaminated soils but would</p>	<p>Section 5.3.1 and 5.3.2 of this Amendment Report</p> <p>Amended Proposal Description (Appendix B)</p> <p>Section 5.8 and Section 6.2.3 of the draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>the proposal. The EPA is unable to provide further comment without this information;</p> <ul style="list-style-type: none"> Further clarification of Hi-Quality’s intentions for handling in storage of PFAS and PCB contaminated soils on Site and the limits at which these wastes would be accepted on Site <p>4/12/2023 The ADR at 3.1.1.1 does not provide the specific criteria for the PFAS which is proposed to be stored. It only makes reference to the addendum to the Waste Classification Guidelines.</p>	<p>instead act as a temporary storage option prior to the material being transferred to a Facility that is licensed to treat the material. The Facility would enable the material to be stored within a controlled environment, rather than being left to the customer to manage.</p> <p>Hi-Quality has reduced the proposed annual throughput for PFAS contaminated soils from to 7,500 tpa, with a limiting storage capacity of approximately 300 t onsite at any one time.</p>	
<p>4/12/2023 The figures in the ADR showing the floor plan of the facility are not adequate for the Department and EPA to understand how the area has been separated and controlled to prevent cross contamination.</p>	<p>Updated plans have been prepared by SMEC (Appendix E). The soil PFAS bays are located at the Southern end of Compartment 1.</p> <p>The PFAS storage bays are bunded and would not be interchangeable with the other treatment bays, which limits the potential for cross contamination. The Facility layout figure (Figure 1-3 of the Amended Proposal Description) shows the separation of treatment bays, bunding and leachate diversion platforms which would control cross contamination.</p> <p>The procedure for PFAS contaminated soil storage and the related environmental controls are provided in Section 6.2.3 of the OWMP (Appendix H). Once the material is removed from the Facility the used bay(s) will undergo decontamination with Decon 90, as described in the PFAS storage procedure in Section 6.2.3 of the OWMP.</p> <p>A Hazard Identification Report (Appendix L) has been prepared by Sherpa Consulting (2024) which considered risks from storage of PFAS soil and associated offsite safety and environmental risks; finding the proposed controls and management measures in place to be adequate to manage risk. No High risks were identified.</p>	<p>Figure 1-3 of the Amended Proposal Description (Appendix B)</p> <p>Consolidated Design Drawings (Appendix E)</p> <p>Section 6.2.3 of the draft OWMP (Appendix H)</p> <p>Hazard Identification Report (Appendix L)</p>

EPA Query (including date of query)	Response/Comment	Reference
Capacity and waste management (general)		
<p>June – August 2023 [Some of the key matters to be addressed prior to determination – Waste Management:]</p> <p>a) <i>The proponent’s response to the EPA’s response to the EIS dated 14 January 2022</i></p> <p><i>The proponent’s response has not included the detailed information that was requested. The applicant has proposed this be provided in a Waste Management Plan (WMP) and Specific Immobilisation Approval requests. The EPA cannot provide advice without reviewing this information.</i></p>	<p>A comprehensive draft OEMP (Appendix F) and draft OWMP (Appendix H) (to be finalised following project approval) have been prepared to provide the EPA, and other stakeholders, with additional information regarding the management of the Proposal. The OWMP provides a comprehensive description of procedures and measures that will be implemented to manage the Facility.</p> <p>Section 6.2.1.4.2 of the OWMP provides an outline of the proposed process for seeking Special Immobilisation Approvals (SIAs). A draft guidance SIA application template has been prepared as part of the OWMP (Appendix E of the OWMP). The detailed content of individual SIAs, however, cannot be prepared at this stage of the project, as each SIA will be developed during operation based on the specific characteristics and treatment options proposed for each batch of soil to be treated under an SIA.</p>	<p>Draft OEMP (Appendix F)</p> <p>Section 6.2.1.4.2 of the Draft OWMP (Appendix H)</p> <p>Draft Guidance SIA Template (Appendix D to the OWMP)</p>
<p>4/12/2023 Several of the issues, concerns or questions the EPA have regarding the waste management procedures of the development could be answered through the lodgement of a detailed draft OWMP for the site and proposed operations. The EPA and the Department have continually questioned the ability of the site to handle the quantity and types of waste streams given the large areas required for heavy vehicle movements, the amount of time required to carry out the proposed treatments and a need to ensure waste streams are separated and do not come into contact with other waste streams.</p> <p>The EPA request that the OWMP is provided with the ADR.</p> <p>June – August 2023 <i>The EPA also requested that the applicant provide supporting evidence that the proposed treatment technologies can be applied at the facility taking into consideration:</i></p>	<p>A comprehensive review of the Facility’s operational capacity, as well as market conditions, has been carried out in response to stakeholder queries. As a result of this review, Hi-Quality is proposing to reduce the annual throughput to 210,500 tonnes per annum (tpa), as well as reduce the onsite storage limits at any one time. A detailed explanation of the proposed throughputs and the Facility’s capacity is provided in Section 5.1.2 of this Amendment Report, which has found that at the reduced throughput handling, capacity of the Facility is sufficient. As a result of the reduced throughput the draft OTMP (Appendix I) has been updated to account for the lower volume of trucks that would be required. A detailed swept path analyses have also been updated showing sufficient space to operate the Facility based on the heavy vehicles movements (as shown in the OTMP).</p> <p>The Facility has been designed such that each waste load will be allocated a designated bay or pit, there is to be no mixing of waste loads. The bays are separated by six-metre-high push walls. The soil stockpile heights would be limited to enable a buffer between the height of the stockpile and push wall, so that materials do not spill into other bays.</p> <p>The Facility will utilise an online booking system (Section 5.5 of the OWMP), which allows for control over the volume of waste to be received at any one time as waste loads would not arrive onsite unexpectedly. This also enables the Facility to ‘pause’ waste acceptance if there is any delay onsite that would affect storage capacity.</p>	<p>Section 5.1.2 of this Amendment Report</p> <p>1.4.13 of the Amended Proposal Description (Appendix B)</p> <p>Section 5.5 and Section 10.2 draft OWMP (Appendix H)</p> <p>Draft OTMP (Appendix I)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p><i>Constraints of the facility including but not limited to the size and time for treatment/storage,</i></p>	<p>Additionally, inclusion of a ‘Storage and transfer’ bay in the design allows for contingency in the unlikely event that further capacity is required onsite. Further contingency measures are outlined in Section 1.4.13 of the Amended Proposal Description and further description in Section 10.2 of the OWMP.</p>	
<p>4/12/2023 Section 1.5 lists plant and equipment which are required for the operation of the waste facility.</p> <p>Please provide a site plan showing where all the plant and equipment is located or stored if not already provided on Figure 1.8 or 1.11. Given the required area for the manoeuvring of heavy vehicles through the site, there appears to be little room for the manoeuvring or storage of other machinery.</p> <p>4/12/2023 Provide the location of the drill mud plant on a site plan and provide details of where trucks would park to unload from the vacuum tanker. Show how the trucks would manoeuvre into this area</p>	<p>Figure 1-3 in the Amended Proposal Description (Appendix B) has been updated include the static and mobile plant and equipment storage locations. When not in use, mobile plant and equipment would be stored in Compartment 3.</p> <p>Section 6.3.2 of the OWMP (Appendix H) outlines the process for drill mud plant and equipment. Trucks would park directly in front of the drill mud bays in Compartment 1. The drill mud plant (dewatering plant) will be located next to the sludge pits adjacent to the WWTP wall. This is shown on the Site Layout Plan in Figure 1-3 of the Proposal Description.</p> <p>A detailed swept path analyses have also been updated showing sufficient space to operate the Facility including with plant and equipment in operation within the (as shown in the OTMP – Appendix I).</p>	<p>Figure 1-3 in the Amended Proposal Description (Appendix B)</p> <p>Draft OTMP (Appendix I)</p>
<p>Environmental controls and procedures</p>		
<p>June – August 2023 Include details of all the environmental controls that will be used at the site.</p>	<p>Environmental controls have been embedded into the design and management procedures for the Facility:</p> <ul style="list-style-type: none"> • Updates have been made to the Amended Proposal Description (Appendix B) to provide further detail on proposed environmental controls. Section 1.2.7 – 1.2.10 of the Amended Proposal Description provide a description of the key environmental controls proposed, including urban design features, air quality management infrastructure, water and leachate management infrastructure and fire infrastructure. • Consolidated design drawings (Appendix E) have been prepared by SMEC which show key design features. These include the leachate collection and water management systems, wheel washes, HVAC and exhaust system, bunding design, fire infrastructure features and traffic control features. 	<p>Section 1.2.7 – 1.2.10 of the Amended Proposal Description (appendix B)</p> <p>Consolidated design drawings (Appendix E)</p> <p>Draft OEMP (Appendix F) and sub plans – draft OWMP (Appendix H), draft OAQMP</p>

EPA Query (including date of query)	Response/Comment	Reference
	<ul style="list-style-type: none"> • A draft OEMP (Appendix F) -, including an OWMP (Appendix H), an OAQMP (Appendix G) and OTMP (Appendix I) - has been prepared to provide detail around the operational procedures that will be utilised to manage environmental aspects. These documents also provide detail on the specific environmental controls applicable for each activity carried out on site • A Hazard Identification Report (Appendix L) has been prepared by Sherpa which identifies environmental and safety risks from the operation of the Facility and outlines the environmental controls which have included within the Facility design and operational plans. The assessment found the environmental controls to be effective in managing risk with no High environmental risk identified for the operation of the Facility • A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared which provides a detailed description of the Australian Standards, design features and management controls in place to manage risks associated with liquid and hazardous waste. Notably, the Hazard Identification Report (Appendix L) assessed 106 potential environmental risks that may arise as a result of the operation of the Facility. With the above environmental controls in place these would comprise no High risks and only 6 Medium environmental risks. 	<p>(Appendix G), draft OTMP (Appendix I)</p> <p>Hazard Identification Report (Appendix L)</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>
<p>4/12/2023 What processes are in place to prevent environmental harm in the event there is a chemical spill?</p> <p>4/12/23 Where will the Applicant store these [reagents] materials when not in use?</p> <p>4/12/23 More information is required on the overflow protection devices to be installed on the cement silo.</p> <p>4/12/23 What are the environmental controls used in the[reagent] storage area?</p>	<p>Reagents would be stored in the two ‘reagent storage areas’ (one in Compartment 1 and one in Compartment 2) and ‘cement silo’ as shown in the site layout plan Figure 1.3 in the Amended Proposal Description (Appendix B). Reagents used in the WWTP would be stored within the reagent storage area in Compartment 2. The reagent storage areas are internal to the building. Other than the cement (stored in the cement silo) reagents would be stored on shelves above the PMF level. Section 6.7 of the draft OWMP (Appendix H) outlines the storage limits and requirements for the reagents.</p> <p>The Hazard Identification Report (Appendix L) includes a comprehensive risk assessment for potential risks associated with chemical (reagent) spills and storage. The risk assessment found a total of 20 risks associated with the storage and use of reagents, including potential spills. All 20 environmental risk were found to be low with controls in place.</p> <p>A detailed description of the controls that would be in place to manage the risk of reagent spills is outlined in Sections 3.2 and Section 3.6 of the Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K). In summary these controls comprise (refer Section 3.2.2, 3.2.3, 3.6.2 and 3.6.3):</p>	<p>Hazard Identification Report (Appendix L)</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p> <p>Draft OEMP (Appendix F)</p> <p>Consolidated design drawings (Appendix E)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<ul style="list-style-type: none"> • Compliance with applicable guidelines and standards including AS1894 <i>The storage and handling of non-flammable and combustible liquids</i> and AS3780 <i>The storage and handling of corrosive substance</i> (other applicable guidelines are detailed in Section 3.2.2) • Specific storage requirements for reagents that area classified dangerous goods (Hydrochloric Acid and Caustic Soda are outlined in Table 3-4. Hydrochloric acid will be stored on its own within a locked safety cabinet. • Cement would be stored in silos located in the southern warehouse building extension. The cement silo will be fitted with a high-level alarm overflow protection device. The cement silo will vacuum the cement from the truck. A high-level alarm will be installed to alert if the storage area is near maximum. The alarm type will be confirmed at the detailed design phase. This delivery process would be supervised by suitable trained Hi-Quality staff. • Design / physical controls including - the Facility is fully enclosed with impervious surfaces and rollover bunding with suitable storage capacities (e.g. 100% of the largest tank capacity in Compartment 2), scrubber / HVAC system in place, processing lines include isolation valves and alarms, emergency wash down showers and spill kits are located throughout the facility, fire management infrastructure, signage and placards. The bunded areas and leachate diversion platforms locations are detailed on the Site Layout Plan and drainage is shown in the Hydraulics Services Detailed Design (Appendix E4 of the Amendment Report). • Management features (as summarised in the OEMP and OWMP) including hot works permit, staff training, maintenance schedules, mandatory PPE requirements, use of two-way radios and working in pairs protocols • An Incident and Emergency Response Plan and Spill Response Plan are provided within the OEMP (Appendix F). 	
<p>4/12/2023 What are the environmental controls used in the storage area and in the extraction and packaging of the solids [from the sludges]?</p>	<p>Once sludges have been dewatered, the solids would comprise soils which would then be transferred to a soil treatment bay to undergo decontamination (as described in Section 6.2 of the OWMP). Environmental controls for the storage of sludges would include the following as outlined in Section 6.3.1 of the OWMP (Appendix H):</p> <ul style="list-style-type: none"> • Ventilation system to be managed in accordance with the OAQMP during loading and unloading of material and treatment of material • Application of water for dust suppression during loading and unloading of the material and during treatment, if visibly dry 	<p>Section 6.2 and Section 6.3.1 of the Draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<ul style="list-style-type: none"> Visual inspection of the storage area on completion of unloading and loading to confirm all material is within the pit or wastewater treatment plant. Use of brooms or shovels to move the material within the treatment bay if observed outside of the pit or wastewater treatment plant. Spill and emergency response within the OEMP. 	
<p>4/12/2023 Where will the shredded material be stored and what are the environmental controls in place?</p>	<p>Shredded waste will be located within the bay allocated for packaged wastes within Compartment 3 (Figure 1-3 of the Amended Proposal Description).</p> <p>Environmental controls for the storage of shredded material involves operation of the ventilation system to be managed in accordance with the OAQMP (Appendix G) during loading, unloading and shredding of material. Additionally, the area will be visually inspected on completion of unloading and loading to confirm the material is within the allocated bay.</p>	<p>Figure 1-3 of the Amended Proposal Description (Appendix B)</p> <p>Draft OAQMP (Appendix G)</p>
<p>4/12/2023- Appendix B - Table 1.5 – Total Petroleum Hydrocarbons: Physical separation / screening is a treatment technology identified for some waste streams.</p> <p>Provide more details on the precise procedures for physical screening and separation including all environmental controls to be used.</p>	<p>A detailed draft OWMP (Appendix H) has been prepared to provide additional information regarding proposed treatment processes. Section 6.2.1.1 of the OWMP details the physical screening process. In summary, the physical screening procedure includes the following:</p> <ul style="list-style-type: none"> The type of screening technology used will be dependent on the particle size distribution and the grading of the materials. It is anticipated that cohesive materials or soils containing greater than 15% fines (silt and clay) will not be suitable for physical separation and may be more suited to chemical separation (Section 6.2.1.2 of the OWMP). Three types of physical screening technology will be deployed, as follows: <ul style="list-style-type: none"> The high shear mixer chemical stabilisation / mixing plant comes fitted with a screen to remove oversize materials which will be separated prior to stabilisation commencing; A mobile screen; and An excavator / loader with drilling / screening bucket attachment that will enable physical separation prior to treatment for soils not passing through the high shear mixer The contaminated material will be loaded into the respective physical screening technology via an excavator or front-end loader. Non-soil materials that have been separated out during physical screening will be transferred to the storage and transfer bay via an excavator or front-end loader. These materials will be tested to confirm they are not contaminated prior to being transported to a suitable facility for recycling. Should testing identify that contamination is present they will be classified in 	<p>Section 6.2.1.1 and Section 6.2.1.2 of the Draft OWMP (Appendix H)</p> <p>Hazard Identification Report (Appendix L)</p> <p>Consolidated design drawings (Appendix E)</p> <p>Amended Proposal Description (Appendix B)</p> <p>Draft OEMP (Appendix F) and sub plans – draft OWMP (Appendix H), draft OAQMP</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>accordance with the Waste Classification Guidelines and disposed of at an appropriately licensed facility.</p> <p>As noted above the Facility comprises many environmental controls to manage environmental risk, including management of waste. as described in:</p> <ul style="list-style-type: none"> • The Amended Proposal Description (Appendix B) and the Consolidated design drawings (Appendix E) provide a description and shows the key design features that are proposed to control environmental impacts. These include the leachate collection and water management systems, wheel washes, HVAC and exhaust system, bunding design, fire infrastructure features and traffic control features. • A draft OEMP (Appendix F), including a OWMP (Appendix H), an OAQMP (Appendix G) and OTMP (Appendix I), has been prepared to provide detail around the operational procedures that will be utilised to manage environmental aspects. • A Hazard Identification Report (Appendix L) has been carried out which identifies associated environmental and offsite safety risks from the operation of the Facility and outlines the environmental controls which have included within the Facility design and operational plans. The Hazard Identification Report found the controls to be effective and managing risk with no High environmental risk identified for the operation of the Facility. 	<p>(Appendix G), draft OTMP (Appendix I)</p>
<p>4/12/2023 Appendix B – Section 1.4.7.2 – “Operations during Stage 1 and Stage 2 would include treatment of soils through screening, bioremediation and immobilisation methodologies, and Stage 2 operations would extend to chemical screening treatment”.</p> <ul style="list-style-type: none"> • Where does the Applicant proposed to treat the soil? What type of plant and equipment will be used (location of the plant is not provided on the floor plan)? What environmental controls will be implemented to control dust and particulates? 	<p>A detailed draft OWMP (Appendix H) has been prepared to provide additional information regarding proposed treatment processes. Section 6.2.1 of the OWMP provides an overview of the treatment of bulk soils – this is further broken down into the specific treatment types that would be applied. In general, soil treatment would involve physical screening of material and potential for chemical separation to treat soils with heavier tar/ hydrocarbon fractions. After the initial screening, further. treatment would depend on the treatment process selected during the ‘identification of primary treatment technology procedure’.</p> <p>Bioremediation and immobilisation would occur within the bays designated for these activities (Figure 1-3 of the Amended Proposal Description).</p> <p>A draft OAQMP (Appendix G) has been prepared that includes the objective to manage dust. Installation of heating, ventilation and air conditioning will be undertaken. This will include a Particulate Matter (PM) filter and Activated Carbon filters to mitigate dust impacts.</p> <p>With regards to immobilisation, dust emissions during treatment are expected to be unlikely as the process would be contained within the high shear mixer. Following immobilisation treatment, the</p>	<p>Amended Proposal Description (Appendix B)</p> <p>Section 6.2.1 of the Draft OWMP (Appendix H)</p> <p>Hazard Identification Report (Appendix L)</p> <p>Consolidated design drawings (Appendix E)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>moisture content of the material would be increased within the high shear mixer plant and directly transferred via a covered feed belt to the immobilisation storage bays to cure.</p> <p>In addition to the general environmental controls described in the responses above, the OWMP outlines the environmental controls during treatment, including:</p> <ul style="list-style-type: none"> • Ventilation system to be managed in accordance with the OAQMP during loading and unloading of material and treatment of material • Application of water for dust suppression during loading and unloading of the material and during treatment • Visual inspection of the storage area on completion of unloading and loading to confirm all material is within the treatment bay. Use of brooms or shovels to move the soil within the treatment bay if observed outside of the bunded area. • Fabric curtains on the bioremediation bays are designed to contain the minor contaminant generation from the handling and the turning process. <p>A Hazard Identification Report (Appendix L) has been carried out which identifies associated environmental and offsite safety risks from the operation of the Facility and outlines the environmental controls which have included within the Facility design and operational plans. The risk assessment found the controls to be effective and managing risk with no High environmental risk identified for the operation of the Facility.</p>	
<p>4/12/2023 Appendix B - Table 1.5 – ASS: Acid neutralisation is a treatment technology identified for ASS.</p> <p>Provide more details on the precise procedures for acid neutralisation including all environmental controls to be used.</p> <p>4/12/2023 What dust suppression methods will be used [during the treatment of ASS]?</p>	<p>A detailed draft OWMP (Appendix H) has been prepared to provide additional information regarding proposed treatment processes. Section 6.2.2 of the OWMP details the ASS treatment process. In summary, the ASS treatment procedure includes the following:</p> <ul style="list-style-type: none"> • The treatment of PASS/ASS onsite is the responsibility of the Environmental Manager and Chemist. ASS treatment will be neutralised using agricultural lime ('aglime'). Aglime is non-corrosive, and requires no special handling, contains at least 98% calcium carbonate by weight, and should have a particle size <1mm. Aglime will be applied using a mobile high shear mixer and will be automatically dosed, based on characterisation and verification test results. Where aglime is used as a neutralising agent, the type and quantity of lime must be calculated so that a neutralising value (NV) of 100 is achieved. • Neutralising values are the result of the purity of the lime – a NV of 100 is required to ensure the lime effectively neutralises the acid and that calculations of liming rates remain consistent. 	<p>Amended Proposal Description (Appendix B)</p> <p>Section 6.2.1, 6.2.2, 6.4 and 6.5 of the draft OWMP (Appendix H)</p> <p>Hazard Identification Report (Appendix L)</p> <p>Consolidated design drawings (Appendix E)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<ul style="list-style-type: none"> ○ Agricultural lime (CaCO₃) generally has a NV of 90-100%. ○ The factor of safety can be modified to account for a reduced NV. <ul style="list-style-type: none"> ● Aglime shall be added in an appropriate ratio and/or based on results of Chromium Suite testing and/or suspension peroxide oxidation combined acidity and sulfate (SPOCAS). ● Once treated the soil will undergo validation testing as described in Section 6.5 of the OWMP. ● Any contaminated ASS (i.e. elevated levels of heavy metals) will be treated using the bulk soils methodology (Section 6.2.1 of the OWMP) to reduce contaminant load via the high shear mixer. Cross-contamination will be minimised by the wash down of the mixer following each load and the area will be bunded to contain material. Run-off from the washdown will be captured by the leachate diversion platforms and treated as liquid waste. This is described in Section 6.4 of the OWMP. In addition to the general environmental controls described in the responses above, the OWMP outlines the environmental controls during treatment, including: <ul style="list-style-type: none"> ● Ventilation system to be managed in accordance with the OAQMP during loading and unloading of material and treatment of material ● Application of water for dust suppression during loading and unloading of the material and during treatment ● Visual inspection of the storage area on completion of unloading and loading to confirm all material is within the treatment bay. Use of brooms or shovels to move the soil within the treatment bay if observed outside of the bunded area. <p>A Hazard Identification Report (Appendix L) has been carried out which identifies associated environmental and offsite safety risks from the operation of the Facility and outlines the environmental controls which have included within the Facility design and operational plans. The risk assessment found the controls to be effective and managing risk with no High environmental risk identified for the operation of the Facility.</p>	
<p>4/12/2023 Appendix B – Section 1.4.7.2.3 “Sludges would be delivered to the Site by tankers ranging in capacity from 2,000 L to 20,000 L. Tankers would unload sludge directly into designated containment bays or pits. Each batch of sludge would be unloaded in a pre-allocated pit, with no mixing of loads permitted.”</p>	<p>The OWMP (Appendix H) includes standard bay decontamination procedures for each of the treatment methodologies. For the treatment of sludges, the following decontamination procedure would be followed</p> <p>Once the material has been removed from the sludge pits, the sludge pits must be decontaminated using Decon 90. A 2% to 5% solution of Decon 90 with water is to be prepared. The WWTP must be saturated with the solution and left to soak for 2 to 24 hours. The sludge pits must then be rinsed with water and left to dry prior to being used again.</p>	<p>Section 6.3.1 of the Draft OWMP (Appendix H)</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>How will the pits be cleaned between batches, what chemicals and methods will be used and where will these be stored when not in use? What environmental controls will be in place during the unloading of sludge.</p>	<p>When the Decon 90 is not in use this would be stored within the reagents storage area in Compartment 1.</p> <p>Environmental controls for sludges are described in Section 6.3.1 of the OWMP. A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared which includes a description the key risk minimisation measures and controls for reagent and the Decon 90.</p>	
<p>4/12/2023 What environmental controls are in place during the use of the sheer mixer?</p>	<p>Section 1.2.8 of the Amended Proposal Description (Appendix B) outlines the air quality management infrastructure proposed for the Facility, including features to manage dust. Further, a draft OAQMP (Appendix G) has been prepared as part of the draft OEMP, which outlines the Facility features and procedures that will be put in place to manage air quality, including dust. Installation of heating, ventilation and air conditioning will be undertaken. This will include a Particulate Matter (PM) filter and Activated Carbon filters to mitigate dust impacts.</p> <p>Procedures for immobilisation of soils are included in Section 6.2.1.4 of the OWMP and include checks for soil and reagent moisture levels prior to transfer to and from the high shear mixer to minimise dust emissions.</p> <p>Material from the high shear mixer unit would be transferred via a covered feed belt to the immobilisation storage bays, inhibiting the possibility for dust emissions. The machine is fully enclosed, therefore there is low risk of dust or emissions during use.</p> <p>Additionally, the storage bays within Compartment 2 are connected to the HVAC system that contains a stockpile bay hood where air is collected and treated. The single stockpile bay hood will collect and send for treatment, approximately 95% of the total air flow through the space and is processed through the HVAC system.</p> <p>The OWMP outlines the environmental controls during treatment, including:</p> <ul style="list-style-type: none"> • Ventilation system to be managed in accordance with the Operational Air Quality Management Plan (OAQMP) during loading and unloading of material and treatment of material • Application of water for dust suppression during loading and unloading of the material and during treatment • Visual inspection of the storage area on completion of unloading and loading to confirm all material is within the treatment bay. Use of brooms or shovels to move the soil within the treatment bay if observed outside of the bunded area. 	<p>Section 1.2.8 of the Amended Proposal Description (Appendix B)</p> <p>Draft OAQMP (Appendix G)</p> <p>Section 6.2.1.4 of the draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
Water and leachate management infrastructure		
<p>4/12/2023 The Department and the EPA have previously requested detailed plans for the proposed leachate and water management systems. The ADR at Figure 3.3 provides only a basic concept for the water and leachate management infrastructure which is laid over top of an aerial of the roof of the building. Although Section 3.3 of the ADR describes the proposed system, the applicant has not provided detailed plans to show that this system can work on site and what modifications to the existing hardstand areas and building are required to facilitate the system (creating necessary fall etc.). A detailed leachate and water management plan is required.</p> <p>4/12/2023 Section 1.2.8 of Appendix B suggests the leachate collection pits would be excavated into the ground and would involve ground-breaking internal to the warehouse building. What depth are the pits proposed to be provided at? What flood level would these pits be installed at?</p>	<p>An updated and consolidated set of plans have been prepared by SMEC for the proposed Facility and are provided in Appendix E of this Amendment Report.</p> <p>Drawing CC-201 shows where changes to existing hardstand would be required to install leachate management infrastructure. Cross Sections for Compartment 1 are provided in E5 Structural Design. Design Drawings E4 shows the design for the Hydraulics Services that would be installed as part of the Facility.</p> <p>Section 1.2.9 of the Amended Proposal Description (Appendix B) outlines the proposed leachate management system that would be installed at the Facility and includes a summary figure of the key leachate infrastructure features.</p> <p>Section 2.4.2 of the OEMP outlines how water and leachate will be managed.</p> <p>The Revised Environmental Management Measures (Appendix C) have been updated, such that G2 includes a commitment to prepare an Operational Stormwater and Leachate Management Plan.</p>	<p>Consolidated design drawings (Appendix E)</p> <p>Section 1.2.9 of the Amended Proposal Description (Appendix B)</p> <p>Section 2.4.2 of the draft OEMP (Appendix F)</p> <p>Revised Environmental Management Measures (Appendix C)</p>
<p>4/12/2023 Section 1.2.8 also suggests “The bunding would consist predominantly of drive-over bunding at the driveway entries and step-over bunding at doorways, with sufficient capacity to contain one tanker load of liquid (20,000 L)”, however this is not detailed on plans showing holding capacities. Also, no calculations or a water balance has been provided.</p> <p>Bunding of Wastewater Treatment Plant – Appendix B suggests the WWTP will be banded in accordance with Australian Standards. Which standards is the Applicant referring to? What is the capacity of the</p>	<p>Since the timing of this comment, Section 1.4.12 of the Amended Proposal Description (Appendix B) has been updated to provide clarity on the water balance for the site.</p> <p>The bunding design would be sufficient to contain the load of one 20,000L tanker truck, as described in Section 1.2.9 of the Amended Proposal description.</p> <p>Bunding for the facility has been designed to capture the firewater requirements as prescribed in AS2419.1, which is:</p> <ul style="list-style-type: none"> • Fire hydrant water supply of minimum 4 hours at 20L/s = 288 kL • Fire sprinkler water supply of minimum 2 hours at 96L/s (as per AS 2118.1-1999) = 691.2 kL 	<p>Section 1.2.9 and Section 1.4.12 of the Amended Proposal Description (Appendix B)</p> <p>Consolidated design drawings (Appendix E)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>bunded area and how has this capacity been selected (failure of largest size vessel, containment of fire water etc.)</p> <p>Again, the basic plans provided do not provide the surety that the system described in the ADR and Proposal Description (Appendix B) can actually be catered for within the existing and expanded building.</p> <p>The information and plans provided is insufficient for the Department and the EPA to carry out an informed assessment of the development. The lack of detailed plans for this SSD has continually been raised as an issue with the Applicant. Examples of other the detailed plans submitted for other similar facilities have also been provided.</p>	<p>To capture the spent fire water the bunding would therefore require a minimum height of 178.4 mmm $(=(288\text{kL} + 691.2\text{kL}) \times 1,000 / 5,490)$. The proposed bunding is 250 mm in height, which would provide significantly more storage capacity than required to capture the spent fire water.</p> <p>The total storage capacity provided by the bunding within the three compartments of the Facility is 1,283kL, comprising:</p> <ul style="list-style-type: none"> • Compartment 1: 1,007kL • Compartment 2: 156 kL • Compartment 3: 120kL. <p>An updated and consolidated set of plans has been prepared by SMEC for the proposed Facility and are provided in Appendix E of this Amendment Report.</p>	
Treatment technologies - general		
<p>June – August 2023 The EPA also requested that the applicant provide supporting evidence that the proposed treatment technologies can be applied at the facility taking into consideration</p> <p>- <i>The contaminants of concern,</i></p>	<p>The Waste Type and Treatment Table (Annexure A to Appendix B) provides a detailed description of:</p> <ul style="list-style-type: none"> • Each waste type to be received at the Facility • The potential contaminants that may be found within each waste type • The proposed treatment procedure to be applied for each waste type <p>Generally, the bulk soils accepted onsite are expected to fall under the N120 waste code, the remaining waste codes listed in Annexure A to Appendix B would be accepted in the form of liquid wastes or packaged goods.</p> <p>As per the Amended Proposal Description, Chemical oxidation has been removed as a treatment technology, with the remaining treatment technology comprising:</p> <ul style="list-style-type: none"> • Physical screening • Chemical separation 	<p>Waste Type and Treatment Table (Annexure A to the Amended Proposal Description – Appendix B)</p> <p>Section 6 of the Draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<ul style="list-style-type: none"> • Bioremediation • Immobilisation. <p>Details on the treatment technologies and procedures are included in Section 6 of the OWMP (Appendix H).</p>	
<p>- <i>Treatment stoichiometry</i></p>	<p>The dosing rates for chemicals or reagents needed to achieve the desired reaction or transformation of the contaminated soils to meet landfill disposal requirements would be confirmed prior to treatment for each batch received. The reagent dosing rates would be tailored specifically to each waste batch depending on the contaminants present. The following guidance documents / approvals would be used to guide the treatment of the waste streams:</p> <ul style="list-style-type: none"> • Where waste is subject to a general immobilisation approval (GIA), the requirements of the GIA would be met, as outlined in Section 6.2.1.4.1 of the OWMP (Appendix H) • Where a specific immobilisation approval (SIA) is required, Hi-Quality would apply for the SIA prior to treatment of the waste and would provide the treatment stoichiometry at this time (refer Section 6.2.1.4.2 of the OWMP). The facility would treat wastes using reagents and processes commonly used in Australia and globally that have demonstrated scientific basis for immobilisation. A draft guidance SIA application template has been prepared as part of the OWMP (Appendix D of the OWMP). • Treatment and handling of ASS will be in accordance with the NSW Acid Sulfate Soils Manual (ASSMAC, 1998). The treatment procedure for ASS is described in Section 6.2.2 of the OWMP. 	<p>Section 6 and Appendix D of the Draft OWMP (Appendix H)</p>
<p>- Available treatment technology, emissions, and the disposal/reuse criteria;</p>	<p>As noted above, Chemical oxidation has been removed as a treatment technology, with the remaining treatment technology comprising standard treatment types:</p> <ul style="list-style-type: none"> • Physical screening • Chemical separation • Bioremediation • Immobilisation. <p>Section 6 of the OWMP provides a detailed description of how each of these treatment technologies will be applied and each of their respective environmental controls. Further a draft OAQMP (Appendix G) has been prepared.</p> <p>A revised Air Quality Impact Assessment was completed as part of the RtS in response to the EPAs' comments surrounding emissions estimations and modelling. The revised AQIA used</p>	<p>Section 6 of the draft OWMP (Appendix H)</p> <p>Revised AQIA (Appendix E of the RtS)</p> <p>Waste Type and Treatment Table (Annexure A of the Amended Proposal Description - Appendix B)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>conservative assumptions in regards to both the emissions estimates and air flow parameters from the ventilation outlets. The results of the dispersion modelling indicated that the predicted concentrations for PM₁₀, PM_{2.5}, arsenic, chromium, lead and odour at the closest sensitive receptors are all predicted to comply with all NSW EPA requirements.</p> <p>With regards to disposal/reuse criteria, all waste materials would undergo validation testing after treatment to ensure the material meets the EPAs’ “Waste Classification Guideline” disposal criteria prior to offtake. Disposal / offtake options for each waste stream are outlined within the Waste Type and Treatment Table appended to the Amended Proposal Description (Appendix B). The validation testing process is described in further detail in Section 6.5 of the OWMP.</p>	<p>Draft OAQMP (Appendix G)</p>
<p>4/12/2023 Table 1.3 – “Preliminary dosage rate for liquids (chemical oxidation / precipitation.”</p> <ul style="list-style-type: none"> Is chemical oxidation/precipitation still a method being used? More details on this is required. 	<p>Chemical oxidation has been removed as a treatment process since the EIS as it is acknowledged it is not a preferred treatment approach by the NSW EPA for several reasons, including:</p> <ul style="list-style-type: none"> The use of strong chemical agents has the potential to lead to the generation of hazardous by-products and the release of harmful substances, if not appropriately managed Chemical oxidation can take a longer time to complete than other treatment technologies such as immobilisation and was therefore determined not to be the most appropriate use of the facility areas While chemical oxidation may be effective for certain contaminants, it often requires large quantities of chemicals and energy, making it less sustainable. For these reasons chemical oxidation of soil is not proposed as a treatment technology at the facility. This is discussed in Section 5.1.1 of the Amendment Report. Reference to chemical oxidation processes has been removed from all of the documents 	<p>Section 5.1.1 of this Amendment Report</p>
Immobilisation		
<p>4/12/2023 The ADR suggests SIAs will be sought for the site and would reflect “existing, approved immobilisation technologies already approved by the EPA on other sites.”</p> <ul style="list-style-type: none"> No information on the other sites has been provided or the technologies utilised at these sites to immobilise waste. 	<p>A detailed draft OWMP (Appendix H) has been prepared to provide further detail regarding the proposed waste treatment procedures. Since the timing of this comment the OWMP has gone through several iterations and additional information has been included on the SIAs (Section 6.2.1.4 .2of the OWMP) proposed for use at the Facility. A template SIA Application has been provided in Appendix D of the OWMP.</p> <p>Immobilisation would be undertaken in accordance with <i>Waste classification guidelines part 2: Immobilisation of waste</i> (NSW EPA, November 2014). This outlines the process for the two types of</p>	<p>Section 6.2.1.4.2 of the Draft OWMP (Appendix H)</p> <p>Draft Guidance SIA Template (Appendix D to the Draft OWMP)</p>

