164 MAIN BEACH ROAD, PINKENBA
LETTER RE: SARA RESPONSE ITEM 6
R_1
DATE OF RELEASE: 28/04/2026

164 MAIN BEACH ROAD, PINKENBA
Little Resources Pty Ltd
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ATTN: Mr Jeremy Perera, Chief Executive Officer
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Dear Jeremy,

1 INTRODUCTION

1.1 Background

Little Resources Pty Ltd (herein referred to 'Little Resources') propose to design, construct, and operate an integrated, state-of-the-art waste management and resource recovery facility (the 'Proposal') at 164 Main Beach Road in Pinkenba, Queensland ('Subject Site'). The Subject Site is 20,230 m^2 and legally described as Lot 501 on M3321 (**Figure 1**).

The Proposal will provide regulated and hazardous waste management and recycling by offering an end-to-end service to industrial customers within Queensland and interstate. The scope of services includes the collection, receipt, storage, processing/treatment and waste disposal. The proposed facility will be designed with the capacity to safely and compliantly store and process a number of waste streams.

This letter has been specifically prepared by Assured Environmental (AE) to address SARA item no. 6 (as discussed in **Section 1.2**). It should be read in conjunction with the following documents that were submitted previously to SARA as part of Little Resources' application:

- "*SARA Response Item 13 (Letter)*" prepared by Assured Environmental. Version R3-Final dated 7 October 2025, Job no. 17354.

- "*Proposed Integrated Waste Management Facility Planning Report*" prepared by Consult Planning. Version v2 dated 16 December 2024, Job no. 24.0001. A copy of this report was submitted with the Development Application.
- "*Little Resources, Main Beach Road, Planning Application drawing nos. DA-001 to DA-011*" prepared by LensArc. Document/Project no. ADL24066. All drawings excluding DA-005 were issued as Revision DA.7 on 22 February 2026. Drawing DA-005 (Revision DA.10) was issued 3 March 2026. A copy of the proposed development's site plans is provided in **Attachment 1**.
- "*Hazard Analysis of Proposed Integrated Waste Management Facility*" prepared by Arriscar Risk Engineering Solutions (Arrisca). Issued 16 April 2026, Doc. No. J-000817-REP-01, Revision 0. This will be referred to as the "(Arrisca 2026) HAZAN" in this document.
- "*Stormwater Management Report*" prepared by Wilkinson Shaw & Associates (WSA). Revision 2.0 dated 15 April 2025, Project no. P24-012. This will be referred to as the "(WSA 2026) SWP" in this document.

Figure 1: Locality of Subject Site

1.2 Purpose and Scope

AE was engaged by Little Resources to prepare this letter to respond to the Request for Information (RFI) item no. 6 that was received from the State Assessment and Referral Agency (SARA) dated 30 October 2025. An extract of RFI no. 6 is as follows:

Stormwater Capture Tanks	
6.	**Issue:** The Stormwater Management Plan states that the first 10mm of runoff (230 m^3) will be diverted to a series of above and underground storage tanks before being treated in the LWTP. No measures for leak detection and prevention have been identified. **Action:** As such, it is requested that you provide details on the design features and operational measures that will be implemented to minimise the risk of leaks and spills from above and underground storage tanks used to capture the first 10 mm of stormwater runoff. In particular, provide: • Details of how early leak detection will be achieved (e.g. through monitoring systems, bunding, or inspection protocols).
	• Containment measures in place to prevent environmental release in the event of a failure. • Details of whether tanks are double-walled or bunded, and how regularly integrity inspections will be carried out. • Details of any relevant design standards or guidelines to which the tanks and associated infrastructure will be constructed.

2 FACILITY DESIGN

2.1 New Proposal Design

The Proposal has been recently redesigned to include an unroofed portion of the Thermal Waste Treatment Plant (TWTP). The heights of the TWTP's liquid waste incinerator, stack and air pollution control equipment make it unfeasible to construct a visually acceptable and cost-effective solution to roof these tall pieces of equipment. Updated site plans of the Proposal (Dwg nos. DA-003 to DA-005) and the conceptual stormwater engineering plans are included in **Attachments 1 and 2**.

The majority of the subject site will be occupied by a single, large building (**Dwg nos. DA-003 to DA-005, Attachment A**). Onsite activities associated with the Proposal, including storage, processing, treatment, waste generation and administrative activities, will occur inside the building envelope (**Dwg nos. DA-006, Attachment A**).

The impervious areas cover approximately 95.8 % of the total site area and comprise of (**Figure 2**):

- Internal areas:
    - Area A: The building roof area of approximately 12,000 m^2, which is approximately 59 % of the total site area (**Dwg no. DA-007, Attachment A**).

- External (unroofed) non-operational areas:
    - Area B: The roof of the building.
    - Area C: A sealed carpark located to the east of the building.
    - Area D: Paved, impervious areas comprising:
        - An internal sealed roadway that will circumnavigate the building to provide access to the weighbridges and loading zone; and
        - Two weighbridges, one incoming weighbridge located adjacent to the southern site boundary, and the other outcoming weighbridge positioned on the northern site boundary.
        - Other paved areas comprising of pedestrian footpaths, kerbs and other services.
- External (unroofed) operational areas:
    - Area E: Vehicle/Truck/Tanker loading zone for unloading of raw materials and incoming wastes for onsite treatment and loading of finished products and removal of solid and liquid waste streams for offsite disposal.
    - Area F: A vehicle/truck wheel wash.
    - Area G: An uncovered portion of the TWTP comprising of tall pieces of equipment, which are unable to be feasibly roofed.

The remaining 4.2 % of the site comprises of pervious landscaped areas.

The redesign of the Proposal has prompted the redesign of the stormwater catchment areas from two catchment areas (i.e. internal and external catchment areas) into the following three catchment areas (**Figure 2**):

- **Catchment 1 – internal operational:** comprises of operational activities occurring inside the building (**Section 2.2**).
- **Catchment 2 – external non-operational:** comprises of external non-operational areas including roof of the building and impervious sealed areas (e.g. carpark, internal sealed roadway and entry and exit driveway ramps) (**Section 2.3**).
- **Catchment 3 – external operational:** comprises of external operational areas including the bunded loading zone, truck wheel wash, and the unroofed portion of the TWTP (**Section 2.4**).

Table 1 summarises the key details relating to Catchments 1, 2 and 3.

Catchments 2 and 3 will be serviced by a first flush system (FFS). This is discussed in **Section 2.5** and illustrated in **Figure 3**.

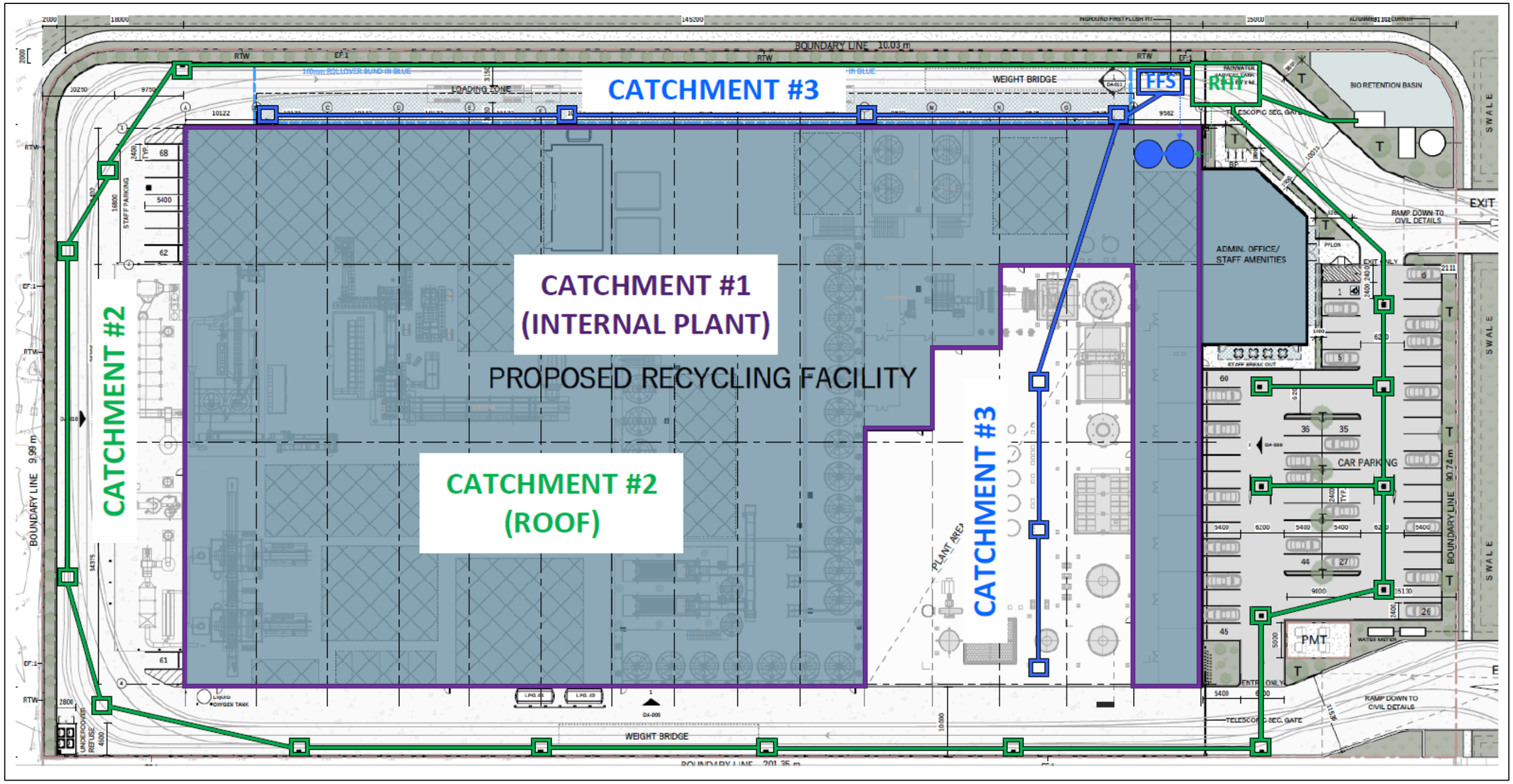


Figure 2: Catchments Areas

Table 1: Summary of Water Catchment Areas

Catchment ID no.	Water catchment details				Potential contaminants of concern (during operational phase)	Brief description of the proposed management/controls measures	Storage vessel type & capacity
	Area ID no.	Name & description	Surface area (m^2)	Surface type			

1: Internal – Operational Areas	A	Inside the operational footprint of the Recycling Plant building (excludes the administration office/staff amenities building)	11,554	Impervious concrete pavement	Refer to (Arrisca 2026) HAZAN.
					
					<u>SLPP & ULAB</u>
					• Lead
					• Battery acid
					• Acidic liquids
					• Deisel fuel (for LWTP startup)
					
					<u>LWTP – Acid Waste Bund</u>
					• Acid waste
					• ULAB RP wastewater
					• Yard water
					
					<u>LWTP – Alkali Waste Bund</u>
					• Alkali waste
					• Washwater
					• Ammonia water
					• Oily wastewater
					• Lime
					• Magnesium hydroxide
					• Tradewaste
					
					<u>LWTP – Area South</u>
					• Neutralised slurry
					
					<u>TWTP Flammable Liquids Bund:</u>
					• Flammable liquid and solid wastes
					• Clinical wastes
					• Pharmaceutical wastes
					• Persistent organic pollutants (POPs) and other regulated materials
						• All spills and leaks occurring in Catchment 1 will be contained within the roofed facility building through a mixture of the following controls:
						  ○ The building's concrete floor and perimeter bund walls will be sealed to create an impervious barrier.
						  ○ Bulk liquid diesel fuel will be stored in a single 10,000 litre (L) aboveground double-walled storage tank within a bund compound.
						  ○ Received liquid waste streams will be appropriately segregated based on waste type and stored in ASTs within bunded compounds. Bunds will be designed and constructed to meet the relevant Australian Standards.
						  ○ Engineering controls such as dedicated inlet manifolds, the fitting the ASTs with overflow devices, radar level sensors, and high level audible and visual alarms, and connection of ASTs to a Human Machine Interface (HMI).
						  ○ Operational procedures and training.
						• In summary, the building's design features will contain spills or leaks within the building and should not impact the stormwater drainage system.
						• Refer to **Section 2.2.2** for a detailed description of control measures.
							The descriptions and storage capacities of the aboveground storage tanks (ASTs)/vessels are detailed in the (Arrisca 2026) HAZAN.
							
