Enirgi Battery Recycling Facility

State Significant Development Modification Assessment

(SSD 6619 MOD1)

June 2020

Cover photo

Site Entrance on Byrnes Road, Enirgi Power Storage Consolidation Project Modification Environmental Assessment, GHD, 2019

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Glossary

Abbreviation	Definition
ABU	Actual Battery Unit
AMF	Acid Mixing Facility
Applicant	Enirgi Power Storage Recycling Pty Ltd
AQIA	Air Quality Impact Assessment
BCA	Building Code of Australia
BC Act	*Biodiversity Conservation Act 2016*
BFP	Battery Formation Plant
CIV	Capital Investment Value
CTMP	Construction Traffic Management Plan
Consent	Development Consent
Council	Wagga Wagga City Council
DC	direct current
DG	Dangerous Goods
DPI	Department of Primary Industries, (now DRNSW)
DPIE	Department of Planning, Industry & Environment (the Department)
DPIE BCD	Department of Planning, Industry & Environment - Biodiversity Conservation Division
DPIE Water	Department of Planning, Industry & Environment - Water
DRNSW	Department of Regional NSW (formerly DPI)
EA	Environmental Assessment
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPI	Environmental Planning Instrument
EPL	Environment Protection Licence
HIPAP	Hazardous Industry Planning Advisory Paper
LEP	Local Environmental Plan
LGA	Local Government Area
LLS	Local Land Services (now DRNSW)
Minister	Minister for Planning and Public Spaces
MLHD	Murrumbidgee Local Health District
NRAR	Natural Resources Assessment Regulator

Abbreviation	Definition
PHA	Preliminary Hazard Analysis
POEO Act	*Protection of the Environment Operations Act 1997*
PRRF	Plastics Resource Recovery Facility
RtS	Response to Submissions
RiFL Hub	Riverina Intermodal Freight & Logistics Hub – only define all these here these if we use them
SAP	Special Activation Precinct
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning, Industry and Environment
SEPP	State Environmental Planning Policy
SRD SEPP	*State Environmental Planning Policy (State and Regional Development) 2011*
SSD	State Significant Development
tpa	tonnes per annum
TfNSW	Transport for NSW
ULAB	Used Lead Acid Battery

Contents

1. Introduction

This report provides the Department of Planning, Industry and Environment's (the Department) assessment of an application to modify the State significant development consent (SSD 6619) for the expansion of the Enirgi Battery Recycling Facility. The facility is a Used Lead Acid Battery (ULAB) processing and recycling facility and ancillary plastics resource recovery facility in Wagga Wagga. The modification application was lodged by Enirgi Power Storage Recycling Pty Ltd (the Applicant) pursuant to section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Applicant seeks to add value to the approved expansion of the ULAB recycling facility by incorporating another element to the lead acid battery manufacturing life cycle. To this end, the Applicant proposes to integrate a Battery Formation Plant (BFP) into the ULAB recycling facility (the modification). The modification would include an acid mixing facility (AMF) and further expansion of the approved SSD 6619 water management system, including establishment of a second irrigation area. The modification would also amend the quantity of dangerous goods (DG) stored onsite and permit discharge of all treated wastewater to the sewer network (via a trade waste agreement) should Wagga Wagga City Council (Council) install the service in the future.

The modification seeks to complement the approved SSD 6619 through the production of up to 90,000 new lead acid filled batteries ('actual battery units' (ABUs)) per month for distribution across the Australian market. The modification would share several features with the ULAB recycling facility, including operational infrastructure (wheel wash, weighbridge and site access on Byrnes Road), water management facilities (including irrigation areas), and the storage quantities and types of DG stored onsite.

1.1 Background

The Applicant currently operates a ULAB recycling facility at Byrnes Road, Bomen in the Wagga Wagga Local Government Area (LGA) (see **Figure 1**).

On 20 February 2019, the then Executive Director, Key Sites and Industry Assessments, as delegate of the former Minister for Planning, granted development consent (SSD 6619) for the expansion of the ULAB recycling facility to receive and process up to 120,000 tonnes per annum (tpa) of ULABs and other lead-based material (to a maximum of 3,000 tpa). The land for the plastics resource recovery facility (PRRF) was purchased by the Applicant in 2014 and in 2016 Council approved construction and operation of a plastics recycling facility processing up to 5,000 tpa of plastics sourced from the ULAB recycling facility. SSD 6619 approved integration of the existing PRRF into the ULAB recycling facility and increased the PRRF processing capacity to 6,000 tpa.

The approved SSD 6619 ULAB expansion projects allows for an increase in the processing of ULABs at the end of their lifecycle to recover reusable and saleable materials including lead, salts and plastic

components. Recovered lead materials are transferred to the Philippines and South Korea for the manufacture of new lead acid batteries.

The development activities approved under SSD 6619 have not yet commenced, except for the carpark extension and construction of the oxygen generation plant to facilitate lead smelting and refining activities in the ULAB recycling facility. Remaining development works approved under SSD 6619 have not yet commenced and will be undertaken in two stages (see **Table 1**). Since approval of SSD 6619, the Applicant has identified a growing demand for new lead acid batteries for use as car batteries. To meet the demand, the Applicant now seeks to modify the approved development by incorporating a BFP within the existing ULAB recycling facility.

Figure 1 | Regional Site Context

1.2 Site Description

The approved ULAB recycling facility and proposed modification (together referred to as the site) are located on IN1 General Industrial zoned land in Bomen Business Park, approximately 7 kilometres (km) north-east of Wagga Wagga city centre. The site is legally defined as Lot 21 in Deposited Plan (DP) 1128492, Lot 1 in DP 850711 and Lot 3 in DP 594679 and encompasses an area of approximately 13.5 hectares (ha). The site that is the subject of the modification is larger than the existing site approved under SSD 6619 and includes the existing ULAB recycling facility (which includes the PRRF) as well as a new area to the east referred to as the 'eastern irrigation area'(see **Figure 2**). The Applicant owns an administration building located to the south-east of the site, however this is not included in the modification.

The ULAB recycling buildings are serviced via an access off Byrnes Road. The PRRF is located to the east of the main ULAB recycling buildings and is accessible via an internal road between the PRRF and the ULAB recycling buildings, as well as a road off East Bomen Road to the south which is used for the transportation of recovered plastics offsite. A grassed area located to the south of the ULAB recycling

facility has been approved for the irrigation of treated wastewater generated from the ULAB recycling operations and is referred to as the 'western irrigation area' (see **Figure 2**).

Two existing high-pressure gas transmission pipelines (HPGTP), are positioned within an APA Group owned pipeline easement (see **Figure 2**). These are located just outside the site on a south-west alignment through Lot 3 on DP 594679 to the east of the proposed BFP near the proposed eastern irrigation area.

Surrounding land uses are predominantly industrial and rural in nature, with businesses including Visy Industries (logistical services) directly to the north. Rural lands are located directly to the east and south. The future site of the Bomen Industrial Park Riverina Intermodal Freight and Logistics Hub (RiFL Hub), a proposed railway freight terminal, is located opposite the site to the west of Byrnes Road. The nearest sensitive receiver is a residential property located 1.2 km south-east of the site at 66 East Bomen Road, Bomen (see **Figure 3**).

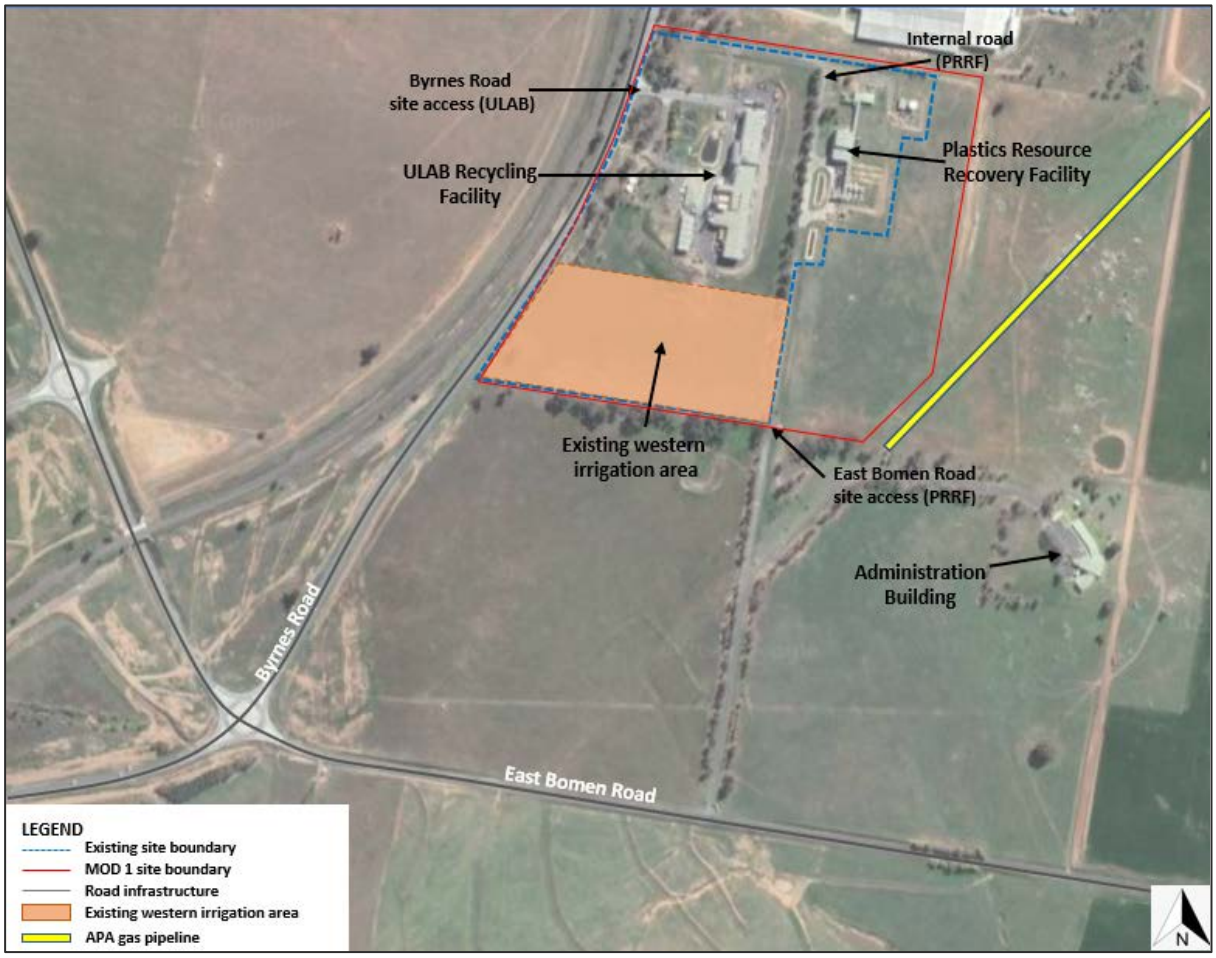

Figure 2 | Existing Operations

Figure 3 | Surrounding Land Uses

1.3 Approval History

Aside from SSD 6619, the site has been operating under a number of Council consents. As required by SSD 6619, these consents must be surrendered within 12 months of the date of commencement of the development to which SSD 6619 applies. These Council consents include:

- DA05/0517 granted on 24 April 2006 permitting the construction and operation of the ULAB recycling facility to process 42,000 tpa of ULABs
- DA05/0517.05 granted on 7 September 2016 permitting increase in processing capacity of ULABs from 42,000 to 70,000 tpa
- DA16/0386 granted on 2 November 2016 permitting operation of the PRRF.