EPA Query (including date of query)	Response/Comment	Reference
<ul style="list-style-type: none"> The EPA has requested further information regarding the proposed SIAs to gain an understanding about how that process will be undertaken at the facility in response to the EIS and RtS previously. <p>4/12/2023 ADR Section 3.1.3 – The ADR does not describe the “proven immobilisation technologies, processes and reagents” which will be used in immobilisation. The ADR relies on the fact that the EPA has approved SIAs for other facilities and requests all the requirements for achieving an SIA are left as a post approval matter.</p> <p>4/12/2023 The EPA requires surety that the proposed immobilisation regime for each waste stream has been assessed and a robust process can be established to manage the regime within the confines of the proposed development and the site.</p> <p>4/12/23 An adequate description of the technology and process to be used for soil immobilisation has not been provided.</p> <p>4/12/23 Appendix B – 1.4.7.2.1 – Bulk Soils Immobilisation – what are the proposed methodologies to be used to immobilise bulk soils?</p>	<p>immobilisation approvals in accordance with Clause 10 of the <i>Protection of the Environment Operations (Waste) Regulation 2014</i>.</p> <p>Immobilisation techniques can include:</p> <ul style="list-style-type: none"> Natural immobilisation Chemical fixation Micro-encapsulation, and/or Macro-encapsulation <p>As outlined in Section 6.2.1.4.2 of the OWMP the Facility would utilise micro encapsulation only. Immobilisation at the Facility will predominately use solidification / stabilisation technology, which has been identified as effective for treatment of selected contaminants (see ITRC – Development of Performance Specifications for Solidification/Stabilization (Interstate Technology & Regulatory Council (IRTC), July 2011). Immobilisation will involve mixing soil with cement, lime or other pozzolonic reagents. Each of the waste codes proposed to be treated by immobilisation are being undertaken at Hi-Quality’s operating Yatala Facility in Queensland.</p> <p>Where immobilisation is identified as the most appropriate treatment technology for a given waste batch, the waste batch would be assessed (as described in Section 5 of the OWMP). Where no general immobilisation approval exists, a unique SIA methodology would be prepared and submitted to the EPA for approval prior to treatment commencing in accordance with the guidelines. This follows the steps and approach outlined under ‘Application for a specific immobilisation approval’ (EPA. 2024).</p> <p>Section 6.2.1.4.2 of the OWMP provides an outline of the proposed process for seeking SIAs. Indicative contaminant levels and dosing rates have been outlined in Table 6-10 of the OWMP. The guidelines require scientific justification to the EPA to explain the basis that underpins the process by which immobilisation of contaminants in waste will be achieved which will be provided within each SIA application. SIA methodology would be prepared and submitted to the EPA for approval prior to treatment commencing. A draft guidance SIA application template has been prepared as part of the OWMP (Appendix D of the OMWP).</p> <p>The detailed content of individual SIAs, however, cannot be prepared at this stage of the project, as each SIA will be developed during operation based on the specific characteristics and treatment options proposed for each batch of soil to be treated under an SIA.</p>	

EPA Query (including date of query)	Response/Comment	Reference
	<p>The Amendment Report has been updated to remove reference to ‘other sites’ as it is noted that information on immobilisation approvals issued by the EPA is not publicly available and is commercial in confidence. The intention of this commentary previously was to highlight that the EPA’s SIA process is an existing process that is understood to be being implemented by the EPA at other sites.</p>	
<p>4/12/2023 Very clear details of each ‘proven immobilisation technology’ proposed for the site is required including where the immobilisation will be conducted, how dust/spills from the process would be managed, etc. – this information has not been provided to date.</p> <p>4/12/2023 What dust suppression procedures or technologies would be used in this area?</p> <p>4/12/2023 What chemicals, machines and materials will the Applicant use in these [immobilisation] processes?</p>	<p>As noted above, a detailed draft OWMP has been prepared to provide further detail regarding the proposed waste treatment procedures. Since the timing of this comment the OWMP has gone through several iterations and additional information has been included on the SIAs proposed for use at the Facility (both in Section 6.2.1.4.2 of the OWMP and within the template SIA Application – Appendix D of the OWMP).</p> <p>As outlined in Section 6.2.1.4.2 of the OWMP the Facility would utilise micro encapsulation only. Immobilisation at the Facility will predominately use solidification / stabilisation technology, which has been identified as effective for treatment of selected contaminants (see ITRC – Development of Performance Specifications for Solidification/Stabilization (Interstate Technology & Regulatory Council (IRTC), July 2011). Immobilisation will involve mixing soil with cement, lime or other pozzolonic reagents. Each of the waste codes proposed to be treated by immobilisation are being undertaken at Hi-Quality’s operating Yatala Facility in Queensland.</p> <p>A draft guidance SIA application template has been prepared as part of the OWMP (Appendix D of the OWMP), however as noted above a unique SIA methodology would be prepared for each waste batch to be immobilised; the procedure would be submitted to the EPA for approval prior to treatment commencing. Hi-Quality has experience in the immobilisation of waste materials, they currently undertake this at their Yatala Facility.</p> <p>Section 1.2.8 of the Amended Proposal Description (Appendix B) outlines the air quality management infrastructure proposed for the Facility, including features to manage dust. Further, a draft OAQMP (Appendix G) has been prepared as part of the draft OEMP, which outlines the Facility features and procedures that will be put in place to manage air quality, including dust. Installation of heating, ventilation and air conditioning will be undertaken. This will include a Particulate Matter (PM) filter and Activated Carbon filters to mitigate dust impacts.</p> <p>Procedures for immobilisation of soils are included in Section 6.2.1.4 of the OWMP and include checks for soil and reagent moisture levels prior to transfer to and from the high shear mixer to minimise dust emissions.</p>	<p>Section 6.2.1.4 of the Draft OWMP (Appendix H)</p> <p>Section 1.2.8 of the Amended Proposal Description (Appendix B)</p> <p>Draft OAQMP (Appendix G)</p> <p>Hazard Identification Report (Appendix L)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>Material from the high shear mixer unit would be transferred via a covered feed belt to the immobilisation storage bays, inhibiting the possibility for dust emissions.</p> <p>Additionally, the storage bays within Compartment 2 are connected to the HVAC system that contains a stockpile bay hood where air is collected and treated. The single stockpile bay hood will collect and send for treatment, approximately 95% of the total air flow through the space and is processed through the HVAC system. The OAQMP describes the HVAC system and its function of increasing and decreasing flow rates within the Facility and discharging levels via the strobic fans. The air emissions control system will be operated in accordance with the manufacturer’s specifications by the operational staff and can be managed remotely by the operating staff to the conditions of the Facility</p> <p>The OWMP outlines the environmental controls during treatment, including:</p> <ul style="list-style-type: none"> • Ventilation system to be managed in accordance with the Operational Air Quality Management Plan (OAQMP) during loading and unloading of material and treatment of material • Application of water for dust suppression during loading and unloading of the material and during treatment • Visual inspection of the storage area on completion of unloading and loading to confirm all material is within the treatment bay. Use of brooms or shovels to move the soil within the treatment bay if observed outside of the bunded area. <p>The risk of the Facilities operation to create dust was also considered as part of the Hazard Identification Report (Appendix L). The assessment found that with the controls mentioned above dust emissions would be unlikely to cause a material issue at the Facility.</p>	
<p>4/12/2023 Where is the soil immobilisation to be carried out in the building?</p> <p>4/12/2023 Where would this immobilisation be carried out (in the bays?).</p>	<p>Soils to be treated via immobilisation would be stored in one of the immobilisation bays (depicted as Bay B and C on Figure 1-3 in the Amended Proposal Description).</p> <p>As outlined in Section 6.2 of the OWMP (Appendix H), the material would be transferred from either the bulk receival bay (Bay G) or from its storage bay to the high shear mixer within/adjacent to its storage bay, using an excavator and/or front-end loader. Once treated, the material would be directly transferred to its allocated storage bay via the high shear mixer covered feed belt. Moisture content is increased in the material prior to being fed onto the belt to ensure a uniform and homogenous mixture is produced that is deposited into its designated storage bay. Once a</p>	<p>Figure 1-3 in the Amended Proposal Description (Appendix B)</p> <p>Section 6.2 of the Draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>landfill facility has been identified to accept the material, the material will be redirected to the approved Facility.</p>	
<p>4/12/2023 Appendix B – Table 1.5 – Coal Tar Contaminated Soil from Former Gasworks: Immobilisation is a treatment technology identified for this waste stream.</p> <p>Provide more details on the precise procedures for immobilising this waste stream.</p>	<p>The Immobilisation of Coal Tar Contaminated Soils EPA General Immobilisation Guideline would be followed to treat this waste type. Only soils less than 1% by weight of coal tar or coal tar pitch waste would be received at the Facility. Coal Tar would be immobilised in accordance with a General Immobilisation Approval (GIA).</p> <p>Section 6.2.1.4.1.1 of the OWMP provides a detailed description of the process for treatment for coal tar contaminated soils.</p> <p>In summary, treatment would involve the following:</p> <ul style="list-style-type: none"> • Batches of the soil will be loaded into mobile high shear mixer for treatment using a front-end loader or excavator. • If free non-aqueous phase liquid (NAPL) is visible soils would be pre-mixed using the excavator or rotary mixer to incorporate the NAPL. • A rotary mixer would be used to mix calcium or magnesium oxide based cement at a maximum ratio not exceeding 2 parts cement to 1 part waste soil. • The moisture content of the material would be tested prior to mixing. Reagent will either be delivered dry if total water to cement (w/c) ratio of the combined soil/cement exceeds 0.5 to ensure cement hydration. If the estimated w/c ratio is expected to be less than 0.5, additional water will be gently added to the waste materials until the w/c ratio is greater than 0.5. • Water may be added during mixing as well to effectively homogenize the materials to a maximum w/c ratio of 1.0. • Treated soils to be transferred to storage bays using an excavator or front-end loader and left to cure. • After curing, the batches are to be validated and classified for offsite disposal. <p>Treated waste that complies with all of the conditions of the Coal Tar GIA and that satisfies the requirements of the Waste Guidelines for classification as inert waste or solid waste may only be disposed of at solid waste landfills or industrial waste landfills which have currently operating leachate management systems and which are licensed by the EPA to accept that particular type of waste.</p>	<p>Section 6.2.1.4 of the OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>4/12/2023 Appendix B – Table 1.5 – Material containing heavy metals: Immobilisation is a treatment technology identified for this waste stream. Provide more details on the precise procedures for immobilising this waste stream.</p>	<p>As noted above, Section 6.2.1.4 of the OWMP (Appendix H) outlines the procedures for immobilisation as a treatment method.</p> <p>Immobilisation under a Specific Immobilisation Approval (SIA) will be sought for the treatment of metals and metalloids as well as PAHs (refer Section 6.2.1.4.2 of the OWMP).</p> <p>In summary, treatment would involve the following:</p> <ul style="list-style-type: none"> • Batches of the soil will be loaded into mobile high shear mixer for treatment using a front-end loader or excavator • The moisture content of the material would be tested prior to mixing. Reagent will either be delivered dry if total water to cement (w/c) ratio of the combined soil/cement exceeds 0.5 to ensure cement hydration. If the estimated w/c ratio is expected to be less than 0.5, additional water will be gently added to the waste materials until the w/c ratio is greater than 0.5. • Water may be added during mixing as well to effectively homogenize the materials to a maximum w/c ratio of 1.0 • Cementitious or pozzolanic binders (such as cement, ground granulated blast furnace slag or cement kiln dust) to be automatically dosed based on requirement for each waste batch. • Soils to be sampled after each addition of binding material to determine if suitable pH level has been achieved. For metals a range of optimum pH for solubility will be determined. • Treated soils to be transferred to storage bays and left to cure. • After curing, batches to be validated and classified for offsite disposal. <p>The following environmental controls would be in place during treatment:</p> <ul style="list-style-type: none"> • Ventilation system to be managed in accordance with the OAQMP during loading and unloading of material and treatment of material • Application of water for dust suppression during loading and unloading of the material and during treatment • Visual inspection of the storage area on completion of unloading and loading to confirm all material is within the treatment bay. Use of brooms or shovels to move the soil within the treatment bay if observed outside of the bunded area. <p>During treatment of the soils, the material will be sampled to confirm the pH of the material. Following treatment, the treated soil is to be tested by laboratory in accordance with the SAQP to confirm the TCLP concentrations meet the SIA requirements as described in Section 6.5 of the OWMP).</p>	<p>Section 6.2 of the Draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>In the unlikely event the SIA requirements are not met following treatment, further bench scale testing will be undertaken to identify further treatment requirements. Treatment will then be conducted in accordance with the treatment procedure identified.</p> <p>If the material fails to meet the SIA requirements after further treatment the material will need to be disposed of to an appropriately licensed waste disposal facility. The Facility Manager will liaise with a licensed waste facility and coordinate the process.</p> <p>Further detail on the immobilisation procedure for heavy metals is provided in Section 6.2.1.4.2.1 of the OWMP.</p>	
Bioremediation		
<p>4/12/2023 EPA requires information to show that any environmental impacts from the bioremediation activity will be addressed. More information on the bioremediation process is required.</p> <p>More information on the use of biopiles as a technique to carry out bioremediation at the site is required.</p>	<p>A detailed draft OMWP (Appendix H) has been prepared to provide further information regarding the operation of the Facility. The full bioremediation procedure, including environmental controls, is included in Section 6.2.1.3 of the OWMP.</p> <p>In summary, Biopiles are a form of bioremediation which would be carried out onsite. Biopiles utilise microorganisms or their metabolic products to degrade organic compounds in soils, this would be used to break down Total Petroleum Hydrocarbons (TPH). The biopiles will be covered to enable temperature, oxygen and moisture content to be controlled. The biopiles will be aerated regularly using an excavator during treatment to ensure the longevity of the microbes.</p> <p>Material for bioremediation will be accepted with total recoverable hydrocarbons (TRH) of up to 5% TRH w/w for treatment through bioremediation. Following acceptance of a waste for bioremediation, and determination of potential carbon food source for microbes, water content and soil blending requirements (aeration), the bioremediation process will be finalised.</p> <p>Bioremediation will occur until the completion of treatment has been validated through laboratory testing to confirm suitable thresholds of contaminant load has been achieved. The timeframe for treatment will be dependent on the nature of the contamination, concentration of the contaminants and the type and volume of soil.</p> <p>Bioremediation volume limits will be strictly adhered to; Hi-Quality will not accept additional wastes for treatment via bioremediation until any existing materials have been treated, validated, and removed from the Facility for disposal.</p> <p>Section 6.2.1.3 of the OWMP outlines the procedures and environmental controls for carrying out bioremediation. A Hazard Identification Report (Appendix L) has been prepared which has assessed offsite safety and environmental risks that may arise as a result of operation of the</p>	<p>Section 6.2.1.3 of the Draft OWMP (Appendix H)</p> <p>A Hazard Identification Report (Appendix L)</p>