							There are no underground storage tanks (USTs)/vessels onsite.

Catchment ID no.	Water catchment details				Potential contaminants of concern (during operational phase)	Brief description of the proposed management/controls measures	Storage vessel type & capacity
	Area ID no.	Name & description	Surface area (m^2)	Surface type			
2: External – Non-Operational Areas	B	Building roof: rainwater harvested from the roof of the onsite building.	11,900	Zinc alum roofing material	• Dust • Sediment • Heavy metals associated with fine sediments	• First flush waters will be captured, directed to the underground, 240 kL capacity Rainwater Harvest Tank (RHT) and stored in two First Flush System (FFS) aboveground storage tanks (ASTs), nos. FFS-TK01 and FFS-TK02, for onsite reuse in the TWTP. • Flow exceeding the first flush 10 mm will be directed into the onsite bioretention basin for onsite treatment, before discharging at the site boundary, into the grassed swale drain located adjacent to road. • Refer to **Sections 2.3 and 2.5** for a detailed descriptions of Catchment 2 control measures and the FFS, respectively.	• RHT UST, 240 kL (10 m x 6 m x 4 m) • FFS: AST nos. FFS-TK01 and FFS-TK02, 125 kL each (4 m diameter x 10 m H)
	C	Carpark	1,575	Bitumen and/or impervious concrete pavement	• Hydrocarbons (oil & grease) • Sediment • Nutrients (N & P) • Heavy metals associated with fine sediment • Surfactants • Litter		
	D	Pavement areas: entry and exits ramps; internal sealed roadway and kerbs; pedestrian footpaths.	7,635	Bitumen and/or impervious concrete pavement			
3 External – Operational Areas	E	Unroofed heavy vehicle/truck loading zone	1,250	Impervious concrete pavement	• Contaminants associated with the receipt of different waste streams delivered to the Facility	• First flush waters will be captured, directed to the underground,110 kL capacity FFS tank and stored in two ASTs, nos. FFS-TK01 and FFS-TK02, for onsite reuse in the TWTP. • Flow exceeding the first flush 10 mm will be directed into the onsite bioretention basin for onsite treatment, before discharging at the site boundary, into the grassed swale drain located adjacent to road. • Refer to **Sections 2.4 and 2.5** for a detailed descriptions of Catchment 3 control measures and the FFS, respectively.	• FFS collection pit (UST), 110 kL (6.5 m x 3.5 m x 5 m) • FFS: AST nos. FFS-TK01 and FFS-TK02, 125 kL each (4 m diameter x 10 m H)
	F	Truck wheel wash	23	Impervious concrete pavement	• Hydrocarbons (oil & grease) • Sediment and associated nutrients (N & P) and heavy metals associated with fine sediment • Surfactants		
	G	Unroofed (open to air) portion of the TWTP	1,990	Impervious concrete pavement	• Flammable solvent wastes (hydrocarbons, volatile aromatic hydrocarbons (Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)) and Polychlorinated biphenyls (PCBs)) • Liquid caustic soda (i.e. sodium hydroxide) used in the scrubbers • Refer to (Arrisca 2026) HAZAN		

Table notes:
AST – Above ground Storage Tank UST – Underground Storage Tank

Catchment 2 – External Non-Operational (Clean) Areas
Comprises building roof, carpark, paved roadways and entry/exit ramps.

Water captured by a network of stormwater grates and directed under gravity fed to the underground 240 kL capacity Rainwater Harvest Tank (RHT).

RHT UST
240 kL
10 L x 6 W x 4 D metres

10 mm first flush (211 kL) directed from RHT UST to FFS water storage

Flow exceeding the 10 mm first flush directed to bioretention basin for onsite treatment

Catchment 3 – External Operational Areas
Comprises open-to-air TWTP, Loading Zone and Truck Wheel Wash.

Water captured by a network of stormwater grates and directed under gravity fed to the underground 110 kL capacity collection pit, identified as the "FFS UST".

FFS UST
110 kL
6.5 L x 3.5 W x 5 D metres

10 mm first flush (33 kL) directed from FFS UST to FFS water storage

Flow exceeding the 10 mm first flush directed for onsite treatment at the bioretention basin, via the RHT UST.

Isolation value

First Flush System (FFS) water storage above ground tanks (ASTs)

AST no. **FFS-TK01**
125 kL
10 H x 4 Dia. metres

AST no. **FFS-TK02**
125 kL
10 H x 4 Dia. metres

Bioretention Basin:
treats water onsite

Onsite reuse:
First flush water stored in 2 x ASTs is reused as cooling water in the TWTP.

Sewer discharge:
Excess water unable to be reused in the TWTP, is directed to the LWTP for treatment. Treated water is discharged to sewer under an approved Trade Waste Agreement.

Stormwater discharge:
Treated water is discharged from the Bioretention Basin to the grassed swale drain adjacent to Main Beach Road.

Figure 3: Schematic of the Stormwater Management and Treatment in Catchments 2 and 3

2.2 Catchment 1 – Internal Operational Activities

Catchment 1 is inside the building and comprises of the operational activities occurring within the building envelope (**Figure 2**). This catchment area excludes the office portion of the building where administrative activities occur and the staff amenities.

2.2.1 Activities

The waste management and resource recovery activities (including the collection, receipt, storage, processing and waste disposal) will occur inside and be contained inside the building. The layout of the site is illustrated in Drawing DA-005, provided in **Attachment 1**. The building will be divided into three sections:

- ***Secondary Lead Production Plant (SLPP) and Used Lead Acid Battery (ULAB) Recycling Plant (RP)***
    - The SLPP and ULAB RP are in the western portion of the building. The ULAB RP is in the centre of the SLPP.
    - The battery recycling process is automated and consists of the following stages:
    - Battery breaking;
    - Primary separation of lead paste and acid;
    - Filtration of lead paste from battery acid; and
    - Secondary separation of lead metal from plastics.
    - The ULAB RP extracts lead paste, lead metal, and lead-bearing scraps.
    - The recycled materials from the ULAB RP are further processed and refined in the SLPP to produce raw materials to create new manufacturing products.
    - Activities occurring within the ULAB RP include: recycling of car, truck and forklift lead acid batteries; and storage of plastics.
    - The following activities occur within the SLPP:
    - Smelting of reclaimed lead from the ULAB RP;
    - Melting of the reclaimed lead grid into lead ingots;
    - During the lead smelting and lead grid melting process, various gases and fumes (i.e. sulphur dioxide (SO2), oxides of nitrogen (NOx), carbon monoxide (CO) and particulate matter (PM10 and PM2.5)) are generated; and
    - ULAB and finished products, lead, bullion, slag and reagents are stored in the SLPP.
    - The vent gas treatment and vent for the SLPP and ULAB RP are located outside the building.
- ***Liquid Waste Treatment Plant (LWTP)***
    - The LWTP is in the mid-section of the building and serves two purposes:
    - Treatment of the wastewater generated from the ULAB RP; and
    - Receival and treatment of industrial liquid waste from third parties. Third party liquid waste streams will be limited to acid waste, alkali waste solutions, industrial wash waters and oily waters. These wastes will be received either:
    - In bulk via tankers; or
    - As packaged wastes in intermediate bulk containers (IBCs) or pallets received on tautliner trucks
    - Received wastes will be transferred to the designated bunded undercover storage area.
    - The following activities occur within the TWTP:
    - Regulated waste storage;
    - Regulated waste storage and Class 8;

- Packaged waste decanting and sorting area; and
- Dry reagent storage.

- ***Thermal Waste Treatment Plant (TWTP)***
  - The covered portion of the TWTP is in the northeastern portion corner of the building. The balance of the TWTP, in southeastern corner, is open to air and included in Catchment 3.
  - The main types of waste expected to be treated are hazardous and regulated waste comprising of: flammable liquid and solid waste; liquid waste consisting of flammable/combustible liquids; clinical waste; quarantine waste; and pharmaceutical waste.
  - The following activities occur within the SLPP:
  - Waste receival including sorting and decanting of packaged wastes;
  - Waste storage;
  - Waste feed to pyrolysis/gasification furnace;
  - Waste combustion;
  - Energy recovery;
  - Flue gas cleaning and discharge;
  - Solid residue management; and
  - Emissions monitoring and control.

2.2.2 Control Measures

The following subsections describe the control measures that will be adopted by the proposed development to manage the internal catchment area and to prevent process liquids, liquid wastes and/or potential spills from exiting the building.

2.2.2.1 Facility Building

The building, itself, will be designed and constructed to provide the following secondary containment:

- The base of the building will comprise of impervious concrete pavement.

- Concrete perimeter bund walls will be constructed approximately 2 m high to divide the building into three sections to create individually bunded areas for the following operational areas: ULAB and SLPP; LTWP; and TWTP.

Therefore, the building will prevent the potential movement (e.g. via leakages or spills) of potentially harmful liquid contaminants from exiting the building, either through vertical or horizontal movement.

2.2.2.2 Fuel Storage

Diesel fuel will be used in the TWTP as startup fuel. Diesel fuel will be stored in a single 10,000 litre (L) aboveground double-walled storage tank within a bund compound, located directly to the north of the workshop located in the SLPP.

Two 15 m^3 aboveground Liquefied Petroleum Gas (LPG) bullet vessels will be positioned outside of the building adjacent the southern wall of the SLPP. Given the nature of LPG at room temperature, there is no risk of liquid spillage to the environment; thus, these vessels do not require bunding.

It is not proposed to store any bulk fuel in Underground Storage Tanks (USTs).

2.2.2.3 LWTP –Storage of Received Waste Streams

Liquid waste received in bulk from tankers will be pumped into two aboveground storage tanks (ASTs) of 100 m^3 capacity each. The tanks are in a separately bunded area and designed to comply with AS 1940-2017. From the tanks, the waste is pumped into the TWTP's furnace for treatment.

Clinical waste is classified as Dangerous Goods Class 6.2 (infectious goods) and will be stored in accordance with the requirements of AS/(NZS) 3816-1998. The waste is regulated and will be stored in a dedicated area with restricted access to trained personnel wearing appropriate personal protection equipment (PPE).

2.2.2.4 Storage in Aboveground Storage Tanks

Segregation of wastes based on their chemical composition will be implemented to ensure safety and eliminate mixing during a potential uncontrolled event. The bulk ASTs inside the building will be segregated into the following separate areas/zones:

- LWTP Acid Waste Bund;
- LWTP Alkali Waste Bund;
- LWTP South Area holding seven ASTs of neutralised slurry; and
- TWTP Flammable Liquids Bund.

A detailed inventory of the tanks is presented in Section 5.7 of the (Arrisca 2026) HAZAN.

2.2.2.5 Bunding of Aboveground Storage Tanks

In the LWTP (central portion of the building):

- ASTs containing hazardous material will be housed inside the following bunds:
- *Acid bund* – acidic liquids will be stored in AST nos. BTK-01 to BTK-05.
- *Alkali bund* – alkali liquids will be stored in AST nos. BTK-06 to BTK-12, and BTK-24 to BTK-27.
- A trafficable rollover bund (installed between the acid and alkali bunds) and the building perimeter wall will form a bunded area to house the process tanks (AST nos. BTK-15 to BTK-21) and the press filters.

In the TWTP (eastern portion of the building):

- AST nos. CTK-01 to CTK-04, holding flammable liquid wastes will be housed in a single bund.
- Two 125 kL capacity ASTs (nos. FFS-TK01 and FFS-TK02) holding first flush stormwater runoff captured from Catchments 2 and 3 will be housed in a bunded compound.