Development consent SSD 6619 granted on 20 February 2019 permits the following:

- increase in the receipt and processing of ULABs from 70,000 tpa to 120,000 tpa. This includes other lead-based materials up to a maximum of 3,000 tpa
- continued operations of a PRRF to receive and process up to 6,000 tpa of plastics from ULAB recycling processes
- construction of a new ULAB chemical storage warehouse (north of existing ULAB recycling buildings) with a total storage capacity of 5,280 tonnes (t)
- construction of a salt storage, crystallisation and purification building (east of existing ULAB recycling buildings)
- upgrade and/or construction of operational infrastructure and plant including an oxygen generation plant, hygiene baghouse, large hammer mill, additional crystalliser and tilting rotary furnace

- upgrade of the existing water management facilities to increase treatment capacity alterations and additions to internal roads, and extension of the existing car park.

1.4 Lead Acid Batteries

Lead acid batteries are relatively simple household electrochemical devices able to store electrical energy. They are widely used in motor vehicle engines and as a backup energy storage device for running appliances. Key components of lead acid batteries include an external hard plastic case and internal negative- ('cathode') and positive- ('anode') charged lead-based plates immersed in a 'bath' of 2-3 litres of diluted sulphuric acid ('electrolyte') (see **Figure 4**).

The battery has two states of chemical processes – 'discharging' and 'charging'. During battery discharging, the stored energy from the sulphuric acid electrolyte is converted to electrical energy and depleted. During charging, the battery is returned to its active state, and electrical energy is converted back to stored chemical energy within the battery. Both processes are reversible, allowing lead acid batteries to be recharged or discharged continuously.

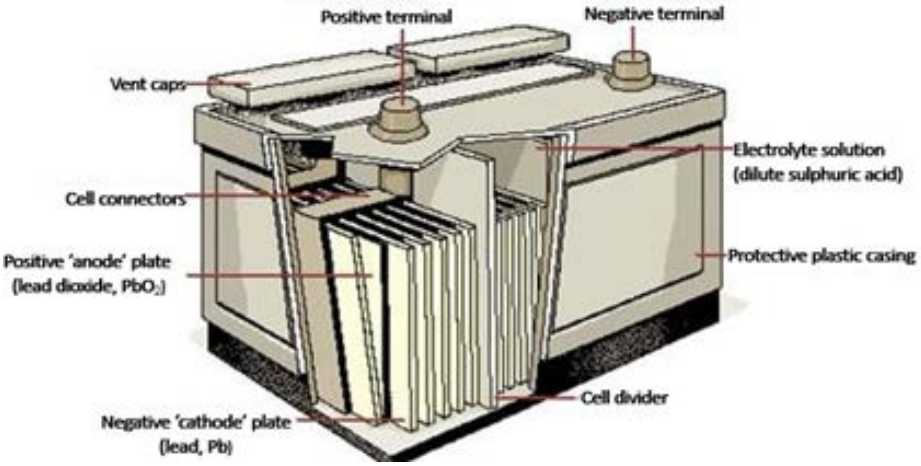

Figure 4 | Schematic of a Lead Acid Battery

2. Proposed Modification

2.1 Proposed Modification

The Applicant has lodged a modification application under section 4.55(2) of the EP&A Act to modify the development. The modification is described in full in the Applicant's Environmental Assessment (EA) and Response to Submissions (RtS) included in **Appendix B** of this report and summarised in **Table 1** below. Key elements of the modification are shown in **Figure 5**.

The modification does not seek to change the approved operational processes of the ULAB recycling facility or PRRF. Construction works relating to the modification would be undertaken progressively over a period of six months.

Table 1 | Summary of Modifications

Aspect	Description
Modification Summary	**Construction of a BFP and associated infrastructure to process up to 90,000 ABUs per month, expansion of the approved water management systems, including establishment of a second irrigation area, and amendment to the quantity of DG stored on the site.**
Site Layout	• establishment of a BFP (including AMF) in the northern portion of the existing 'western irrigation area' • relocation of a portion of the 'western irrigation area' to the east of the existing PRRF to form the 'eastern irrigation area'
Construction of Buildings	• construction of a BFP facility (approximately 3,480 square metres (m^2)) within part of the existing western irrigation area, that will store unfilled dry batteries ('green batteries') and ABUs, and contain battery filling and charging stations • construction of an AMF located to the east of the BFP and will store BFP processing chemicals, acid neutralisation pit and an acid transfer pipeline (between BFP)
Plant and Equipment	Installation of the following: <u>BFP</u> - battery filling and charging stations - transformer - piped battery chiller system <u>AMF</u> - acid dilution and mixing plant

Aspect	Description
	- acid transfer pipeline (between AMF and BFP) - acid neutralisation pit - heat exchanger and cooling tower - scrubber - 10 x sulphuric acid bulk storage tanks
Water management	Amendments to the approved water management system to service the BFP and associated infrastructure: • continued operation of existing water and stormwater discharge infrastructure, with additional changes to facilitate the BFP, including: - relocation of the existing upstream collection drainage near the proposed BFP - additional stormwater catchments - conveyance of BFP runoff to the approved detention basins - establishment of a 500 kilo litre (kL) water storage tank to the east of the approved PRRF to provide secondary storage capacity for the detention basins • increase in the approved nanofiltration plant capacity from 1.8 L/S to 2.4 L/S, with treated water piped to the existing (modified) western irrigation area and proposed eastern irrigation area • continued operation of the existing and approved blackwater treatment system and existing evapotranspiration area for BFP operations • addition of an Ozzikleen GTS 10 to the approved three greywater treatment tanks, and increase in capacity from 6,000 L/day to 8,000 L/day • provisions for the option of disposal of treated water to sewer (via a trade waste agreement) should Council install the service in the future (ceasing irrigation of treated wastewater)
Dangerous Goods	Amendments to the approved maximum quantity of Class 8 (Corrosive Substances) DG (370.28 tonnes (t)) in the SSD 6619 consent to include the following: • amending the maximum storage quantity of ULAB of the approved development to 5,285 t based on the total weight of ULAB inclusive of electrolyte • incorporating the maximum storage quantity of ABUs (inclusive of electrolyte) stored at BFP to 656.58 t, to the approved development • amending the maximum quantity of other Class 8 DG stored at site to 268.58 t of the approved development, including 10 x new bulk storage tanks containing sulphuric acid used for BFP operations:

Aspect	Description
	- 4 x 15,000 litres (L) bulk storage tanks of 98% sulphuric acid - 3 x 10,000 L bulk storage tanks of 38% sulphuric acid - 3 x 10,000 L bulk storage tanks of 32% sulphuric acid
Parking and Vehicle Movements	• further expansion of the approved carparking facilities from 57 spaces to 97 spaces (40 new spaces) • additions to internal roads • at full operational capacity: - increase of 22 trucks per day, from 32 to 54 trucks - increase of 37 light vehicle per day (split over four different shifts), from 96 to 133 light vehicles
Construction Stages	• Stage 1: construction of carpark extension (approved in SSD 6619 and proposed in the modification) and hygiene baghouse • Stage 2: construction of the remaining infrastructures approved in SSD 6619 • Stage 3: construction of the proposed modification (buildings and infrastructures, plant and equipment and carpark extension)
Hours of Operation	• no change (24 hours a day, 7 days a week)
Employment	• up to an additional 25 full-time construction jobs • an additional 37 new full-time operational jobs (total of 143 operational jobs at the site, inclusive of jobs from the approved development)