EPA Query (including date of query)	Response/Comment	Reference
	Facility. No high risks were found (either pre or post treatment). Controls were found to be adequate to manage risks.	
<p>4/12/2023 The site plan does not identify the area to be used for bioremediation.</p>	<p>It is noted that the immobilisation and bioremediation bays may be interchangeable as all bays would be cleaned and decontaminated with Decon 90 after storage of each soil batch. Notwithstanding bays have been generally allocated within the Site Layout Plan and Figure 1-3 in the Amended Proposal Description labels the bays where bioremediation would occur, these are located along the eastern wall in Compartment 1</p>	<p>Figure 1-3 in the Amended Proposal Description (Appendix B)</p>
<p>4/12/2023 Appendix B – Section 1.4.7.2.3 – “Sludges with intermediate moisture content would undergo thickening using bentonite.”</p> <p>Where would the bentonite be mixed? In the containment bays or pits or as part of the WWTP?</p>	<p>Section 6.3.1 of the OWMP has been updated to clarify this process. The sludges would undergo thickening in the pits using bentonite. An excavator would be used to mix and incorporate the bentonite with the sludge.</p>	<p>Section 6.3.1 of the Draft OWP (Appendix H)</p>
<p>4/12/2023 Appendix B – Section 1.4.7.2.3 – “Wet sludges would undergo filtration or flocculation to separate suspended solids. This may be done through the Dissolved Air Floatation (DAF) tank in the Wastewater Treatment Plant (WWTP).”</p> <ul style="list-style-type: none"> How much of <u>this</u> is proposed to be stored on site at any one time? 	<p>The sludge treatment procedure is provided in Section 6.3.1 of the OWMP. Reagents to be stored onsite are described in Section 1.5 of the Amended Proposal Description (Appendix B) and Section 6.7 of the OWMP. would be stored within the reagent storage areas. Following initial pre-treatment, the products (soil and wastewater) would be re-assigned either a soil or liquid waste treatment train, depending on the contaminants present.</p>	<p>Section 6.3.1 and 6.7 of the Draft OWMP (Appendix H)</p> <p>Section 1.5 of the Amended Proposal Description (Appendix B)</p>
<p>Soils, sediments and sludges</p>		
<p>4/12/2023 Appendix B - Table 1.5 – Sludges: Contaminated soil treatment is a treatment technology identified for this waste stream.</p> <ul style="list-style-type: none"> Provide more details on the precise procedures for treating these waste streams 4/12/2023 Appendix B – Section 1.4.7.2 – “Soils, sediments and sludges of varying moisture content and contaminant classification would be received at the Site and would be subject to various processes to treat and decontaminate the 	<p>A detailed draft OWMP (Appendix H) has been to provide additional information regarding proposed treatment processes. Section 6.3.1 of the OWMP details the sludge treatment process.</p> <p>The sludges will be delivered to the facility by tankers ranging in capacity from 2,000 L to 20,000 L. Tankers will unload sludge directly into designated sludge pits in Compartment 2. Each batch of sludge will be unloaded in a pre-allocated pit or directly into the WWTP, with no mixing of loads permitted.</p> <p>Verification testing will be undertaken following receipt to ensure contaminants align with the characterisation provided by the waste generator (as described in Section 6.5 of the OWMP).</p>	<p>Draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>material as far as practicable, prior to disposal at an appropriately licensed landfill or alternative treatment facility”.</p> <ul style="list-style-type: none"> • What are the proposed processes to treat this particular waste stream? Merely referring to a flow diagram is insufficient. • 4/12/2023 Appendix B – Section 1.4.7.2 – “Soils, sediments and sludges of varying moisture content and contaminant classification would be received at the Site and would be subject to various processes to treat and decontaminate the material as far as practicable, prior to disposal at an appropriately licensed landfill or alternative treatment facility”. • What chemical reagents would be used? What happens when there are multiple agents of contamination present in soil? <p>4/12/2023 Appendix B – Section 1.4.7.2.3 – “Wet sludges would undergo filtration or flocculation to separate suspended solids. This may be done through the Dissolved Air Floatation (DAF) tank in the Wastewater Treatment Plant (WWTP).”</p> <ul style="list-style-type: none"> • Where will this actually be done and what is the process to remove the suspended solids? • Where will they be stored? 	<p>In summary, the sludge treatment process would involve the following (refer Section 6.3.1 of the OWMP):</p> <ul style="list-style-type: none"> • Pre-treatment of sludges will be based on moisture content: • Drier sludges will be deposited directly into the WWTP to undergo dewatering via a plate filter press to reduce the moisture content to less than 20% • Sludges with intermediate moisture content will be deposited directly into the sludge pit where they will undergo thickening using bentonite. An excavator would be used to mix and incorporate the bentonite with the sludge within the pit • Wet sludges will be deposited directly into the WWTP where they will undergo filtration or flocculation to separate suspended solids, prior to being transferred to the sludge pits (Figure 4-2 OWMP). This may be done through the Dissolved Air Floatation (DAF) tank in the Wastewater Treatment Plant. The DAF is located within the Wastewater Treatment Plant in Compartment 2. The products of the pre-treatment processes are: Wastewater – this will undergo further treatment in the WWTP, and • Dewatered soils – these will be transferred to the soil treatment bays to undergo decontamination (as described in 6.2 of the OWMP). <p>The reagents used would then be as per the relevant bulk soil treatment train (Section 6.2 of the OWMP) or liquid waste treatment train (Section 6.4 of the OWMP). Reagents would be stored within the reagent storage areas (as described in Section 6.7 of the OWMP).</p> <p>The waste classification and tracking procedure and the waste screening and batch control procedures set out in Sections 5.2 of the OWMP would be used to identify the appropriate treatment train for the specific waste stream. This would include consideration of the appropriate treatment train for multiple agents of contamination present. Any wastes that do not meet the treatment criteria would not be accepted onsite.</p> <p>Following treatment, the materials will undergo validation testing. If contaminants are still present in the material the load will be bench tested again and a new treatment process will be identified.</p>	
<p>4/12/2023 Appendix B – Section 1.4.7.2.3 “Sludges would be delivered to the Site by tankers ranging in capacity from 2,000 L to 20,000 L. Tankers would unload sludge directly into designated containment bays or pits. Each batch of sludge would be unloaded</p>	<p>The location of the sludge pits are shown in the site layout figure, refer to Figure 1-3 of the Proposal Description (Appendix B). An updated and consolidated set of plans has been prepared by SMEC for the proposed Facility and are provided in Appendix E of this Amendment Report.</p> <p>The pits are located in the northern end of Compartment 1.</p>	<p>Figure 1-3 of the Amended Proposal Description (Appendix B)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>in a pre-allocated pit, with no mixing of loads permitted.”</p> <ul style="list-style-type: none"> It is unclear where the ‘pits’ are located? 		<p>Consolidated design drawings (Appendix E)</p>
Sampling and validation testing		
<p>4/12/2023 Provide more information regarding the “Validation Testing” proposed.</p> <p>June - August 2023 The EPA also requested that the applicant provide supporting evidence that the proposed treatment technologies can be applied at the facility taking into consideration</p> <p>The number of samples to be taken for post-treatment validation, the suite of analytes that will be tested for and the validation process proposed to be adopted</p> <p>June – August 2023 A waste classification table that references the relevant NSW Classification methods. For each contaminant the EPA needs to know:</p> <ul style="list-style-type: none"> A detailed outline of the processes you would use to ensure the product meets the requirements of the Waste Classification table 	<p>Following treatment, all outputs will be tested to determine post-treatment contaminant loads and confirm success of the treatment methodology. Only wastes that meet landfill acceptance criteria will be disposed of at an appropriately licenced landfill (Table 7-3 of the Draft OWMP and the Waste Type and Treatment Table (Annexure A to the Amended Proposal Description)). Any waste intended for landfill that does not meet landfill acceptance criteria (as outlined in the Waste Type and Treatment Table) will undergo further treatment or be disposed of at an alternative appropriately licenced facility. Assessment and characterisation of the material for offsite disposal will be undertaken in accordance with the requirements outlined in the NSW EPA 2014 Waste Classification Guidelines.</p> <p>Samples for testing will be sent to a NATA accredited laboratory.</p> <p>If the results indicate the material has not responded to treatment it will undergo bench scale testing again to identify an appropriate treatment methodology. The material will undergo testing and validation after the alternative treatment train has been completed.</p> <p>Section 6.5 of the OWMP outlines the process for testing and validation.</p> <p>In accordance with Revised Environmental Mitigation Measure (REMM) MW10, Sampling and Analysis Quality Plans (SAQPs) will be prepared for the treatment of soils and wastewater at the Site. Section 1.4.9.5 of the Amended Proposal Description (Appendix B) notes that a SAQP will be developed for each of the waste treatment processes and will address:</p> <ul style="list-style-type: none"> Waste characterisation Waste acceptance Bench scale treatment and testing Batch scale treatment and testing Validation processes for each treatment batch. <p>The SAQPs will be developed for each of the waste treatment and validation processes and will be included as Appendix A to the OWMP. Validation testing would be in accordance with the EPA</p>	<p>Table 7-2, Section 6.5 and Table 7-3 of the Draft OWMP (Appendix H)</p> <p>Revised Environmental Management Measures (Appendix C)</p> <p>Waste Type and Treatment Table (Annexure A of the Amended Proposal Description - Appendix B)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>Waste Classification Guidelines six step process for classifying waste as outlined in Table 7-2 of the OWMP.</p>	
<p>4/12/2023 Appendix B – 1.4.8 – “Recovered recyclable materials from physical screening such as timber, brick, plastics and metals would be suitable for further reprocessing and recycling. Following testing, these materials would be delivered to a third party resource recovery facility for recycling.”</p> <p>What is the testing process alluded to here?</p>	<p>As described in Section 1.4.10 of the Amended Proposal Description (Appendix B), the final testing of materials prior to offtake would be summarised in a report that includes:</p> <ul style="list-style-type: none"> • Analytical Results • A summary of NATA accredited lab reports against batch records • A validation report for waste supplier and landfill • Compilation of waste disposal facility documentation, including field testing (where applicable). <p>SAQPs will be developed for each of the waste treatment and validation processes and will be included as Appendix A to the OWMP. Validation testing would be in accordance with the EPA Waste Classification Guidelines six step process for classifying waste as outlined in Table 7-2 of the OWMP.</p> <p>Testing and validation is also discussed in Section 6.5 of the OWMP. The validation testing will be used to determine whether the waste is destined for landfill or can be reprocessed or reused by a third-party facility. The test report will also be provided to the facility that receives the material.</p>	<p>Section 1.4.9 of the Amended Proposal Description (Appendix B)</p> <p>Section 6.5 of the Draft OWMP (Appendix H)</p>
<p>Waste types and classifications</p>		
<p>June – August 2023 In relation to Waste Management – a substantial portion of the information requested in the EPA’s correspondence of 14 January 2022 has not been provided. Without this information, the EPA is unable to adequately assess the potential impacts to the environment and community from the proposal. The EPA is unable to provide further comment without this information;</p> <ul style="list-style-type: none"> • Further clarification on: <ul style="list-style-type: none"> – the waste acceptance criteria for each of the waste streams to be accepted for treatment at the Site – the means of transporting each of the waste streams to the site 	<p>An updated Waste Classification Table has been prepared (Waste Type and Treatment Table (Annexure A to Appendix B) which includes the potential contaminants that may be present in each waste type, the treatment processes for each waste type (which are then described in detail in Section 6 of the OMWP) as well as the delivery method for each waste type.</p> <p>In addition, the Waste Type and Treatment Table (Annexure A to Appendix B) has been updated to include a column identifying the ‘Acceptance limits’ for the various contaminants within the waste types, above which the waste would not be accepted on the Site. Key contaminants and their concentrations for each of the waste streams is summarised below:</p> <ul style="list-style-type: none"> • Packaged waste for storage: <ul style="list-style-type: none"> ○ Cyanides (inorganic) (no defined treatment range) ○ Cyanides (organic) (no defined treatment range) ○ Material containing PCs and / or PBBs (no defined treatment range) ○ Highly odorous organic chemicals (no defined treatment range) 	<p>Waste Type and Treatment Table (Annexure A to the Amended Proposal Description - Appendix B)</p> <p>Draft OTMP (Appendix I)</p> <p>Draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
<ul style="list-style-type: none"> - the limits that the waste streams would need to meet through treatment. • June – August 2023 A waste classification table that references the relevant NSW Classification methods. For each contaminant the EPA needs to know: <ul style="list-style-type: none"> - Contaminant and delivery method - Ranges/concentrations that will be treated - Exact and detailed processes that will be used 	<ul style="list-style-type: none"> ○ Polychlorinated dibenzo-p-dioxin (any congener) (no defined treatment range)) ○ Reactive chemicals (no defined treatment range) • Acid sulfate soils: <ul style="list-style-type: none"> ○ ASS and PASS (no defined treatment range) • Bulk soils: <ul style="list-style-type: none"> ○ PFAS contaminated soil for storage only (below the restricted solid waste limits for PFAS under the Addendum to the Waste Classification Guidelines (2014) – Part 1: classifying waste) ○ Bioremediation: hydrocarbons, PAH impacted material, heavier coal tars (up to 5% TRH w/w for treatment, up to 100% w/w for storage and off site disposal) ○ Immobilisation – GIAs: <ul style="list-style-type: none"> ▪ Arsenic: (no defined treatment range) ▪ Benzo(a)pyrene (BaP) and Polycyclic aromatic hydrocarbons (PAHs): (no defined treatment range) ▪ Total petroleum hydrocarbons C₁₀ - C₃₆: Up to 20% w/w oil contaminated material would be treated. ▪ Tebuconazole and di-2-ethyl hexyl phthalate: (no defined treatment range) ▪ Chromium (VI), Arsenic and C₁₀ - C₃₆ petroleum hydrocarbons: (no defined treatment range) ▪ Polycyclic aromatic hydrocarbons (PAHs): 13,000 mg/kg ▪ Benzo(a)pyrene (BaP): 500 mg/kg ▪ Non-halogenated phenols: 2,000 mg/kg ▪ Total cyanide: 4,000 mg/kg ○ All wastes listed under Table 1 of the Waste Classification Guidelines, with the exception of PFAS, TPH and TRH and chemicals subject to a Chemical Control Order under the Environmentally Hazardous Chemicals Act 1985: (no defined treatment range) Immobilisation - SIAs: metals, metalloids, some PAH impacted material, some heavier coal tar (determined by the SIA approval on a case by case basis) • Liquid waste: <ul style="list-style-type: none"> ○ PAH: 50% w/w hydrocarbons ○ TPH: 50% w/w hydrocarbons ○ Organics: TOC 100mg/L 	

EPA Query (including date of query)	Response/Comment	Reference
	<ul style="list-style-type: none"> ○ Acidity and alkalinity: pH 0-14 ○ Heavy metals: 5% metals w/w ○ PFAS: 50ug/L ● Drill muds: no defined treatment range ● Sediments and sludges: no defined treatment range <p>The treatment procedure for each of the waste streams is outlined within the OWMP.</p> <p>Transport of each of the waste streams to the site would be the responsibility of the customer. The anticipated type and number of heavy vehicles that would be expected to transport the various waste streams to the Facility are outlined in Table 1-13 of the Amended Proposal Description. The delivery method, for each waste type, has then been specified in Waste Type and Treatment Table (Annexure A to Appendix B). Further an Operational Traffic Management Plan (OTMP I - Appendix) has been prepared to provide further information regarding the management of traffic and transport for materials to and from Site. Section 2.5 of the OTMP outlines the operational procedures for delivery of waste to and from the Site.</p> <p>In accordance with Revised Environmental Mitigation Measure (REMM) MW10, a Sampling and Analysis Quality Plans (SAQPs) will be prepared for the treatment of soils and wastewater at the Site. The SAQPs will outline the limits that the waste streams would be required to meet through treatment. The limits for the waste streams would be in accordance with the NSW EPA 2014 Waste Classification Guidelines.</p>	
<p>June – August 2023 A waste classification table that references the relevant NSW Classification methods. For each contaminant the EPA needs to know:</p> <ul style="list-style-type: none"> ● A detailed outline of the specific agents that would be added to treat the contaminant 	<p>The reagents proposed to be used on Site are listed in Table 1-14 of the Amended Proposal Description (Appendix B).</p> <p>Appendix B (Amended Proposal Description) has been updated to address the storage locations of reagents. Reagents would be stored internal to the building and used in treatment processes described in Section 1.5 of the Amended Proposal Description. Where required, storage solutions may be used for stacking of reagents, buffer distances would be maintained as appropriate.</p> <p>A description of reagents is also provided in Section 6.7 of the OWMP and type, nature and quantities of reagents is also provided in Appendix B of the Hazard Identification Report (Appendix L).</p>	<p>Amended Proposal Description (Appendix B)</p> <p>Section 6.7 of the Draft OWMP (Appendix H)</p> <p>Appendix B of the Hazard Identification Report (Appendix L)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>June – August 2023 A waste classification table that references the relevant NSW Classification methods. For each contaminant the EPA needs to know:</p> <ul style="list-style-type: none"> • A detailed outline of what would be done with the waste streams that are created as a result of the treatment process <p>June – August 2023 Clarification of the management and disposal of contaminated waste generated by the wastewater treatment plants</p> <p>4/12/2023 Appendix B – 1.4.8 - Materials used in the WWTP, including Granular Activated Carob (GAC) and VZC, would be containerised and disposed of offsite at an appropriately licensed landfill.</p> <p>More information is required on how these wastes are containerised and sent to landfill. What type of containers?</p>	<p>A detailed draft OWMP (Appendix H) has been prepared to provide further detail regarding the operation of the Facility. The OWMP describes each of the waste treatment processes including management of the by-products of treatment and operation of the wastewater treatment plants.</p> <p>The treatment of bulk soils may produce leachate as a result of the material being wet down during treatment or for dust suppression. The leachate would be collected within the Facility’s leachate collection pits which are then fed into the wastewater treatment plant (WWTP) for treatment.</p> <p>As outlined in Section 6.4 of the OWMP, treatment of liquid waste via the wastewater treatment plant would result in by-products of solids (known as filter cake) and treated wastewater:</p> <ul style="list-style-type: none"> • The filter cake produced from the filter press will be variable in composition due to the variability of the wastewater to be treated. The filter cake will be classified as a regulated waste due to being a by-product from a treatment process. Each batch of filter cake will be analysed to determine if it can be accepted at a regulated waste landfill. Typically, filter cake will meet landfill acceptance criteria as General Solid Waste or Restricted Solid Waste allowing landfill disposal. However, if the filter cake is hazardous, the filter cake will be treated and immobilised/stabilised according to the contaminants present before offsite landfill disposal. • Wastewater will be sampled at several points through the treatment train to confirm the effectiveness of treatment, and prior to disposal. Treated wastewater will be tested for compliance with Sydney Water’s trade wastewater specification prior to discharge to sewer. Some treated wastewater that meets re-use criteria may be reused onsite for dust suppression. <p>Spent filtration media, activated carbon and ion exchange resins from the WWTP will be stored in labelled 1000 litre IBC drums, sampled and analysed. Disposal will be determined based on this analysis with disposal options being direct to landfill disposal, treatment prior to disposal to landfill (onsite or offsite), disposal via thermal destruction (e.g. to Victoria) – waste transport protocols will be followed as required.</p> <p>The containers to be utilised for storage of spent filtration media would be filled and stored in Compartment 2 in the WWTP. Compartment 2 contains a number of controls for the handling and storage of materials, including:</p> <ul style="list-style-type: none"> • Design / physical controls including - the Facility is fully enclosed with impervious surfaces and rollover bunding with suitable storage capacities (e.g. 100% of the largest tank capacity in 	<p>Section 6.4 of the Draft OWMP (Appendix H)</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>Compartment 2), scrubber / HVAC system in place, processing lines include isolation valves and alarms, emergency wash down showers and spill kits are located throughout the facility, fire management infrastructure, signage and placards. The bunded areas and leachate diversion platforms locations are detailed on the Site Layout Plan and drainage is shown in the Hydraulics Services Detailed Design (Appendix E4 of the Amendment Report).</p> <ul style="list-style-type: none"> • Management features (as summarised in the OEMP and OWMP) including hot works permit, staff training, maintenance schedules, mandatory PPE requirements, use of two-way radios and working in pairs protocols • An Incident and Emergency Response Plan and Spill Response Plan are provided within the OEMP (Appendix F) <p>The full procedure for liquid waste treatment is provided in Section 6.4 of the OWMP. Additionally, a Liquid and Hazardous Waste Risk Identification and Minimisation Report (Appendix K) has been prepared to assess the likelihood of any risks and to identify appropriate environmental controls.</p>	
Mixing of waste and waste incompatibility		
<p>June – August 2023 How will materials be managed onsite to prevent issues arising from the mixing of incompatible waste types?</p> <p>4/12/2023 The EPA requires the Applicant to detail how incompatible materials will be identified and stored separately. Details of the how the separation will be achieved is required (bays, walled sections etc).</p>	<p>Hi-Quality has prepared an updated list of waste codes to be received at the Facility (Annexure A to the Amended Proposal Description), which has removed a number of waste codes as being acceptable for receipt at the Facility. As outlined in the Amened Proposal Description no waste received at the Facility would be mixed, with each waste batch treated individually.</p> <p>With the exception of relatively small quantities of Class 8 PG II and III waste that may be received in the form of liquid and packaged waste (refer Section 4.2 of the OWMP) no Dangerous Goods would be received at the Facility.</p> <p>A Hazard Identification Report (Appendix L) has been prepared by Sherpa which includes a detailed appraisal of the safety and environmental risks associated with the operation of the Facility.</p> <p>The Hazard Identification Report considered incompatible mixing risks within various plant area, activities and process units (see Risk ID 3, 12, 20, 27, 34, 36, 45, 47, 48, 61, 87, 95 and 100). No high risks were identified in the risk assessment with each of the risks identified as low and being effectively managed by the OEMP, OWMP and other respective mitigations. Only one medium managed risk was identified being associated with reagent spills in the WWTP reagent storage area.</p>	<p>Hazard Identification Report (Appendix L)</p> <p>Waste Type and Treatment Table (Annexure A to the Amended Proposal Description - Appendix B)</p> <p>Section 4 and 5 of the Draft OWMP (Appendix H)</p> <p>Draft OEMP (Appendix F)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>Waste handling and management procedures are detailed in Section 5 of the OWMP (Appendix H). In summary, prior to acceptance onsite, the waste generator will need to provide results from a NATA accredited laboratory to enable an appraisal of the treatability of the waste. A waste tracking number would then be assigned to the load. This would be used to track the waste through the treatment process(es) and ultimate disposal. Each load is to be assigned its own bay, there is to be no mixing of loads. An unexcepted finds protocol is provided in the OEMP for any non-conforming waste that arrives at the Facility.</p> <p>Table 4-1 of the OWMP summarises the storage location and limits of each waste type that would be received, stored, or generated as a by-product at the Site and Figure 1-3 in Amended Proposal Description (Appendix B) identifies the bays that would be used to store each waste type. Each of the bays are separated by push walls, and stockpiles would be maintained at a height at least one metre less than the push wall to ensure there is no spillage from the bays.</p>	<p>Figure 1-3 of the Amended Proposal Description (Appendix B)</p>
<p>4/12/2023 How will the Applicant transfer material into the mixer and how will cross contamination with other stockpiles of hazardous waste be avoided.</p>	<p>The Facility would not accept, treat or store any soil wastes classified as ‘Hazardous’ under the EPAs “Waste Classification Guidelines”.</p> <p>As described in Section 6.2.1 of the OWMP, each soil waste batch will be assigned a separate bay, with no mixing of batches permitted. Dedicated bays are allocated for storage, conditioning and final validation of materials, as shown in the Site Layout Plan (Figure 1-3 of the Amended Proposal Description).</p> <p>The material to be treated by immobilisation would be transferred from its designated storage bay to the high shear mixer using an excavator or front-end loader. Once treated, the material would be directly transferred to the allocated storage bay via the high shear mixer covered feed belt.</p> <p>Moisture content is increased in the material prior to being fed onto the belt to ensure a uniform and homogenous mixture is produced that is deposited into its designated storage bay.</p> <p>Equipment and bays would be decontaminated, in accordance with the relevant procedures set out in Section 6.2.1 of the OWMP prior to handling or treatment of other waste loads. This ensures that there would be minimal opportunity for cross contamination between waste batches.</p> <p>Cross-contamination would also be minimised by allocated leachate diversion platforms and bunding around storage bays. These would direct any liquids from the soils to the back of the bays where it would be re-incorporated into the waste using an excavator.</p> <p>A Hazard Identification Report (Appendix L) assessed the potential risk of interactions between the waste materials to be accepted and treated onsite finding no high risks arising from accidental</p>	<p>Figure 1-3 of the Amended Proposal Description (Appendix B)</p> <p>Section 6.2 of the OMWP (Appendix H)</p> <p>Hazard Identification Report (Appendix L)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>cross-contamination of waste types. The assessment also outlined relevant environmental controls which would be put in place minimise risk of cross-contamination.</p>	
<p>4/12/2023 Appendix B – Section 1.4.7.2 – “ASS would be stored separate to other bulk soils, as identified in Figure 1-5. As with bulk soils, each load would be assigned a separate bay.”</p> <p>- What processes are in place to prevent cross contamination between loads?</p>	<p>The ASS Treatment procedure is provided in Section 6.2.2 of the OWMP (Appendix H). Figure 1-3 in the Amended Proposal Description (Appendix B) shows the location of bays and their designation. ASS/PASS have a nominal allocation of 3 bays located in the south-east corner of Compartment 1.</p> <p>Each load of waste would be assigned a dedicated bay and there would be no mixing of loads. Cross-contamination of material loads within the high shear mixer would be avoided through washdown of the mixer between loads. All areas within the Facility will be bunded to contain and run-off would be captured by the leachate diversion platforms. Each of the bays would be decontaminated using Decon90 so that there is no residue left in the bay which would lead to cross contamination between waste loads.</p>	<p>Section 6.2.2 of the Draft OWMP (Appendix H).</p>
Hazardous waste		
<p>4/12/2023 EPA request more information on the storage of dangerous goods</p>	<p>The storage limits for waste that is classified as ‘Dangerous Goods’ has been confirmed and included in the Amendment Report (Section 5.3.4), OEMP and OWMP. Section 4.2 of the OWMP (Appendix H) includes dangerous goods storage locations and storage limits. No waste streams would be brought to the Site that would meet the classification of a Dangerous Good except Dangerous Goods Code Class 8, Packing Groups II and III, and these would be present on site in quantities below the thresholds set out in Applying SEPP 33. Measures for the storage and management of reagents that are Dangerous Goods are included in the OWMP</p> <p>Some wastewater and packaged waste may be brought to Site may meet the classification of Dangerous Goods Code Class 8, PG II and III. Wastewater and packaged waste that meet this classification would be transported to the Site in accordance with the requirements of the ADG Code. The wastewater and packaged waste would be received from contaminated sites within the Sydney region. The wastewater would be transferred to a designated tank in the WWTP and the Dangerous Goods Class 8 that are transported as packaged waste would be stored within a designated bay within the packaged waste storage area. These would be stored and handled in accordance with AS 3780-2008: The storage and handling of corrosive substances.</p> <p>In addition, Caustic Soda and Hydrochloric Acid would be used within the WWTP, both of these reagents are classified as Dangerous Goods Class 8, PG II. Storage requirements for each of these reagents are covered in Section 6.7 of the OWMP.</p>	<p>Amended Proposal Description (Appendix B)</p> <p>Section 4.2 of the draft OWMP (Appendix H)</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared which outlines the detailed controls in place for the management of hazardous waste and Dangerous Goods (including reagents).</p> <p>A detailed description of the controls that would be in place to manage reagent and hazardous waste storage is outlined in the Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K). In summary these controls comprise (refer Section 3.2.2, 3.2.3, 3.6.2 and 3.6.3):</p> <ul style="list-style-type: none"> • Compliance with applicable guidelines and standards including <i>AS1894 The storage and handling of non-flammable and combustible liquids</i> and <i>AS3780 The storage and handling of corrosive substance</i> (other applicable guidelines are detailed in Section 3.2.2) • Specific storage requirements for reagents that are classified dangerous goods (Hydrochloric Acid and Caustic Soda are outlined in Table 3-4 of Appendix K. Hydrochloric acid will be stored on its own within a locked safety cabinet. • Design / physical controls including - the Facility is fully enclosed with impervious surfaces and rollover bunding with suitable storage capacities (e.g. 100% of the largest tank capacity in Compartment 2), scrubber / HVAC system in place, processing lines include isolation valves and alarms, emergency wash down showers and spill kits are located throughout the facility, fire management infrastructure, signage and placards. The bunded areas and leachate diversion platforms locations are detailed on the Site Layout Plan and drainage is shown in the Hydraulics Services Detailed Design (Appendix E4 of the Amendment Report). • Management features (as summarised in the OEMP and OWMP) including hot works permit, staff training, maintenance schedules, mandatory PPE requirements, use of two-way radios and working in pairs protocols • An Incident and Emergency Response Plan and Spill Response Plan are provided within the OEMP (Appendix F). 	
<p>4/12/2023 Appendix B – Section 1.4.7.1 - where are the packaged hazardous chemical wastes proposed to be stored? Are they proposed to be stored on shelves above the PMF?</p>	<p>The Packaged waste storage area is identified on Figure 1-3 of the Amended Proposal Description (Appendix B). Packaged hazardous waste will be stored on raised platforms / shelving above the PMF as described in Section 6.1.2 of the OWMP and Section 1.4.8.1.2 of the Amended Proposal Description.</p> <p>Caustic Soda and Hydrochloric Acid would be used within the WWTP, both of these reagents are classified as Dangerous Goods Class 8, PG II. The storage requirements for each of these reagents are covered in Section 6.7 of the OWMP.</p>	<p>Figure 1-3 of the Amended Proposal Description (Appendix B)</p> <p>Section 6.1.2 of the draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
	<p>A Hazard Risk Identification Report (Appendix L) has been carried out to identify and quantify risks associated with the Facility, including those associated with the storage of packaged waste. The assessment found this to pose a low risk that would be effectively managed by storing the packaged waste above the PMF level.</p> <p>Further, a Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared which specifically identifies risk and controls for managing hazardous waste.</p>	<p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>
<p>4/12/2023 The site is therefore proposed to be utilised as a transfer station. Where are these waste streams coming from, why do they need to be temporarily stored and where are they going to?</p>	<p>Some waste streams are proposed to be stored only, with no treatment proposed; including PFAS contaminated soil and packaged waste. Waste sources are typically manufacturing and industrial sources, or in some cases from illegal dumping. The purpose of the Facility is to provide a safe, regulated place to store contaminated waste prior to transfer to appropriate treatment or disposal facilities.</p> <p>In the case of PFAS contaminated soil there is a need for an appropriate storage within the Sydney Region:</p> <ul style="list-style-type: none"> ● PFAS contaminated material cannot be accepted within NSW landfills and typically requires transport to either QLD or VIC ● Concessions/waiting periods to enter QLD and VIC range from two weeks to three months ● In the interim material needs to be stored safely to minimise risk of harm to human health or the environment. 	<p>Amended Proposal Description</p>
<p>Soils screening and recovered material</p>		
<p>4/12/2023 What is being screened and where are these contaminants being stored and disposed of?</p>	<p>Bulk soils will undergo physical screening to separate oversize and non-soil materials, such as plastics, metals, timber, concrete and aggregate, and cardboard and paper. This will be achieved through use of the screen within the high shear mixer, a mobile screen, or an excavator with a screening bucket attachment. Physical screening would have the benefit of breaking up clods in soils and clay, to improve the performance of further treatment technologies.</p> <p>Non-soil materials that have been separated out during physical screening will be transferred to the storage and transfer bay (Figure 1-3 of the Amended Proposal Description). These materials will be tested to confirm they are not contaminated prior to being transported to a suitable facility for recycling.</p> <p>This process is covered in further detail in Section 6.2.1.1 of the OWMP.</p>	<p>Section 6.2.1.1 of the Draft OWMP (Appendix H)</p> <p>Figure 1-3 of the Amended Proposal Description (Appendix B)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>4/12/2023 Appendix B – Section 1.4.7.2 – Recovered material from physical separation.</p> <p>Where are these materials going to be stored before collection? How will you deal with the possibility of residual chemical contamination on recovered material?</p>	<p>Recovered material from physical separation would be stored in dedicated recovered recyclable material bays or transfer and storage bays (shown on Figure 1-3 of the Amended Proposal Description).</p> <p>These materials will be tested to confirm they are not contaminated prior to being transported to a suitable facility for recycling. Should testing identify that contamination is present they will be classified in accordance with the Waste Classification Guidelines (EPA, 2014) and disposed of at an appropriately licensed facility.</p>	<p>Amended Proposal Description (Appendix B)</p>
<p>Packaged waste for product destruction</p>		
<p>4/12/2023 Appendix B – Section 1.4.7.1 – What type of shredder would be used</p> <p>What is the capacity of the shredder?</p>	<p>As outlined in Section 6.1.1 of the OWMP (Appendix H), packaged waste for product destruction and empty packaging will be put through the Brentwood AZ50HD dual shaft shredder (or similar), which has a throughput of 7-8 tonnes per hour, prior to offsite disposal at an appropriately licensed facility.</p>	<p>Section 6.1.1 of the draft OWMP (Appendix H)</p>
<p>4/12/2023 How much shredded waste is stored on sites at any given time?</p>	<p>A maximum of 50m³ of combustible shredded waste material would be stored onsite at any given time (Table 1-8 of the Amended Proposal Description).</p> <p>A total maximum of 400 tonnes of total packaged waste (including shredded waste) may be stored onsite at any one time.</p>	<p>Section 1.4.8 of the Amended Proposal Description (Appendix B)</p>
<p>4/12/2023 Where would the shredded waste be sent (provide details of licensed facilities to be used).</p>	<p>Shredded waste would be sent offsite to a licensed landfill, as General Solid Waste (refer Waste Type and Treatment Table (Annexure A to the Amended Proposal Description). A list of licenced facilities is provided in Table 7-3 of the draft OWMP (Appendix H).</p>	<p>Waste Type and Treatment Table (Annexure A to the Amended Proposal Description - Appendix B)</p> <p>Table 7-3 of the Draft OWMP (Appendix H)</p>
<p>Offtake of waste</p>		
<p>4/12/2023 What licenced landfills is the Applicant proposing to utilise?</p>	<p>The Waste Type and Treatment Table (Annexure A to the Amended Proposal Description) outlines the offtake Facility proposed for each waste type.</p> <p>Soil from sludges will be sent offsite to a licensed landfill for Restricted or GSW Waste as determined by the characterisation testing during validation.</p>	<p>Waste Type and Treatment Table (Annexure A to the Amended Proposal Description – Appendix B)</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>4/12/2023 Appendix B – Section 1.4.7.2 – “Soils, sediments and sludges of varying moisture content and contaminant classification would be received at the Site and would be subject to various processes to treat and decontaminate the material as far as practicable, prior to disposal at an appropriately licensed landfill or alternative treatment facility”. Where will soil be sent for disposal or what is the proposed alternative treatment facility?</p>	<p>A list of licenced facilities is provided in Table 7-3 of the OWMP of the Amended Proposal Description.</p>	<p>Table 7-3 of the Draft OWMP (Appendix H)</p>
<p>4/12/2023 Appendix B – Section 1.4.7.2 – Neutralised ASS would be transferred to a suitably licenced landfill for disposal. - How will the waste be loaded onto the trucks?</p>	<p>Once the ASS has been treated, the material would be loaded onto the trucks via the soil loading procedure which is detailed in Section 7.4.1 of the OWMP (Appendix H). In summary, the loading process would involve the following steps:</p> <ul style="list-style-type: none"> • Communication between the truck driver and spotter will be via UHF radio • The spotter checks communication with the incoming truck is active by receiving a response from the driver. This should be repeated during the critical periods of the loading process • The truck driver will remain in their cabin to eliminate risk of exposure to airborne contaminants and/or fumes present within the Facility. • The spotter will load the truck with the soil material using an excavator and/or front-end loader <p>The full soil loading procedure in Section 7.4.1 of the OWMP includes further detail including preparation, cleaning and exit and bay washdown and decontamination.</p>	<p>Section 7.4.1 of the Draft OWMP (Appendix H)</p>
<p>4/12/2023 What are the contingencies if the waste cannot be sent anywhere?</p>	<p>The Waste Type and Treatment Table (Annexure A to the Amended Proposal Description) outlines the offtake Facility proposed for each waste type. A list of licenced facilities is provided in Table 7-3 of the OWMP. As numerous facilities have been identified, it is considered unlikely that waste would not be possible to send anywhere. Further, each of the waste types proposed to be received at the Facility are also approved for receipt at Hi-Quality’s Yatala Facility in Queensland (which can carry out either additional treatment or access to further disposal if required).</p>	<p>Waste Type and Treatment Table (Annexure A to the Amended Proposal Description – Appendix B) Table 7-3 of the Draft OWMP (Appendix H)</p>