2.2.2.6 Bund Design and Construction

All bunds will be constructed with concrete bund walls. The bund walls and base surrounding the ASTs will be sealed with an impervious seal/lining that will be unaffected by the potential corrosivity of the contents held by the ASTs. Thus, the bund will be suitable to retain any potential spills and prevent any seepage from escaping the bund.

The holding capacity of each bund (i.e. height and spatial area (i.e. length and width) of the base) will be designed to meet the requirements of relevant Australian Standards and best practice requirements. If required, splash guards will be installed to achieve the crest locus and contain potential leaks from the outer extents of the ASTs.

Any potential leaks or spills occurring within a bund, or washdown waters created during hosing down of ASTs, will grade towards a linear drain installed along the length of the bund. Ten millimetre (10 mm) steel plate opening shrouds will be installed at regular intervals in all the linear drains and also in the LWTP bunded area. The drain and shrouds will allow for the collection and recovery of liquids, spills and/or seepage.

2.2.2.7 Engineering Features of Aboveground Storage Tanks

Each AST will hold a specific liquid waste stream with separate inlet manifolds to prevent cross contamination between the respective liquid streams.

All ASTs will have the following design features to manage the contents and prevent the occurrence of overfilling and potential for spills:

- Be fitted with an overflow device;
- Be fitted with a radar level sensor;
- Have both high level audible and visual alarms which activates at 90% tank holding capacity; and
- Each AST will be connected to a Human Machine Interface (HMI) to show real time data on the tank levels and status of alarms. This will allow the site operator to monitor in real time.

2.2.2.8 LWTP – Treatment Processes

The LWTP has two processes: aqueous waste treatment; and oily water treatment. The following two liquid waste streams are generated in the LWTP and managed appropriately:

- ***Filtrate:*** Liquid filtrate waste is stored in the Trade Waste AST nos. BTK-24 to BTK-27 prior to controlled discharge to sewer which will be regulated under a trade waste sewer discharge licence.

- ***Oily Water (OW):*** OW will be pumped into a 50 m^3 capacity OW separation system consisting of an inline coalescence separator and a hydro-cyclone to reduce the oil content in the effluent stream to below 10 mg/L or 10 ppm. The recovered oil may be flammable and will be stored in a dedicated AST no CTK-04 located in the flammable liquids storage bund in the TWTP. The recovered oil will be sold to an oil recycler.

2.2.2.9 Operational Procedures and Training

Further to the aforementioned engineering features, Little Resources will:

- Develop and implement onsite operational procedures to manage and monitor the ASTs; and
- Personnel will undergo training and refresher training of these procedures.

The implementation of the above discussed control measures inside the building will prevent process liquids, liquid wastes and/or potential spills from exiting the building. Thus, potential sources of liquid pollutants relevant to the onsite activities (such as lead, acid, heavy metals associated with lead smelting/melting, liquid regulated waste, PFAS, microbes) will be contained within the building and prevented from entering the '*external catchment area*'. This will mitigate potential environmental harm to receiving water environments via the offsite release of onsite stormwater.

2.3 Catchment 2 – External Non-Operational Areas

Catchment 2 comprises of non-operational external impervious sealed areas including (**Figure 2**):

- Area B – roof of the building;
- Area C – carpark; and
- Area D – pavement areas comprising of the internal sealed roadway, entry and exit ramps, pedestrian footpaths and kerbing.

Given the activities occurring in this catchment, it is considered a "clean" stormwater catchment.

Several controls measures are proposed to be constructed and/or implemented within the facility's operational portion of the building (**Section 2.1**). These control measures will minimise the risk of liquid contaminants (arising from the operational areas within the building) escaping the building and entering the external catchment area. Therefore, the likely sources of contaminants found within the external catchment area would arise from:

- Overland flow of water (i.e. stormwater) across the impervious surfaces of the internal roadway, sealed carpark, pedestrian footpaths, kerbs and other services; and
- Rainwater collected from the roof of the building.

Thus, once the site is operational, the pollutants within the external Catchment 2 are likely to be associated with vehicle and carpark type activities. Likely pollutants could include:

- Litter;
- Sediment;
- Nutrients (Nitrogen (N) and phosphorus (P));
- Pathogens/Faecal coli forms (bacteria & viruses);
- Hydrocarbons (oil & grease) – associated with car park facilities;
- Heavy Metals (assoc. with fine sediment); and/or
- Surfactants.

Little Resources engaged WSA to undertake a stormwater assessment and produce the Stormwater Management Report (2026). The assessment evaluated the potential risks to stormwater quantity and quality due to the Proposal and identified appropriate engineering solutions to comply with the necessary state and local government policies and Water Quality Objectives (WQOs).

The WSA assessment included modelling to evaluate the performance of different combinations of stormwater treatment devices such as vegetated swales, bioretention systems, buffer strips, constructed wetlands, ponds, Gross Pollutant Traps (GPTs), sediment basins, infiltration systems and/or rainwater tanks. The WSA assessment concluded that the following simple treatment train could be adopted to achieve the desired WQOs for offsite discharge:

- ***Capture of First Flush Runoff, Storage, and Onsite Reuse:***
    - In accordance with best practice, the initial runoff of a rain event (i.e. "10 mm first flush"), which carries the highest concentration of pollutants (e.g. debris, dust) will be captured.
    - The first flush of 10 mm falling on the building roof (Area B), carpark (Area C) and paved areas (Area D) will be captured via a network of stormwater grates and directed under gravity fed to the Rainwater Harvest Tank (RHT).
    - First flush water in the RHT will be directed to the two storage tanks, FFS-TK01 and FFS-TK02 (**Figure 3**). The two FFS storage tanks and the remainder of the FFS is discussed in **Section 2.5**.
    - The RHT is an underground tank located to the west of the bioretention basin. It has been designed with the following features:
        - The 10 mm first flush waters collected from Catchment 2 is approximately 211 kL. Thus, the RHT has been designed to be a 240 kilo litre (kL) capacity with rectangular dimensions of 10 m long x 6 m wide x 4 m deep.
        - The RHT will be installed with two high-capacity submersible pumps, an overflow weir and a level sensor probe.
        - These submersible pumps will operate on duty stand-by mode.
        - The RHT's level sensor probe detects the water level, activating the pumps (when the water level reaches a specified height in the RHT) to transfer the first flush waters to the two FFS storage tanks.
        - The pumps will stop when the required volume of collected stormwater has been pumped out of the RHT. If stormwater exceeding the first flush continues to be captured in the RHT, the stormwater will be directed to the bioretention basin via the overflow weir.
- ***Onsite treatment via Bioretention Basin:***
    - Flow that exceeds the first flush is considered "clean" and the collected clean water in the RHT is directed to the privately owned, onsite bioretention basin for onsite treatment. The treated water exiting the bioretention basin will discharge offsite into the grassed swale drain adjacent to Mains Beach Road (**Figure 3**).
    - The fundamental principle of a bioretention basin is that the soil properties facilitate the removal of pollutants by passing the water through a fine filter medium, reducing the concentrations of Total Suspended Solids (TSS) and nutrients (i.e. Total Phosphorus (TP) and Total Nitrogen (TN)).
    - A bio-retention basin is a vegetated region where stormwater runoff is filtered through a filter media layout into an underlying drainage system. The vegetation selected within the basin will help to reduce the nutrient loads that effectively enters the basin.
    - The bio-retention basin has been designed specifically in accordance with the *Bio-retention Technical Design Guidelines* (2014). Refer to Appendix 1 of the (WSA 2025) Stormwater Management Report.

The WSA assessment also included a hydrological assessment to assess the stormwater discharges generated from the site in both the (undeveloped) current and proposed developed state. This assessment concluded the Proposal would result in negligible change in stormwater discharge. Thus, this minor change to the flow regime would not cause an actionable nuisance in the local receiving area/environment. Therefore, stormwater detention in addition to the proposed onsite stormwater retention was not required.

2.4 Catchment 3 – External Operational Areas

Catchment 3 will comprise of operational external impervious areas including the:

- Area E – bunded truck/tanker loading zone located adjacent to the northern site boundary;
- Area F – bunded wheel wash area is located after exiting the the loading zone and to its east; and
- Area G – bunded open to air portion of the TWLP.

Considering the above operational activities, there is the potential to generate potentially contaminated stormwater in Catchment 3. Thus, Areas E to G will be bunded with a 100 mm high trafficable rollover bund:

- Area E – Loading Zone: to contain spills or leaks that may potentially occur during unloading or loading activities;
- Area F – Wheel Wash: to contain wash waters created during washing of vehicle wheels; and
- Area G – Unroofed TWLP: to contain potential spills or leaks from TWTP equipment.

Once the site is operational, the pollutants within the external Catchment 3 are likely to be associated with vehicle/truck movements, truck wheel wash activities, and potential leaks and spills from deliveries of wastes in the loading zone. Likely pollutants could include:

- Litter;
- Sediment;
- Nutrients (Nitrogen (N) and phosphorus (P));
- Pathogens/Faecal coli forms (bacteria & viruses);
- Hydrocarbons (oil & grease) – associated with car park facilities;
- Heavy Metals (assoc. with fine sediment);
- Surfactants; and/or
- Potential spills or leaks of the wastes received by the Facility.

In principle, the Stormwater in Catchment 3 will be managed similarly to Catchment 2, whereby:

- A system of underground pipework will (under gravity) direct waters from the collection grates/pits into the FFS collection tank.

- The FFS collection tank is located directly beneath the Truck Wheel Wash.

- In accordance with best practice, the 10 mm first flush runoff, which carries the highest concentration of pollutants, will be captured in the 110 kL FFS tank and then directed to the two FFS storage tanks, FFS-TK01 and FFS-TK02. The FFS storage tanks and the remainder of the FFS is discussed in **Section 2.5**.

- Flow that exceeds the first flush is considered "clean" and will be directed from the 110 kL FFS tank to the onsite bioretention basin, via the 240 kL RHT (**Figure 3**). Treated waster exiting the bioretention basin will discharge offsite into the grassed swale drain adjacent to Mains Beach Road (**Figure 3**).

- The 110 kl FFS tank forms part of the FFS. The setup and operation of the 110 kl FFS tank in relation to the FFS storage tanks and bioretention basin is detailed in **Section 2.5**.

2.5 First Flush System (FFS)

The FFS comprises of:

- A 110 kL underground FFS tank; and
- Two first flush water ASTs, FFS-TK01 and FFS-TK02.

UNDERGROUND 110 KL FFS TANK

Similarly to the RHT in Catchment 2, the 110 kL FFS tank will be installed with a level sensor probe and two high-capacity submersible pumps operating on duty standby mode. The level sensor probe detects the water level and will activate the pumps (when the water level reaches a specified height in the tank) to transfer the first flush waters to the two FFS storage tanks. The pumps will automatically stop when the volume of collected first flush stormwater has been transferred into the two FFS storage tanks. Any collected stormwater exceeding the first flush (captured in the FFS tank) will overflow into the RHT and be directed to the bioretention basin for treatment (**Figure 3**).

An isolation valve will be fitted to the pipework connecting the FFS tank and RHT. Under normal operating conditions the valve will be in the "closed" position. This will ensure any potential spills or leaks occurring in Areas E, F and/or G are contained within the bunded areas and the 110 kL FFS tank. After the 10 mm first flush is captured and diverted to FFS-TK01 and FFS-TK02, the value will "open" to allow captured "clean" rainwater to be directed to the bioretention basin (via the 240 RHT) for onsite treatment (refer to **Section 2.4**).

Little Resources will implement an operational procedure to maximise storage capacity in 110 kL FFS tank such that it is essentially empty. This will ensure there is capacity to contain potential spills in the bunded external operational areas of the loading zone (Area E), truck wheel wash (Area F) and the unroofed TWTP (Area G).

FIRST FLUSH WATER STORAGE TANKS & ONSITE REUSE

The 10 mm first flush captured from Catchment 2 (approximately 211 kL) and Catchment 3 (33 kL) will be captured in the 240 kL capacity RHT and 110 kL capacity FFS tank, respectively and directed into the first flush water ASTs FFS-TK01 and FFS-TK02.