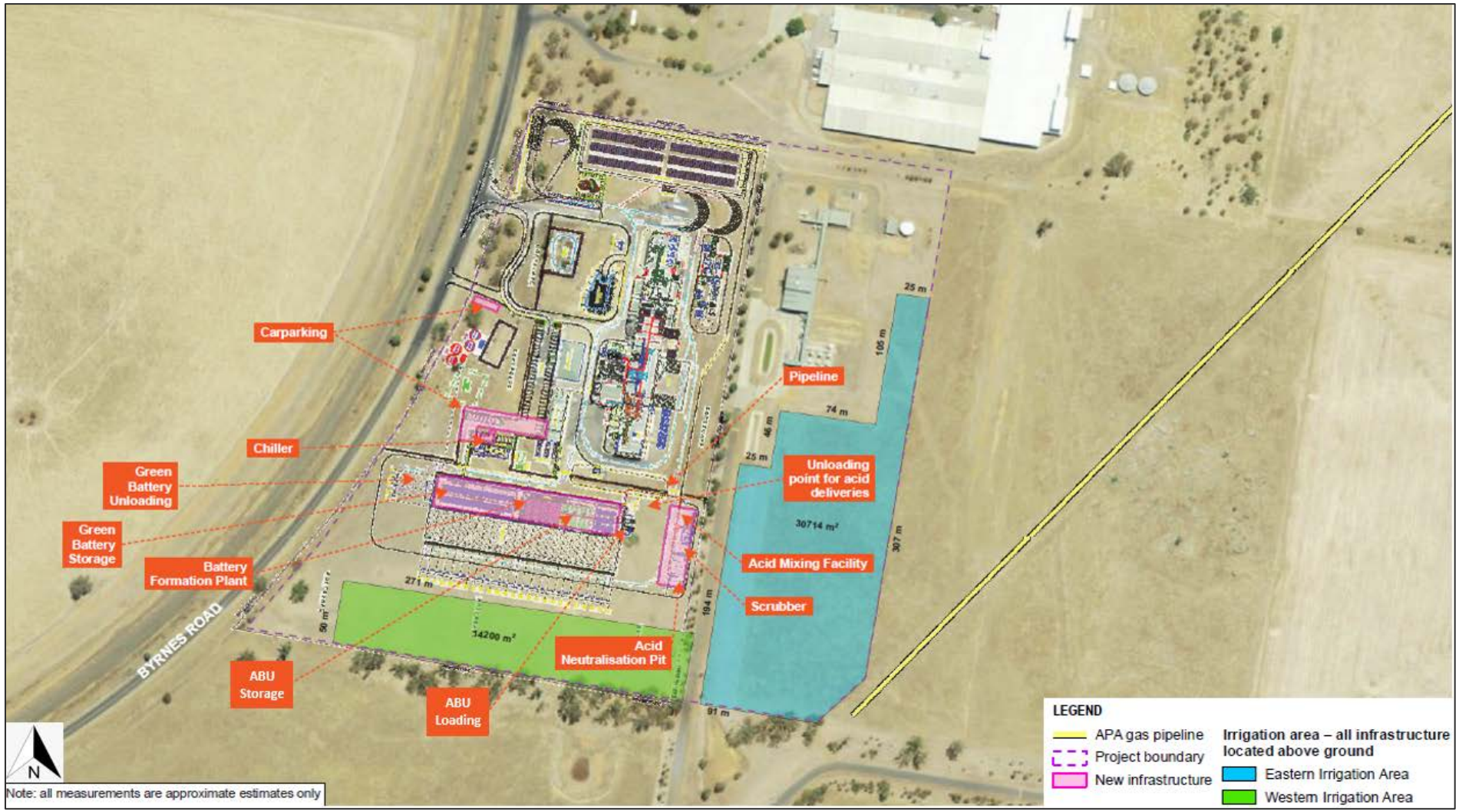

Figure 5 | Proposed modification layout

2.2 Proposed Battery Formation Operations

The battery formation process would include five main stages as described in **Table 2** and as shown in **Figure 6** and **Figure 7**.

Table 2 | Battery Formation Processes Description

Stage	Process	Description of Each Stage
1 Delivery	Delivery and unloading of green batteries at the BFP facility	• green batteries manufactured overseas are imported via Melbourne and delivered to the site by road. In future, when the RiFL Hub development has been completed, transport of batteries would also be via rail • green batteries are unloaded and stored within a bunded area at the western portion of the BFP facility (see **Figure 5 and 7**).
2 Acid mixing and filling	Mixing / diluting of sulphuric acid and filling batteries	• sulphuric acid is mixed and diluted to a 32% dilution concentration at the AMF (see **Figure 5**) • diluted sulphuric acid is transferred via pipeline to the BFP and added to the green batteries through a series of filling stations.
3 Charging	Electrically charging and cooling of batteries	• batteries are electrically charged at a series of charging stations • to prevent overheating during charging, the batteries are cooled down by the cold water piped from the battery chiller.
4 Sealing	Final filling of batteries and sealing	• batteries are further filled to final capacity with sulphuric acid (38% dilution) • batteries are sealed with “Magic Eye” (battery charge gauge) to indicate the density of the sulphuric acid electrolyte, and then washed/rinsed.
5 Packaging, storage and dispatch	ABUs are labelled, packed and stored in the BFP in preparation for distribution	• newly filled lead acid batteries (ABUs) are labelled, packed and stored within the warehouse of the BFP (eastern portion) before dispatch to retailers across Australia.

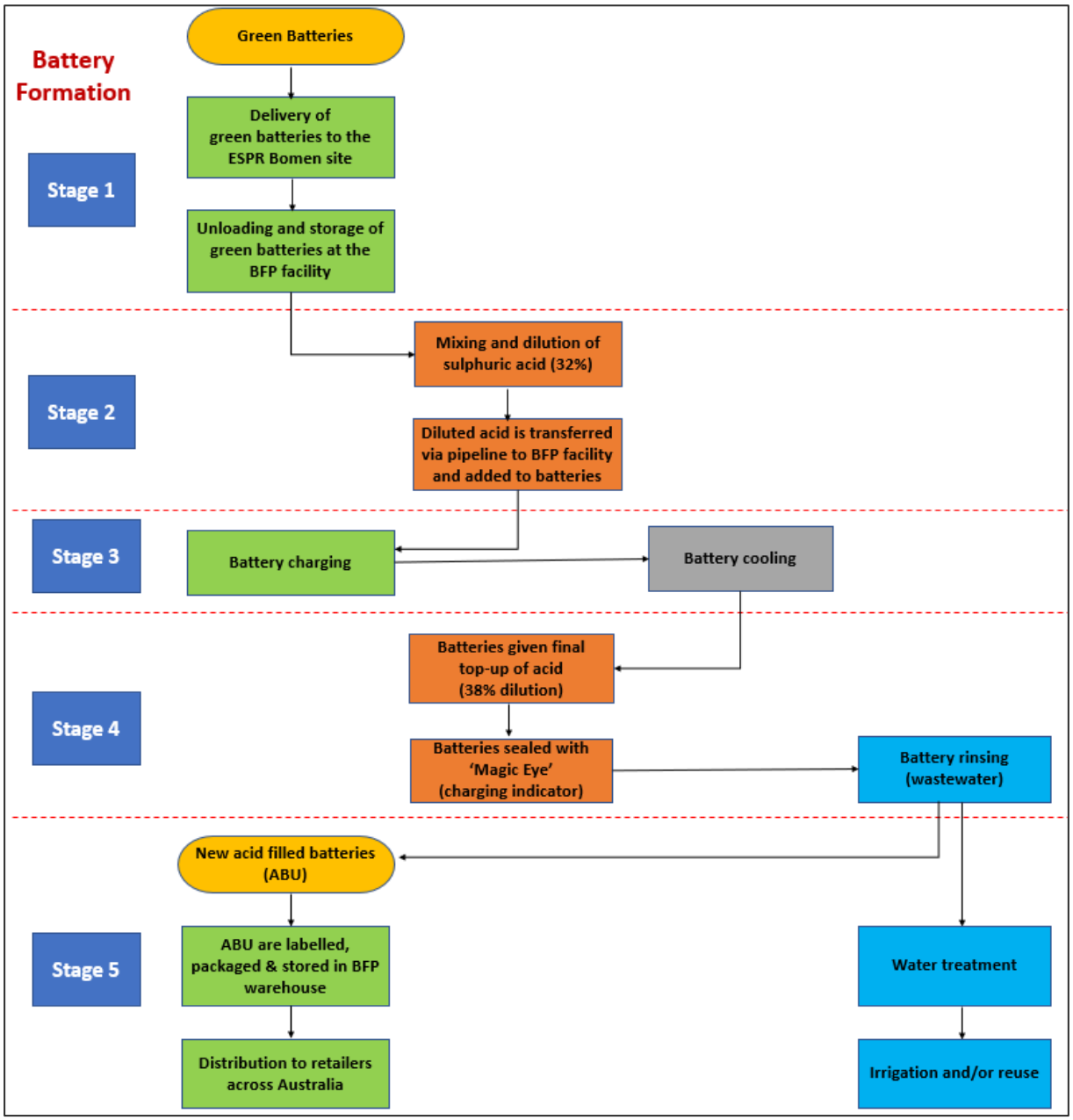

Figure 6 | Battery Formation Process Flow Diagram

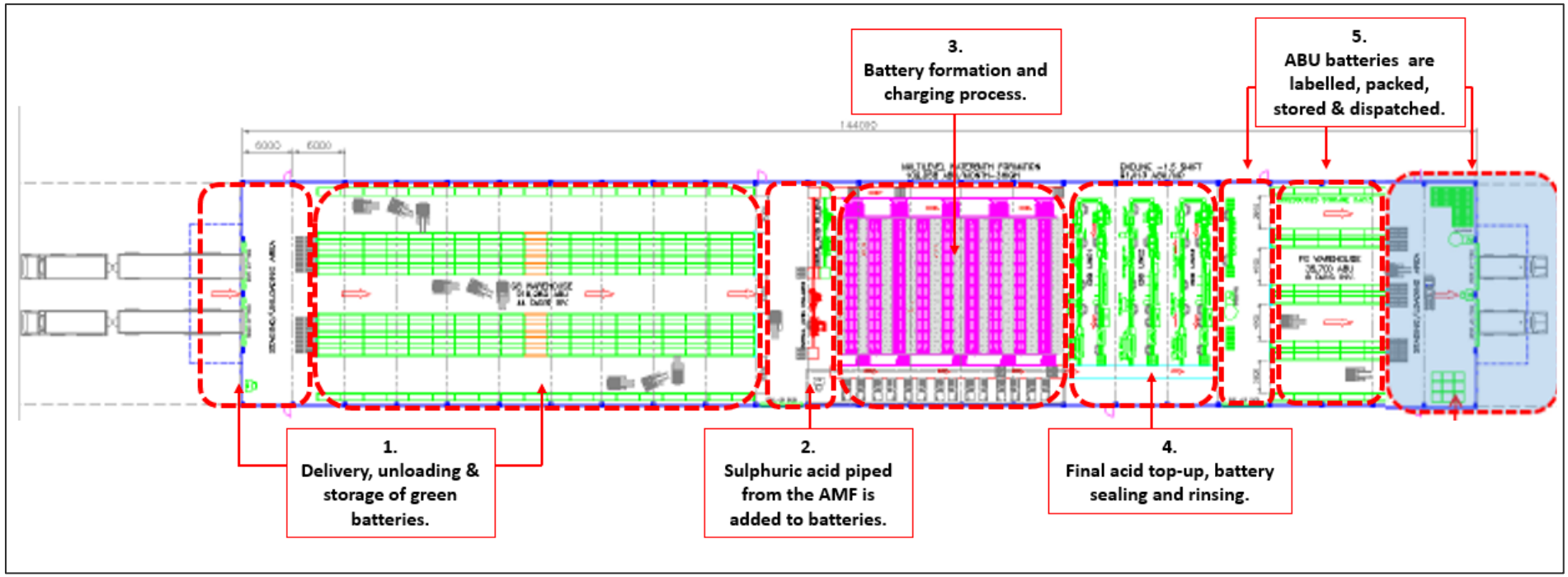

Figure 7 | Layout and operational processes within the BFP

2.3 Modified Water Treatment Systems

The current water management and treatment system would be amended to facilitate the addition of the BFP operations, which would be built on part of the approved 'western irrigation area' (see **Figure 8**).