EPA Query (including date of query)	Response/Comment	Reference
General / other		
<p>June – August 2023 Please review the list of documents the EPA has received. It is suggested that documents and parts of documents that are no longer relevant be marked as such.</p>	<p>This Amendment Report and the Amended Proposal Description (Appendix B) have been developed to consolidate all current information into a single document. These documents are to be referred to when assessing the Project. A Document Status Table is provided in Appendix D.</p>	<p>This Amendment Report</p> <p>Amended Proposal Description (Appendix B)</p> <p>Document Status Table (Appendix D)</p>
<p>4/12/2023 Reference to repealed SEPP’s needs to be updated</p>	<p>New documentation provided to accompany this Amendment has been checked to ensure the latest State Environmental Planning Policy’s are referenced.</p> <p>The Amendment Report makes reference to the repealed SEPPs as these were in force at the time of the EIS.</p>	<p>All Documents</p>
<p>4/12/2023 State significant development guidelines – preparing an amendment report - Appendix D to the state significant development guidelines states:</p> <ul style="list-style-type: none"> the applicant should include an updated statutory compliance table for the amended project as an appendix to the amendment report. This table should identify all the relevant statutory requirements for the amended project and indicate where they have been addressed either in the amendment report or the associated EIS or modification report 	<p>An updated statutory compliance table was provided in Appendix A of the Amendment Report.</p>	<p>Updated Statutory Compliance Table (Appendix A)</p>
<p>4/12/2023 Council and the EPA have concerns that the wastes will be stored and processed below the PMF level including the leachate and water management system.</p> <p>Following the receipt of Council’s response to the RTS which again identifies this as an issue, have any meetings or correspondence occurred with Council to</p>	<p>A further meeting was held with Council on 12 December 2023 to discuss their comments regarding flooding planning considerations. A letter was sent to Council in response to comments raised during the meeting to confirm based on the Preliminary Risk Screening Assessment (PRSA) completed by Golder (2021), that the Proposal is not required to meet a flood planning level of the PMF. However, all waste and reagents classed as Dangerous Goods would be stored above the PMF level on elevated racking and be stored in accordance with the relevant Australian Standards.</p>	<p>Correspondence from Liverpool City Council provided to DPHI directly</p>

EPA Query (including date of query)	Response/Comment	Reference
<p>work through the issue? If so, what were the results of the meetings. If not, please provide a rationale for not discussing the issue with Council.</p>	<p>Email correspondence received from Council (dated January 17 2024) confirms the Facility to not be deemed to be a sensitive or hazardous development (and therefore is not required to meet a flood planning level of the PMF), and reiterating the intention that all Dangerous Goods are to be stored above the PMF. This email correspondence has been provided to DPHI directly.</p> <p>As previously outlined to Council and the EPA the Site is considered to have a relatively high level of flood immunity, up to and including the 1 in 500 year event and above the 1% AEP event. A review of the flood hazard under the PMF (an event found to have a probability of occurrence in less than 1 in 10,000,000 years) identified that flood waters would likely have a low velocity presenting minimal risk, especially noting controls in place within the Facility (including bunding of the entire Facility).</p>	

Table 4-7 Response to the NSW EPAs' comments from 26 April 2024

EPA comment	Response	Reference
<p>Trade waste</p> <p>Sydney Water – trade wastewater licence</p>		
<p>Provide evidence the Applicant has initiated discussions with Sydney Water to obtain a trade wastewater licence for the proposal</p>	<p>A draft Section 73 feasibility application was prepared and submitted to Sydney Water in July 2024. Sydney Water has requested further information on the operation of the Facility and for discharge volumes to be provided by a hydraulic consultant. This further information is being prepared and will be submitted to Sydney Water October 2024 and finalised following project approval.</p>	<p>Details of correspondence provided to DPHI directly</p>
<p>Packaged hazardous waste</p> <p>Based on the information provided, the site does not appear to be suitable for the proposed development</p>		
<p>The Applicant has committed to not receiving any waste streams on site that would meet the classification of Dangerous Goods (DGs) other than DGs Code Class 8, Packing Groups II and III. However, the documents submitted do not currently reflect this commitment. The ADR includes an expansive list of waste streams that are incompatible and potentially have toxic, flammable and reactive characteristics.</p>	<p>A revised list of waste codes has been prepared and provided in Waste Type and Treatment Table (Annexure A to the Amended Proposal Description – Appendix B). The revised list of acceptable waste codes has removed a number of waste that may have been deemed to be Dangerous Goods.</p> <p>The only waste that would be considered to be Dangerous Goods that will be permitted to be received at the Facility are as DGs Class 8, Packing Groups II and III. This may be either within packaged waste (for storage only) or within wastewater to be treated at the WWTP.</p> <p>Section 5.3.4 of this Amendment Report outlines the Dangerous Goods that would be received at the Facility. Section 4.2 of the OWMP (Appendix H) outlines the type of waste that are DGs that would be received at the Facility, including the maximum storage amount allowable on site at any one time.</p> <p>Some waste codes identified within the list of waste codes proposed to be received at the Facility align with DG classifications under certain circumstances. However, for material to be considered a DG it must display dangerous characteristics. The Australian Dangerous Goods Code (2022) outlines the specific parameters/characteristics of a good that need to be met for that good to be considered a DG. Several factors determine whether a substance is deemed to be dangerous (its concentration, chemical properties as well potential hazards such as toxicity). Specific testing will be carried out for</p>	<p>Section 5.3.4 of this Amendment Report</p> <p>Waste Type and Treatment Table (Annexure A to the Amended Proposal Description – Appendix B)</p> <p>Section 4.2 and 5.3.1 of the Draft OWMP (Appendix H)</p>

EPA comment	Response	Reference
	<p>any waste with potential to be considered a Dangerous Good, and the waste load will be rejected if it is found to have the concentrations/characteristics that would deem it to be dangerous.</p> <p>Mostly, the waste codes that are likely those being referred to by the EPA in this comment, relate to those that may be found within packaged waste or wastewater, where it will be highly diluted and below the thresholds for the characteristics that would deem it to be a DG.</p> <p>The waste classification and tracking procedure, and the waste screening and batch control procedures set out in Section 5 of the OWMP which would ensure no goods arrive at the Facility that are not permitted. Section 5.3.1 of the OWMP outlines specific pre-screening measures to ensure no Dangerous Goods enters the Facility beyond those identified as acceptable.</p>	
<p>Provide detail around the potential sources of each waste code and maximum quantities for each waste type, so that site layout design can cater for maximum quantities.</p>	<p>Source material will primarily be generated from industrial processes and contaminated sites from within the Sydney region.</p> <p>Section 1.1.3 of the Amended Proposal Description (Appendix B) describes the maximum quantities of waste to be received at the Facility. Maximum storage volumes are outlined in Section 1.4.8 of the Amended Proposal Description.</p> <p>A comprehensive review of the Facility’s operational capacity, as well as market conditions, has been carried out in response to stakeholder queries. As a result of this review, Hi-Quality are proposing to reduce the annual throughput to 210,500 tonnes per annum (tpa), as well as reduce the onsite storage limits at any one time.</p> <p>A detailed explanation of the proposed throughputs and the Facility’s capacity is provided in Section 5.1.2 of this Amendment Report which has found that at the reduced throughput handling, capacity of the Facility is sufficient. As a result of the reduced throughput the draft OTMP (Appendix I) has been updated to account for the lower volume of trucks that would be required. A detailed swept path analyses have also been updated showing sufficient space to operate the Facility based on the heavy vehicles movements (as shown in the OTMP).</p>	<p>Section 5.1.2 of this Amendment Report</p> <p>Section 1.1.3 and Section 1.4.8 of the Amended Proposal Description</p> <p>Draft OWMP (Appendix H)</p> <p>Draft OTMP (Appendix I)</p>

EPA comment	Response	Reference
<p>Provide evidence the: Applicant has consulted with SafeWork NSW.</p>	<p>WorkSafe has provided guidance on the Facility (refer email correspondence dated 16 September 2024 has been provided to DPHI directly). Implementation of SafeWork requirements will be undertaken as part of the detailed design and ongoing consultation will be carried out with SafeWork following Project Approval.</p>	<p>Email correspondence has been provided to DPHI directly</p>
<p>Provide evidence the: design of the proposed packaged waste storage area meets the design requirements of AS 3833- 2007, including in relation to the segregation and spill containment.</p>	<p>The Proposed packaging waste storage area (Compartment 3) will meet the design requirements of Australian/New Zealand Standard 3833-2024 Published 28 June 2024 <i>The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers</i>. These areas are shown in Figure 1-3 in the Amended Proposal Description (Appendix B) as well as the updated consolidated design prepared by SMEC (Appendix E). Compartment 3 is fully bunded with 250MM high roll over bunding provided at the entrance of Compartment 3.</p> <p>Any reagents (including hazardous reagents) would be stored in either Compartment 1 on pallet racking or Compartment 2, each of which would also be within fully bunded areas. Segregation has been identified as required for two of the proposed reagent types; hydrochloric acid and caustic soda. Storage requirements for these items are described in Section 6.7 of the OWMP (Appendix H).</p> <p>Hi-Quality is committed to complying with all applicable standard and requirements. Further design detail will be provided in the detailed design phase following Project Approval.</p> <p>A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared which considers the risks and controls for the management of hazardous waste, including packaged hazardous waste, which outlines the required storage, segregation and spill containment features for the Facility.</p>	<p>Consolidated design drawings (Appendix E)</p> <p>Section 6.7 of the draft OWMP (Appendix H).</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>
<p>Provide a detailed risk assessment, operating manual and Hazard and Operability Study (HAZOP) for the proposed consolidation process. A Hazardous Area Classification (HAC), as described below, should also consider the potential for flammable vapours to be generated during the consolidation of hazardous chemicals.</p>	<p>Following receipt of these comments, further consultation was carried out in a meeting with the EPA (date 17 June 2024). During this meeting, the EPA provided further clarity that they are looking to investigate the potential incompatibility of keeping waste materials next to each other – and that this should be considered in a risk assessment and that the HAZOP process should be followed to test any storage incompatibility between waste codes.</p> <p>At the time Hi-Quality outlined that the HAZOP guidelines require detailed design to follow in full, and have committed to completing a HAZOP following project approval once conditions of consent and</p>	<p>Revised Environmental Management Measures (Appendix C)</p>

EPA comment	Response	Reference
	<p>detailed design are finalised. This has been included within the Revised Environmental Management Measures (Appendix C – REMM #HR4). The EPA agreed that in the interim a gateway hazard risk study should be carried out and noted the commitment to doing the HAZOP in a more detailed manner at a later stage.</p> <p>As such, Hi-Quality engaged Sherpa to complete a Hazard Identification Report which has been provided in Appendix L. In addition a Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has also been prepared.</p> <p>A total of 106 safety and environmental risks associated with the operation of the Facility were identified as part of the Assessment. No High risks were identified (either unmanaged or managed). Prior to implementation of management measure a total of 64 safety and 36 environmental Medium risks were identified. Following implementation of management measures these were reduced to just 19 and 6 Medium risks respectively.</p> <p>AS/NZS IEC 60089.10.01.2022 specifies requirements for the classification of areas where flammable gas or vapour hazards may arise. No flammable or combustible gases would be received or stored at the Facility. The only flammable material to be stored at the Facility will comprise small quantities of shredded packaged waste. Any need for a Hazardous Area Classification (HAC) will to be confirmed during detailed design.</p>	<p>Hazard Identification Report (Appendix L)</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>

EPA comment	Response	Reference
<p>Site size and waste limits</p> <p>Additional information is needed to enable the EPA to make an informed assessment</p>		
<p>The EPA still considers the site is too small for the proposed activities and yearly limits.</p>	<p>A comprehensive review of the Facility’s operational capacity, as well as market conditions, has been carried out in response to stakeholder queries. As a result of this review, Hi-Quality are proposing to reduce the annual throughput to 210,500 tonnes per annum (tpa), as well as reduce the onsite storage limits at any one time (refer Section 1.1.3 of the Amended Proposal Description).</p> <p>A detailed explanation of the proposed throughputs and the Facility’s capacity is provided in Section 5.1.2 of this Amendment Report, which has found that at the reduced throughput handling, capacity of the Facility is sufficient. As a result of the reduced throughput the draft OTMP (Appendix I) has been updated to account for the lower volume of trucks that would be required. A detailed swept path analyses have also been updated showing sufficient space to operate the Facility based on the heavy vehicles movements (as shown in the OTMP).</p>	<p>Section 5.1.2 of this Amendment Report</p> <p>Section 1.1.3 of the Amended Proposal Description</p> <p>Draft OWMP (Appendix H)</p> <p>Draft OTMP (Appendix I)</p>
<p>Provide a waste table with yearly and at any one-time limits. This waste table must be detailed and describe the physical nature of the waste, the containers in which it would be stored and the method by which it would be transported.</p>	<p>The Waste Type and Treatment Table (Annexure A to Appendix B) provides a detailed description of:</p> <ul style="list-style-type: none"> • Each waste type to be received at the Facility • The potential contaminants that may be found within each waste type • The proposed treatment procedure to be applied for each waste type • The proposed method of transport for each waste type. <p>Section 1.1.3 of the Amended Proposal Description (Appendix B) prescribes the annual throughput limits for each waste type. The draft OWMP (Appendix H) provides further detail regarding the management, including storage, of each waste type.</p>	<p>Waste Type and Treatment Table (Annexure A to the Amended Proposal Description – Appendix B)</p> <p>Section 1.1.3 of the Amended Proposal Description (Appendix B)</p> <p>Draft OWMP (Appendix H)</p>

EPA comment	Response	Reference
<p>Site design</p> <p>Inadequate detail to assess site design</p>		
<p>The environmental controls provided do not provide the required level of detail to assess the site design.</p>	<p>Environmental controls have been embedded into the design and management procedures for the Facility:</p> <ul style="list-style-type: none"> • Updates have been made to the Amended Proposal Description (Appendix B) to provide further detail on proposed environmental controls. Section 1.2.7 – 1.2.10 of the Amended Proposal Description provide a description of the key environmental controls proposed, including urban design features, air quality management infrastructure, water and leachate management infrastructure and fire infrastructure. • Consolidated design drawings (Appendix E) have been prepared by SMEC which show key design features. These include the leachate collection and water management systems, wheel washes, HVAC and exhaust system, bunding design, fire infrastructure features and traffic control features. • A draft OEMP (Appendix F) -, including an OWMP (Appendix H), an OAQMP (Appendix G) and OTMP (Appendix I) - has been prepared to provide detail around the operational procedures that will be utilised to manage environmental aspects. These documents also provide detail on the specific environmental controls applicable for each activity carried out on site • A Hazard Identification Report (Appendix L) has been prepared by Sherpa which identifies environmental and safety risks from the operation of the Facility and outlines the environmental controls which have included within the Facility design and operational plans. The assessment found the environmental controls to be effective in managing risk with no High environmental risk identified for the operation of the Facility • A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared which provides a detailed description of the Australian Standards, design features and management controls in place to manage risks associated with liquid and hazardous waste. <p>Notably, the Hazard Identification Report (Appendix L) assessed 106 potential environmental risks that may arise as a result of the operation of the Facility. With the above environmental controls in place these would comprise no High risks and only 6 Medium environmental risks.</p>	<p>Section 1.2.7 – 1.2.10 of the Amended Proposal Description (Appendix B)</p> <p>Consolidated design drawings (Appendix E)</p> <p>Draft OEMP (Appendix F) and sub plans –</p> <p>draft OWMP (Appendix H), draft OAQMP (Appendix G), draft OTMP (Appendix I)</p> <p>Hazard Identification Report (Appendix L)</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>

EPA comment	Response	Reference
<p>Provide a document to the level of detail that covers each element of the site design as would be provided in a Hazard and Operability (HAZOP) Study</p>	<p>Following receipt of these comments, further consultation was carried out in a meeting with the EPA (date 17 June 2024). During this meeting, the EPA provided further clarity that they are looking to investigate the potential incompatibility of keeping waste materials next to each other – and that this should be considered in a risk assessment and that the HAZOP process should be followed to test any storage incompatibility between waste codes.</p> <p>At the time Hi-Quality outlined that the HAZOP guidelines require detailed design to follow in full, and have committed to completing a HAZOP following project approval once conditions of consent and detailed design are finalised. This has been included within the Revised Environmental Management Measures (Appendix C – REMM #HR4). The EPA agreed that in the interim a gateway hazard risk study should be carried out and noted the commitment to doing the HAZOP in a more detailed manner at a later stage.</p> <p>As such, Hi-Quality engaged Sherpa to complete a Hazard Identification Report which has been provided in Appendix L. In addition, a Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has also been prepared.</p> <p>A total of 106 safety and environmental risks associated with the operation of the Facility were identified as part of the Assessment. No High risks were identified (either unmanaged or managed). Prior to implementation of management measure a total of 64 safety and 36 environmental Medium risks were identified. Following implementation of management measures these were reduced to just 19 and 6 Medium risks respectively.</p>	<p>Revised Environmental Management Measures (Appendix C)</p> <p>Hazard Identification Report (Appendix L)</p> <p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>
<p>Changes to management of some chemicals.</p> <p>Reform of industrial chemicals environmental management</p>		
<p>The EPA intends to adopt national standards and new obligations around waste on 1 July 2025.</p>	<p>Clarification was sought by Hi-Quality to understand the nature of the new standards to be released in July 2025. In an email dated 11 July 2025 the EPA provided reference to Industrial Chemicals Environmental Management Standard or ‘IChEMS’.</p>	<p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>