Each first flush AST has a 125 kL capacity and has dimensions of 10 m high and 4 m diameter. These tanks have a total capacity of 250 kL and can hold the first flush waters collected in Catchments 2 and 3. ASTs FFS-TK01 and FFS-TK02 will be housed in a bund compound inside the cover portion of the TWTP. The bund is designed with a holding capacity of 110% of the largest vessel. Thus, any potential spill or leak from any of these ASTs will be captured and contained within the bund.

Similarly to the other ASTs (holding waste streams received from clients), both ASTs FFS-TK01 and FFS-TK02a will be:

- Fitted with a radar level sensor;
- Fitted with high level audible and visual alarms which will activate at 90 % capacity; and
- connected to a HMI for monitoring by the Operations Team.

First flush waters (stored in FFS-TK01 and FFS-TK02) will be reused onsite as cooling water in the TWTP. It is predicted that the TWTP will use approximately 96 kL per day of cooling water per day (i.e. equivalent to 4 kL per hour). Thus, there will be a high demand for the captured first flush waters stored in ASTs FFS-TK01 and FFS-TK02. In the unlikely instance where there is surplus water (i.e. excess unable to be re-used in the TWTP), it will be directed to the LWTP for treatment and discharge to sewer under an approved trade waste agreement (**Figure 3**). The trade waste consent issued to the Pinkenba Facility authorises discharge of up to 500 kL per day to sewer.

3 CONCLUSIONS

Little Resources Pty Ltd propose to design, construct, and operate an integrated, state-of-the-art waste management and resource recovery facility (the 'Proposal') at 164 Main Beach Road in Pinkenba ('Subject Site'). The extents of the Subject Site are shown in **Figure 1**.

Assured Environmental (AE) was appointed by Little Resources to develop a letter to respond to SARA RFI item no. 6.

The Proposal has been recently redesigned to include an unroofed portion of the TWTP. Updated site plans of the Proposal (Dwg nos. DA-003 to DA-005) are included in **Attachment 1**. The revised layout and design of the proposed facility at the Pinkenba Subject Site divides the site into the following three catchment areas (**Figure 2**):

- ***Catchment 1 – internal operational area*** (**Section 2.2**)**:** comprises of operational activities occurring inside the building associated with the Secondary Lead Production Plant (SLPP), used lead acid battery (ULAB) recycling plant (RP), liquid waste treatment plant (LWTP) and the thermal waste treatment plant (LWTP).
- ***Catchment 2 – external non-operational area*** (**Section 2.3**)**:** comprises of external non-operational areas including roof of the building and impervious sealed areas (e.g. carpark, internal sealed roadway and entry and entry driveway ramps).
- ***Catchment 3 – external operational area*** (**Section 2.4**)**:** comprises of external operational areas including the bunded loading zone, truck wheel wash, and the unroofed portion of the TWTP.

To prevent the migration of contaminants and pollutants from **Catchment 1**, inside the building (from spills, etc.) to the external catchment areas, the Proposal will construct, install and/or implement the control measures, as described in **Section 2.2.2**. These control measures will prevent pollutants arising from waste management and recovery activities (such as lead, acid, heavy metals associated with lead smelting/melting, liquid regulated waste, PFAS, microbes) from entering the external catchment areas. Thus, it is unlikely that stormwater/rainwater collected in the external catchment areas would be impacted with heavy industry pollutants (from inside the building) arising from the collection, receipt, storage, processing and waste disposal.

Little Resources engaged WSA to undertake a stormwater assessment and produce the Stormwater Management Report (2026). The WSA stormwater and hydrological assessment (**Section 2.3**) concluded that:

- The Proposal should implement the treatment train (i.e. control measures) of stormwater retention (including onsite storage) for onsite reuse and onsite treatment via a bioretention basin.
- The onsite treatment of excess stormwater through a bioretention basin would achieve the desired WQOs for offsite discharge; and
- The Proposal with these control measures (of onsite retention and reuse and onsite treatment in a bioretention basin) would have negligible change in stormwater discharge and achieve the desired WQOs for offsite discharge.

In accordance with best practice, the initial runoff of a rain event (i.e. "10 mm first flush"), which carries the highest concentration of pollutants (e.g. debris, dust) will be captured. The 10 mm first flush waters created in **Catchments 2 and 3** will be captured in the 240 kL capacity RHT and 110 kL capacity FFS tank, respectively, and then directed into two first flush aboveground storage tanks (FFS-TK01 and FFS-TK02) for onsite reuse in the TWTP. Flow exceeding the first flush collected from Catchments 2 and 3 are considered "clean" and will be directed to the bioretention basin for onsite treatment, before being discharged offsite into the grassed swale drain adjacent to Mains Beach Road. **Figure 3** illustrates how stormwater is managed in Catchments 2 and 3.

It is considered that the engineering design features, control measures, mitigations and treatment process proposed to be constructed, installed, and/or implemented as part of the Proposal in the internal Catchment 1 and the external Catchments 2 and 3, and the implementation stormwater management design will prevent adverse environmental impact and ensure the WQOs of the receiving water environs are met.

If you have any further questions, please do not hesitate to contact me.

Sincerely,

Marta Szeto
Principal Consultant (Environment)

ATTACHMENT 1:
PROPOSED DEVELOPMENT – SITE PLANS

LITTLE RESOURCES

MAIN BEACH ROAD PINKENBA

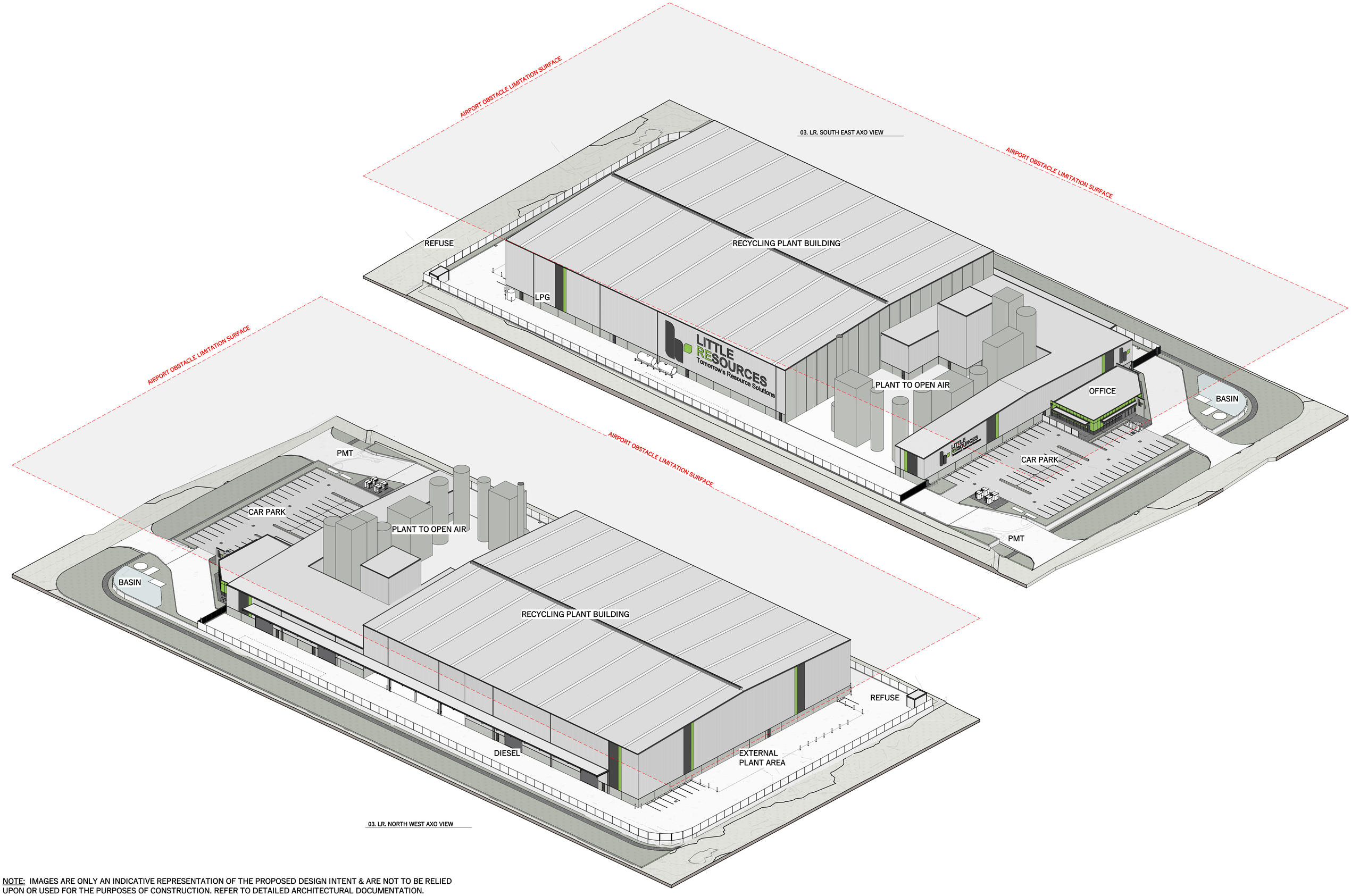
03. PLANNING APPLICATION DRAWING LIST

DA-001	COVER PAGE/DRAWING LIST
DA-002	EXISTING/ SITE LOCALITY PLAN
DA-003	AXONOMETIRC VIEWS
DA-004	PERSPECTIVE VIEWS
DA-005	PROPOSED OVERALL SITE PLAN
DA-006	PROPOSED FLOOR PLAN
DA-007	ROOF PLAN
DA-008	MATERIAL SELECTIONS/COLOURS
DA-009	EXTERNAL BUILDING ELEVATIONS .01
DA-010	EXTERNAL BUILDING ELEVATIONS .02
DA-011	MAIN BUILDING SECTION

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: COVER PAGE/DRAWING LIST	FOR APPROVAL
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 0m 0m 0m 0m				DA-001 Rev. DA.7
					A LensArc E contact@lensarc.com.au W lensarc.com.au	A1

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE 1 : 400	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: EXISTING/ SITE LOCALITY PLAN	FOR APPROVAL	A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008	0m 12m 24m 36m 48m					DA-002 Rev. DA.7	

A LensArc E contact@lensarc.com.au W lensarc.com.au



03. LR. SOUTH EAST AXO VIEW

03. LR. NORTH WEST AXO VIEW

NOTE: IMAGES ARE ONLY AN INDICATIVE REPRESENTATION OF THE PROPOSED DESIGN INTENT & ARE NOT TO BE RELIED UPON OR USED FOR THE PURPOSES OF CONSTRUCTION. REFER TO DETAILED ARCHITECTURAL DOCUMENTATION.