Currently, all water entering the site is captured, treated, and reused through the site's integrated water management system. Following onsite treatment, water is reused for ULAB and PRRF recycling processing, left to evaporate, is irrigated, or reused for wheel washing and in staff amenities. The existing site water management system consists of three stormwater detention basins (one primary basin and two small basins) located to the west of the ULAB recycling facility, a nanofiltration plant, greywater and blackwater treatment systems, and two designated irrigation areas (blackwater evapotranspiration areas and western irrigation area) (see **Figure 9**). SSD 6619 approved the consolidation of two small detention basins into a secondary basin which will be constructed prior to the BFP operation. The modification would not change the stormwater detention basins' capacities.

Stormwater and Wastewater

The integration of the BFP into the approved development would require additional site drainage infrastructure to manage further stormwater runoff (from BFP roof, AMF roof and other surrounding hardstand areas), and additional wastewater generated from battery washing (1,600 kilolitre (kL)/year) and increased truck wheel washing activities (1,400 kL/year).

It is proposed to collect and manage additional stormwater runoff (11,400 kL/year) through revisions to the approved water management system layout. This revised system would collect and convey stormwater to the approved primary and secondary stormwater detention basins, and would involve relocation and expansion of the upstream diversion drainage system as well as provision of an extra 500 kL water tank to provide additional supporting storage capacity to the existing detention basins (see **Figure 8**). The proposed water management layout upgrade and revisions would be integrated with the current/approved site water management system.

The detention basins would capture and pre-treat stormwater as well as wastewater generated at the ULAB recycling facility and from battery washing at the BFP before discharge to the nanofiltration plant. The nanofiltration plant is located to the north of the primary detention basin and would filter out large multivalent ions from the collected water.

The modification also includes the upgrade of the existing capacity of the nanofiltration plant from 1.8 L/S to 2.4 L/S to facilitate the additional water generated from the BFP operations. Wastewater treated in the nanofiltration plant would be irrigated as needed or reused in vehicle wheel washing activities. A second irrigation area ('eastern irrigation area') on current vacant land to the east of the PRRF would be established to compensate for removal of the northern portion of the existing western irrigation area, which would be occupied by the BFP (see **Figure 8**). The total volume of treated wastewater predicted to be irrigated at the site is approximately 54,400 kL/year, which includes the previously predicted volumes for the approved development (40,000 kL/year) and additional wastewater generated and subsequently treated from the BFP operations (14,400 kL/year).

Further, subject to future Council approval and installation of a suitable sewer system, the Applicant would cease utilising irrigation areas and direct all treated wastewater to Council's sewer network under a trade waste agreement.

Greywater and Blackwater

Additional wastewater would also be generated from site amenities due to increased staff numbers associated with the modification. There would be an increase in blackwater and greywater rates to a total of approximately 4,000 L/day (additional 1,800 L/day) and 7,300 L/day (additional 3,340 L/day), respectively.

The blackwater treatment system was already approved with capacity of 4,000 L/day as part of SSD 6619, and therefore no further modifications are proposed for this treatment system.

Greywater generated from site amenities is currently collected and treated by a series of greywater treatment modules with daily treatment capacity of 6,000 L/day. To facilitate additional greywater, the modification would incorporate an additional treatment module into the existing system to increase greywater treatment capacity from 6,000 L/day to 8,000 L/day. The greywater treatment system is located towards the western boundary of the site, and treated greywater is recycled back to the water management system at the primary basin (see **Figure 9**).

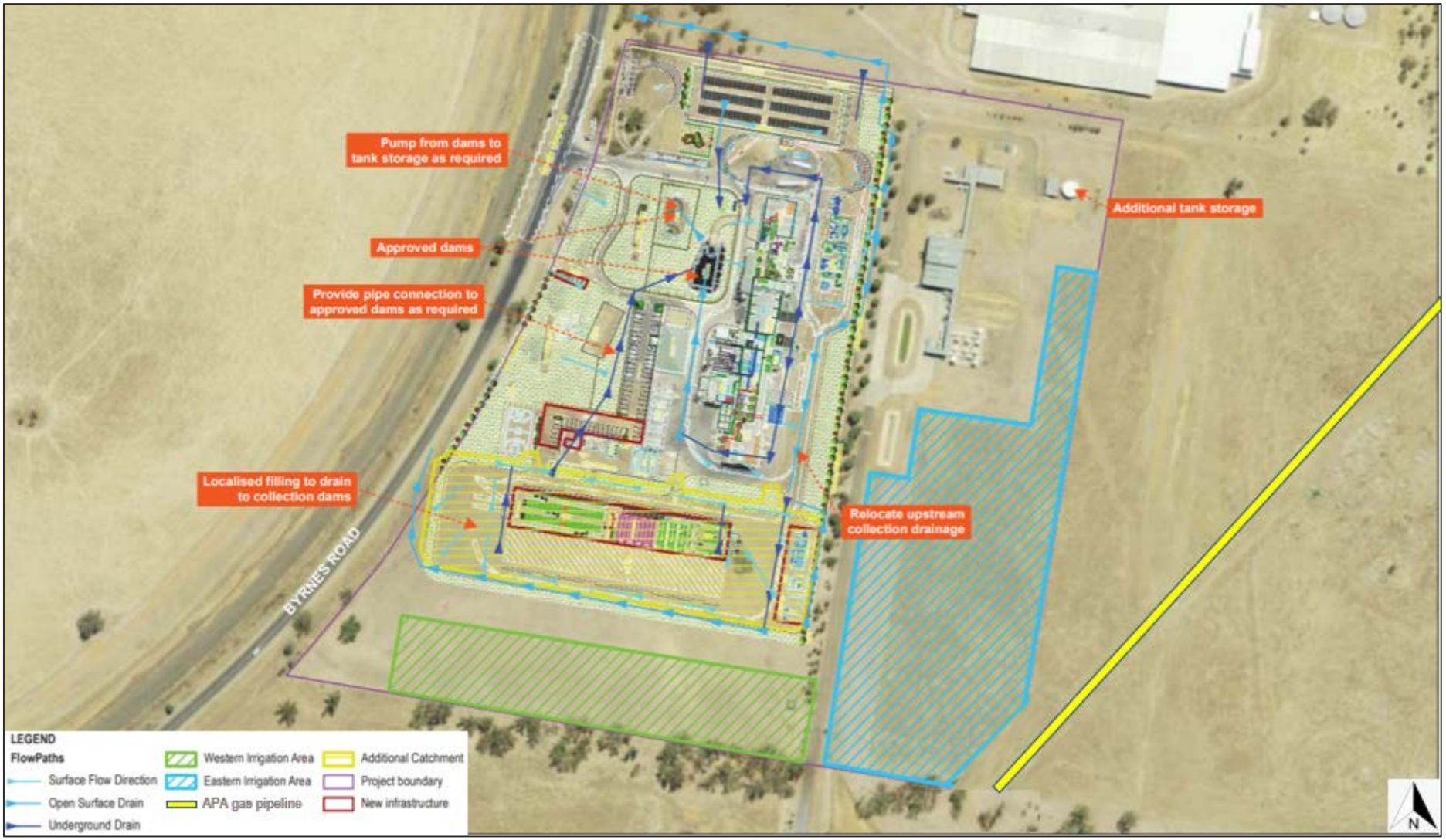

Figure 8 | Proposed water management layout

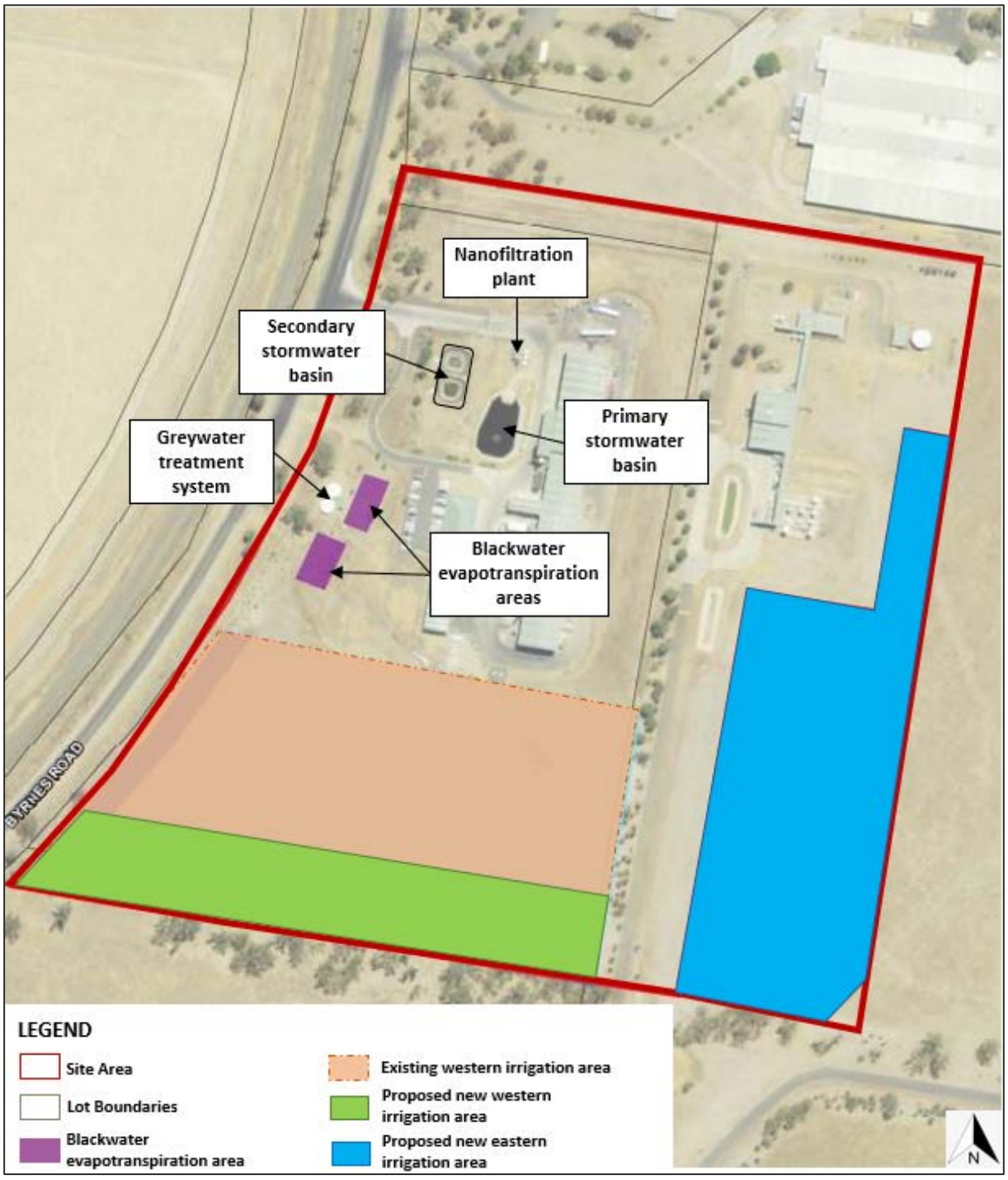

Figure 9 | Water treatment and irrigation locations

2.4 Dangerous Goods

The SSD 6619 consent (Condition A8, Table 1) allows a maximum storage of 370.28 t of Class 8 (Corrosive Substances) DG to be stored onsite at any given time.