EPA comment	Response	Reference
	<p>A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared which provides a detailed description of the Australian Standards that have been applied for the development of the Proposal, including the iChEMS minimum standards.</p>	
<p>Provide in detailed designs the environmental controls and management procedures that would be implemented so that Wastewater Treatment Plant would be consistent with the national standards.</p>	<p>A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared to outline the specific risks, national standards and environmental controls that will be utilised within the WWTP. This has considered controls for both wastewater as well as for the storage and use of reagents within the WWTP. Sections 3.1.3, 3.2.3, 3.3.3, 3.4.3 and 3.5.3 outline the environmental control in place at the WTP to manage risk.</p> <p>A total of 43 hazards were identified in relation to the management of liquid waste (the WWTP). Following the implementation of controls this comprised 7 Medium and 36 Low Safety risks and 2 Medium and 41 Low Environmental risks.</p>	<p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>
<p>Further information required</p> <p>Summary of information required</p>		
<p>Provide consolidated and updated versions of all documents, as the main lead documents referenced in the revised draft Amendment Report are no longer relevant or applicable.</p>	<p>This Amendment Report and the Amended Proposal Description (Appendix B) have been developed to consolidate all current information into a single document. These documents are to be referred to when assessing the Project. A Document Status Table is provided in Appendix D to the Amendment Report which outlines the version history of the documents and notes which have been superseded.</p>	<p>This Amendment Report Amended Proposal Description (Appendix B)</p> <p>Document Status Table (Appendix D)</p>
<p>To enable EPA’s assessment the following is required:</p> <ul style="list-style-type: none"> • a Hazardous Area Classification as per AS 60079.10.1.2022); 	<p>AS/NZS IEC 60089.10.01.2022 specifies requirements for the classification of areas where flammable gas or vapour hazards may arise. No flammable or combustible gases, would be received or stored at the Facility. The only flammable material to be stored at the Facility will comprise small quantities of shredded packaged waste. Section 5.2.4 of this Amendment Report outline the key fire management infrastructure incorporated within the Facility design. Any need for a Hazardous Area Classification (HAC) will to be confirmed during detailed design.</p>	<p>Section 5.2.4 of this Amendment Report</p>

EPA comment	Response	Reference
<p>A Fire Safety study (FSS) as per the FSS guidelines in Hazardous Industry Planning Advisory Paper No 2</p>	<p>Appendix K of the EIS provides a Fire and Incident Management Assessment. Since the preparation of the EIS further design refinements have been carried out. Appendix E3 of this Amendment Report shows the updated Fire Services Design; these are described further in Section 5.2.4 of this Amendment Report; along with key compliance considerations with the Fire Safety In Waste Facilities (Fire and Rescue, 2020) Guidelines. Key fire design features include:</p> <ul style="list-style-type: none"> • Site connection • Fire hydrant system • Fire sprinkler system • Fire hose reels • Portable fire extinguishers • Fire detection system • Spent fire water management. <p>As per the HIPAP 2: Fire Safety Guidelines (Department of Planning, 2011) a Preliminary Hazard Analysis should be prepared in the Development Application stage of a project. Appendix I of the EIS provides a (former) SEPP 33 Preliminary Risk Screening. Further a Hazard Identification Report has been prepared to support this Amendment Report (provided in Appendix L). As per the HIPAP 2 Guidelines, and in accordance with FIM13 in Appendix C Environmental Management Measures, a Fire Safety Study will be prepared during the post-approval detailed design phase.</p>	<p>Fire and Incident Management Assessment (Appendix K of the ES)</p> <p>SEPP 33 Preliminary Risk Screening (Appendix I of the EIS)</p> <p>Section 5.2.4 of this Amendment Report</p> <p>Revised Environmental Management Measures (Appendix C)</p>
<p>Hazardous waste risk identification and mitigation report</p>	<p>A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared to outline the specific risks, national standards and environmental controls that will be utilised to manage hazardous waste. This has considered controls for both hazardous waste as well as for the storage and use of reagents.</p> <p>A total of 43 hazards were identified in relation to the management of liquid waste (the WWTP). Following the implementation of controls this comprised 7 Medium and 36 Low Safety risks and 2 Medium and 41 Low Environmental risks.</p>	<p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>
<p>A stormwater/bunding integrity assessment report</p>	<p>All bunding associated with the Facility is proposed and has not yet been constructed. It is therefore not possible to assess for integrity. It was agreed with the EPA (meeting dated 17 June 2024) that this would not be required.</p>	<p>N/A</p>

EPA comment	Response	Reference
<p>A Liquid waste ‘Risk Identification and Minimisation Report’. The report must address:</p> <ul style="list-style-type: none"> i. potential for unplanned releases of liquid chemicals and waste from all activities conducted at the premises including, but not limited to bulk storage tanks, drum and IBC storage areas, materials unloading and blending areas, and wastewater treatment systems; ii. assessment of the risks presented by potential unplanned releases of liquid chemicals and waste from each activity considered in direction (i). iii. identification of guidelines and standards relevant to the management of liquids associated with each activity considered in direction (i) iv. comparison of current infrastructure and practices for the management of potential unplanned releases of liquid chemicals and waste from each activity considered in Section (i) against the standards identified in (iii). v. strategies to reduce risk identified in Section (ii) and to address any identified issues with current 	<p>A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared to outline the specific risks, national standards and environmental controls that will be utilised within the WWTP.</p> <p>Table 1-1 outlines where in the report each of the requirements of the report are addressed:</p> <ul style="list-style-type: none"> • The potential for unplanned releases, assessment of risk, identification of applicable guidelines and strategies to minimise risk are all provide in Section 3 of the Report • A comparison of current infrastructure and practices for management at the Site has not been provided as the Facility is not currently operational. No current practices are therefore applicable for hazardous waste management. <p>A total of 43 hazards were identified in relation to the management of liquid waste (the WWTP). Following the implementation of controls this comprised 7 Medium and 36 Low Safety risks and 2 Medium and 41 Low Environmental risks.</p>	<p>Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K)</p>

EPA comment	Response	Reference
<p>vi. infrastructure and practices identified in the comparison required by (iv). preferred options to minimise potential risks to the environment posed by the storing and handling of liquid chemicals and wastes, based on the strategies identified in direction 5 (v).</p>		

4.1.2.7 SafeWork

An email was received on the 16 September 2024 from SafeWork in response to correspondence requesting comment on the proposal. Table 4-8 presents the key comments raised and Hi-Quality's response.

Table 4-8 Response to SafeWork

Comment	Response / Comment
<p>The Person Conducting a Business or Undertaking (PCBU) managing the site should ensure that when working on the site, an assessment is undertaken to identify all hazardous chemicals that are currently present on site and comply with requirements of the NSW Work Health & Safety Act 2011 and NSW Work Health & Safety Regulations 2017 when developing and implementing any remediation / processing program. If any waste is classified as a dangerous goods then Chapter 7 Divisions 3 and 4 of the NSW Work Health & Safety Regulations 2017 relating to manifests of hazardous chemicals and placarding may apply.</p>	<p>A Hazard Identification Report (Appendix L) and a Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) have been prepared for the Proposal, which consider key safety risks and the storage and handling of hazardous chemicals.</p>
<p>In planning the WHS management of this process, the PCBU should ensure that all reasonably practicable measures to prevent exposure to these chemicals are considered and implemented during the transport, storage and processing.</p>	<p>The Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) outlines the relevant guidelines and standards and preventative controls for the handling of hazardous chemicals.</p>
<p>Consideration should be given to the above issue and addressed at the design and construction stages if plant and equipment for the treatment facility are built on site including adequate exhaust ventilation systems and other engineering controls to eliminate worker exposure to hazardous chemicals. If hazardous material are transferred off site, work processes should be designed to eliminate worker exposure to hazardous chemicals during the transfer process and any person / PCBU dealing / handling / processing the hazardous materials comply with the WHS management requirements established by the PCBU to eliminate worker exposure to hazardous chemicals.</p>	<p>As noted above, A Hazard Identification Report (Appendix L) and a Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) have been prepared for the Proposal, which consider key safety risks and the storage and handling of hazardous chemicals.</p> <p>The Facility includes an HVAC and ventilation system that will be accordance with the OAQMP (Appendix G).</p> <p>Section 7.4 of the draft OWMP (Appendix H) outlines the waste loading procedures for the handling and loading of waste.</p>
<p>Where it is not reasonably practicable to prevent exposure, requirements outlined in Chapter 3 “General risk and workplace management” and Chapter 7 “Hazardous Chemicals and Schedule 14 requirements for health monitoring” of the Work Health and Safety Regulations 2017 should be followed.</p>	<p>Noted</p>

4.1.3 Future engagement

None of the amendments change the planned consultation during detailed design, construction or operation of the Proposal. No new agencies are affected by the amendments and future consultation will remain consistent with the approach presented in the EIS.

4.2 Community engagement

4.2.1 Overview

Community engagement activities were undertaken to seek feedback and raise awareness of the Proposal during its development and preparation of the EIS. Community consultation activities undertaken to date include the following:

- Early engagement that commenced following submission of the initial scoping report (3 September 2020), including identifying community stakeholders and setting up appropriate engagement tools
- A notification letter was provided to the community providing details about the Proposal, contact details, the EIS process and encouraging feedback was mailed to identified community stakeholders on 9 March 2021
- Providing a variety of communication methods including emails and/or phone calls, provision of a project website, set up of a dedicated project email to receive feedback and provision of a postal address for written feedback.

A ‘Community and Stakeholder Participation Strategy’ was also developed as part of the EIS. The objectives of the Community Stakeholder Participation Strategy were to:

- Identify appropriate stakeholders for the Proposal and justification for their selection
- Inform identified stakeholders and the broader community about the main features, related issues and potential impacts of the Proposal that is accurate and timely
- Provide accessible and sufficient opportunity for stakeholder input to the Proposal.

4.2.2 Engagement undertaken and issues raised

As the proposed amendments were determined to result in similar and/or lesser impacts to those assessed in the EIS, further community consultation was not deemed necessary at this time.

4.2.3 Future engagement

None of the amendments change the planned consultation during detailed design, construction or operation of the Proposal. No new community stakeholders are affected by the amendments and future consultation will remain consistent with the approach presented in the EIS.

5 Description of the amendments

This chapter describes the proposed amendments to the Proposal that have been introduced as a result of changes to the Proposal operations, design progression, or in response to clarifications sought from stakeholders. A summary of the changes compared to information presented within the EIS and RtS is provided in Section 5.5.

5.1 Changes to the Proposal operations

The following changes have been made to the proposed operations of the Proposal in response to comments from agencies and through design progression.

5.1.1 Exclusion of chemical oxidation as a treatment technology

In response to comments from the EPA during the meeting of 4 October 2023, Hi-Quality has decided to exclude the treatment of soils through chemical oxidation from the Proposal description. Treatment of soils on the Site would be limited to:

- Immobilisation in accordance with General Immobilisation Approvals (GIAs) and Specific Immobilisation Approvals (SIAs) – note that the facility would only treat wastes using micro-encapsulation immobilisation technologies, and reagents and processes used in Australia and globally that have demonstrated scientific basis for immobilisation (see further discussion at Section 5.3.3)
- Treatment of sludges
- Treatment of ASS/PASS
- Treatment of non-contaminated drilling mud
- Treatment of liquid waste.

The following reagents proposed for use in the chemical oxidation treatment procedure have been removed from the list of reagents to be stored onsite (Table 1-14 of the Amended Proposal description, Appendix B):

- Hydrogen Peroxide
- Potassium Permanganate
- Sodium Persulfate.

5.1.1.1 Justification

Chemical oxidation has been removed from the Proposal as a treatment technology as it is acknowledged it is not a preferred treatment approach by the EPA for several reasons, including:

- The use of strong chemical agents has the potential to lead to the generation of hazardous by-products and the release of harmful substances, if not appropriately managed
- Chemical oxidation can take a longer time to complete than other treatment technologies such as immobilisation, and was therefore determined not to be the most appropriate use of the facility areas
- While chemical oxidation may be effective for certain contaminants, it often requires large quantities of chemicals and energy, making it less sustainable.

For these reasons chemical oxidation of soil is not proposed as a treatment technology at the Facility.

5.1.2 Waste throughput volumes

A comprehensive review of the Facility's operational capacity as well as market conditions has been carried out in response to stakeholder queries. As a result of this review, Hi-Quality are proposing to reduce the annual throughput to 210,500 tonnes per annum, as well as reducing the onsite storage limits for each of the waste streams at any one time, shown in Table 5-1.

Table 5-1: Waste types proposed for the Site

Type of Waste	Management	Tonnes per Annum
Packaged waste – Liquid	Contaminated packaged waste: no treatment, only storage	40,000t
Packaged waste – Solid	Non-contaminated waste: shredding and offtake for disposal	
PFAS contaminated soils	Storage only	7,500t
Bulk soils	Various methods:	84,000t
<i>Contaminated soils</i>	<i>Primarily immobilisation</i>	<i>50,000t</i>
<i>Contaminated soils</i>	<i>Primarily bioremediation</i>	<i>8,000t</i>
ASS	<i>Acid neutralisation in batches</i>	<i>26,000t</i>
Drill muds	Dewatering and wastewater treatment	2,000t
Sediments and sludges	Dependent on moisture content of sludges – dewatering, wastewater treatment and soil decontamination	7,000t
Liquid waste (Stage 2 only)	Treated and validated in 50 kL batches through the WWTP	70 ML
Total		210,500

The Facility would have a total of 28 bays and 4 pits. Each bay and pit would be dedicated to a separate specific waste batch as it is managed and would not undergo mixing. However, between batches (with the exception of the PFAS bays), bays and pits are interchangeable for the respective type of waste management. Indicatively though, the following bay allocations have been identified for the operation for the Facility:

- Bulk soil receipt: three bays
- Storage and transfer: one bay
- Immobilisation: ten bays
- Bioremediation: five bays
- ASS: three bays
- PFAS: three bays (non-interchangeable)
- Packaged waste: three bays
- Recovered recyclable materials: one bay
- Sludges: three pits

- Drill mud: one pit.

As a result of design refinements and the exclusion of chemical oxidation as a treatment technology, there have been amendments to the allocation of storage and treatment bays, compared to the Updated Proposal Description included in the RtS Report.

The total capacity of the Facility is a function of the maximum storage volume within each bay, the number of bays available, and the time waste needs to be stored in each bay. It also needs to be operable from a vehicle and machinery manoeuvrability perspective. Updated swept paths have been prepared to consider the updated layout and current throughput volumes (refer Section 5.2.1).

Each of the soil bays measure five metres by five metres, segregated by concrete push walls which measure six metres in height (as shown in Appendix E). The storage volume for each of the bays is dependent on the characteristics of each individual soil batch (i.e. depending on the level of cohesiveness of the soil). Based on the dimensions of the bay it has been estimated that an average of 60 m³ of material could be contained within each of the bays. This is based on a 45-degree slope of the soil material which has been deemed to be a reasonable average assumption (i.e. some material may be able to be stockpiled at a steeper slope whilst others may require a flatter slope based on the materials properties).

The sludge and drill mud pits have been calculated to have a storage capacity of approximately 58 m³ of material based on the slope of the pit measuring 11 degrees.

Table 5-2 sets out further details regarding the waste type, storage limit and the proposed location for storage and treatment of each of the waste types proposed to be received at the Site. The location of the bays and pits are shown in Figure 1-1. Further details are provided in the Amended Proposal Description (Appendix B).

Table 5-3, then provides a summary of the maximum capacity throughputs achievable for each waste type. As shown in Table 5-3 the proposed amended throughput would equate to, or be below, the average annual capacity of the Facility.

Table 5-2 Waste material storage limits and locations

Waste type	Applicable Waste Codes	Maximum any one time storage limit (tonnes)	Storage before treatment	Storage after treatment	Bay/ Pit No.#	Indicative allocated available bays	Approximate treatment time
Packaged wastes – including Dangerous Goods Class 8 PG II and III*	B100, C100, D120, D140	400 t Note: no more than 50 m ³ of combustible material	Received and stored within containers – no treatment. Packaged waste classified as DG Class 8, PG II or PG III would be stored in a designated bay in compartment 3.	In Intermediate Bulk Containers (IBCs) or drums located adjacent to the office and amenities block, within the shed or within compartment 3 and above the PMF.	F	1	~2-4 days
Packaged wastes – Non-Dangerous Goods	J160, N120, N190, N140, N205, D130, D290, D160, D310, D150, D140, D190, N150, A100, D220, D120, D210, D300, M250, D360, H170, D270,		In intact IBCs or drums located within Compartment 3.	Skip bins up to 10 m ³ in capacity, removed for disposal as required.	F	2	

Waste type	Applicable Waste Codes	Maximum any one time storage limit (tonnes)	Storage before treatment	Storage after treatment	Bay/ Pit No.#	Indicative allocated available bays	Approximate treatment time
	D230, C100, B100, T100, N160, R120, M230, F100, T120, F110, R140, A100, A110, D110, N100, D330, M150, A130, M210, M260, M180.						
PFAS contaminated soils	N120, M250, M270	300 t	N/A – no treatment	In designated bays – no treatment	E	3 (non-interchangeable)	Storage for up to 2 months
Bulk soils: 1,080 m ³ <i>Inclusive of dried drill muds</i>	N/A	ASS: 2,000 t	Treated into specific, pre-allocated material bays, as identified in Figure 1-1.	Post treatment, each batch is unloaded into specific, pre-allocated bay. (refer to Figure1-1)	D	3	~4 days
	N120, N190	Bioremediation: 2,000 t			C/D	5	~3 weeks

Waste type	Applicable Waste Codes	Maximum any one time storage limit (tonnes)	Storage before treatment	Storage after treatment	Bay/ Pit No.#	Indicative allocated available bays	Approximate treatment time
	N120, N190	Immobilisation: 2,000 t			B/C	10	~1-3 weeks
Recovered recyclable materials (byproduct of physical soil screening)	N/A	50 t	N/A	Recovered recyclable materials would only be stored up to a maximum of 35t before removal. Bays within Compartment 3 (refer to Figure 1-1)	F	1	~1-2 days
Drill muds	N120	400 t	Drill mud to be pumped into the drill mud pit and then pumped to drill mud plant (dewatering plant)	Sediments to be stored in specific soil bays Liquid to be stored in holding tanks in banded WWTP area	Pit A	1	~2 weeks

Waste type	Applicable Waste Codes	Maximum any one time storage limit (tonnes)	Storage before treatment	Storage after treatment	Bay/ Pit No.#	Indicative allocated available bays	Approximate treatment time
Sediments and sludges	N120	400 t	Sediments and sludges to be pumped into one of the sediment and sludges pits and then pumped to the dewatering plant.	Liquid to be stored in holding tanks in banded WWTP area	Pit A	3	~2 weeks
Liquid waste	N140, N205, D130, D290, D160, J160, D310, D150, D140, D190, A100, D220, D120, D210, D300, M250, H170, D270, D230, C100, B100, A100, A110, D110, M270.	540 kL	Within holding tanks in banded WWTP area Wastewater classified as DG Class 8, PG II or PG III would be placed in a designated tank and transferred for immediate treatment.	Within holding tanks in banded WWTP area	n/a	n/a	~2 days
Waste oils	J100, J120	2 t	N/A	1,000 L IBC located in banded WWTP area	n/a	n/a	

n/a – these waste types will not be stored in bays, therefore no bays have been allocated.

Table 5-3 Total throughput capacity

Waste stream	Bay/pits	Number of available bays	Average capacity per bay (m ³)	Average total capacity (m ³)	Average time in bay (days)	Total capacity (annual - tpa)	Proposed annual volume
Incoming / storage							
Bulk soil	G	3	60	180	1	110,000	84,000
Packaged Waste	F	3	48	144	2	44,680	40,000
PFAS contaminated soil	E	3	60	180	14	7,980	7,500
Drill muds	Pit A	1	58	58	14	2,570	2,000
Sediments and sludges	Pit A	3	58	174	14	7,700	7,000
Liquid waste	WWTP	4	135 kL	540 kL	2	98,550 kL	70,000 kL
Treatment							
ASS	D	3	60	180	4	27,920	26,000
Bioremediation	C/D	5	60	300	21	8,860	8,000
Immobilisation	B/C	10	60	600	7	53,200	50,000

5.1.2.1 Justification

The amendments to the bay allocation and changes to the proposed volumes of waste that would be subject to the treatment technologies proposed have been driven by several factors, including:

- The removal of chemical oxidation as a treatment technology, which has freed up capacity in the treatment bays and allowed an increase in the volume of soils to be treated by immobilisation and ASS, while not changing the overall throughput of the facility
- A decrease in the Facility's throughput due to changing market conditions
- A decrease in the total volume of recovered recyclable materials to be stored onsite at any one time (see Section 5.1.4)
- Design refinements resulting in the reorganisation of bays and pits within the Facility
- A review of the overall capacity of the Facility.

The proposed amendments to the bay sizing, waste type allocation and reduced throughput would not result in additional impacts to those identified in the EIS and RtS Report. As a result of the reduced throughput the draft OTMP (Appendix I) has been updated to account for the lower volume of trucks that would be required (see Section 5.2.1). The swept path analyses have also been updated in the OTMP.

5.1.3 Waste codes to be accepted on Site

Post submission of the RtS report, the EPA sought further clarification on the types of waste to be received at the Facility and requested the number of waste codes proposed to be brought to Site be reduced from what was proposed in the EIS. Hi-Quality has further reviewed the waste market within the Sydney region and have identified a number of waste codes that are not likely to be generated within the Sydney region and hence would not be brought to the Facility. These codes have been excluded from the Proposal description and would not be accepted at the Facility.

To provide further clarification, Table 5-4 identifies the waste type and relevant waste code, as established under the Controlled Waste National Environment Protection Measure (NEPM), that are proposed to be received at the Site and whether they are proposed for treatment or storage only. Wastes would be received from contaminated sites within the Sydney region. The table has been structured to align the descriptions and limits as they would appear in the Facility's future Environmental Protection Licence (EPL), with the activities as scheduled under the *Protection of the Environment Operations Act 1997*. The bulk soils (which comprise the majority of the waste to be received by the Facility) would fall under the N120 waste code, the remaining waste codes proposed for receipt at the Facility are expected to be received in low quantities in the form of wastewater or packaged goods. The limits referred to below in Table 5-4 are not in reference to throughput limits, but rather outline the requirements for the waste code to meet the criteria for acceptance onsite as they would be presented within a future EPL.

Table 5-4 Waste codes proposed for receipt at the Facility

Waste Code	Waste Description	Activity by waste form		Other Limits
		Solid waste / packaged waste	Wastewater	
J100	Mineral Oils	N/A	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
J160	Waste Tarry Residues	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
N120	Soils contaminated with a substance or waste referred to in Parts 1 or 2 of Schedule 1 of the <i>Protection of the Environment Operations (Waste) Regulation 2021</i>	Waste Processing (Non-Thermal Treatment) Waste Storage	N/A	n/a
N190	Filter Cake	Waste Processing (Non-Thermal Treatment) Waste Storage	N/A	n/a
N140	Fire debris and Wash Waters	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
N205	Residues from industrial waste treatment	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D130	Arsenic; arsenic compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a

Waste Code	Waste Description	Activity by waste form		Other Limits
		Solid waste / packaged waste	Wastewater	
D290	Barium compounds (excluding barium sulphate)	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D160	Beryllium; beryllium compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D310	Boron compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D150	Cadmium; cadmium compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D140	Chromium compounds (hexavalent and trivalent)	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D190	Copper compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
N150	Fly Ash	Waste Storage	N/A	n/a
A100	Waste resulting from surface treatment of metals and plastics	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a

Waste Code	Waste Description	Activity by waste form		Other Limits
		Solid waste / packaged waste	Wastewater	
D220	Lead; lead compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D120	Mercury; mercury compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D210	Nickel compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D300	Non-toxic salts	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
M250	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	Surface active agents that contain PFAS are permitted to be stored but not permitted to be processed at the premises.
D360	Phosphorus compounds excluding mineral phosphates	Waste Storage	N/A	n/a
H170	Waste from manufacture, formulation and use of wood preserving chemicals	Waste Storage	Waste Processing (Non-Thermal Treatment)	n/a

Waste Code	Waste Description	Activity by waste form		Other Limits
		Solid waste / packaged waste	Wastewater	
			Waste Storage	
D270	Vanadium compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D230	Zinc Compounds	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
C100	Basic solutions or bases in solid form	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
B100	Acidic solutions or acids in solid form	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
T100	Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known	Waste Storage	Waste Storage	n/a
N160	Encapsulated, chemically-fixed, solidified or polymerised wastes that are referred to in this Part	Waste Storage	N/A	n/a
R120	Waste pharmaceuticals, drugs and medicines	Waste Storage	Waste Storage	n/a
J120	Waste oil/water, hydrocarbons/water mixtures or emulsions	N/A	Waste Processing (Non-Thermal Treatment)	n/a

Waste Code	Waste Description	Activity by waste form		Other Limits
		Solid waste / packaged waste	Wastewater	
			Waste Storage	
M230	Triethylamine catalysts for setting foundry sands	Waste Storage	N/A	n/a
F100	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	Waste Storage	Waste Storage	n/a
T120	Waste from the production, formulation and use of photographic chemicals and processing materials	Waste Storage	Waste Storage	n/a
F110	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	Waste Storage	Waste Storage	n/a
R140	Waste from the production and preparation of pharmaceutical products	Waste Storage	Waste Storage	n/a
A100	Waste resulting from surface treatment of metals and plastics	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
A110	Waste from heat treatment and tempering operations containing cyanides	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
D110	Inorganic fluorine compounds excluding calcium fluoride	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	n/a
N100	Containers and drums that are contaminated with residues of waste referred to in this Table	Waste Storage	N/A	Limited to containers & drums contaminated with

Waste Code	Waste Description	Activity by waste form		Other Limits
		Solid waste / packaged waste	Wastewater	
				residues of waste referred to in this Table.
D330	Inorganic sulfides	Waste Storage	N/A	n/a
M150	Phenols, phenol compounds including chlorophenols	Waste Storage	N/A	n/a
M270	Per-and poly fluoroalkyl (PFAS) contaminated materials including waste PFAS containing products and contaminated containers (soils & liquid streams)	Waste Storage	Waste Processing (Non-Thermal Treatment) Waste Storage	Permitted to be stored but not permitted to be processed at the premises.
A130	Cyanides (inorganic)	Waste Storage	N/A	n/a
M210	Cyanides (organic)	Waste Storage	N/A	n/a
M260	Highly odorous organic chemicals (including mercaptans and acrylates)	Waste Storage	N/A	n/a
M180	Polychlorinated dibenzo-p-dioxin (any congener) Reactive chemicals	Waste Storage	N/A	n/a

5.1.3.1 Justification

Hi-Quality has undertaken further review of the Sydney market and has determined that a number of waste types previously identified to be stored or treated on Site, are unlikely to be generated within the Sydney region. In response to the EPA's request to reduce the number of waste codes to be accepted at the Site, these codes have been excluded from the Amended Proposal Description (Appendix B) and the Waste code table (Table 5-4), and the waste material storage limits table (Table 5-2) above. The Waste code table has been developed to provide further clarification to government agencies, in particular the EPA, about the types of waste proposed to be received at the Site and the proposed treatment or storage for each waste code. The table has been developed to reflect the anticipated EPL condition for waste acceptance at the Site.