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: AXONOMETIRC VIEWS	FOR APPROVAL	A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 12m 24m 36m 48m				DA-003 Rev. DA.7	

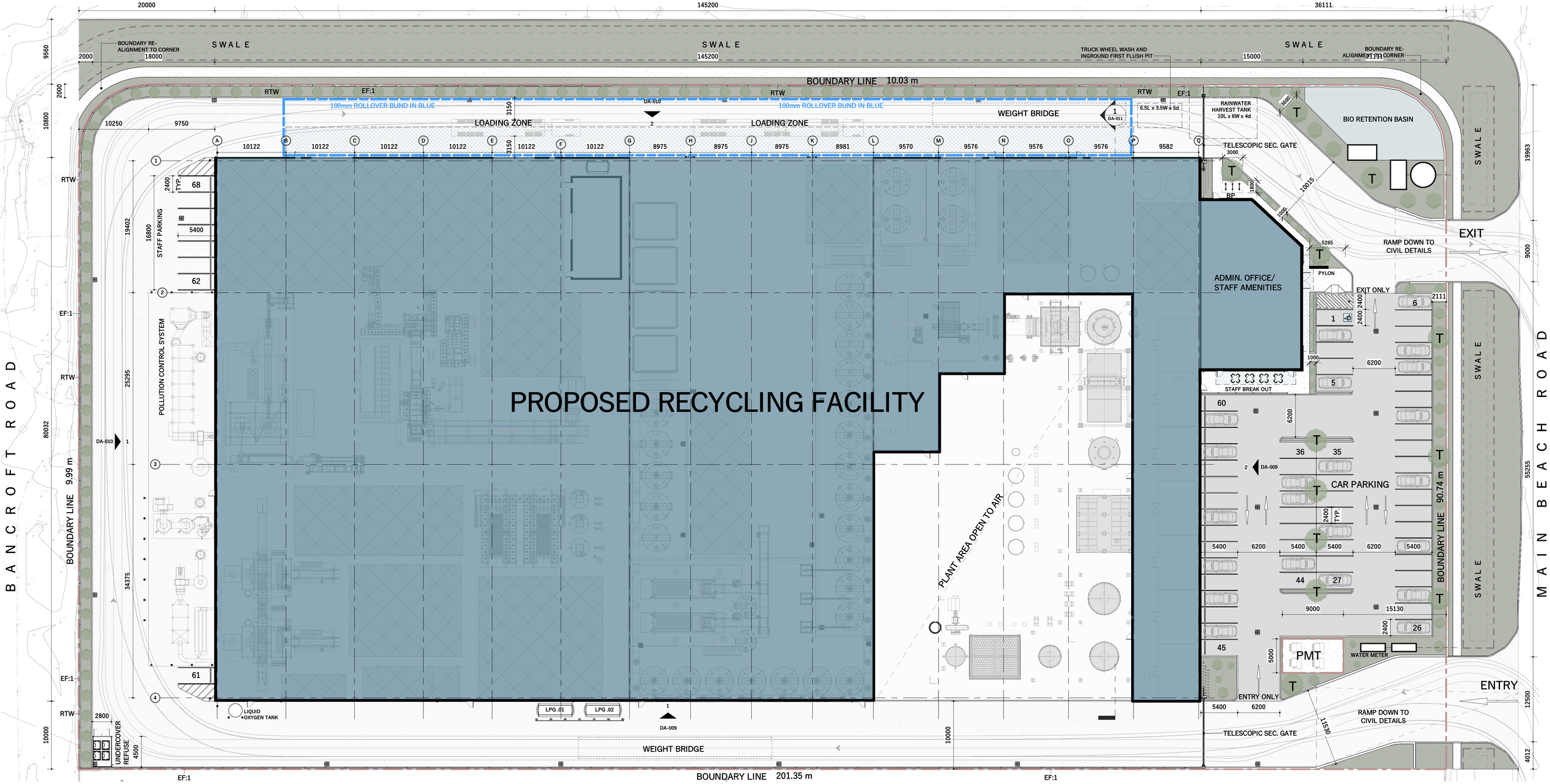
A LensArc E contact@lensarc.com.au W lensarc.com.au

03. LR. CONCEPT PERSPECTIVE VIEW .01

03. LR. CONCEPT PERSPECTIVE VIEW .02

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: PERSPECTIVE VIEWS	FOR APPROVAL	A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 0m 0m 0m 0m				DA-004 Rev. DA.7	

A LensArc E contact@lensarc.com.au W lensarc.com.au



DEVELOPMENT NUMBERS

SITE

EXISTING SITE AREA	20,234m²
PROPOSED SITE AREA	20,279m²
EX. BUILT GFA	0m²
DEMOLISHED GFA	0m²
NEW BUILT GFA	10,035m²
TOTAL	10,035m²
SITE COVERAGE	49.5%
LANDSAPING 840m² @	4.2%

BUILT FORM AREAS

PROCESSING PLANT	9,689m²
ADMIN/AMMENITIES	346m²
GRAND TOTAL	10,035m²

IMPERVOUS AREAS

SEALED CARPARK	1,575m²
SEALED ROAD WAYS	5,325m²
SEALED PLANT AREA	1,865m²
PEDESTRIAN FOOTPATHS	120m²
BUILDING ROOF AREA	10,135m²
RWTs/ KERBS/ SERVICES	325m²
GRAND TOTAL	19,345m² @ 95.8%

PROPOSED PARKING

EX. APPROVED CAR PARKS	0
REMOVED CAR PARKS	0
PROPOSE PARKING	68
TOTAL	68

EX. BUILT FORM

NEW BUILT FORM

SEALED CARPARK PAVEMENT
TOTAL AREA 1,575m²

SEALED ROADWAY PAVEMENT
TOTAL AREA 5,325m²

CONCRETE FOOTPATH
TOTAL AREA 120m²

CANOPIES OVER

LANDSCAPED AREAS - VARIETY OF MATURE HEIGHT NATIVE TREE PLANTING & UNDER PLANTING GROUND COVERS

T NEW TREE LOCATIONS

LEGEND	
CODE	DESCRIPTION
BP	BICYCLE PARK
EF:1	2100h EXTERNAL CHAINLINK FENCE + 3 STRAND BARB WIRE. BLACK PVC COATED.
RTW	SITE RETAINING WALL TO ENGINEERS DETAILS.

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE 1 : 275	DRAWN ADL	ISSUED 03.03.2026	Drawing Title: PROPOSED OVERALL SITE PLAN
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 8.3m 16.5m 24.8m 33m			FOR APPROVAL

A LensArc E contact@lensarc.com.au W lensarc.com.au

DA-005 Rev. DA.10 A1

LEGEND	
CODE	DESCRIPTION
BOL.	225dia x 1200h CONC. FILLED/ PAINTED/GALVANISED STEEL BOLLARD
COL.	STRUCTURAL COLUMN
DP	ROOF DOWN PIPE. REFER CIVIL DESIGN FOR SIZING.
RRD	RAPID ACCESS ROLLER DOOR
SP	10mm STEEL PLATE OPENING SHROUD

1 DA-011

14000 14000 10000 10000

A 10122 B 10122 C 10122 D 10122 E 10122 F 10122 G 8975 H 8975 J 8975 K 8981 L 9570 M 9576 N 9576 O 9576 P 9582 Q

1 2 3 4

19402 25295 34375

PERIMETER BUND DASHED BLUE

ULAB & FINISHED PRODUCTION STORAGE AREA

WORKSHOP

DIESEL

LIQUID WASTE TREATMENT PLANT

PUMP OUT PIT

PUMP OUT PIT

FIXATION PIT

FIXATION PIT

DRY REAGENT STORAGE

PACKAGED WASTE DECANTING & SORTING AREA

FFS-TK01

FFS-TK02

REGULATED WASTE STORAGE

ADMIN. OFFICE/ STAFF AMENITIES

PYLON

STAFF BREAK OUT

CTK-01

CTK-02

CTK-03

CTK-04

DRAIN

SP

ALKALI BUND

BTK-24

BTK-25

BTK-26

BTK-27

BTK-06

BTK-07

BTK-08

BTK-09

BTK-10

BTK-11

BTK-12

BTK-13

ACID BUND

BTK-01

BTK-02

BTK-03

BTK-04

BTK-05

REGULATED WASTE STORAGE PACKAGE & CLASS 8

ROLLOVER BUND

PRESS FILTERS

BTK-21 BTK-20 BTK-19 BTK-18 BTK-17 BTK-16 BTK-15

1000

POLLUTION CONTROL SYSTEM

ULAB STORAGE

ULAB RECYLCING PLANT

SECONDARY LEAD PRODUCTION PLANT

LEAD REFINING PLANT

LEAD INGOT STORAGE

LEAD SMELTING PLANT

FURNACE CHARGE PREPARATION

LEAD STORAGE

SLAG STORAGE

REAGENT STORAGE

LIQUID OXYGEN TANK

LPG .01

LPG .02

医废储存间

灰渣间

THERMAL WASTE TREATMENT PLANT

LIQUID WASTE INCINERATOR

ROTARY KILN

WATER HEAT BOILER

RAPID QUENCH TOWER

DRY ACID REOMCAL TOWER

BAG HOUSE

CHEMICAL TANKS & PUMPS

PLANT AREA OPEN TO AIR

FLUE OVER

WET ELECTRO STATIC PRECIPITATOR

CAUSTIC SCRUBBER

1° SCRUBBER

2° SCRUBBER

WATER SOFTENER ROOM

AIR COMPRESSOR

CONTROL ROOM

ELECTRIC GENERATION

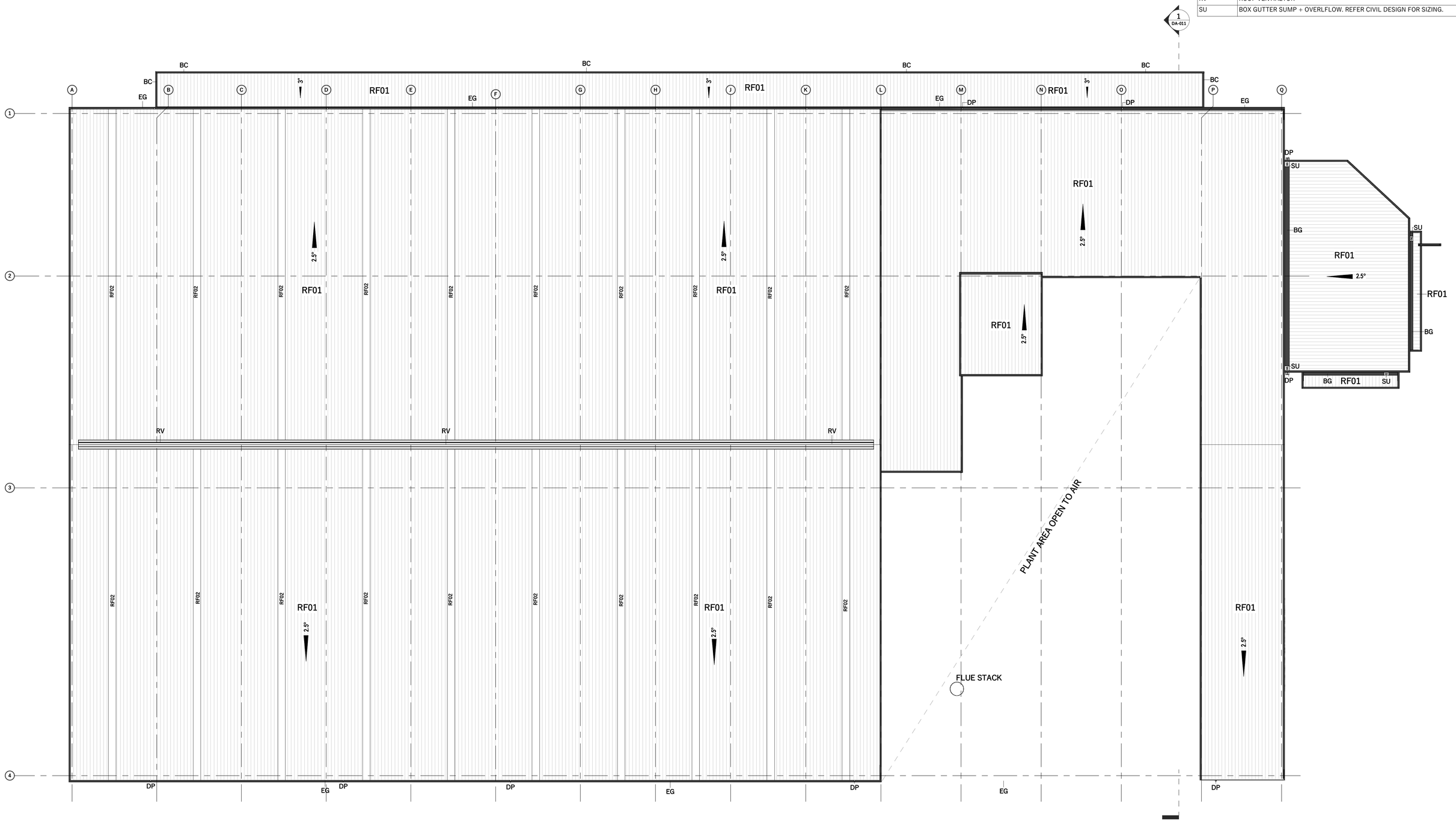
LV ROOM

HVR ROOM

4045 17560

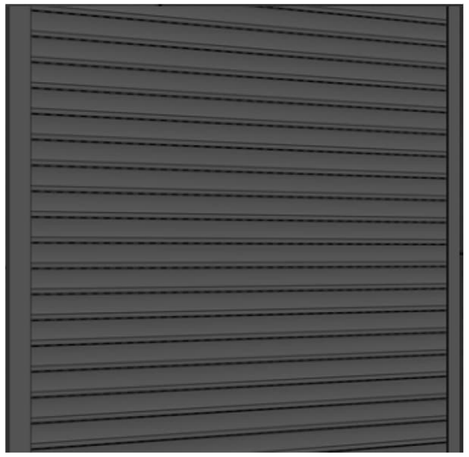
PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE 1 : 220	DRAWN ADL	ISSUED 27.02.2026	Drawing Title: PROPOSED FLOOR PLAN	FOR APPROVAL	A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 6.6m 13.2m 19.8m 26.4m			A LensArc E contact@lensarc.com.au W lensarc.com.au	DA-006 Rev. DA.8	

LEGEND	
CODE	DESCRIPTION
BC	BARGE CAPPING
BG	BOX GUTTER. REFER CIVIL DESIGN FOR SIZING.
DP	ROOF DOWN PIPE. REFER CIVIL DESIGN FOR SIZING.
EG	HALF ROUND EAVES GUTTER. REFER CIVIL DESIGN FOR SIZING.
RF01	CONCEALED FIXED RIB PROFILE METAL SHEET
RF02	PROFILED TRANSLUCENT ROOF SHEET
RV	ROOF VENTIALTOR
SU	BOX GUTTER SUMP + OVERLFLOW. REFER CIVIL DESIGN FOR SIZING.