Typically, new sealed lead acid filled batteries (ABUs) comprise of less than 35% w/w concentration of diluted sulphuric acid within a self-contained compartment of the battery. Used sulphuric acid is also sealed and contained within ULABs, although at a lower concentration of 10% w/w. The Preliminary Hazard Analysis (PHA) supporting the approved SSD 6619 development used a conservative method to consider the chemical weight of the used sulphuric acid electrolyte contained within ULABs, and bulk sulphuric acid used in battery recycling processes. For ULABs, this means that only the used battery acid electrolyte weight is considered, and not the total weight of the ULAB inclusive of the electrolyte.

To meet the current and future operation requirements of the approved ULAB recycling facility, and to enable more efficient and safer monitoring practices for ULAB and Class 8 DG (including bulk sulphuric acid), the modification seeks to amend the approved SSD 6619 DG quantities to allow a maximum storage of 5,285 t of fully contained ULABs at the site at any given time.

The maximum storage quantities of DG would also be further adjusted to include a proposed maximum storage of 656.58 t of ABUs stored within the BFP at any given time. Aside from fully contained batteries, the maximum quantity of other Class 8 DG (including bulk sulphuric acid) stored at the site would be amended to 268.58 t. The modification would not change maximum quantities of DGs falling into other categories approved under SSD 6619.

2.5 Applicant's Need and Justification for the Proposed Modification

The Applicant justified the modification would remain substantially the same as the approved development as it would incorporate a battery formation component into the ULAB recycling business, thereby extending the existing battery recycling and manufacturing process.

The Applicant highlighted that the modification would share several elements with the approved development, including the nanofiltration plant and associated irrigation areas, the existing road access off Byrnes Road, the existing wheel wash and weighbridge.

Integrating the BFP, ULAB recycling and PRRF operations would allow the Applicant to efficiently operate battery manufacturing and recycling business at one location within a purpose-built industrial park to meet the Australian market demands for new lead acid batteries, and to assist in the diversion of hazardous waste from landfill, through the recycling of saleable finite resources generated from ULABs.

The modification proposal would also provide a range of economic benefits to the Wagga Wagga region, and make a positive contribution to the growth of Wagga Wagga and the Bowmen Business Park.

3. Strategic Context

The Department has considered the following strategic documentation relevant to the assessment of the development:

- Riverina Murray Regional Plan 2036
- A 20-Year Economic Vision for Regional NSW
- Wagga Wagga Special Activation Precinct Draft Master Plan

3.1 Riverina Murray Regional Plan 2036

The Riverina Murray Regional Plan 2036 (Regional Plan) provides a 20-year blueprint for the future of the Riverina Murray Region. Key priorities of the Regional Plan are to strengthen the region's economy, provide employment and protect the rich natural environment.

The modification is consistent with the Regional Plan and would support the strategic directions of expanding advanced and value-added manufacturing promoting business activities in industrial and commercial areas.

The integration of the proposed BFP with the existing ULAB recycling facility and PRFF would promote the industrial use of the site which is strategically located within a critical industrial park in the Riverina Murray Region. The modification would facilitate an additional element to the lead acid battery manufacturing industry and support economic growth.

3.2 A 20-Year Economic Vision for Regional NSW 2018

In July 2018, the NSW Government released A 20-Year Economic Vision for Regional NSW (Vision). The Vision identifies the Wagga Wagga LGA as a growth centre in regional NSW where long-term planning and additional investment will occur in the next 20 years. The development constitutes an investment of $10 million in the Wagga Wagga LGA, which is consistent with the strategic direction set out in the Vision.

The modification would contribute to the identified growth of 117,000 jobs in the next 20 years in regional growth centres by providing 25 full-time equivalent construction jobs and 37 new operational jobs.

3.3 Wagga Wagga Special Activation Precinct Draft Master Plan

The NSW Government is currently drafting a master plan for the Wagga Wagga Special Activation Precinct (SAP). The SAP is unique to regional NSW and will bring together planning and investment to focus on growing jobs and economic development in the area.

The Bomen Business Park will form part of the Wagga Wagga SAP identified by the NSW Government to further economic development in regional NSW and become a prospering business hub. The Wagga Wagga SAP will capitalise and focus on key elements including:

- freight and logistics (which incorporates the RiFL hub)
- advanced manufacturing and agribusiness
- innovation, skills and education
- recycling and renewable energy

The approved expansion of the ULAB recycling facility and proposed BFP are located within the Wagga Wagga SAP and would provide a positive contribution to stimulating the economic and industrial growth within the advanced manufacturing, recycling and renewable energy sectors, and growing jobs within the Wagga Wagga regional area.

4. Statutory Context

4.1 Scope of Modifications

The Department has reviewed the scope of the modification application and is satisfied the modification relates to substantially the same development as the original development consent on the basis that:

- the primary function and purpose of the approved development would not change as a result of the proposed modification;
- the modification is of a scale that warrants the use of section 4.55(2) of the EP&A Act; and
- any potential environmental impacts would be minimal and appropriately managed through the existing or modified conditions of approval.

The Department considers the BFP would be an extension of the established battery recycling process approved under SSD 6619. The modification would add additional value to the approved ULAB recycling facility through incorporation of the battery formation process and subsequently adding further value to the lead acid battery production cycle. The modification would not change the existing industrial use within a purpose-built industrial park.

The BFP modification would utilise and share some of the existing and/or approved ULAB infrastructure, including water management facilities, access, wheel wash and existing weighbridge. Environmental risks associated with the modification are considered minimal in comparison to the existing ULAB and PRRF operations which would be managed appropriately through conditions of approval.

Therefore, the Department is satisfied the modification is within the scope of section 4.55(2) of the EP&A Act and does not constitute a new development application. Accordingly, the Department considers that the application should be assessed and determined under section 4.55(2) of the EP&A Act rather than requiring a new development application to be lodged.

4.2 Consent Authority

The Minister for Planning and Public Spaces (Minister) is the consent authority for the application under section 4.5(1) of the EP&A Act. Under the Minister's delegation of 9 March 2020, the Director, Industry Assessments, may determine the application under delegation as:

- the application has not already been referred by the Planning Secretary to the Independent Planning Commission as at the date of the delegation
- a political disclosure statement has not been made; and
- there are fewer than 10 public submissions in the nature of objections.

5. Engagement

5.1 Consultation by the Applicant

The Applicant undertook a range of consultation activities with key stakeholders during the preparation of the modification application, including:

- meetings with the Department, EPA, Wagga Wagga City Council and Wagga Wagga Local Aboriginal Land Council (WWLALC)
- written correspondence to the Biodiversity and Conservation Division of the Department (BCD) seeking clarification for the agencies' assessment requirements relating to biodiversity, Aboriginal heritage, flooding and bushfire management.

5.2 Department's Engagement

In accordance with Clause 10 of Schedule 1 of EP&A Act, and Clause 118 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation), following accepting the modification application and associated EA, the Department:

- made the modification application publicly available from **Tuesday 3 December 2019 until 16 December 2019** (14 days)
  - on the Department's website
  - at Wagga Wagga City Council (243 Baylis Street, Wagga Wagga).
- notified landowners/ occupiers in the vicinity of the site of the current modification
- referred the modification application to relevant State government authorities and Wagga Wagga City Council for comment
- advertised the exhibition in Wagga Wagga Riverina Leader and Wagga Daily Advertiser.

5.3 Summary of Submissions

A total of 11 submissions were received on the modification during the exhibition period, including 10 from government agencies (including Council), and one from a private organisation. None objected to the modification and Council supported the modification.

A summary of key issues raised in submissions is provided in Section 5.4 below, with a copy of each submission included in **Appendix C** of this report.

5.4 Key Issues – Government Agencies

Council supported the proposed modification as it would continue to provide innovative resource recovery solutions and management as well as provide diversification of the local economy and skills consistent with the Council's long-term economic growth vision, particularly in relation to the NSW Special Activation Precinct (SAP) plan proposed for the Bomen Business Park.

Crown Lands and Department of Primary Industries (DPI), Department of Regional NSW (DRNSW) raised no comments.

Department of Planning, Industry and Environment (DPIE) Biodiversity and Conservation Division (BCD) did not object to the modification and requested the Applicant to update the contingency plan within the Archaeological Assessment Report to include additional management measures for potential unexpected finds of Aboriginal artefacts during the construction phase of the modification.

DPIE Water and Natural Resources Access Regulator (NRAR) did not object to the modification and requested the preparation of an Erosion and Sediment Control Plan prior to the commencement of construction activities for the project, and consultation with DPIE Water should the proposed discharge of wastewater to sewer (via trade waste agreement) be approved by Council.

NSW Environment Protection Authority (EPA) stated that it could not adequately assess the modification due to insufficient information provided in the EA and requested additional information for the Air Quality Impact Assessment (AQIA).

Local Land Services (LLS), DRNSW provided comment on the potential exposure risks of lead acid batteries on travelling stock within the vicinity, and the control measures required to ensure batteries would be stored within the site boundary.

Murrumbidgee Local Health District (MLHD) reiterated its requirements raised in SSD 6619 regarding management of lead exposure to workers remained unchanged.

SafeWork NSW did not object to the modification and provided comments on the management of lead exposure risks to workers, as well as requesting clarification on the appropriate measures and controls on the storage and handling of flammable gases and sulphuric acid.