5.1.4 Change to volume of recovered recyclable material

Through the design development process, Hi-Quality has decided to reduce the total storage volume of recovered recyclable material to be stored onsite from 100 m³ to 50 m³. The recovered recyclable material bay measures five metres by five metres, segregated by concrete push walls which measure six metres in height. Based on these dimensions it has been deemed feasible to stockpile 50 m³ of material within the bay.

The designated bay for storing recovered recyclable material would be clearly marked to indicate the allowed footprint and storage height, in compliance with the 50 m³ restriction. This will involve visually monitoring the volume of waste and implementing procedures to transport recovered, recyclable materials offsite once the volume limit is close to being reached.

Reducing the volume of recyclable materials to be stored onsite at any one time would result in a reduction in the potential fire risk at the Site as this waste type is the only material defined as 'combustible waste material' under the NSW Fire and Rescue Fire Safety guidelines (NSW Fire and Rescue, 2020). Limiting the volume of this waste type to less than 50 m³ would mean that the Facility would be below the threshold that the FRNSW Guidelines apply (see Section 3 of the Guidelines – Application). However, the Proposal would continue to comply with the FRNSW Guidelines in accordance with management measure FIM2 (see Appendix C). Additionally, reducing the volume of recovered, recyclable material onsite at any one time would also have the benefit of freeing up space within the Facility providing for additional space as contingency for the facility.

The Hazard Identification Report (Sherpa, 2024) provided in Appendix L considered the risk of ignition to recovered recyclables. This risk (unmanaged) was assessed to present a Medium safety and environmental risk. The following environmental controls will be put in place to manage this risk:

- Storage limit of 50 m³ of recyclable materials onsite in accordance with the NSW Fire and Rescue Fire Safety guidelines (NSW Fire and Rescue, 2020)
- Access to fire reels and extinguishers, in accordance with the National Construction Code (NCC) and selected, located and distributed in accordance with AS 2444:2001
- The Compartment is enclosed by a fire-rated wall
- Preparation of a Fire Safety Study (FIM13 in Appendix C)
- The emergency response procedure which is detailed in the Draft OEMP
- Staff training and inductions will be provided for all staff working onsite as outlined in the Draft OEMP.

With these controls in place the residual risk associated with ignition to recovered recyclables were assessed to remain as Medium risk in relation to safety and Low risk in relation to the environment. Fire services designs will be updated with this Amendment Report as part of the detailed design.

5.1.4.1 Justification

Hi-Quality has decided to reduce the volume of recovered recyclable materials to be stored at the Facility at any one time for the following reasons:

- To reduce the potential fire hazard associated with the storage of potentially combustible waste materials
- To reduce the number of bays required for the storage of recovered, recyclable materials and thereby providing some redundancy in storage capacity.

5.1.5 Staffing

Hi-Quality has recently reviewed the number of staff likely to work in the office facilities within the Proposal and have determined that the number of office staff would be lower than the maximum total of 30 identified in the EIS.

Design progression has identified a total of up to 18 workstations within the office building, with two meeting rooms and changing facilities included. Hi-Quality is proposing to limit the maximum number of office staff onsite at any one time to 21 people. It is anticipated that office staff would generally be present at the Site between 7AM to 3PM on weekdays.

The number of staff required to operate the Facility would remain the same as presented in the EIS and the RtS Report.

The staff shifts and numbers for operation of the Facility are as follows:

- Day shift (7am – 3pm): 10 staff maximum
- Afternoon shift (3pm – 11pm): 4 staff maximum
- Night shift (11pm – 7am): 4 staff maximum.

5.1.5.1 Justification

Hi-Quality believe that there will be less need for office-based staff at the facility and therefore are proposing to limit the maximum number of staff within the offices to 21 people at any one time. This is a reduction in nine office staff from the 30 proposed within the EIS and RtS Report.

5.2 Design refinements

Appendix E Consolidated design drawings have been prepared by SMEC Australia Pty Ltd. These are 70% designs based on the EIS. These plans will be updated at the detailed design stage based on the Amended Proposal Description and conditions of the EPL. The following changes to the RtS designs have been made in response to the design process.

5.2.1 Bay arrangements and swept paths

Since the RtS the arrangement of the bays and pits within the Facility has been updated to maximise the potential capacity of the Facility. The updated bay allocation per waste stream is as described in Section 5.1.2. As a result of this and due to the reduced through put of the Facility, an updated OTMP has been drafted (Appendix I). In response to further Agency queries the OTMP has included updated swept path analyses which consider the anticipated position of mobile plant and equipment whilst in use.

5.2.1.1 Justification

The bay arrangement has been updated since the RtS phase in an effort to optimise the Facility's layout and potential throughput capacity. Additionally, removal of chemical oxidation as a treatment methodology has provided extra bays for immobilisation and ASS. The updated swept path analyses confirm that the Facility's updated layout would remain functional considering the anticipated daily truck movements throughout the Facility.

5.2.2 Water management infrastructure

The design of the leachate management system has changed from that described in the RtS Report. The leachate management system would include the following:

- The PFAS bays would be bunded with urethane bunding, as shown in Figure 5-1, any leachate generated in the PFAS storage bays would be pumped using portable pumps into containers for disposal.
- The other bays and pits would be designed to slope to the back of the bay or pit. For the bays and pits, there would be a slightly elevated slab in front (leachate diversion platform), which is also sloped towards the back. This design ensures that all water and leachate from the material would drain towards the back of the bay or pit, keeping it from spilling outside of the bay or pit. The soils are not expected to produce large quantities of leachate, as such, any leachate produced would be reabsorbed by the material within the bay. In the event that leachate remains, a pump would be used to remove the leachate following removal of the waste material from the bay or pit. The leachate would then be treated by the WWTP.
 - The entire building would be bunded with 250 mm bunds that would be installed at each of the entries / exits to the building.
 - The primary containment bund of 250mm height would be capable of containing hydrants operating at 20L/s for a minimum of four hours, high hazard sprinklers operating for a minimum of two hours at 96 L/s in accordance with AS2419.1. This bunding height was determined to be sufficient based on the following equation:
 - Total hydrant and sprinkler water volume = $288 + 691.2 = 979.2$ kL
 - Total floor area excluding office = 5580 m²
 - Bunding height = $979.2 \times 1000 / 5,580$ m² = 175.5mm (minimum)
 - Bund provided = 250 mm (sufficiently greater than the minimum)

- Section 1.2.9 of the Amended Proposal Description (Appendix B) provides an in-depth description of the leachate management system.
- Appendix E4 Hydraulic Services Design has a Hydraulics services Drainage Layout (Drawing H200) which provides further details on the leachate management system including the location of the leachate management pits, leachate pump stations and pipes.

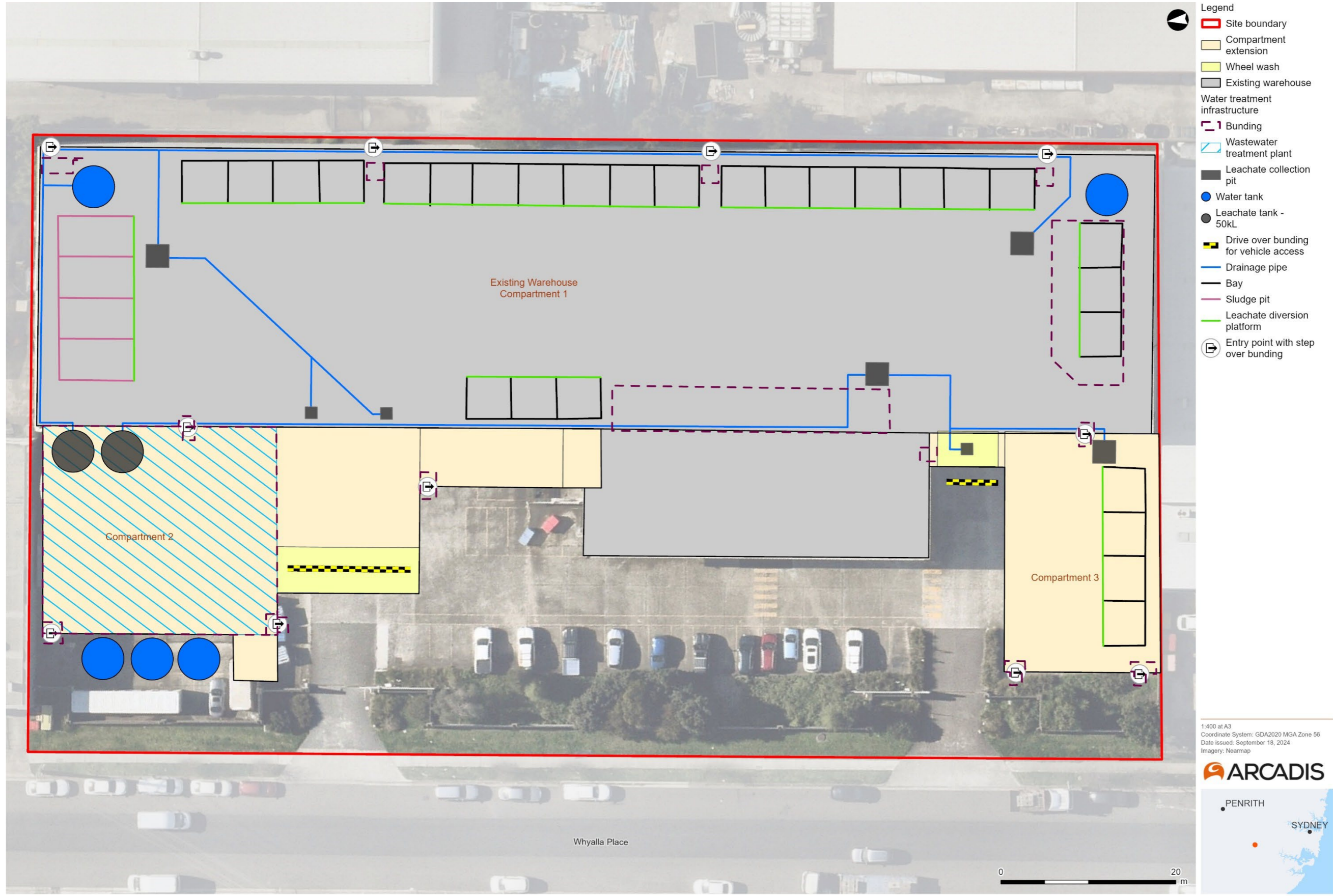


Figure 5-1: Conceptual site bunding and leachate treatment infrastructure

5.2.2.1 Justification

Further design development has identified a refined management strategy for leachate within the facility. Any leachate generated within the facility will be captured within the internal leachate management system, as described in the EIS and RtS Report; however, the bays will be designed so that water or leachate would flow to the back of the bays, rather than installing bunds in front of each bay. This would improve access to the bays while facilitating the management of leachate. Any leachate produced by the waste materials within the bays (which would be minor volumes considering the soil materials expected to be accepted) would be reabsorbed by the material and would not require extraction from the bays.

5.2.3 Car parking

As noted in Section 5.1.5, the maximum number of staff within the office building is proposed to be reduced from 30 to 21. The parking design for the Proposal has been revised to reflect the decrease in staff numbers and provide additional access space around the parking bays. The number of car parking spaces would be reduced from 40 (including one accessible parking space) to 36 (including one accessible parking space), resulting in a reduction of four parking spaces. This adjustment is justified by the decrease in staffing numbers within the office space, which more than compensates for the reduced parking capacity.

The full *Liverpool Development Control Plan 2008* (Liverpool DCP) car parking requirement of 22 spaces for the office space is proposed onsite. Based on the current design, the leasable floor area (LFA) of the office area is 760 m², comprising offices, workstations, meeting rooms and amenities. The provision of 22 car parking spaces for office workers allows for the full Liverpool DCP car parking requirement for the office and under the vast majority of circumstances during the day shift, as well as a surplus of 5 car parking spaces (see Figure 5-2). No change is proposed to the parking provision for the Facility staff, with 14 parking spaces to be provided for these staff.

A graph for how car parking could potentially operate on a typical day where all staff are onsite between 7:00AM and 3:00PM is provided in Figure 5-2. The orange line shows the car parking demand, should all office workers choose to use their cars while the blue line shows a scenario where 70 per cent of office workers use their car and 30 per cent use alternative transport. It has been assumed that 100 per cent of staff working within the Facility would drive their own car to work for both the blue and orange scenarios. As noted in the Stanbury Traffic Planning Report (Appendix E of the RtS Report), it is likely that on any given day, that there would be a proportion of staff that would car pool, catch public transport, work from home, visit Hi-Quality sites, be at meetings in other locations, not commence work in the office at 7:00AM or finish work in the office earlier than 3:00PM for that particular day.

The staff shift change over at 7:00AM and 3:00PM is expected to be the only time where all but one of the onsite spaces may be occupied. For all onsite car parking spaces to be occupied, this also requires that all office staff are onsite at 7:00AM and 3:00PM.

The orange line represents a very conservative case and it is considered that the proposed car parking provision of 36 car parking spaces is satisfactory and no demand for on-street car parking spaces is expected to be generated by staff of the Proposal.

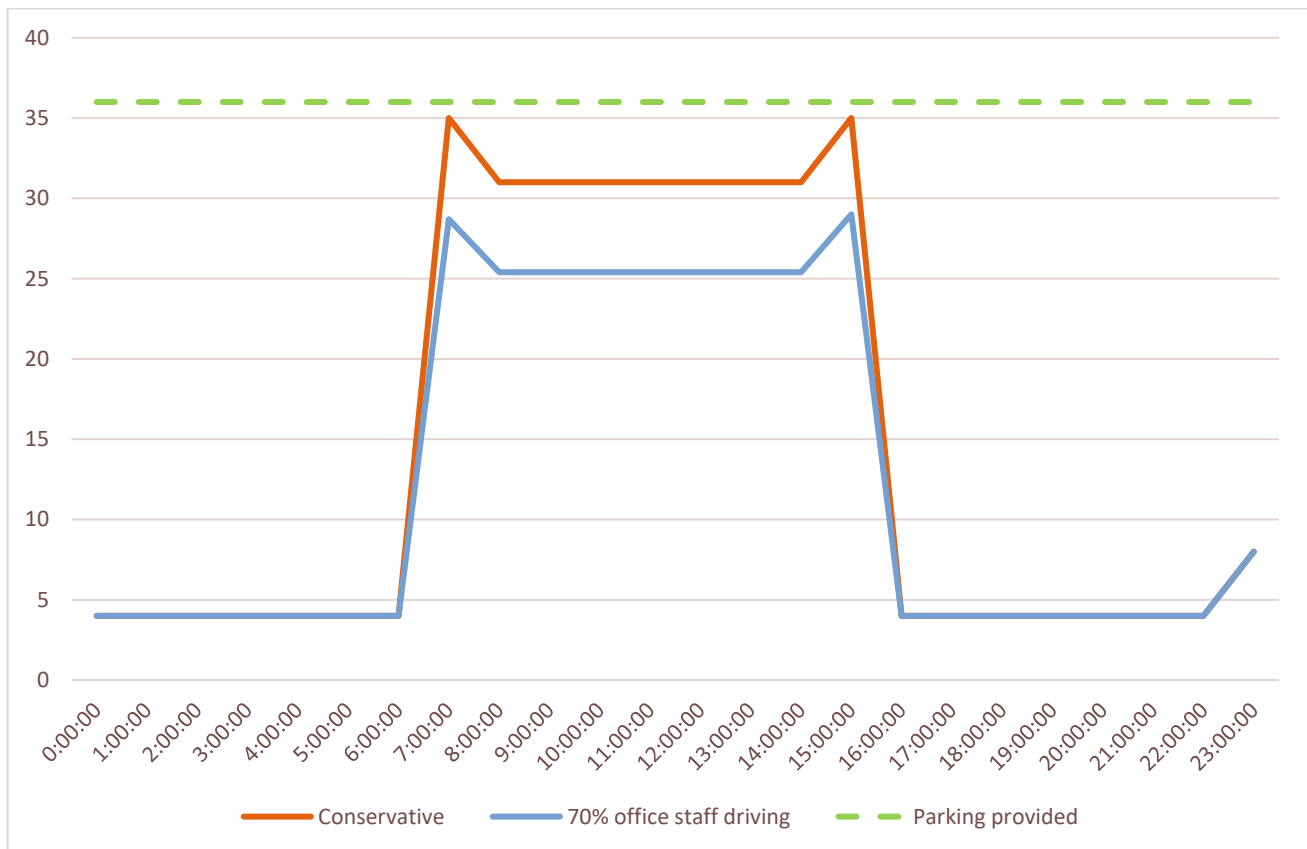


Figure 5-2: Estimated carparking demand onsite

Further measures to manage onsite car parking are documented in the draft OTMP (Appendix I).

5.2.3.1 Justification

A reduction in staff numbers within the office space means that fewer parking spaces are required. As a result, throughout design progression the car park has been reconfigured allowing for an increase in the width and accessibility of parking spaces.

The provision of parking spaces for office staff remains compliant with the Liverpool DCP requirements and no change is proposed to the parking spaces provided for staff working in the Facility.

5.2.4 Fire services design

Updates and development to the Fire Services Design (compared to those presented within the Fire and Incident Management Assessment (Appendix K of the EIS)) have been provided within developed in Appendix E3 Fire Services Design. The Fire Services Design has considered the following:

- Building code of Australia 2022 (BCA 2022)
- Fire Hydrant Installations Part 1 System Design, Installation and Commissioning (AS 2419.1 – 2021)
- Installation of Fire Hose reels (AS 2441 – 2005)
- Portable Fire Extinguishers & Fire Blankets – Selection & Location (AS 2444 – 2001)
- Automatic Fire Sprinkler Systems General Systems (AS 2118.1 – 2017)
- Fire Detection, Warning, Control and Intercom systems – System Design, Installation and Commissioning Part 1 Fire (AS 1670.1 – 2018)

- Fire & Incident Management Plan by Core Engineering group (Appendix K of the EIS)
- Environmental Impact Assessment report by Golder Facilities
- Fire engineering Report (ongoing)

The fire safety design includes the following design elements:

- Site connection
- Fire hydrant system
- Fire sprinkler system
- Fire hose reels
- Portable fire extinguishers
- Fire Detection systems
- Spent fire water management.

A mandatory Fire Safety Study is not required as the Proposal is not a potentially hazardous industry.

Notwithstanding, to support the fire services design and to inform the emergency management plan, the requirement for a Fire Safety Study prepared in accordance with Hazardous Industry Planning Advisory Paper No 2 Fire Safety Study Guidelines (DPIE, 2011) has been included in Appendix C as an Environmental management measures.

Fire services design will be completed during detailed design based on this amendment report and the conditions of the EPL.

5.2.4.1 Justification

Further design development has been undertaken in accordance with relevant standards and the EIS. This has increased the detail of the EIS plans. As the quantities of Dangerous Goods remain below the screening thresholds prescribed in Applying SEPP 33 (DoP, 2011) the facility is not considered a potentially hazardous development under the guideline and a Fire Safety Study has not been prepared at this stage. To support the design and emergency management plan a Fire Safety Study is proposed and included in Appendix C Environmental management measures.

5.3 Clarifications

The following clarifications have been provided in response to Agency queries surrounding the Facility's operation.

5.3.1 PFAS contaminated soils

PFAS contaminated soil below the RSW criteria would be accepted at the Site for temporary storage in a dedicated PFAS soil storage area and would be transported to an offsite interstate licensed treatment and/or disposal facility (refer to the Amended Proposal Description (Appendix B) and the Waste Type and Treatment Table Annexure A to Appendix B). PFAS contaminated soils would be received from sites within the Sydney region.

A dedicated, separated and controlled area would be provided within the facility to prevent cross contamination of PFAS contaminated soils with other materials stored and treated at the facility. This area is identified on Figure 1-1. All PFAS material would be temporarily stored onsite then transported to either Hi-Quality's Yatala facility for treatment and disposal or an appropriately licensed landfill. It is noted that Hi-Quality's Yatala facility is one of only two facilities on the east coast of Australia that are licensed to receive and treat PFAS material.

The procedure for managing PFAS contaminated soils at the Facility is detailed in Section 6.2.3 of the Draft OWMP (Appendix H).

As per the EIS and RtS there would be no treatment of PFAS contaminated soils at the Facility. However, there is a need for a facility within Sydney to temporarily store PFAS contaminated soil as there is currently limited options for this material:

- There are no approved treatment facilities within NSW for PFAS contaminated soil and only one landfill that can accept PFAS contaminated soil
- PFAS contaminated material therefore typically requires transport to either QLD or VIC
- Concessions/waiting periods to enter QLD and VIC range from two weeks to three months. An interim solution is therefore required for the safe storage of PFAS contaminated material to minimise risk of harm to human health or the environment. The Proposal would accommodate the safe storage of soils with PFAS concentrations below the RSW criteria under the Addendum to the Waste Classification Guidelines (2014) – Part 1: classifying waste (EPA, 2016), prior to transport to an appropriately licenced landfill. PFAS contaminated material above the RSW limit would not be accepted onsite (EPA, 2016) (Table 5-5).

Table 5-5 Toxic Characteristic Leaching Procedure (TCLP) and Specific Contaminant Concentration (SCC) values for classifying waste by chemical assessment (EPA, 2016)

Contaminant ¹	Maximum values for leachable concentration and specific contaminant concentration when used together			
	General Solid Waste ²		Restricted Solid Waste	
	Leachable concentration	Specific contaminant concentration	Leachable concentration	Specific contaminant concentration
	TCLP1 (mg/L)	SCC1 (mg/kg)	TCLP2 (mg/L)	SCC2 (mg/kg)
Perfluorooctane sulfonate (PFOS) + Perfluorohexanesulfonic acid (PFHxS)	0.05	1.8	0.2	7.2
Perfluorooctanoic acid (PFOA)	0.50	18.0	2.0	72.00

1. PFOS and PFHxS are to be summed for comparison against the TCLP and SCC values.

2. Values are the same for general solid waste (putrescible) and general solid waste (non-putrescible)

Traces of PFAS are likely to be found in groundwater, surface water and soils in many urban areas due to their wide-spread use in everyday household items and their persistence in the environment (EPA, 2021). The Proposal would accept PFAS contaminated materials with low levels of PFAS contamination (i.e. that are below the RSW criteria) for storage at the facility prior to disposal at a facility licensed to accept RSW. Treatment of PFAS contaminated soils is not proposed on the Site.

It is noted that there is precedence for the storage of PFAS materials at waste storage and treatment facilities in NSW as Cleanaway Co Pty Ltd currently hold an EPL for their facility at St Marys, which permits to storage of PFAS contaminated materials (Waste Code M250) (EPL No. 12628). Table 5-6 includes an extract of the relevant section of the EPL. Hi-Quality will be requesting a similar condition for the storage of PFAS materials on the Proposal Site.

Table 5-6 Extract from EPL 12628

Code	Waste	Activity	Other limits
M250	Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials.	Waste processing (non-thermal treatment) Waste storage	Surface active agents that contain PFAS are permitted to be stored but not permitted to be processed at the premises.

5.3.2 PCB contaminated waste

As with PFAS contamination, traces of PCBs are likely to be present in soils and groundwater of urban areas. The Proposal would not treat PCB contamination; however, the facility would accept non-scheduled PCB waste for storage, as defined in the *Polychlorinated Biphenyl (PCB) Chemical Control Order 1997* (i.e. material with PCB at concentration levels of less than 50 mg/kg).

All wastes containing PCBs would be disposed of at landfills licenced to receive the material after being temporarily stored at the Facility.

Hi-Quality wish to clarify that treatment and storage of wastes with PCB concentrations above the scheduled waste criterion do not form part of the Proposal. Only wastes with PCB concentrations less than the PCB Chemical Control Order would be accepted onsite.

5.3.3 Specific Immobilisation Approvals to be sought for the Proposal

Where waste streams have been nominated for treatment by immobilisation, the waste would be treated either under a General Immobilisation Approval (GIA), or Specific Immobilisation Approval (SIA). Any waste that is not suitable for treatment under a GIA or SIA would be stored and sent offsite to a suitably licenced treatment or disposal facility. It is noted that Hi-Quality currently undertake immobilisation at their Yatala Facility in Queensland, and therefore have an understanding of the treatment processes

The EPA has requested draft applications for each chemical intended for treatment by immobilisation that would be the subject of an SIA, prior to determination of the Proposal's planning application. Hi-Quality understands that these applications will need to be submitted to the EPA for approval before commencing waste treatment via immobilisation processes that are not subject to a GIA onsite. However, it is important to note that the SIAs are distinct from the planning approval process under the EP&A Act and licensing process under Chapter 3 of the *Protection of the Environment Operations Act 1997*. Each SIA will be applied for on an individual basis, depending on the contaminants present in each load.

Immobilisation would be undertaken in accordance with *Waste classification guidelines part 2: Immobilisation of waste* (NSW EPA, November 2014). This outlines the process for the two types of immobilisation approvals in accordance with Clause 10 of the *Protection of the Environment Operations (Waste) Regulation 2014*.

Immobilisation techniques can include:

- Natural immobilisation
- Chemical fixation
- **Micro-encapsulation**, and/or
- Macro-encapsulation

As outlined in Section 6.2.1.4.2 of the OWMP the Facility would utilise micro encapsulation only. Immobilisation at the Facility will predominately use solidification / stabilisation technology, which has been identified as effective for treatment of selected contaminants (see ITRC – Development of Performance Specifications for Solidification/Stabilization (Interstate Technology & Regulatory Council (ITRC), July 2011). Immobilisation will involve mixing soil with cement, lime or other pozzolonic reagents. Each of the waste codes proposed to be treated by immobilisation are being undertaken at Hi-Quality's operating Yatala Facility in Queensland.

As each waste load is unique and may require a separate SIA, the seeking of an SIA once the contaminants within a waste load are understood provides an opportunity for consultation with the EPA regarding the specific contaminants and waste type.

Draft procedures to manage wastes that may be subject to treatment in accordance with SIAs, are described in Section 6.2.1.4 of the Draft OWMP (Appendix H). Additionally, a draft template that would be used to apply for an SIA during the Facility's operation has been provided in Appendix D to the OWMP (Appendix H).

5.3.4 Dangerous goods

Post submission of the RtS Report, the EPA and DPHI sought further clarification on the potential for waste being accepted at the Facility to meet the classification of Dangerous Goods under the Australian Dangerous Goods Code (NTC, 2022) (ADG Code).

It is noted that Dangerous Goods may be received, used and/or stored at the Facility in the form of:

- Waste in the form of packaged waste or liquid waste
- Reagents.