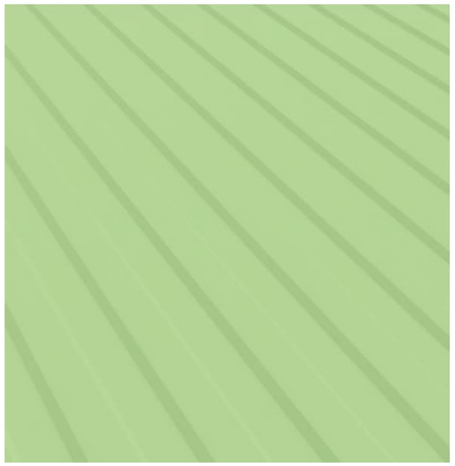


PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE 1 : 220	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: ROOF PLAN	FOR APPROVAL	A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 6.6m 13.2m 19.8m 26.4m				DA-007 Rev. DA.7	

A LensArc E contact@lensarc.com.au W lensarc.com.au

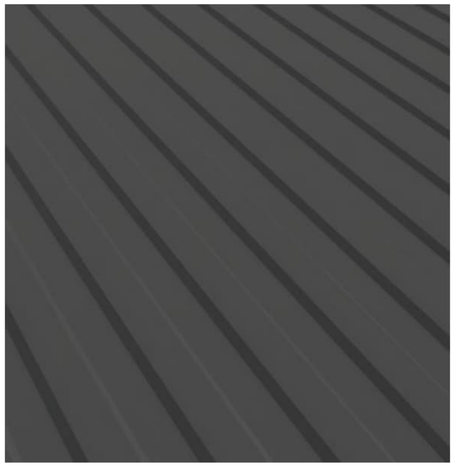


Metal Profile Roller Shutter
Colourbond Basalt

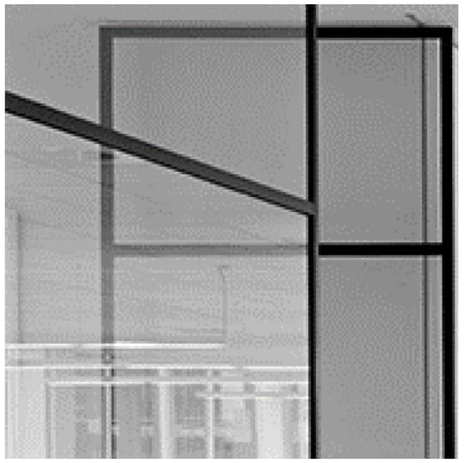


Smart Span metal Clad
Little Resources Green

Smart Span metal Clad
Colourbond Shale Grey



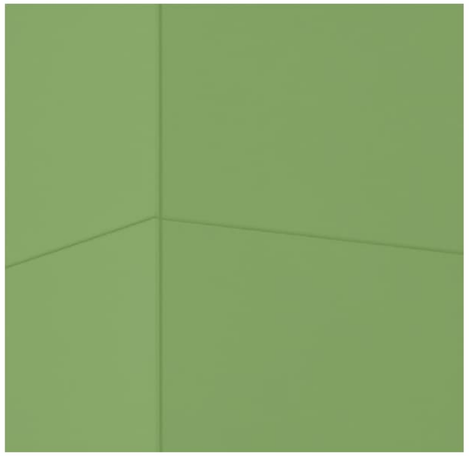
Smart Span metal Clad
Colourbond Monument



Monument Aluminum Framed
Glazing/ Grey Tint

Pre-Finished Cement Cladding
Colourbond Monument

Natural Finish Precast Panels



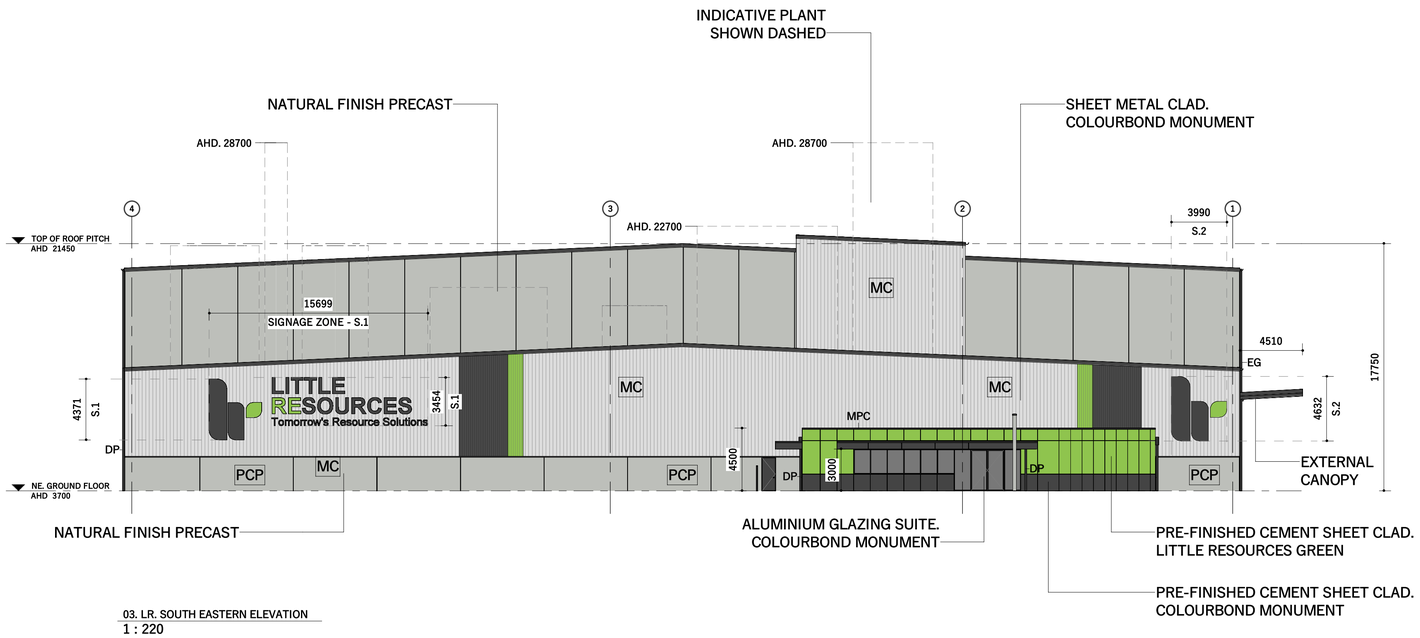
Pre-Finished Cement Cladding
Little Resources Green

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE 1 : 1	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: MATERIAL SELECTIONS/COLOURS	FOR APPROVAL		A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008	0m 0m 0m 0m 0m					DA-008	Rev. DA.7	

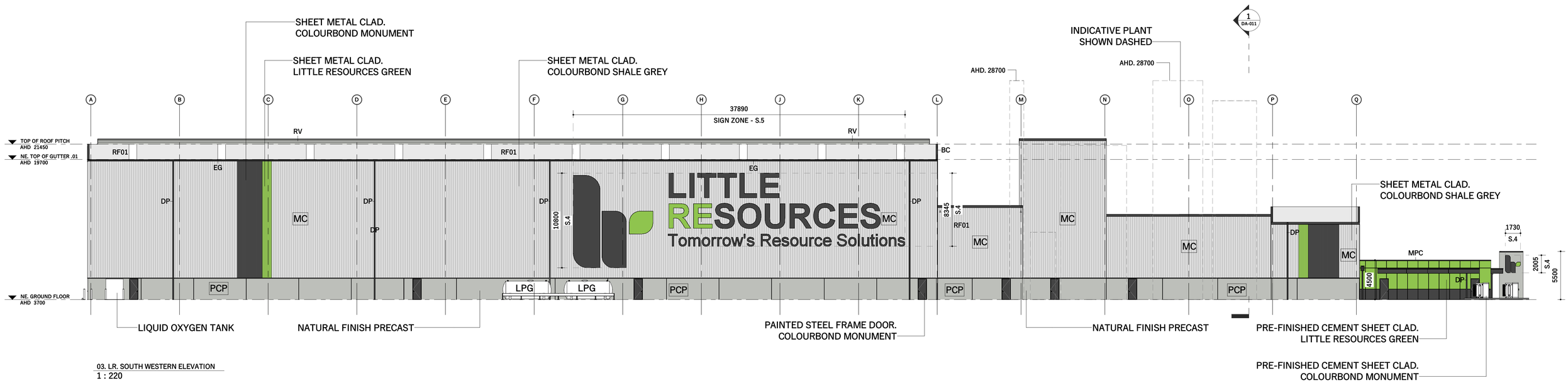
A LensArc E contact@lensarc.com.au W lensarc.com.au

LEGEND	
CODE	DESCRIPTION
BC	BARGE CAPPING
DP	ROOF DOWN PIPE. REFER CIVIL DESIGN FOR SIZING.
EG	HALF ROUND EAVES GUTTER. REFER CIVIL DESIGN FOR SIZING.
MC	METAL SHEET CLADDING
MPC	METAL PARAPET CAPPING
PCP	PRECAST CONCRETE PANEL
RF01	CONCEALED FIXED RIB PROFILE METAL SHEET
RV	ROOF VENTIALTOR

SIGNAGE SCHEDULE	
SIGN No.	Comments
S.1	2D LOGO NON-ILLUMINATED
S.2	3D LOGO LED-ILLUMINATED
S.3	3D LOGO LED-ILLUMINATED
S.4	3D LOGO LED-ILLUMINATED
S.5	2D LOGO NON-ILLUMINATED