Transport for NSW (TfNSW) did not object to the modification and provided comments on the operational traffic movements, the intersection of Byrnes Road/internal access road and preparation of a Construction Traffic Management Plan (CTMP).

5.5 Key Issues – Private Organisation

APA Group did not object to the modification but raised concerns regarding the irrigation of treated wastewater in proximity of APA's HPGTP and easement traversing the proposed eastern irrigation area and potential contaminant exposure risks to the integrity of the pipeline and APA maintenance workers.

5.6 Response to Submissions

On 14 May 2020, the Applicant submitted its final RtS to address issues raised during the exhibition of the modification. The RtS provided:

- updates to the unexpected finds protocol/ contingency plan for Aboriginal Heritage
- revised AQIA
- revised water balance schematic
- additional information on mitigation measures for health hazards and risks

- further information on management measures for operational traffic movements and access at the site
- additional information in relation to mitigation of hazards associated with irrigation of treated wastewater
- amendments to the size and coverage of the proposed eastern irrigation area in the site plans to avoid APA Group's HPGTP easement area.

The RtS was provided to key government agencies and APA Group for comment. A summary of the agencies and private organisation responses are provided below:

DPIE BCD was satisfied that the Applicant had adequately addressed the issues raised.

DPIE-Water and NRAR advised that in the post approval stage of the modification, confirmation should be provided of approval from Council should the option for disposal of treated wastewater to sewer be installed and approved in the future.

EPA accepted the additional information received from the Applicant's RtS, and recommended conditions of consent.

LLS was satisfied that the issues raised had been addressed.

TfNSW was satisfied that the issues raised had been addressed.

SafeWork NSW advised that the Applicant's response to assessing risks associated with the storage, use and production of flammable gases (e.g. LPG, hydrogen) through a PHA was not considered adequate, as the PHA is a predictive document, and does not assess risks and hazards that apply during operational conditions. SafeWork NSW recommended that hazardous area zoning would be an appropriate method to help manage operational WHS risk from storage, use and production of flammable gases.

APA Group (private organisation) was satisfied by the adjustment of the size and coverage of the eastern irrigation area to avoid and minimise impacts to APA's HPGTP and easement and raised no further issues.

6. Assessment

The Department has assessed the merits of the modification. During this assessment, the Department has considered:

- the assessment report for the original development application (SSD 6619)
- SSD 6619 conditions of approval
- the EA supporting the modification (see **Appendix A**)
- submissions from government agencies, Council and APA Group (see **Appendix B**)
- the Applicant's report to the response to issues raised in submissions (see **Appendix C**)
- relevant environmental planning instruments, policies and guidelines.

The Department considers the key assessment issues are hazards and risks, and soil and water. The Department's assessment of other issues is provided in **Table 4** in **Section 6.3**.

6.1 Hazards and Risks

The modification proposes the processing of 90,000 ABU per month and storage of approximately 316,000 litres of sulphuric acid at the site. BFP operation includes acid mixing (dilution), battery acid filling and charging of acid filled batteries, which are potential hazards that require further analysis. The modification also seeks to amend the approved total quantity of DG to be stored at the ULAB recycling facility and the BFP.

State Environmental Planning Policy 33 – Hazardous and Offensive Development (SEPP 33)

The proposed BFP is considered potentially hazardous under *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33), as the risk screening for onsite storage and usage of DG, specifically sulphuric acid (bulk and ABUs), exceeds the screening threshold quantities in SEPP 33. As such a Preliminary Hazard Analysis (PHA) was prepared for the modification.

Heavy vehicle movements for DG transport to and from the site for the proposed BFP operations would not exceed the SEPP 33 transportation screening thresholds. Therefore, the modification was not deemed potentially hazardous in terms of the transport of DG and Transport of Hazardous Materials study was not required.

Preliminary Hazard Analysis

A PHA for the BFP (PHA (BFP)) was prepared by GHD in accordance with the Department's Hazardous Industry Planning Advisory Paper (HIPAP) No. 6 – *Hazard Analysis* (HIPAP 6). The Applicant also submitted an update of the PHA prepared for SSD 6619 (PHA (ULAB Facility)) which included the proposed amendments to the total quantity of DGs stored on the site.

The PHA (BFP) identified potential hazards and incidents from BFP operations with potential onsite and offsite impacts. These hazards and the Applicant's proposed management measures are shown in **Table 3**.

Table 3 | Hazards Identification

Hazard	Issue	Proposed safeguard
Storage and handling of sulphuric acid	Sulphuric acid is the main DG utilised in BFP processes and contained in new ABUs. Sulphuric acid is a corrosive liquid with the potential to cause harm to the environment and human health if an uncontrolled release occurs. Acid mist may also be generated during storage tank filling.	• Storage of bulk sulphuric acid in above ground storage tanks, situated in the acid mixing facility (AMF) • Point source ventilation installed on all storage tanks • Appropriate labelling and safety data sheet register of all chemicals stored onsite • Transfer of sulphuric acid from AMF through dedicated purpose-built pipes • Installation of vent plugs in ABUs • ABUs located in a designated bunded area in BFP and moved into storage or onto transport vehicles by forklift.
Acid mixing (dilution)	Sulphuric acid is delivered to site at 98% weight for weight (w/w) and is diluted to form 32% w/w or 38% w/w sulphuric acid for addition to batteries in the BFP. Heat can potentially be generated from acid dilution reactions posing a fire/explosion risk.	• Reticulated water used in AMF dilution processes is sent to a heat exchanger to remove the heat of the acid dilution reaction and then sent to an associated cooling tower to be cooled at original dilution temperate (45°C) and reused for dilution processes
Battery acid filling	Corrosive sulphuric acid mist may be generated during battery acid filling activities.	• Installation of a BFP air quality scrubber • Additional point source ventilation at battery filling station
Battery charging	During battery charging of ABUs, heat is generated and hydrogen, a flammable gas is released. The accumulation of hydrogen associated with prolonged overcharging can potentially result in ignition / explosion. In addition, overcharging or overheating of ABUs could result in forming higher ambient temperatures around the ABUs, causing a reaction referred to as 'hydrogen evolution' releasing toxic hydrogen sulphide gas.	• Installation of BFP ceiling ventilation • Placement of batteries in a temperature-controlled water bath, maintained through a piped 'chiller' water system to prevent overheating of ABUs

The PHA (BFP) also identified four potential hazard scenarios associated with the BFP operations:

a) hydrogen explosion during charging
b) discharge of toxic sulphuric acid during bulk storage tank and acid battery filling
c) discharge of toxic hydrogen supplied gas from battery overcharging and/or overheating
d) discharge of corrosive liquid (ABUs and bulk sulphuric acid).

The PHA (BFP) identified that only hazard scenario a) would have the potential for off-site impacts and warranted further analysis. The remaining hazard scenarios were predicted to remain within the site's boundaries and would be managed through appropriate onsite safeguards (see **Table 3**).

A further detailed risk analysis within the PHA (BFP) for hazard scenario a) identified the worst-case to be an explosion of accumulated hydrogen due to prolonged and undetected simultaneous overcharging of 6,000 battery units within the BFP. However, the consequences of this scenario were predicted not to severely impact onsite DG storage areas, with off-site impacts predicted not to be significant. Notwithstanding, to further minimise the potential for the four hazard scenarios to occur the Applicant identified further measures in addition to those provided in **Table 3**:

- ventilation system designed in accordance with industry standard
- hydrogen gas detection system within and/or in the vicinity of the battery charging area, and interlocked with the BFP ventilation system to monitor and prevent hydrogen accumulation
- installation of sprinkler systems in the incoming goods storage and the battery charging area
- upgrading of the site fire management system to include a second pump house and storage feed tanks, and three additional fire hydrants installed on the southern side of the BFP (totaling six hydrants surrounding the BFP)
- electrical equipment hazardous area zoning/classification, in accordance with the Australian Standard (AS) 60079 – Explosive Atmospheres, as a safeguard against hydrogen gas accumulation and ignition
- undertaking inspection and maintenance regime for the battery charging and cooling processes and BFP ventilation.

As the proposed BFP would operate concurrently with the ULAB recycling facility, the PHA (BFP) also included a cumulative impact assessment of the potential overall hazards and risks arising from the operation of the ULAB recycling facility, the BFP and the storage of increased quantities of DG onsite.

The PHA (BFP) concluded the cumulative risks from the ULAB recycling facility and BFP would not exceed the industrial land-use risk criteria specified in the Department's *HIPAP No. 4 – Risk Criteria for Land Use Safety Planning* (HIPAP 4). The Applicant has committed to implementing all management practices identified in both the PHA (BFP) and the updated PHA (ULAB Facility) to minimise hazards and risks identified in the PHA documents.

The Department considers the methodology of the PHA (BFP) was appropriately conservative and notes it was undertaken in accordance with HIPAP 6. To ensure all recommended safeguards are designed and installed in accordance with industry best practice or principles, several hazard-related conditions of consent have been recommended.

The Department also recommends conditions of consent requiring the Applicant to update any additional measures proposed in the PHA (BFP) into the approved SSD 6619 Hazard Operability Study (HAZOP) and Final Hazard Analysis (FHA) in accordance with HIPAP 6. Furthermore, to minimise risks associated with hydrogen accumulation and potential ignition/explosion at the site, the Department recommends limiting the number of ABUs simultaneously charged during a charging cycle to a maximum of 6,000.

Amending DG quantities for the SSD (as modified)

Condition A8 of SSD 6619 permits a maximum of 370.28 t of Class 8 DG (corrosive substances) to be stored at the site at any given time. The Applicant seeks to amend the approved DG quantities to better reflect the existing and future requirements of ULAB storage at the site.

The PHA (ULAB Facility) supporting the approved SSD 6619 application used a conservative method when considering the chemical weight of the used sulphuric acid electrolyte contained within ULABs and bulk sulphuric acid used in battery recycling processes. The Applicant seeks amendment of the SSD 6619 consent to consider the total weight of both the used acid and the ULAB carrying the acid (fully contained ULAB), to enable more efficient and safer monitoring practices for ULABs and other Class 8 DG corrosive substances (including bulk sulphuric acid) stored onsite. The revised PHA (ULAB Facility) further indicates that the ULAB storage capacity and designated ULAB storage areas at the site would remain consistent with the approved development.

The Applicant seeks to store the following combined maximum amount of DG (at any given time) at the site:

- ULAB including electrolyte = 5,285 t
- ABU including electrolyte = 656.88 t
- Other Class 8 (Corrosive Substances) DG (such as bulk sulphuric acid) = 268.58 t.