Only Dangerous Goods that are classified as Class 8 Packing Group II or III would be received at the Facility. Maximum storage and transport quantities at the Facility, including the transport and storage of reagents and wastes would be less than the thresholds set out in the *Hazardous and Offensive Development Application Guidelines: Applying SEPP 33*.

Table 5-7 sets out the limits that apply to the storage of Class 8 Dangerous Goods at the Facility and Table 5-8 sets out the transport limits that apply to the transport of Class 8 Dangerous Goods to the Facility.

This clarification of the Proposal has been reviewed by a Dangerous Goods specialist who has confirmed that the Proposal is not classified as a potentially hazardous industry under Applying SEPP 33, see Appendix J Letter from Whamcorp regarding Dangerous Goods¹.

Table 5-7: Storage limits for Class 8 Dangerous Goods

PG	Form	Bulk or packaged	Category	Maximum storage (tonne equivalent (te))	Total for PG (te)	Applying SEPP 33 threshold (te)
II	Liquid	Packaged	Reagent	10	23	25
		Bulk	Waste	10		
	Liquid or solid	Packaged	Waste	3		
III	Liquid	Bulk	Waste	40	45	50
	Liquid or solid	Packaged	Waste	5		

¹ It is noted that within Appendix J, some reagents are noted to be stored onsite that would be deemed to be DG Class 5.1, however this is no longer applicable. Only reagents that would be Class 8 would be stored at the Facility. The findings of Appendix J remain applicable (as this change would further reduce risks from storing of dangerous goods at the Facility).

Table 5-8: Transport movements for Class 5 and 8 Dangerous Goods and Applying SEPP 33 limits

DG Class/ Division	Form, bulk/package, load	Peak Weekly		Cumulative annual	
		Proposed	Applying SEPP 33 limit	Proposed	SEPP limit
5	Solid/liquid, packaged load > 5 te	Nil	30	Nil	500
8	Liquid, bulk, load >2 te	5	30	200	500
	Liquid or solid, packaged, >5 te	Nil		Nil	

As the quantities of Dangerous Goods remain below the screening thresholds prescribed in Applying SEPP 33 (DoP, 2011) the Facility is not considered a potentially hazardous development under the guideline.

5.3.4.1 Class 8 Dangerous Goods that can be accepted

As noted above, the only waste streams to be accepted onsite that would meet the classification of Dangerous Goods would be Dangerous Goods Code Class 8, Packing Groups (PG) II and III. Wastewater and packaged waste that meet this classification would be transported to the Site in accordance with the requirements of the ADG Code. The wastewater and packaged waste would be received from industrial sites within the Sydney region. The wastewater would be transferred to a designated tank in the WWTP. Packaged waste would be stored within a designated bay within the packaged waste storage area (Bay F – refer Figure 1-1). These would be stored and handled in accordance with AS 3780-2008: *The storage and handling of corrosive substances*. Section 5.1.3 summarises the waste codes that are proposed to be received under the Amended Proposal. It is noted that a number of waste codes that were originally proposed to be received at the Facility (as per the EIS) are no longer proposed to be received (refer Section 5.5); some of which would have constituted dangerous goods. As per the Amended Proposal the only remaining waste codes allowed to be received as dangerous good (Class 8 PG II and III) are (refer Table 5-2):

- D120 Mercury, mercury compound
- C100 Basic solutions or bases in solid form
- B100 Acidic solutions or acids in solid form
- D140 Chromium compounds (VI).

5.3.4.2 Pre-screening process to avoid receiving Dangerous Goods

The process for accepting waste onsite would be as described in Section 5 of the Draft OWMP (Appendix H) and wastes that are classified as Dangerous Goods (other than wastewater and packaged waste classified as Class 8 PG II or III) would not be accepted on site. In summary, the waste generator would classify the waste as part of the pre-screening procedure as to its Dangerous Goods Class and packing code. This ensures that Hi-Quality is able to refuse acceptance of any waste streams that are classified as Dangerous Goods and manage the volumes and availability of storage location of Class 8 PG II and PG III wastewater.

Table 5-4 in Section 5.1.3 provides a complete list of the waste codes proposed to be received at the Facility. It is noted that some of these waste codes would, in some circumstances, be considered dangerous goods. However, for material to be considered a Dangerous Good it must display dangerous characteristics. The Australian Dangerous Goods Code (2022) outlines the specific parameters/characteristics of a good that need to be met for the good to be considered a Dangerous Good. If a material is found to have these characteristics it would not be accepted at the Facility.

For example, one of the waste codes that would be accepted within either wastewater or liquid waste is D130 arsenic; arsenic compounds. Under certain circumstances arsenic can be deemed to be a dangerous good (Class 6.1 Packing Group II). However, arsenic can also be benign (especially if in its organic form), and low levels of arsenic are not considered to be dangerous (and are commonly found / naturally occurring in for example groundwater). The concentration of arsenic in a tanker of liquid wastewater would be low, and below the concentrations that would deem the wastewater to be dangerous or hazardous.

The Australian Dangerous goods Code (2022) sets out specific concentration thresholds that characterise certain substances as being dangerous. Several factors determine whether a substance is deemed to be dangerous (its concentration, chemical properties as well potential hazards such as toxicity). Specific testing will be carried out for any waste with potential to be considered a Dangerous Good, and the waste load will be rejected if it is found to have the concentrations/characteristics that would deem it to be dangerous (refer Section 5.3 of the draft OWMP).

Hi-Quality would review the results of all pre-screening testing to ensure no wastes meeting the definition of a dangerous good (other than Class 8, PG II and III) will not be received at the Facility.

5.3.4.3 Hazardous waste

A Liquid and Hazardous Waste Risk Identification and Minimisation Report (Appendix K) has been prepared, which considers any hazardous waste, its associated risks and measures to manage the risks. Any waste that would constitute a Dangerous Good to be received at the Facility as described above, would also be considered hazardous waste. Section 1.2 of Appendix K outlines the definition of hazardous waste and notes that while there are other types of hazardous waste beyond those deemed to be dangerous goods, none of these would be accepted at the Facility. As such, for the purpose of the Facility any waste deemed to be a Dangerous Good would also be hazardous waste and vice versa with no other hazardous waste to be received.

5.3.4.4 Reagents that are dangerous goods

In addition to some waste streams being deemed to be Dangerous Goods some reagents required for use in the treatment of waste would also be deemed to be a Dangerous Good. Caustic Soda and Hydrochloric Acid would be used within the WWTP, both of these reagents are classified as Dangerous Goods Class 8, PG II. The Safety Data Sheets (SDSs) for both of these chemicals suggest that they are incompatible with one another and should be stored separately. As per the SDS, the following storage measures will be put in place for each of the reagents (Table 5-9).

Table 5-9 Caustic Soda and Hydrochloric Acid Storage Requirements

Reagent	Storage Requirements
Caustic Soda	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers securely sealed. Check regularly for spills and leaks. Keep away from heat and sources of ignition – no smoking. Keep away from foodstuffs and incompatible materials. Keep only in original container or corrosive resistant container/container with a resistant inner liner. Do NOT use aluminium, galvanised or tin-plated containers.
Hydrochloric Acid	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Containers should be labelled and protected from damage. Keep away from heat and sources of ignition – no smoking. Keep away from foodstuffs and incompatible materials. Store locked up. If stored indoors, building floors should be acid resistant with drains to a treatment system. Electrical equipment should be flameproof and protected against corrosive action.

Reagent	Storage Requirements
	Keep only in original container or suitable material, i.e. rubber lined steel, PVC/FRP, FRP. Containers should have a safety relief valve – care should be taken to release any internal pressure slowly.

Hydrochloric acid will be stored on its own within a locked safety cabinet. Appropriate signage will be used on the cabinet to denote it contains Hydrochloric Acid; only suitably authorised personnel will be provided access to the cabinet.

5.3.4.5 Spent treatment materials

Some waste generated within the WWTP from the treatment of liquid waste may be deemed to be hazardous. Further clarification has been sought on the handling of spent treatment materials from the water treatment plant, including granular activated carbon (GAC) and Volcanic Clinoptilolite Zeolite (VCZ) materials.

The spent VCZ and GAC would be stored in self-bunded and labelled Intermediate Bulk Container (IBC) tanks before being transferred to the packaged waste storage area and disposed of at an appropriately licensed landfill or interstate licenced thermal treatment facility. A list of indicative licenced landfill facilities that could accept these materials are provided in Table 7-3 of the Draft OWMP (Appendix H).

5.3.4.6 Management of Dangerous Goods

A hazard identification workshop, Hazard Identification Report (Appendix L) and a Liquid and Hazardous Waste Risk Identification and Minimisation Report (Appendix K) have been completed which assessed the potential risks associated with Dangerous Goods at the Facility. The environmental controls identified by these assessments have been embedded into the design and management procedures for the Facility Management of spent water treatment materials.

The Liquid and Hazardous Waste Risk Identification and Minimisation Report (Appendix K) provides a comprehensive description of the management features (in relation to relevant guidelines and standards, design features and management features) to be utilised at the Facility. In summary, the following environmental controls would be implemented to manage the potential risks associated with the management of Dangerous Goods at the Facility:

- If an unauthorised Class of Dangerous Goods is delivered to the Facility it will be stored in isolation and the customer will be contacted immediately to return and collect the material
- Appropriate use of signage and placards denoting dangerous goods
- Staff training and inductions will be provided for all staff working onsite as outlined in the OEMP
- Mandatory minimum PPE requirements for all staff are prescribed in the Operational Waste Management Plan (OWMP) including eyewear, protective clothing and covered footwear
- The storage of reagents classed as Dangerous Goods (Caustic Soda and Hydrochloric Acid) would be in accordance with the requirements of the Australian Dangerous Good Code and the SDS for each reagent
- The emergency response procedure is detailed in the OEMP
- Staff training and inductions in relation to the management of Dangerous Goods will be provided for all staff working onsite as outlined in the OEMP.

No High (unmanaged or managed) environmental or safety risks were identified in relation to the management of hazardous waste or reagents at the Facility. A total of 32 hazards were identified, and were found to constitute 8

Medium and 24 Low Safety risks and 2 Medium and 30 Low environmental risks with mitigation/management measures in place.

5.3.5 Discharge to sewer contingency

As noted in the Amended Proposal description (Appendix B) it is proposed to discharge up to 60.8 ML/pa of water to sewer under a Trade Waste Agreement to be obtained with Sydney Water. Section 6.5 of the OWMP (Appendix H) outlines the verification testing process that would be carried out to ensure water discharged to sewer would meet the water quality requirements of a Trade Waste Agreement.

Hi-Quality have commenced liaison with Sydney Water regarding their intention to submit a Section 173 Feasibility Assessment. A draft Section 73 feasibility application was prepared and submitted to Sydney Water in July 2024. Sydney Water has requested further information on the operation of the Facility and for discharge volumes to be provided by a hydraulic consultant. This further information is being prepared and will be submitted to Sydney Water October 2024 and finalised following project approval. This process will continue into the detailed design phase of the Proposal, with Hi-Quality committed to working with Sydney Water to consider any recommended design considerations.

Notwithstanding the above, Hi-Quality have identified contingency measures in the event that a Trade Waste Agreement cannot be obtained (either for part or all of the proposed discharge volumes). In the event that not all water can be discharged to sewer, treated liquid waste would be collected within tankers and removed offsite for disposal. Table 1-11 of the Proposal Description (Appendix B) identifies possible Sewage Treatment Plants (STPs) suitable for disposal of treated wastewater.

Load out of treated water would be carried out during morning or afternoon hours of operation to avoid peak vehicle movement periods. Section 7.5.1 of the draft OWMP (Appendix H) prescribes the procedures for loading of wastewater tankers. The revised Transport Impact Assessment (TIA) submitted as Appendix G to the RtS assessed the potential impact of the Proposal on the surrounding road network. The traffic generation from the Proposal identified in Section 2.1 of the revised TIA considered outbound vehicles from the WWTP (i.e. assessed water being removed offsite by tanker rather than discharged to sewer). Any impacts from tankering treated water offsite rather than discharging to sewer have therefore already been considered, and found to be acceptable.

Discharge to sewer is not proposed until commencement of operation of Stage 2, which is not anticipated to commence for a period of four to five years. Hi-Quality are committed to ongoing and continuous liaison with Sydney Water over this time prior to formally applying for a Trade Waste Agreement for the operation of Stage 2.

5.4 Subsequent documentation

The following documentation has since been drafted in response to Agency queries to provide further clarity on the Facility's operations.

5.4.1 Draft operational management plans

In response to EPA queries a series of draft operational management plans have been prepared which outline how the Facility would operate and the relevant environmental controls which would be in place to manage potential risks. The draft operational management plans have been prepared at this stage of the approval process to address the EPA's concerns surrounding the Facility's operation. These draft operational management plans would be finalised during the post approval phase of the Project.

- The Draft OEMP (Appendix F) provides the framework and guidance for Facility activities to be conducted in a manner whereby appropriate control measures are implemented to minimise the potential for adverse impacts on the environment and to meet compliance requirements of the approvals and licences.
- The Draft OAQMP (Appendix G) identifies air quality management issues relating to the operation of the Facility, and provides a means of implementing appropriate air quality mitigation measures.
- The Draft OWMP (Appendix H) describes the acceptance protocol, treatment procedures, storage requirements and environmental controls associated with the Facility's operation.
- And a Draft OTMP (Appendix I) has been prepared which outlines the movement of vehicles to and from the Facility, as well as providing swept path analyses that demonstrate how vehicles would manoeuvre within the Facility.
- A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix L) has been drafted which identifies the key risks associated with hazardous waste and liquid waste management at the Facility and recommends appropriate environmental controls to manage these risks in accordance with the relevant guidelines.

5.4.2 Hazard and risk assessment

5.4.2.1 Assessment overview

In response to comments from the EPA, a HAZID workshop has been undertaken which assessed 106 risks associated with the Facility's operation. The workshop findings were summarised within a 'Hazard Identification Report' (Sherpa, 2024), which found no High risk (unmanaged) safety or environmental events. However, controls and actions were recorded for each event to reduce the risk rating. The greatest environmental impact possible was associated with a loss of containment of incoming waste in the external receival area of the Facility. Hi-Quality confirmed strict scheduling of waste receival to minimise the volume of waste present externally at any one time, the covering of trucks and recording of unaccepted waste to maintain waste generator accountability, and the bunding of the weighbridge where the trucks would enter directly upon arrival at the facility. The managed environmental risk was reduced to Low.

Within the enclosed Facility, managed environmental consequences were minimised due to the contained nature of the warehouse and the inbuilt leachate retrieval system. Hi Quality identified that the waste types with the highest environmental and safety risks were those with a high moisture content, specifically sludges and drill muds. The isolation of these waste types in triple layered underground receival pits with overflow protection demonstrated that the managed safety and environmental risks were reduced SFARP.

Subsequently a 'Hazardous waste risk identification and mitigation report' and 'Liquid waste risk identification and minimisation report' have been drafted and included as appendices to the Draft OWMP. These reports were drafted at the request of the EPA to respond to specific concerns surrounding the management of potentially hazardous materials and liquid waste at the Facility.

5.4.2.2 Environmental controls

As part of the HAZID workshop process several environmental controls were suggested in order to reduce the unmanaged risks associated with the Facilities operation. These environmental controls have been embedded into the design and management procedures for the Facility:

- Updates have been made to the Amended Proposal Description (Appendix B) to provide further detail on proposed environmental controls). Updated and revised design drawings (Appendix E) have been prepared by SMEC which show key design features. These include the leachate collection and water management systems, wheel washes, HVAC and exhaust system, bunding design, fire infrastructure features and traffic control features.
- A draft OEMP (Appendix F -, including an OWMP (Appendix H), an OAQMP (Appendix G) and OTMP (Appendix I) - has been prepared to provide detail around the operational procedures that will be utilised to manage environmental aspects. These documents also provide detail on the specific environmental controls applicable for each activity carried out on site.
- A Hazard Identification Report (Appendix L) has been prepared by Sherpa which identifies environmental and safety risks from the operation of the Facility and outlines the environmental controls which have included within the Facility design and operational plans. The assessment found the environmental controls to be effective in managing risk with no High environmental risk identified for the operation of the Facility
- A Liquid and Hazardous Waste Risk and Minimisation Report (Appendix K) has been prepared which provides a detailed description of the Australian Standards, design features and management controls in place to manage risks associated with liquid and hazardous waste.

It is noted that the EPA requested an initial gateway Hazard and Risk assessment primarily to assess the potential risk of storing incompatible waste materials next to each other. The Hazard Identification Report considered the co-location of multiple waste types within Compartment 1. It was noted that due to the solid nature of the waste soils received cross contamination would be highly unlikely due to the low mobility of the waste. It was also noted that there would be no mixing of waste loads at the Facility, further reducing the risks associated with mixing of incompatible waste types.

It should be noted that a full HAZOP assessment will be completed during the post approval phase to further assess the potential risks associated with the Facility's operation.

5.5 Comparison of the Amended Proposal and the Proposal as described in the RtS

Section 1.3 provides an overview of the key changes that have been made to the Proposal since submission of the RtS (as described in the Updated Proposal Description submitted as Appendix B of the RtS), each of which are described in detail in Section 5.1 to Section 5.4 above. A summary of these changes, compared to what was presented in the EIS and/or RtS, is provided in the tables below, as follows:

- Table 5-10 describes the proposed treatment types (RtS compared to Amended Proposal – refer to Section 5.1.1). As a result of the change in treatment types (i.e. removal of chemical oxidation), the types of reagents that would be used and stored at the Facility has also changed – as summarised in Table 5-11
- Table 5-12 compares the throughput for each of the waste streams, providing a breakdown of how the Facility’s annual throughput has reduced from 270,000 tpa as per the RtS, to 210,500 tpa in the Amended Proposal (refer to Section 5.1.2)
- Table 5-13 compares the waste codes originally proposed to be received at the Facility (EIS – Appendix C) with those proposed to be received under the Amended Proposal (note there was no change in the waste codes to be received by the Facility between the EIS and RtS)
- Table 5-14 describes the changes in bay allocations between the RtS and Amended Proposal (refer to Section 5.2.1)
- Table 5-15 outlines the change in the maximum volume of recycled content that would be stored onsite at any given time between the RtS and Amended Proposal (refer to Section 5.1.4)
- Table 5-16 summarises the reduction in staff numbers and car parking between the RtS and Amended Proposal (refer to Section 5.1.5 and Section 5.2.3, respectively)
- summarises the reduction in total vehicle numbers accessing the Facility as a result of the reduced throughput between the RtS and Amended Proposal (refer to Section 6.3)

Red text denotes an aspect of the Proposal that has been removed since the EIS or RtS, green text denotes an aspect that has been added between the two phases, and blue text denotes an aspect that has changed (black text is an unchanged aspect).

Table 5-10 Treatment types

Treatment types - RtS	Treatment types – this Amendment Report
<ul style="list-style-type: none"> • Physical screening • Chemical separation • Bioremediation • Immobilisation • Chemical oxidation 	<ul style="list-style-type: none"> • Physical screening • Chemical separation • Bioremediation • Immobilisation

Table 5-11 Reagents to be used and stored at the Facility

Material	Tonnes proposed in the RtS	Tonnes per Annum – this Amendment Report
Cement (stored within cement silo)	50 t	50 t
Reagents		
Hydrogen peroxide (Dangerous Goods (DG) Class 5.1)	2 t	-
Potassium permanganate (DG Class 5.1)	1 t	-
Sodium persulphate (DG Class 5.1)	1 t	-
Ferrous sulphate (powdered)	5 t	5 t
Bacteria (stored in liquid form)	1 t	1 t
Urea	5 t	5 t
Super phosphate (powdered)	5 t	5 t
Biodegradable surfactant	2 t	2 t
Polymer (powder or liquid)	2 t	2 t
Finely crushed limestone or 'aglime'	20 t	20 t
Primary cementitious stabilising agents (Ordinary Portland Cement (OPC), Ground Granulated Blast-furnace Slag (GGBFS), pulverised fuel ash, cement kiln dust)	50 t	50 t
Secondary stabilising agents (Lime, sodium silicate, carbons, organophilic clays, natural pozzolans, bentonites)	50 t	50 t
Aluminium sulphate (28% w/w or powdered)	5 t	5 t
Hydrochloric acid (37% w/w) (DG Class 8)	5 t	5 t
Caustic soda (30% w/w) (DG Class 8)	5 t	5 t
Magnesium oxide (powdered)	5 t	5 t
Decon 90	N/A	N/A
In addition, the following reagents and volumes would be stored at the WWTP compartment within the bunded chemical dosing area:		
Hydrochloric Acid (37% w/w) (DG Class 8)	2 t	2 t
Caustic soda (30% w/w) (DG Class 8)	2 t	2 t
Aluminium sulfate	2 t	2 t
Polymer	2 t	2 t
Activated Carbon	2 t	2 t
Magnesium Oxide	2 t	2 t
Ferrous sulfate	2 t	2 t

Table 5-12: Waste types proposed for the Site

Type of Waste	Management	Tonnes proposed in the RtS	Tonnes per Annum – this Amendment Report
Packaged waste – Liquid	Contaminated packaged waste: no treatment, only storage	60,000 t	40,000 t
Packaged waste – Solid	Non-contaminated waste: shredding and offtake for disposal		
PFAS contaminated soils	Storage only	Not specifically specified (included in contaminated soils total) Note – the EIS nominated a total of up to 10,000 tpa of PFAS – including soils and liquid	7,500 t
Bulk soils	Various methods:	110,000 t	84,000 t
<i>Contaminated soils</i>	<i>Primarily chemical oxidation</i>	<i>10,000 t</i>	<i>0t</i>
<i>Contaminated soils</i>	<i>Primarily immobilisation</i>	<i>60,000 t</i>	<i>50,000 t</i>
<i>Contaminated soils</i>	<i>Primarily bioremediation</i>	<i>10,000 t</i>	<i>8,000 t</i>
ASS	<i>Acid neutralisation in batches</i>	30,000 t	26,000 t
Drill muds	Dewatering and wastewater treatment	10,000 t	2,000 t
Sediments and sludges	Dependent on moisture content of sludges – dewatering, wastewater treatment and soil decontamination	20,000 t	7,000 t
Liquid waste (Stage 2 only)	Treated and validated in 50 kL batches through the WWTP	70 ML	70 ML
Total		270,000	210,500

Table 5-13: Waste codes accepted at the Site

Treatment types - RtS	Treatment types – this Amendment Report
<ul style="list-style-type: none"> • J100 - Mineral Oils • J160 - Waste Tarry Residues • N120 - Soils contaminated with a substance or waste referred to in Parts 1 or 2 of Schedule 1 of the Protection of the Environment Operations (Waste) Regulation 2021 • G100 – Ethers • N190 - Filter Cake • G110 – Organic solvents, other than halogenated solvents • D340 – Perchlorates • G160 – Waste from the manufacture, formulation or use of organic solvents • N140 -Fire debris and Wash Waters • G150 – Halogenated organic solvents – Residues from industrial waste treatment or disposal operations • N205 - Residues from industrial waste treatment • M160 – Organo halogen compounds – other than substances referred to in this Table or Table 2, oxidising agents • M100 – Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated naphthalenes, polychlorinated terphenyls and/or polybrominated biphenyls • D130 - Arsenic; arsenic compounds • D170 – Antimony and antimony compounds • D290 - Barium compounds (excluding barium sulphate) • D160 - Beryllium; beryllium compounds • D310 - Boron compounds • D150 - Cadmium; cadmium compounds • D140 - Chromium compounds (hexavalent and trivalent) • D190 - Copper compounds • N150 - Fly Ash • A100 - Waste resulting from surface treatment of metals and plastics • D220 - Lead; lead compounds • D120 - Mercury; mercury compounds • D100 – Metal Carbonyls • D210 - Nickel compounds • D300 - Non-toxic salts • H110 – Organic phosphorous compounds • M250 - Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials 	<ul style="list-style-type: none"> • J100 - Mineral Oils • J160 - Waste Tarry Residues • N120 - Soils contaminated with a substance or waste referred to in Parts 1 or 2 of Schedule 1 of the Protection of the Environment Operations (Waste) Regulation 2021 • N190 - Filter Cake • N140 -Fire debris and Wash Waters • N205 - Residues from industrial waste treatment • D130 - Arsenic; arsenic compounds • D290 - Barium compounds (excluding barium sulphate) • D160 - Beryllium; beryllium compounds • D310 - Boron compounds • D150 - Cadmium; cadmium compounds • D140 - Chromium compounds (hexavalent and trivalent) • D190 - Copper compounds • N150 - Fly Ash • A100 - Waste resulting from surface treatment of metals and plastics • D220 - Lead; lead compounds • D120 - Mercury; mercury compounds • D210 - Nickel compounds • D300 - Non-toxic salts • M250 - Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials • D360 - Phosphorus compounds excluding mineral phosphates • H170 - Waste from manufacture, formulation and use of wood preserving chemicals • D270 - Vanadium compounds • D230 - Zinc Compounds • C100 - Basic solutions or bases in solid form • B100 - Acidic solutions or acids in solid form • T100 - Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known • N160 - Encapsulated, chemically-fixed, solidified or polymerised wastes that are referred to in this Part • R120 - Waste pharmaceuticals, drugs and medicines • J120 - Waste oil/water, hydrocarbons/water mixtures or emulsions

Treatment types - RtS	Treatment types – this Amendment Report
<ul style="list-style-type: none"> • D360 - Phosphorus compounds excluding mineral phosphates • D240 – Selenium and selenium compounds • D250 – Tellurium and tellurium compounds • D180 – Thallium and thallium compounds • H170 - Waste from manufacture, formulation and use of wood preserving chemicals • D270 - Vanadium compounds • D230 - Zinc Compounds • C100 - Basic solutions or bases in solid form • B100 - Acidic solutions or acids in solid form • T100 - Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known • D350 – Chlorates • N160 - Encapsulated, chemically-fixed, solidified or polymerised wastes that are referred to in this Part • M220 – Isocyanate compounds • R120 - Waste pharmaceuticals, drugs and medicines • J120 - Waste oil/water, hydrocarbons/water mixtures or emulsions • M230 - Triethylamine catalysts for setting foundry sands • E100 – Waste containing peroxides other than hydrogen peroxide • H100 – Waste from manufacture, formulation or use of biocides or phytopharmaceuticals • F100 - Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish • T120 - Waste from the production, formulation and use of photographic chemicals and processing materials • F110 - Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives • R140 - Waste from the production and preparation of pharmaceutical products • A100 - Waste resulting from surface treatment of metals and plastics • A110 - Waste from heat treatment and tempering operations containing cyanides • D110 - Inorganic fluorine compounds excluding calcium fluoride • N100 - Containers and drums that are contaminated with residues of waste referred to in this Table • D200 – Cobalt • D330 - Inorganic sulfides 	<ul style="list-style-type: none"> • M230 - Triethylamine catalysts for setting foundry sands • F100 - Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish • T120 - Waste from the production, formulation and use of photographic chemicals and processing materials • F110 - Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives • R140 - Waste from the production and preparation of pharmaceutical products • A100 - Waste resulting from surface treatment of metals and plastics • A110 - Waste from heat treatment and tempering operations containing cyanides • D110 - Inorganic fluorine compounds excluding calcium fluoride • N100 - Containers and drums that are contaminated with residues of waste referred to in this Table • D330 - Inorganic sulfides • M150 - Phenols, phenol compounds including chlorophenols • M270 – Per-and poly fluoroalkyl (PFAS) contaminated materials including waste PFAS containing products and contaminated containers (soils & liquid streams) • A130 - Cyanides (inorganic) • M210 - Cyanides (organic) • M260 -Highly odorous organic chemicals (including mercaptans and acrylates) • M180 - Polychlorinated dibenzo-p-dioxin (any congener) Reactive chemicals

Treatment types - RtS	Treatment types – this Amendment Report
<ul style="list-style-type: none"> N230 – Ceramic – based fibres with physico-chemical characteristics similar to those of asbestos M150 - Phenols, phenol compounds including chlorophenols M270 – Per-and poly fluoroalkyl (PFAS) contaminated materials including waste PFAS containing products and contaminated containers (soils & liquid streams) A130 - Cyanides (inorganic) M210 - Cyanides (organic) M260 -Highly odorous organic chemicals (including mercaptans and acrylates) M180 - Polychlorinated dibenzo-p-dioxin (any congener) Reactive chemicals 	

Table 5-14 Number and allocation of bays

Waste type	Number of indicatively allocated bays - proposed in the RtS	Number of indicatively allocated bays - Amended Proposal
Bulk soil receipt	4	3
Storage and transfer	-	1
Bioremediation	3	5
Chemical oxidation	5	-
Immobilisation	8	10
ASS		3
PFAS		3
Packaged waste	5	3
Recovered recyclable materials		1
Sludges	3	3
Drill mud	3	1

Table 5-15 Volume of recycled material stored onsite

Treatment types - RtS	Treatment types – this Amendment Report
100 m ³	50 m ³

Table 5-16 Employees and car parking

Item	Number - RtS	Number – this Amendment Report
Proposed staff	30	21
Proposed car parking	40	36

Table 5-17 Summary of heavy vehicle types and movements at the Facility at full operational capacity

Waste Type	Vehicle Type	RtS vehicles per day			Worst case vehicle movements – Amended Proposal		
		Incoming vehicle movements (annual)	Outgoing vehicle movements (annual)	Peak number of vehicles per day (365 days) **	Incoming vehicle movements (annual)	Outgoing vehicle movements (annual)	Peak number of vehicles per day (365 days)
Bulk Soil and ASS	Tipper truck or Truck and dog	3,929	2,503	21	3,000	3,537*	24
Sludges	Vacuum tanker (various capacity and length)	1,429	2,143	12	500		<2
Drill Muds	Vacuum tanker (various capacity and length)	286	273	<2	58	32	<1
Packaged Waste	Flatbed trucks	3,000	2,143	17	2,000	1,429	13
Liquid Waste	Vacuum tanker or bulk liquid tanker (various capacity and length)	7,000	6,679	45	7,000	6,679	45
PFAS	Tipper truck or Truck and dog	Included within bulk soils			268	268	<2
Peak number of trucks per day				96			84

Note: The total trucks per day in the above and the count identified in the Traffic Impact Assessment prepared by People Trans has a discrepancy of two trucks per day – the TIA combines all trucks incoming and outgoing across all waste streams, whereas the summary above divides it by waste stream. As a result, there is a rounding difference between the two summaries.