03. LR. SOUTH EASTERN ELEVATION
1 : 220



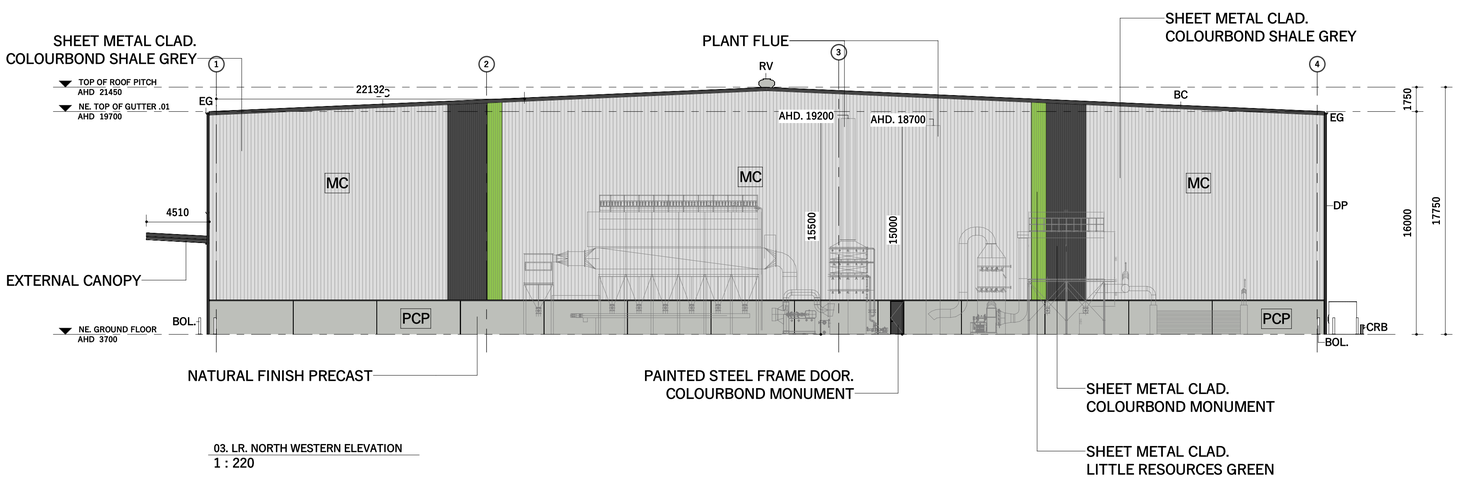
03. LR. SOUTH WESTERN ELEVATION
1 : 220

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE 1 : 220	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: EXTERNAL BUILDING ELEVATIONS .01	FOR APPROVAL	A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 6m 12m 18m 24m				DA-009 Rev. DA.7	

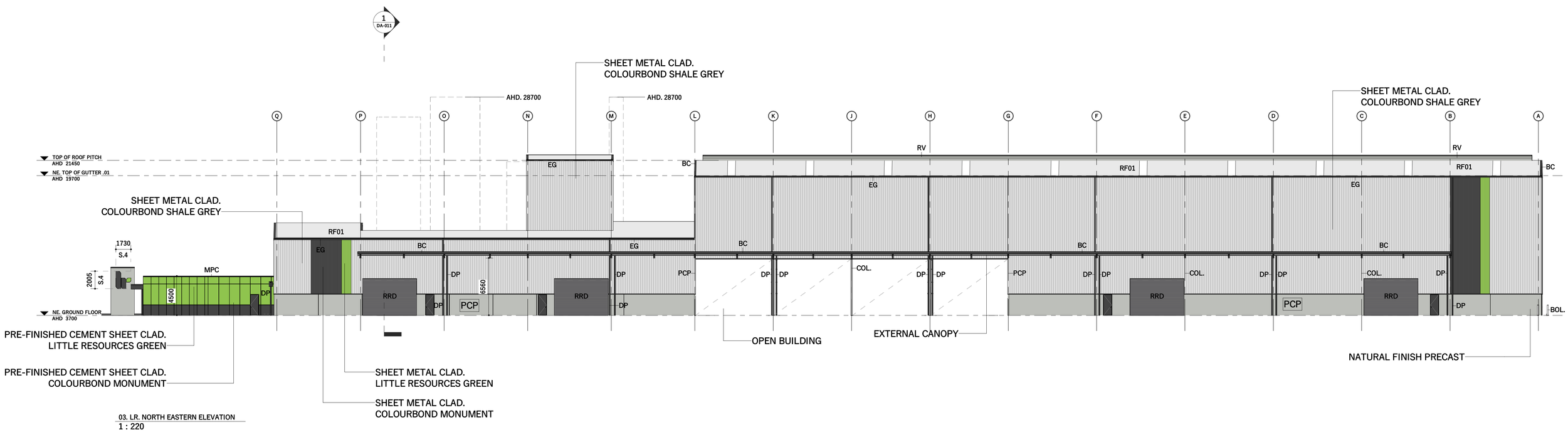
A LensArc E contact@lensarc.com.au W lensarc.com.au

LEGEND	
CODE	DESCRIPTION
BC	BARGE CAPPING
BOL.	225dia x 1200h CONC. FILLED/ PAINTED/GALVANISED STEEL BOLLARD
COL.	STRUCTURAL COLUMN
CRB	PROPRIETRY CRASH RAIL BARRIER
DP	ROOF DOWN PIPE. REFER CIVIL DESIGN FOR SIZING.
EG	HALF ROUND EAVES GUTTER. REFER CIVIL DESIGN FOR SIZING.
MC	METAL SHEET CLADDING
MPC	METAL PARAPET CAPPING
PCP	PRECAST CONCRETE PANEL
RF01	CONCEALED FIXED RIB PROFILE METAL SHEET
RRD	RAPID ACCESS ROLLER DOOR
RV	ROOF VENTIALTOR

SIGNAGE SCHEDULE	
SIGN No.	Comments
S.1	2D LOGO NON-ILLUMINATED
S.2	3D LOGO LED-ILLUMINATED
S.3	3D LOGO LED-ILLUMINATED
S.4	3D LOGO LED-ILLUMINATED
S.5	2D LOGO NON-ILLUMINATED



03. LR. NORTH WESTERN ELEVATION
1 : 220

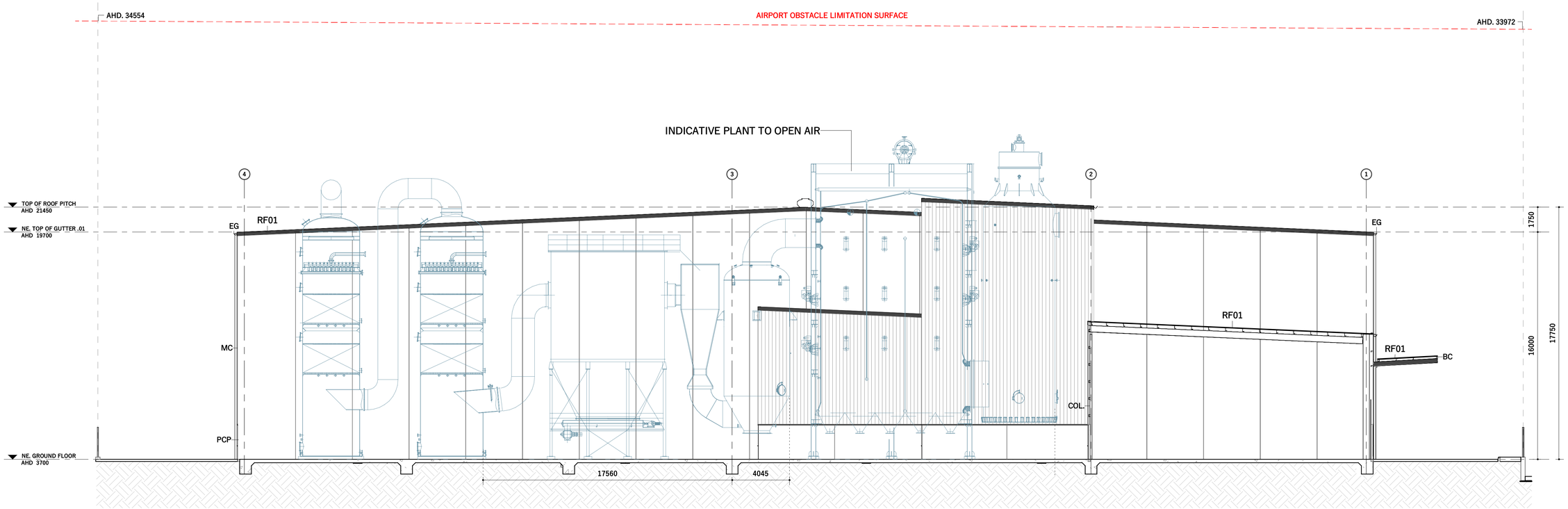


03. LR. NORTH EASTERN ELEVATION
1 : 220

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE 1 : 220	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: EXTERNAL BUILDING ELEVATIONS .02	FOR APPROVAL	A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 6.6m 13.2m 19.8m 26.4m				DA-010 Rev. DA.7	

A LensArc E contact@lensarc.com.au W lensarc.com.au

LEGEND	
CODE	DESCRIPTION
BC	BARGE CAPPING
COL.	STRUCTURAL COLUMN
EG	HALF ROUND EAVES GUTTER. REFER CIVIL DESIGN FOR SIZING.
MC	METAL SHEET CLADDING
PCP	PRECAST CONCRETE PANEL
RF01	CONCEALED FIXED RIB PROFILE METAL SHEET

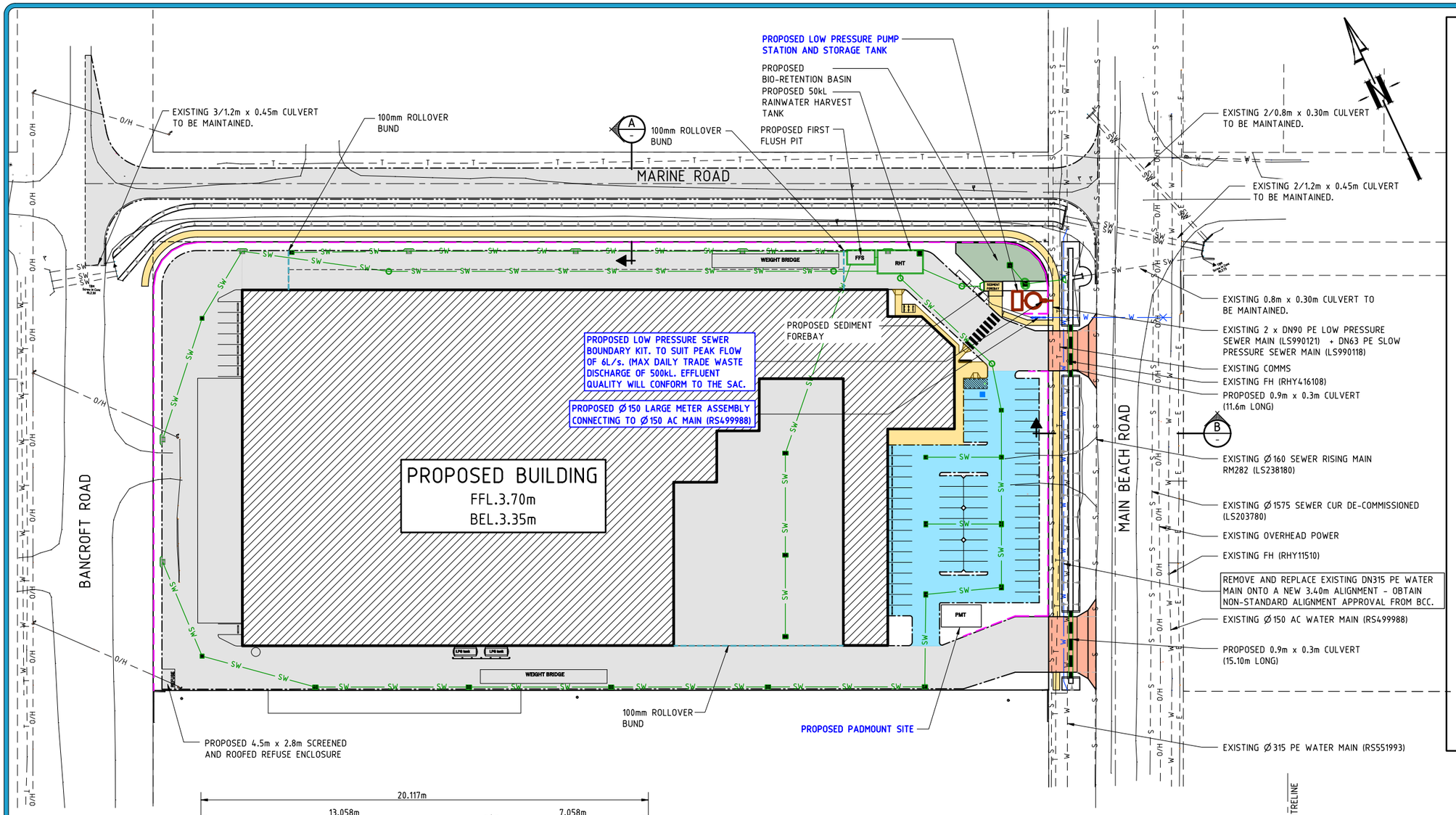


03. OVERALL BUILDING SECTION .01
1 : 150

PROJECT No. ADL24066	Project Name: LITTLE RESOURCES FACILITY	SCALE 1 : 150	DRAWN ADL	ISSUED 02.02.2026	Drawing Title: MAIN BUILDING SECTION	FOR APPROVAL	A1
ADDRESS 164 MAIN BEACH ROAD PINKENBA QLD 4008		0m 4.5m 9m 13.5m 18m				DA-011 Rev. DA.7	