The PHA (BFP) found that the storage of the modified quantities of DG complies with HIPAP 4. As such, the modified maximum DG proposed to be stored at the site is considered acceptable and would not pose individual fatality or injury risks to onsite personnel or offsite receivers.

The Department considers that updating the maximum DG storage quantities would accurately reflect the overall operational requirements of the proposed BFP and the approved expanded ULAB recycling facility. The proposed maximum DG stored and used in ULAB recycling and BFP operations would not exceed the relevant criteria, and therefore the Department is satisfied that proposed DG quantities would not pose an unacceptable risk to site personnel onsite and offsite sensitive receivers. As such, the Department recommends modifying Condition A8 of SSD 6619 to reflect the modified maximum DG storage quantities.

Conclusion

The Department has reviewed the revised PHA (ULAB Facility) and PHA (BFP), and considers that, provided all mitigation measures detailed in both the PHA (ULAB Facility) and PHA (BFP) are implemented, the combined operations comply with HIPAP 4 and there is effective monitoring and

compliance in place for the modified maximum storage quantities of DG. The Department has recommended specific conditions to further manage hazards and risks, including:

- modified limits on the maximum quantity of DG stored at the site at any given time
- a limit of no more than 6,000 ABUs to be simultaneously charged during a charging cycle at the BFP
- pre-construction requirements, including updating the SSD 6619 HAZOP and FHA to incorporate the BFP design and operations. The FHA must also be updated to include a program for implementation of all recommendations made in the PHA (BFP).

With these recommended conditions in place, the Department concludes the hazards and risks from the modification would be acceptable and would not represent a detrimental hazard or risk either onsite or offsite.

6.2 Soil and Water

The incorporation of the BFP into the approved development has the potential to impact soil and water due to increased stormwater runoff, wastewater generated from additional BFP staff amenities and battery formation processes, as well as amendments to irrigation areas. The modification includes revision and expansion of the approved stormwater diversion and collection system, increase of the capacity of the nanofiltration plant to a minimum of 2.4 litres per second (L/s), and inclusion of an additional grey water treatment unit. A Water Risk Assessment (WRA) was prepared by GHD as part of the modification EA.

Irrigation Assessment

As the site is currently not served by Council's sewer, following nanofiltration treatment, wastewater from the ULAB recycling facility and BFP would be discharged to the existing western irrigation area and the new eastern irrigation area. The WRA provided a detailed irrigation assessment to determine the performance of the irrigation areas to manage the irrigated wastewater. This included a targeted soil assessment within the vicinity of the proposed eastern irrigation area. The soil results showed there were no exceedances of the adopted National Environmental Protection Measure 2013 (NEPM 2013) investigation criteria for commercial and industrial land, which was reported to be consistent with soil conditions in rural areas with limited past land uses.

Consistent with the SSD 6619 assessment, the Applicant identified arsenic and lead as the key indicator analytes based on the potential risks associate with wastewater discharged from the site. The irrigation assessment considered the land size of the eastern irrigation area and the reduced western irrigation area, and increased wastewater volumes from both the ULAB recycling facility and BFP operations. The irrigation assessment adopted conservative concentrations of arsenic (0.25 milligrams/litre (mg/L)) and lead (0.24 mg/L) in the treated wastewater and showed that, based on the cumulative contaminant loading for lead and arsenic in the irrigated wastewater, the western and the proposed eastern irrigation areas could continue operating for over 700 and 80 years respectively, before a site specific risk assessment would be required. The irrigation assessment demonstrated the irrigation areas would be

able to manage the irrigated wastewater from the combined modified operations in accordance with the EPL requirements.

Subject to future Council sewer approval and installation, the Applicant has committed to ceasing irrigation of treated wastewater and directing all treated wastewater to Council's sewer network under a trade waste agreement.

Consistent with existing sampling requirements, the Applicant proposes to undertake soil sampling on a two-yearly basis at both the eastern and western irrigation areas and continue with its bi-annual groundwater monitoring program. It also proposes to continue monitoring the quality of the treated wastewater from the nanofiltration plant monthly to ensure compliance with EPL effluent discharge limits.

Stormwater Management

The Department sought additional information relating to the management of stormwater flows during the construction stages. The RtS provided additional information demonstrating commitment to preparing detailed erosion and sedimentation control plans for each stage of construction as part of a Soil and Water Management Plan (SWMP), which would be developed in accordance with *Managing Urban Stormwater, Soils and Construction* (Landcom, 2005). Controls would also be established prior to construction commencing and would be managed throughout the construction stages. This includes the installation of the upgraded nanofiltration plant prior to the commissioning of the BFP to manage potential flows from the construction hardstand.

The Department has reviewed the modification EA, RtS, and the water management aspects already approved under in SSD 6619, and has noted that specific operations proposed in the modification would be dependent on the upgrades to water management infrastructure approved in SSD 6619, including the consolidation of the two existing secondary detention basins, buffer storage tanks for the nanofiltration plant, and additional grey water and black water treatment units. No further concerns were raised by other government agencies about water management for the proposed modification. In order to minimise significant water management issues relating to the consolidation of the ULAB recycling facility and modification, the Department has recommended a condition of consent requiring the completion of the approved SSD 6619 upgraded water management infrastructure prior to the integration of the water management systems, construction and operations proposed for the modification.

The Department also notes the modification will represent a continuation of industrial land use at the site, and that ongoing environmental monitoring would be continued to provide awareness of any potential soil and water contamination issues. However, to minimise emerging soil and water impacts associated with modified operations, the Department has recommended a condition of consent requiring the SSD 6619 SWMP to be updated to include the soil and water mitigation measures, contingency measures and unexpected finds protocol for the proposed BFP and irrigation areas.

The Department also acknowledges the Applicant's intentions for treated wastewater to be discharged from the site via sewer (should Council install the service in the future), rather than continued application of irrigation to land. To ensure that the Department is informed about the future timing and approvals for

this activity, the Department has recommended conditions of consent requiring the Applicant to provide notification and a copy of the trade waste agreement for the connection and discharge of treated wastewater to the sewer network, and to update the SWMP accordingly to reflect the changes to the end water use at the site.

Conclusion

The Department has reviewed and carefully considered the modification EA, RtS and advice from the EPA, and considers the Applicant has appropriately demonstrated soil and water impacts at the site would be minimised through the implementation of the mitigation measures of the approved development and those proposed in the modification. The Department also concludes that through the combined water management upgrades approved by SSD 6619 and the integration of the water management systems proposed in the modification, the systems have the capacity to cater for both the ULAB recycling facility and BFP, and would adequately capture, treat and manage water on the site. To ensure the proposed soil and water management practices are effectively implemented, the Department has recommended the following conditions of consent:

- installation of the upgraded water management infrastructure approved in SSD 6619 prior to the integration of the modification
- installation of the upgraded nanofiltration plant prior to the construction of the BFP to manage potential flows from the BFP construction works
- update the Irrigation Management Plan (IMP) to include details of the proposed operation, management and monitoring of the irrigation activities at the eastern and western irrigation areas
- update the SWMP to include additional soil and water mitigation measures and monitoring requirements proposed for the modification, as well as details of the relevant management processes (e.g. sediment and erosion measures and establishment of nanofiltration plant) to be established prior to construction commencing
- notify the Department of the timeframe for the proposed connection to sewer (should Council install the service in the future), and provide a copy of the trade waste agreement following commencement of discharging treated wastewater to the Council's sewer
- update the SWMP to reflect any proposed changes to the end water use at the site.

6.3 Other Issues

The Department's assessment of other issues is provided in **Table 4**.

Table 4 | Assessment of other issues

Findings	Recommended Condition
Human Health	
• The BFP operation has the potential to involve human health risks associated with the processing of the large quantities of sulphuric acid used for battery formation, including the acid filling of new batteries.	Require the Applicant to: • update the HSP • integrate the updated HSP into the site's HSMS.

Findings	Recommended Condition
• The BFP would, however, pose very limited risk of employee exposure to lead dust, which is the major human health risk for the ULAB recycling operations. • To manage and minimise the employee lead dust exposure risk, a Health and Safety Management System (HSMS) has been implemented on a site-wide basis, in accordance with the Work Health and Safety Regulation 2017 (WHS Regulation). The HSMS would also apply to employees at the BFP facility. • A Human Health Risk Assessment (HHRA) provided an overview of the existing HSMS and detailed the additional control measures to be incorporated into the HSMS for the BFP operations. • The MLHD raised no concerns over health impacts specific to the modification, however advised that employee health and lead exposure remained its primary concern, which must be appropriately managed following addition of the BFP. The Applicant has indicated that, as the BFP would form an extension to the existing and approved operations at the site, all existing HSMS controls and lead risk management measures approved by SSD 6619 would be extended to apply to the BFP. • The Department and SafeWork NSW requested information on the control measures proposed for the storage and handling of sulphuric acid at the BFP operations. • The Applicant clarified the control measures for the storage and handling of sulphuric acid (and other DG) form part of the existing HSMS and therefore would also be adopted for the BFP operations. These measures include regular cleaning of BFP workstations (particularly battery filling stations) and the installation of enclosure curtains/ shields to contain sulphuric acid equipment. • The Department has reviewed the HHRA and considers the potential risks from the ULAB recycling and BFP operations would be appropriately managed through engineering controls, safety management processes and procedures. • The Department notes condition B2 of the SSD 6619 consent requires the Applicant to prepare a Health and Safety Plan (HSP) for the ULAB recycling facility and condition B4 requires the HSP to be integrated into the site's existing HSMS.	