*The outgoing truck volumes are inclusive of immobilisation, of which dewatered sediment and sludges would form part of.

** Vehicle numbers in the RtS were presented as daily averages. These have been converted to peak daily vehicle movements

6 Assessment of impacts

The Chapter identifies whether any additional environmental assessments are required as a result of the proposed amendments.

This Chapter also provides clarifications to the air quality assessment completed as part of the EIS as requested by the EPA after submission of the RtS Report.

6.1 Environmental impact screening assessment

The screening assessment, below, considers whether the proposed amendments could change the potential impacts as assessed in the EIS and RtS. Table 6-1 assesses whether additional environmental assessment of the proposed amendments to the Proposal would be required or if the assessment in the EIS and RtS remains applicable.

The review identified no areas requiring further detailed assessment as a result of the amendments as described in Chapter 3.

Table 6-1 Amended environmental screening assessment

Environmental Aspect	Comparison of proposed amendment against Environmental Impact Statement	Further detailed assessment required?
Waste management	Total volume of waste and the number of waste types have both been reduced. The proposed amendments are anticipated to have consistent and/or lesser impacts on waste management to those already assessed in the EIS. As such, further assessment has been deemed to be unnecessary. The procedures for waste treatment and management at the Facility have since been outlined in a Draft OWMP (Appendix H). Associated risks and mitigations from liquid and hazardous waste have been outlined in a Liquid and Hazardous Waste Risk Identification and Minimisation Report (Appendix K) and Hazard Identification Report (Appendix L).	No
Air quality and odour	Minor updates to the air quality and odour assessment carried out as part of the EIS have been provided in Section 6.2, in response to comments from the EPA. The proposed amendments would have no additional air quality and odour impacts to those already assessed.	No
Noise and vibration	The proposed amendments would have no additional noise and vibration impacts to those already assessed in the EIS.	No
Soils and water	The proposed amendments are located within the construction Site footprint assessed in the EIS and therefore the soils and water impacts would be consistent with those described in the EIS. Design refinements have resulted in small changes to the management of leachate within the facility; however the potential impacts to soils and water remain the same and the overarching approach to leachate and stormwater management remain consistent with that described in the EIS and RtS Report.	No

Environmental Aspect	Comparison of proposed amendment against Environmental Impact Statement	Further detailed assessment required?
Traffic and transport	<p>The total volume of waste and the number of waste codes to be accepted at the Facility have both been reduced. The proposed amendments would reduce traffic and transport impacts to those already assessed. However, the addendum Traffic Impact Assessment (TIA) carried out as part of the RtS remains applicable and presents a conservative assessment of impacts as traffic volumes have since been reduced (see Section 6.3) (OTMP – Appendix I).</p> <p>The facility will accommodate fewer office staff than initially proposed and there is a corresponding reduction in parking spaces (see Section 5.2.3). The change to the number of parking spaces and office staff do not alter the predicted impacts on traffic and transport as assessed in the EIS and clarified in the Addendum TIA included as part of the RtS Report.</p>	No
Human health	<p>The proposed amendments would have no additional human health impacts to those already assessed in the EIS. The reduction of waste throughput and the number of waste codes to be accepted by the Facility may reduce potential human health impacts.</p>	No
Hazards and risk	<p>The potential hazards and risks associated with the proposed amendments would be consistent with those assessed in the EIS. The quantities of Dangerous Goods remain below the screening thresholds prescribed in Applying SEPP 33 (DoP, 2011) and the facility would not be considered a potentially hazardous development under the guideline (see Appendix J). Additionally, a HAZID workshop and Hazard Identification Report have been prepared which assessed the potential risks associated with the Facility's operation and provided appropriate environmental controls to manage these risks.</p>	No
Fire and incident management	<p>The reduction in the total storage volume of recovered, recyclable material from 100m³ to 50m³ means that the facility would no longer meet the definition of a waste facility to which the NSWFR <i>Fire safety guideline: Fire safety in waste facilities</i> applies. Appendix E3 further details the Fire Services Design in accordance with relevant guidelines.</p>	No
Cultural heritage and Aboriginal cultural heritage	<p>The proposed amendments are located within the construction Site footprint assessed in the EIS and therefore the cultural heritage and Aboriginal cultural heritage impacts would be consistent with those described in the EIS.</p>	No
Biodiversity	<p>The proposed amendments are located within the construction Site footprint assessed in the EIS and therefore the biodiversity impacts would be consistent with those described in the EIS.</p>	No
Ecologically sustainable development (ESD)	<p>The proposed amendments would not change the consideration of ESD as described in the EIS.</p>	No

6.2 Clarifications – air quality

The EPA made several comments on the Revised Air Quality Impact Assessment (AQIA), presented in the RtS Report. The comments were as follows:

a) *Recommendations on revised AQIA – that the applicant:*

i. *presents the predicted impact of all toxic pollutants as the highest ground level concentration at and beyond the boundary of the premise (maximum on the grid) as required by the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*

ii. *undertake a sensitivity analysis of predicted impacts based on exit velocity*

iii. *provide a discussion on any inconsistency in predicted impacts in the AQIA (Golder) and Revised AQIA (Zephyr), particularly where emission rates are inconsistent*

iv. *justify the capability of the carbon bed in minimizing toxics to the maximum extent achievable*

b) *Recommendations on revised discharge modelling – that the applicant:*

i. *comment on the model change and justify that it is still valid to refer to the predicted impacts from the AQIA (Golder), particularly for the air pollutants not remodelled*

The following sections sequentially address these comments as raised by the EPA.

6.2.1 Presentation of highest predicted impacts for toxic pollutants

The *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (Approved Methods) note that concentrations of individual toxic air pollutants (in this case arsenic and chromium) should be presented as the incremental 1 hour average and as the 99.9th percentile for Level 2 assessments. The Revised AQIA, included in the RtS Report, is a Level 2 assessment and presented the results in contour format as well as in tables for individual sensitive receptors.

Table 6-2 now presents the highest predicted ground level concentrations for both air toxicants at or beyond the boundary of the facility (grid maxima). The maximum for both air toxicants are well below the criterion.

Table 6-2 Predicted 1-hour average (99.9th percentile) concentrations – grid maxima

Toxic air pollutant	Maximum on the grid	Criterion
Arsenic	0.0026 µg/m ³	0.09 µg/m ³
Chromium (as Chromium VI) (Cr(VI))	0.026 µg/m ³	0.09 µg/m ³

6.2.2 Sensitivity analysis of predicted impacts based on exit velocity

The assumed exit velocity of 25 meters per second (m/s) adopted within the Revised AQIA presented in the RtS Report was based on maximum air exchanges through the building ventilation system. While high, this is significantly lower (almost half) of the exit velocity assumed in the previous assessment.

Maximum air exchanges have been assumed since this, by definition, assumes maximum mass emission rates (given that the current modelling approach assumes a maximum concentration of pollutant within the building).

Notwithstanding, a reduction in exit velocity would mean a proportional reduction in emission rates, the ground level concentrations (grid maxima) for Cr(VI) under lower exit velocities (10 m/s, 15 m/s and 20 m/s) are presented

in Table 6-3. These results show that there are no predicted exceedances of the criterion under any of these scenarios.

Table 6-3 Sensitivity analysis – predicted 1-hour average (99.9th percentile) Cr(VI) concentrations

Toxic air pollutant	Assumed exit velocity (m/s)	Equivalent mass emission rate (g/s)	Maximum on the grid ($\mu\text{g}/\text{m}^3$)	Criterion ($\mu\text{g}/\text{m}^3$)
Chromium (as Cr(VI))	10	0.000089	0.040	0.09
	15	0.000133	0.033	
	20	0.000177	0.026	
	25	0.000219	0.026	

6.2.3 Inconsistencies in predicted impacts in Golder AQIA and revised AQIA

There are several differences between the Golder AQIA and the Revised AQIA including the dispersion model used, meteorological year and emission parameters.

The principal reason for the differences in predicted concentrations relate to metals emission rates adopted within the Golder AQIA.

Section 7.8 of the Golder AQIA lists the assumptions adopted which resulted in predicted exceedances of the arsenic and chromium criteria. In summary, the Golder AQIA assumed a constant maximum hourly throughput with the maximum permissible metals content. Given that the metals contents measured at the existing Yatala facility are very low to negligible, these assumptions are very conservative.

The Revised AQIA, presented in the RtS Report, adopts a different approach to provide emission estimates that are conservative, transparent and defensible.

To achieve this, workplace exposure standards for the metals of concern have been adopted as in the maximum metal concentrations possible within the pre-filtered air within the building.

In other words, to comply with workplace health and safety conditions at the facility the air inside the building cannot exceed these concentrations. The combined filter efficiencies for different particle size groups were then applied to the building air to calculate the reduced particulate matter (PM) emissions post-filtration. This filtration is required both as best practice and also to reduce particulates from the carbon beds.

As noted in the Revised AQIA, no arsenic has yet been detected during stack testing at Hi-Quality's Yatala facility, and any chromium concentrations detected have been significantly lower than those assumed within the modelling. As such, the Revised AQIA assumptions are considered to be conservative and appropriate.

6.2.4 Capability of the carbon bed in minimising toxics

Activated carbon filters are highly effective at scrubbing gaseous Volatile Organic Compounds (VOC) and odour from air prior to release into the atmosphere. As discussed in the Golder AQIA, the manufacturer's specifications indicate at least 98% efficiency for VOCs and emission assumptions in that report are conservative but reasonable.

For the filtration of particulate matter, the PM filter box at the proposed facility will be equipped with a G4-rated, 30/30 Dual 10 high capacity disposable cardboard pre-filter, as well as an F7-rated, Hi-Flo spun glass high-capacity filter. The combined PM removal efficiencies of these two filters were calculated to be 75% for PM_{2.5}, 95% for PM₁₀ and 97.5% for TSP from the pre-filter and main filter specifications as explained in Appendix D of the Golder AQIA. It is also noted that this dual filter system will aim to reduce PM to the maximum extent achievable to ensure these particles do not interfere with the performance of the activated carbon filter.

As the metals are contained in the PM component, it is this filter box that will be used to reduce the metals. Incorporating this dual filtration process enables the PM, and therefore the associated metals, in the emissions to be reduced as far as reasonably practicable.

6.2.5 Model change and validity of predicted impacts from Golder AQIA

The dispersion model used in the Golder AQIA was AERMOD, incorporating the meteorological pre-processor AERMET. The dispersion modelling completed for the Revised AQIA used CALPUFF and the CALMET pre-processor. Both these models are approved for use in NSW and either would be suitable for the subject AQIA.

It is considered valid to refer to predicted impacts from the Golder AQIA for the pollutants not modelled in the revised AQIA. This is since the Golder AQIA emission assumptions are not wrong per se, but rather are so conservative as to be unrealistic. Thus, only where the Golder AQIA presented ground level concentration impacts in excess of their respective air quality criterion have these been re-evaluated within the Revised AQIA. For this reason, only arsenic and chromium have been assessed within the Revised AQIA.

6.3 Updated vehicle movements

As a result of the reduction in waste codes and overall throughput of the Facility, the heavy vehicle movements have also been reduced. The OTMP has been updated to account for the reduced traffic volumes (Appendix I). A summary of the annual incoming and outgoing vehicle movements for each waste stream is provided below in Table 6-4.

The peak daily traffic volumes have been calculated based on a peak day scenario (Mondays are anticipated to be the busiest day, potentially accounting for a maximum of 19% of weekly traffic movements under a peak daily scenario). Based on this assumption, a total of 66 heavy vehicle would be anticipated under a peak day under standard operational conditions (Table 6-4).

Section 5.3.5 outlines contingency measures for the operation of Stage 2 of the Facility should it not be possible to discharge treated liquid waste to sewer under a Trade Waste Agreement. Rather than discharge to sewer, it would instead be proposed to tanker treated water offsite for disposal at a nearby Sewerage Treatment Plant. If this contingency option is required, additional outbound vehicles would be needed to remove the treated water from the site. This would be considered to be the 'worst case operational scenario' as shown in

. It is noted that, even under the worst case scenario, daily vehicle movements would be fewer than those identified and assessed in the RtS (refer Section 5.5).

Details for vehicle queuing onsite are provided in the OTMP available in Appendix I. Wastewater and packaged waste classified as DG Class 8, PG II or PG III and reagents would be transported in accordance with the requirements of the ADG Code. The Addendum Traffic Impact Assessment completed as part of the RtS remains applicable and provides a conservative assessment of impact considering heavy vehicle volumes have since reduced.

Table 6-4 Summary of heavy vehicle types and movements at the Facility at full operational capacity

Waste Type	Vehicle Type	Standard operational scenario		Worst case operational scenario			
		Incoming vehicle movements (annual)	Outgoing vehicle movements (annual)	Peak number of vehicles per day (365 days)	Incoming vehicle movements (annual)	Outgoing vehicle movements (annual)	Peak number of vehicles per day (365 days)
Bulk Soil and ASS	Tipper truck or Truck and dog	3,000	3,537*	24	3,000	3,537*	24
Sludges	Vacuum tanker (various capacity and length)	500		<2	500		<2
Drill Muds	Vacuum tanker (various capacity and length)	58	32	<1	58	32	<1
Packaged Waste	Flatbed trucks	2,000	1,429	13	2,000	1,429	13
Liquid Waste	Vacuum tanker or bulk liquid tanker (various)	7,000	179	27	7,000	6,679	45

Waste Type	Vehicle Type	Standard operational scenario		Worst case operational scenario			
		Incoming vehicle movements (annual)	Outgoing vehicle movements (annual)	Peak number of vehicles per day (365 days)	Incoming vehicle movements (annual)	Outgoing vehicle movements (annual)	Peak number of vehicles per day (365 days)
	capacity and length)						
PFAS	Tipper truck or Truck and dog	268	268	<2	268	268	<2
Peak number of trucks per day				66	Peak number of trucks per day		84

Note: The total trucks per day in the above and the count identified in the Traffic Impact Assessment has a discrepancy of two trucks per day – the TIA combines all trucks incoming and outgoing across all waste streams, whereas the summary above divides it by waste stream. As a result, there is a rounding difference between the two summaries.

*The outgoing truck volumes are inclusive of immobilisation, of which dewatered sediment and sludges would form part of.

7 Justification of the amended Proposal

This Chapter provides justification for the amendments which includes outcomes of the environmental impact screening assessment and how these compare to key outcomes in the EIS.

7.1 Overview of Proposal amendments

The proposed amendments are described in Chapter 3 and include clarifications and changes to the Proposal:

- **Changes to Proposal operations:** due to progression of design, the following aspects associated with the Proposal operations have been updated:
 - Chemical oxidation has been excluded from the Proposal as a treatment process onsite for soils and wastewater. The bays originally allocated to chemical oxidation have been reallocated to immobilisation and ASS. The throughput volumes for these waste streams have since increased as a result.
 - The proposed annual throughput of the Facility has been reduced from 270,000 tpa to 210,500 tpa. Additionally, the onsite storage limits for each of the waste streams at any one time have also been reduced.
 - Bay sizing and waste type allocation: there would be a total of 32 bays and / or pits within the facility. Each of the soil bays measure five metres by five metres, segregated by concrete push walls which measure six metres in height. The storage volume for each of the bays is dependent on the characteristics of each individual soil batch (depending on the level of cohesiveness of the soil). Based on the dimensions of the bay it has been estimated that 60 m³ of material could be contained within each of the bays. The sludge and drill mud pits have been calculated to have a storage capacity of approximately 58 m³ of material based on the slope of the pit measuring 11 degrees.
 - The number of waste codes to be accepted onsite has been reduced in response to stakeholder comments and review of the market.
 - Reduction in the total storage volume of recovered recyclable material to be stored onsite from 100m³ to 50m³.
 - Hi-Quality has recently reviewed the number of staff likely to work in the office facilities within the Proposal and have determined that the number of office staff would be limited to 21 people at any one time rather than the maximum total of 30 identified in the EIS.
- **Design refinements:** due to progression of design, the following aspects associated with the physical description of the Proposal and the Site layout have been altered:
 - The arrangement of the bays and pits within the Facility have been updated to maximise the potential capacity of the Facility.
 - Water management infrastructure: the design of the leachate management system has been updated from bunding of blocks of bays to instead utilise the slope of the bays to contain waters. All Per- and polyfluoroalkyl substances (PFAS) bays will remain bunded. The entire building would be bunded with 250 mm bunds provided at each of the entries and exits to the building.
 - Car parking: The parking design for the Proposal has been revised to reflect the decrease in staff numbers and provide additional access space around the parking bays. The number of car parking spaces would be reduced from 40 (including one accessible parking space) to 36 (including one accessible parking space), resulting in a reduction of four parking spaces.
 - Fire services design: the design has been updated in accordance with relevant standards and the EIS assessment. The following design elements are included in the designs: site connection, fire hydrant

system, fire hose reels, portable fire extinguishers, fire detection systems and spent fire water management.

- **Clarifications in response to agency comments:** the Proposal description has been updated to clarify the waste types to be accepted on Site and the treatment types that would be subject to the SIAs that would be sought from the EPA. Clarifications include:
 - No PFAS contaminated soil will be accepted onsite above the RSW criteria
 - No PCB contaminated waste will be accepted onsite above the scheduled chemical waste criteria
 - SIAs sought for the Site would reflect existing immobilisation technologies used in Australia and globally that have demonstrated scientific basis for immobilisation.
 - A proportion of the wastewater and packaged waste accepted at the Facility will meet the classification of Dangerous Goods Class 8, Packing Groups II and III under the Australian Dangerous Goods Code (NTC, 2022). The Facility will only accept wastewater and packaged waste with this classification in volumes of less than 25 tonnes and 50 tonnes, for Class II and III respectively. Once accepted onsite, the Class 8 Dangerous Goods will either be delivered directly to a designated tank within the wastewater treatment plant or a designated bay within the packaged waste storage area. By-products of the treatment process would either undergo further treatment or would be disposed of at an appropriately licenced landfill, as described in Section 6.5 of the Draft OWMP. Additionally, two of the reagents to be used within the WWTP are also classified as Dangerous Goods Class 8 Packing Group II. These reagents would be stored separately above the Probable Maximum Flood (PMF) level.
 - Further clarification has been provided around the management of spent treatment materials from the WWTP, including granular activated carbon (GAC) and volcanic clinoptilolite zeolite (VCZ)
 - Hi-Quality have identified contingency measures in the event that a Trade Waste Agreement cannot be obtained (either for part or all of the proposed discharge volumes). In the event that not all water can be discharged to sewer, treated liquid waste would be collected within tankers and removed offsite for disposal.
- **Subsequent documentation:** several additional documents have been drafted in response to Agency queries to provide further clarity around the Facility's operation, these documents include:
 - In response to EPA queries a series of draft operational management plans have been prepared which outline how the Facility would operate and the relevant environmental controls which would be in place to manage potential risks.
 - A Hazard Risk Assessment risk assessment has been completed which considered 106 potential risks associated with the Facility's operation. Environmental controls have been embedded into the design and management procedures for the Facility, in order to minimise the impact of these potential risks.

The proposed amendments are described further in the Amended Proposal Description provided in Appendix B.

7.2 Need for the amended Proposal

The amendments described in Chapter 3 of this report are a result of ongoing design development and in response to matters raised during stakeholder engagement since the EIS exhibition and RtS Report submission. The overall need for the Proposal is driven by:

- Current market trends which indicate an increasing need for waste treatment and processing facilities to meet state targets and support industry
- Support of the delivery of subsequent infrastructure projects within Western Sydney including the M12, Western Sydney Airport and the Western Sydney Aerotropolis area

The proposed amendments do not affect the Proposal's ability to achieve these objectives. The proposed amendments also do not change the Proposal's overall contribution to key NSW and local government strategies.

7.3 Summary of impacts for the amended Proposal

The proposed amendments do not change the type or significance of impacts assessed in the EIS and refined in the RtS Report. There are no changes to the construction or ongoing operational impacts assessed in the EIS associated with the amendments.

The management measures in the RtS Report are adequate to manage the impacts of the proposed amendments. The management measures for the Proposal are included as Appendix C.

7.4 Ecologically sustainable development

Section 17 of the EIS describes the Proposal's alignment with the principles of ecologically sustainable development:

- The precautionary principle
- The principle of intergenerational equity
- Conservation of biological diversity and ecological integrity
- Improved valuation, pricing and incentive mechanisms.

The changes described in this report are minor and do not significantly change the strategic need or the impacts described in the EIS. Accordingly, there is no change to the Proposal's alignment with ecologically sustainable development principles as defined in Clause 6, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (now, clause 193 of the *Environmental Planning and Assessment Regulation 2021*).

7.5 Conclusion

The Proposal as described in Appendix B provides significant benefits in terms of addressing and securing the capacity and capability to treat specific wastes that will be generated in the local, Western Sydney, and Sydney metropolitan area, in addition to enabling efficient, safe and productive use of waste resources. The potential environmental, social and economic impacts of the Proposal have been identified and assessed as part of the EIS in response to the SEARs. The assessment in the EIS and further detailed in the RtS Report, has shown that the Proposal's residual impacts are acceptable and can be effectively managed through implementation of a range of management measures.

Several management plans have been drafted since the RtS Report to further mitigate potential risks. Design progress and stakeholder consultation has identified several opportunities to refine and improve the Proposal. In most cases, the potential environmental impacts of the proposed amendments are consistent with those already assessed in the EIS. The proposed amendments will be managed with the revised management measures as outlined in Appendix C. The amended Proposal remains in alignment with the principles of ESD.

8 References

- Arcadis 2023, Prestons Waste Treatment Facility Response to Submissions Report*
- DPE 2011, Applying SEPP 33, Hazardous and Offensive Industry Development Application Guidelines*
- DPIE 2021, NSW Waste and Sustainable Materials Strategy 2041 Stage 1 plan: 2021–2027*
- DPIE 2022, State Significant Development Guidelines*
- EPA 2014, NSW Waste Avoidance and Resource Recovery Strategy 2014-21*
- EPA 2016, NSW Waste Less, Recycle More Initiative*
- EPA 2023, Towards a Circular Economy: Enhancing the NSW Resource Recovery Framework*
- Golder 2020, Prestons Waste Treatment Facility Scoping Report*
- Golder 2021, Prestons Waste Treatment Facility Environmental Impact Statement*
- Greater Sydney Commission 2018a, Our Greater Sydney 2056: Western City District Plan*
- Greater Sydney Commission 2018b, Our Greater Sydney 2056: Western City District Plan*
- Interstate Technology and Regulatory Council (IRTC) 2011, Development of Performance Specifications for Solidification/Stabilization*
- NSW Fire and Rescue 2020, Fire Safety Guidelines*
- NTC (2022). Australian Dangerous Goods Code, Edition 7.8*
- Peopletrans 2021, Prestons Waste Treatment Facility Transport Impact Assessment*
- Stanbury 2023, Addendum Traffic & Parking Impact Assessment*
- TfNSW 2022, Future Transport Strategy 2056*