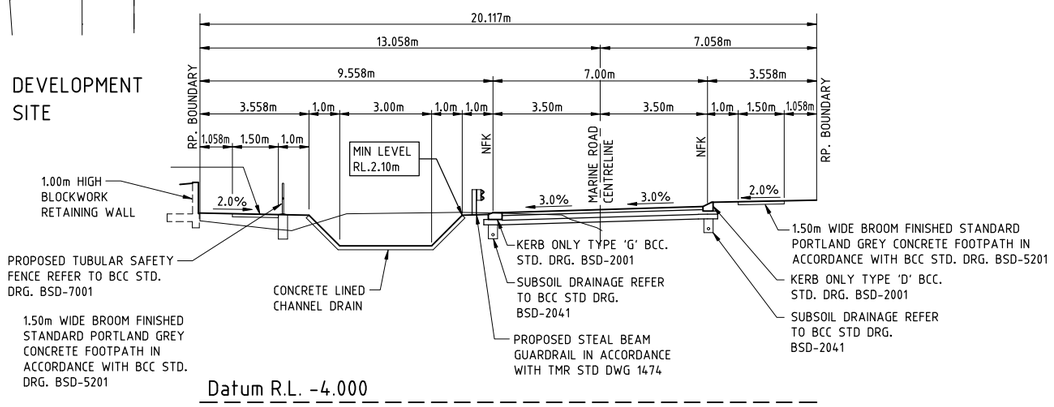
A LensArc E contact@lensarc.com.au W lensarc.com.au

ATTACHMENT 2:
PROPOSED DEVELOPMENT – CONCEPTUAL STORMWATER CIVIL ENGINEERING PLANS



SERVICES LEGEND

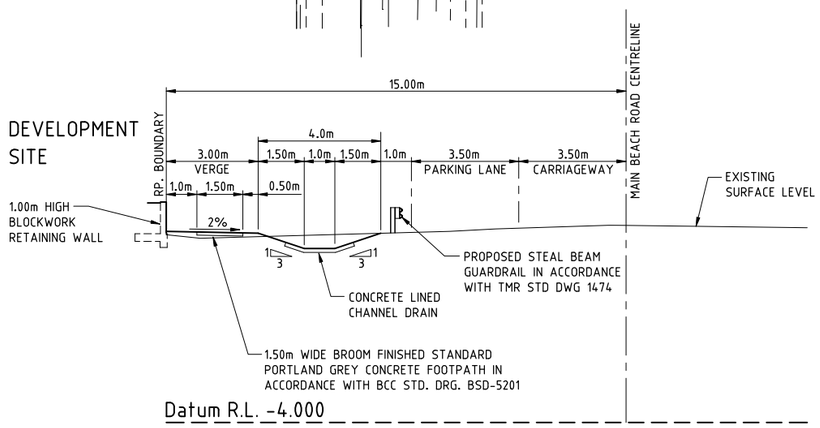
	NEW	EXISTING
GRAVITY SEWER	S	S
SEWER RISING MAIN	RM	RM
SEWER HOUSE DRAIN	HD	HD
DRINKING WATER MAIN	W	W
WATER SERVICE CONDUIT	WS	WS
WATER FIREMAIN	FM	FM
WATER SERVICE CONDUIT (WITH SERVICE SIZE SHOWN)	DN32 PE	
ENCASING/ ENVELOPER PIPE	W	
STORMWATER DRAINAGE		SW
R/W SUBSOIL DRAINAGE		
COMMS CONDUIT	CC	
ELECTRICAL CONDUIT	EC	
GAS MAIN	G	G
ELECTRICAL U/G	E	E
ELECTRICAL O/H	O/H	O/H
TELECOMMUNICATION	T	T
LIGHT POLE	E LP	E LP
ELECTRICITY/ POWER POLE	O/H EP	O/H EP
STORMWATER GULLY		SW
PIT (TELECOM/ELEC)	T E	T E
NOMINAL KERB FACE		
RETAINING WALL CONCRETE SLEEPER		
KERB ADAPTOR 175x75 RHS GALV. REFER TO BSD-8114	KA	
ELECTRICAL PILLAR		
STREET LIGHTING LOCATION		
WATER METER LOCATION		



TYPICAL MARINE ROAD CROSS SECTION

SCALE 1:100

SECTION A



TYPICAL MAIN BEACH ROAD CROSS SECTION

SCALE 1:100

SECTION B

DIAL BEFORE YOU DIG www.1100.com.au

NOTE:

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. POT HOLING HAS NOT BEEN UNDERTAKEN. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY ALL EXISTING SERVICE LOCATIONS AND DEPTHS. THE CONTRACTOR SHALL, PRIOR TO COMMENCEMENT OF CONSTRUCTION, NOTIFY THE SUPERINTENDENT OF ANY DISCREPANCIES OF SERVICE LOCATIONS AND DEPTHS.

0 5 15 25m

SCALE 1:500 AT ORIGINAL A1 SIZE

ISSUED FOR APPROVAL

REV	BY	CKD	DATE	DESCRIPTION
B	PBK	KLW	15.04.26	ROOF AREA, BUND AREA AND FFS AMENDED
A	PBK	KLW	17.09.25	ISSUED FOR APPROVAL

NOT FOR CONSTRUCTION

ISO 9001

WILKINSON SHAW & ASSOCIATES consulting engineers

WILKINSON SHAW & ASSOCIATES PTY LTD
ABN: 29 104 860 497
OFFICE: 182 PINE ROAD (WEST), RICHLANDS QLD 4077
MAIL: PO BOX 583 INALA QLD 4077
PHONE: (07) 3555 9888
EMAIL: office@wilkinsonshaw.com.au
WEB: www.wilkinsonshaw.com.au

40+ YEARS SINCE 1984

PROJECT: INDUSTRIAL BUILDING
164 MAIN BEACH ROAD
PINKENBA QLD

DRAWING SHEET TITLE: CONCEPTUAL COMBINED SERVICE PLAN

CLIENT: LITTLE RESOURCES PTY. LTD.

SURVEYOR: VISION SURVEYS

LOT DESCRIPTION: LOT 501 ON M3321

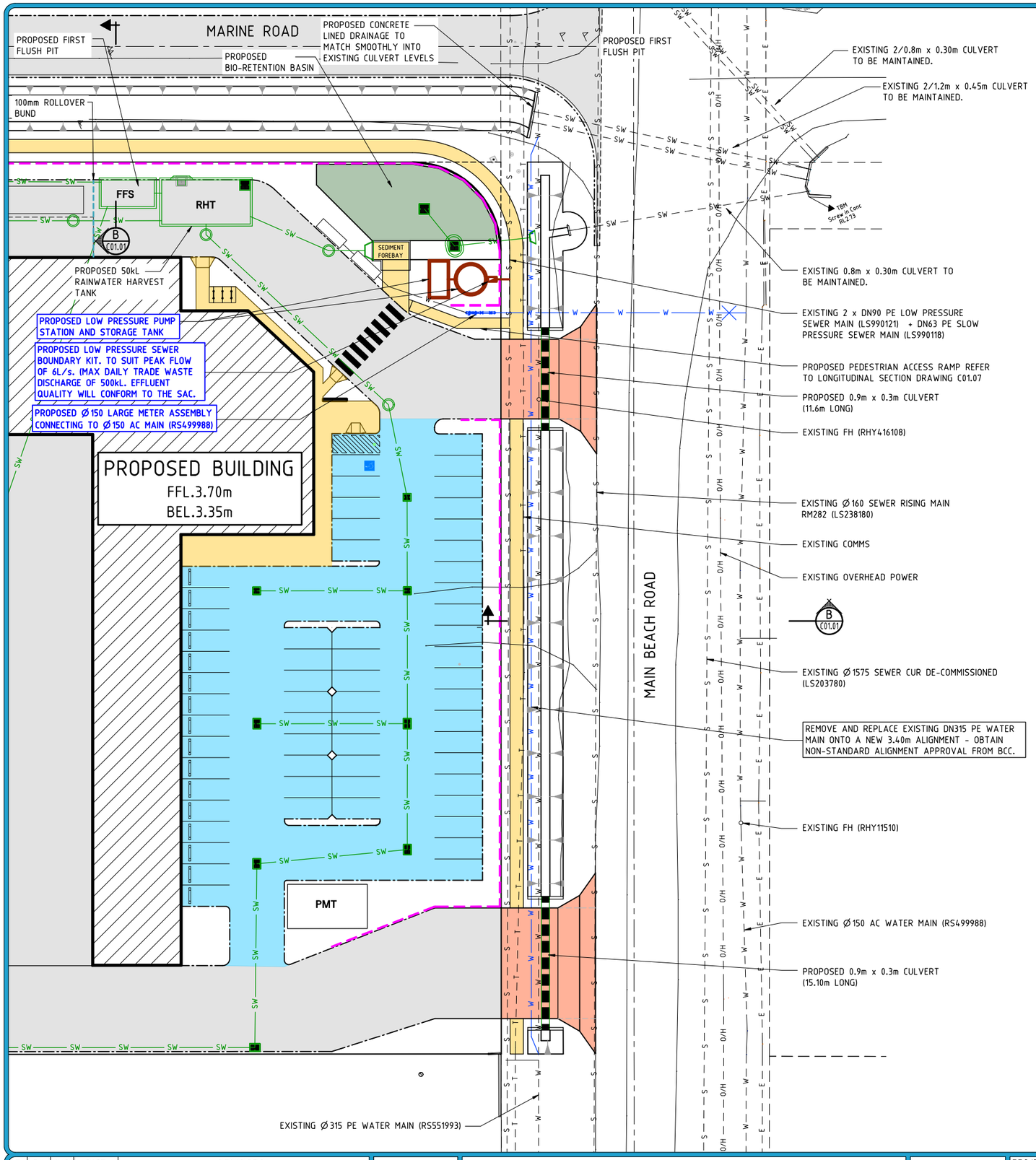
COUNCIL REF: A006676436

DRAWING NO.: P24-012-DA-C01.01

SCALE: 1:500

REVISION: B

DATUM: A.H.D.



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GAS MAIN	G	G
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ELECTRICAL O/H	O/H	O/H
TELECOMMUNICATION	T	T
LIGHT POLE	E LP	E LP
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STORMWATER GULLY		SW
PIT (TELECOM/ELEC)	T E	T E
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WATER METER LOCATION		

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DIAL BEFORE YOU DIG www.1100.com.au

0 2.50 7.50 12.5m
SCALE 1:250 AT ORIGINAL A1 SIZE

ISSUED FOR APPROVAL

REV	BY	CKD	DATE	DESCRIPTION
B	PBK	KLW	15.04.26	ROOF AREA, BUND AREA AND FFS AMENDED
A	PBK	KLW	17.09.25	ISSUED FOR APPROVAL

NOT FOR CONSTRUCTION

ISO 9001 QUALITY

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WSA
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40+ YEARS SINCE 1984

PROJECT	INDUSTRIAL BUILDING 164 MAIN BEACH ROAD PINKENBA QLD
DRAWING SHEET TITLE	CONCEPTUAL COMBINED SERVICE DETAIL
CLIENT	LITTLE RESOURCES PTY. LTD.
SURVEYOR	VISION SURVEYS
LOT DESCRIPTION:	LOT 501 ON M3321
COUNCIL REF:	A006676436
DRAWING NO.	P24-012-DA-C01.02
SCALE	1:250
REVISION	B
DATUM	A.H.D.