Findings	Recommended Condition
• The Department has recommended an update of condition B2 to require revision of the HSP to include additional controls and measures for the BFP operations. As per the requirements of Condition B4 of the SSD 6619 consent, the revised HSP would be incorporated into the existing site HSMS. • With the implementation of the existing, approved and proposed control measures and the recommended conditions, the Department's assessment concludes the potential for the modified development to have an adverse effect on the health of workers is minimal.	
Air Quality	
• The BFP has the potential to cause additional air quality impacts during construction and operation due to process emissions, vehicle movements, and onsite plant emissions. • The EA included an Air Quality Impact Assessment (AQIA) prepared by GHD in accordance with the EPA's Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (the Approved Methods) to assess the potential air quality impacts associated with the modification. • The AQIA provided the stack parameters and emissions from the proposed BFP scrubber and incorporated the findings from the SSD 6619 air quality assessment, to assess the combined air quality impacts from the approved ULAB recycling facility and the proposed BFP operations. • The AQIA identified the range of potential pollutants emitted during the ULAB recycling and BFP operations, including lead (dust), SO_2, NO_2, dioxin and furans, sulphuric acid mist (SO_3), particulates, Type 1 substances (antimony, arsenic, cadmium, lead or mercury) and Type 2 substances (beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium). • The AQIA adopted the same methodology as the AQIA for SSD 6619, with updated dispersion modelling to include the proposed BFP emission point source. The results of the AQIA demonstrated the incremental contribution from the site (for all site operations, including the BFP) was in compliance with the PM_{10} criteria of 50 µg/m^3 and $PM_{2.5}$ criteria of 25 µg/m^3 for the nearest residential (R1) and industrial receptors (IND1). Results of cumulative modelling, which also considered the ambient pollutant levels, predicted no adverse impacts to air quality.	Require the Applicant to: • undertake monitoring following commissioning of the BFP • prepare a Post Commissioning Verification Report • update the site operational Air Quality Management Plan • implementation of rapid roller doors at vehicle entrances and exits to the BFP • take all reasonable steps to ensure the overall site operations does not cause or permit the emission of offensive odour or emissions.

Findings	Recommended Condition
• The EPA raised concerns about the lack of detail or specifications to determine the performance efficiency of the BFP scrubber and noted that dispersion modelling had only considered point sources and had not assessed potential fugitive emissions. • The Applicant provided the requested information in the RtS. Following its review, the EPA advised it was satisfied with the AQIA and would support the modification subject to recommended conditions of consent, including the installation and implementation of rapid roller doors at the BFP entrance and exit to minimise potential emissions released outside of the building during higher traffic periods. • The Department has recommended conditions to ensure necessary measures are in place to appropriately manage and report on air emissions at the site, including incorporating the BFP operations into the existing Air Quality Management Plan, and undertaking post commissioning air quality monitoring and reporting to monitor and verify air quality impacts. • The Department's assessment concludes the combined operation of the ULAB recycling facility and BFP would not have significant impacts on air quality and with the implementation of engineering controls and monitoring requirements, the emission levels would be below the relevant criteria.	
Traffic and Access	
• The EA included a Traffic Impact Assessment (TIA) report prepared by GHD which assessed the potential traffic impacts during construction and operations, including cumulative impacts of the ULAB recycling facility and the BFP. <u>Operational and Construction Traffic</u> • The TIA estimated the BFP operation would generate an additional 22 heavy vehicles per day (totalling 54 heavy vehicles, including those generated by the approved ULAB recycling facility) and an additional 37 light vehicles per day split over four different shifts (totalling 133 light vehicles, including the approved development). • Heavy vehicles associated with the BFP would use the existing access for the ULAB recycling facility on Byrnes Road. • The TIA included a SIDRA analysis of the combined ULAB recycling facility and BFP operational traffic impacts on the	Require the Applicant to: • ensure all onsite car parking spaces conform to the standard in AS/NZ 2890.1-2009 • provide sufficient parking to ensure that traffic associated with the modified development does not use public and residential streets • update the Construction and Operational Traffic Management Plans.

Findings	Recommended Condition
site access and Byrnes Road intersection and concluded that Byrnes Road has adequate capacity to absorb the traffic volumes without implementation of additional traffic controls. • Volumes of construction vehicles are unlikely to exceed the operational vehicles and therefore traffic impacts of construction vehicles would be minor. • To ensure the safety and efficiency of the road network, TfNSW required the Applicant to prepare a Construction and Operational Traffic Management Plans. <u>Onsite Traffic</u> • The Department requested further information regarding potential onsite conflict for traffic movements between the ULAB recycling facility, ULAB storage warehouse and BFP. • The Applicant provided a revised site development traffic plan and proposed additional management measures to direct traffic flows with assistance of traffic signage. • Based on the additional information, the Department is satisfied that traffic movements on site would be adequately managed through the proposed measures. • The Department has recommended a condition of consent for onsite traffic management measures to be updated and implemented in the site Construction and Operational Traffic Management Plans. <u>Parking</u> • The TIA assessed parking requirements based on a first principle approach which identified peak demand requirements for the proposed BFP. During the 6 am shift, 20 spaces would be required (or 62 spaces across the site, inclusive of the ULAB recycling facility). As the modification would provide an additional 40 vehicle parking spaces (a total of 97 spaces), the Department is satisfied sufficient parking has been provided for additional staff. <u>Conclusion</u> • In order to ensure construction and operational traffic impacts are safely and efficiently managed, the Department has recommended a condition of consent requiring the Applicant to update both the Construction and Operational Traffic Management Plans to incorporate the BFP modification with the approved development. • Given the relatively small number of additional heavy vehicles generated during construction and operation of the	

Findings	Recommended Condition
BFP and with the recommended conditions, the Department's assessment concludes traffic impacts would be negligible	
Noise and Vibration	
• The site is located in a remote location, with a large separation distance from potential receivers. • The modification EA included a Noise Impact Assessment (NIA) undertaken by GHD in accordance with the relevant noise policies and guidelines. The NIA included modelling from the existing and approved development and was expanded to include noise impacts from the proposed BFP. • The NIA demonstrated that noise levels for construction, traffic and operations (including cumulative operational noise) would meet the specific project trigger levels (40 A-weight decibels (dBA) for day, and 35 dBA during evening/night) for residential receivers, and industrial receivers (65 dBA for all day), and noise criteria set out in EPA's *Interim Construction Noise Guidelines* (ICNG), the *Road Noise Policy* and *Noise Policy for Industry* at all assessment locations. • The NIA stated that no vibration impacts were anticipated during construction or operation. • Government agencies' submissions did not raise concerns regarding noise or vibration, and the site is located in an existing industrial zone. • The Department has recommended conditions requiring the modification to comply with the identified construction and operational hours in the SSD 6619 consent and meet the construction noise management levels detailed in the ICNG. • The Department is satisfied the NIA has demonstrated noise impacts associated with the BFP and cumulative operations from the site are negligible, especially considering the large separation distance from potential sensitive receivers.	Require the Applicant to: • ensure all BFP construction and operational works comply with Table 2 of SSD 6619 consent • must construct and operate the BFP in accordance with the project trigger limits and/or ICNG.
Biodiversity	
• As the approved development and modification are located within the Wagga Wagga LEP Biodiversity Certification Area, a Biodiversity Development Assessment (BDA) for the modification was not required under the BC Act. • The biodiversity assessment in the modification EA provided a database review and field survey of the proposed eastern irrigation area to determine the presence and	Require the Applicant to: • update the Vegetation Management Plan

Findings	Recommended Condition
potential for flora and fauna species, habitats and communities. • Results from the field survey identified 17 flora species, seven of which are native and 10 are introduced, noting groundcover in the eastern irrigation area was dominated by introduced species. Fauna results identified 10 fauna species, all of which were birds, with one being introduced. No threatened species were recording on the site. • Given the minimal vegetation to be removed and the dominance of introduced groundcover species, the biodiversity assessment found it is unlikely the modification would cause significant biodiversity impacts. • Council raised no concerns in relation to biodiversity, and DPIE biodiversity and conservation division (BCD) concurred that a BDA report is not required as the modification area is biodiversity certified. • Notwithstanding, the modification EA proposed measures to manage biodiversity, including weed control measures and minimising soil disturbance where appropriate. • The recommended conditions require the Applicant to update and implement the biodiversity mitigation measures within the SSD 6619 Vegetation Management Plan (VMP). • The Department's assessment concludes that given the minimal vegetation disturbance associated with the modification, it is unlikely significant biodiversity impacts would be caused.	
Aboriginal Heritage	
• An Archaeological Assessment Report (AAR) was prepared by GHD, which included a review of Aboriginal and historical heritage databases, and a field survey to identify and describe Aboriginal cultural heritage values in the proposed eastern irrigation area, in accordance with BCDs relevant code of practice and guidelines. • The AAR concluded that no Aboriginal cultural heritage or objects were identified within the modification area. Further, it was noted that prior discussions between the Applicant and WWLALC determined that the potential for archaeological deposits within the modification area were minimal, and no further subsurface testing was deemed necessary.	No further recommended conditions.

Findings	Recommended Condition
• BCD advised it was satisfied with the findings and recommendations of the AAR, however requested management measures to address unexpected finds. • The RtS provided additional management measures to address potential unexpected finds. • Consistent with the approved development, the Department's assessment concludes that the modified development would have a negligible impact on Aboriginal cultural heritage, and that the recommendation for the Applicant to implement an unexpected finds protocol for BFP construction works will be an existing condition requirement of the SSD 6619 consent.	

7. Evaluation

The Department has assessed the modification request in accordance with the relevant requirements of the EP&A Act. The Department considers the modification request is appropriate on the basis that it will:

- add value to an existing and approved development within the Bomen Business Park, which is consistent with the strategic direction of the *Riverina Murray Regional Plan 2036*
- appropriately manage impacts to human health, hazard and risk, soil and water, air and noise through the implementation of suitable site management measures
- provide a range of economic and environmental benefits to the Wagga Wagga region consistent with *A 20 Year Economic Vision for Regional NSW*
- provide a positive contribution to the ongoing growth for the Wagga Wagga Special Activation Precinct.

The Department is satisfied that the modification is in the public interest and should be approved, subject to conditions.

8. Recommendation

It is recommended that the Director, Industry Assessments, as delegate of the Minister for Planning and Public Spaces:

- **considers** the findings and recommendations of this report
- **determines** that the application SSD 6619 MOD 1 falls within the scope of section 4.55(2)
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant approval to the application
- **agrees** with the key reasons for approval listed in the draft notice of decision;
- **modifies** the consent SSD 6619
- **signs** the attached approval of the modification (**Attachment 1**).

Recommended by:

Ellen Luu
Senior Environmental Assessment Officer
Industry Assessments

Recommended by:

Sheelagh Laguna
A/Team Leader
Industry Assessments

9. Determination

The recommendation is **adopted by:**

12 June 2020

Chris Ritchie
Director
Industry Assessments

Appendices

Appendix A – Notice of Modification

Appendix B – Modification Environmental Assessment

https://www.planningportal.nsw.gov.au/major-projects/project/26051

Appendix C – Submissions

https://www.planningportal.nsw.gov.au/major-projects/project/26051

Appendix D – Response to Submissions Report

https://www.planningportal.nsw.gov.au/major-projects/project/26051