Technical Memorandum

Traffic and Transport Review

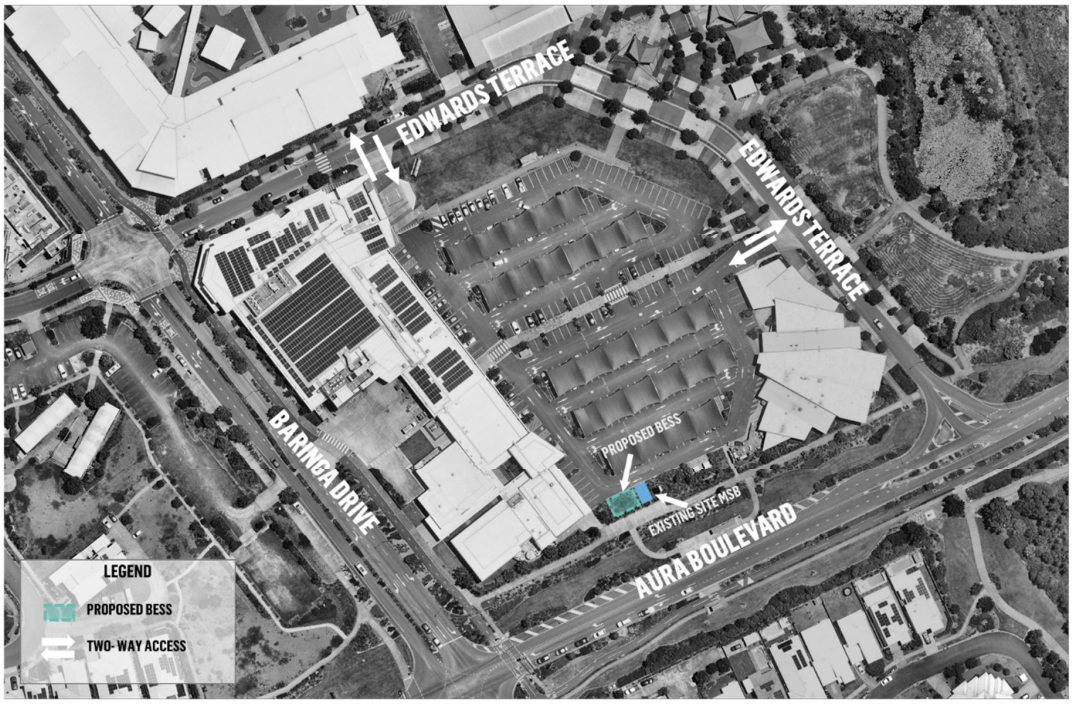
Date	15/05/2025	**Project Number**	P0058422
Client	Energy Bay	**Prepared By**	Denise Wang
Project	Baringa BESS	**Reviewed By**	Alice Shi (RPEQ 22028)

1. Introduction

1.1 Background

Energy Bay is delivering a Battery Energy Storage System (BESS) at the Baringa Shopping Centre. Urbis has been engaged to prepare traffic and transport advice for the proposal application to Economic Development Queensland (EDQ). In particular, this advice includes undertaking a swept path assessment for construction vehicles accessing the BESS site via the existing car park entries. In addition, Urbis has undertaken a traffic generation assessment for the proposed development to evaluate its potential traffic impacts on the local network. The proposed BESS location is shown in Figure 1, and the proposed BESS layout is provided in Attachment A.

Figure 1 Site Location



Source: Nearmap (2025)

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2025/1694

Date: 03/02/2026

Queensland Government

2. Proposed Operations

2.1 On-site Vehicular Activities

Energy Bay has provided the expected on-site activities during both the construction and operational phases of the project. The construction phase is projected to span approximately two months. The following vehicle types are expected to access the site during this period:

- Heavy Rigid Vehicle (up to 11 metres in length) for battery deliveries, expected to occur over multiple loads (2–3 loads). This is anticipated to be the largest vehicle accessing the site.
- 2–3 passenger cars for crew members.
- Small rigid vehicle for general materials delivery.
- Franna crane (Mac 25-3) for battery installation.
- Concrete truck and pump for foundation works.
- Ute or van for ongoing maintenance activities during the operational phase.

2.2 Swept Path Assessment

Swept path analysis has been undertaken for the following vehicle types and delivery scenarios. All swept paths are included in Appendix B.

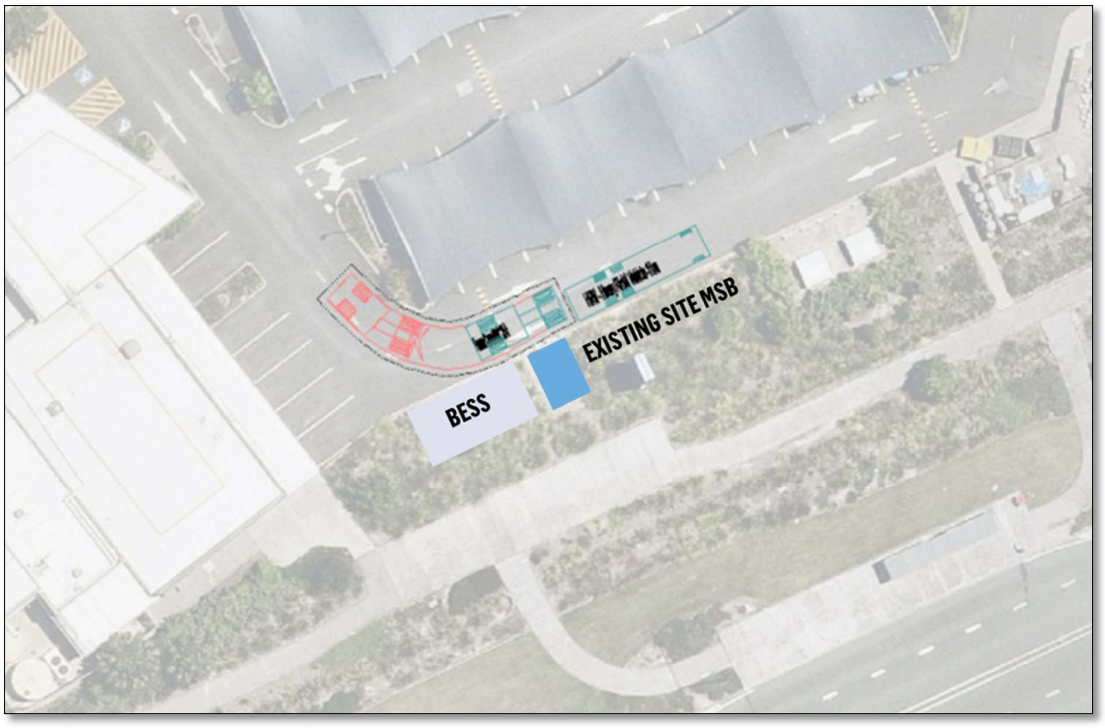
- Concrete truck: Modelled as an 8.8-metre Medium Rigid Vehicle (MRV) with dimensions equivalent to a maxi concrete mixer. The assessment confirmed that the concrete truck can access the car park and position directly in front of the proposed BESS with no access issues.

- Heavy Rigid Vehicle (HRV): An 11-metre HRV is confirmed by Energy Bay to be used for battery deliveries and will be the largest vehicle accessing the existing car park for the proposed project.

Accordingly, swept path analysis was undertaken to assess the HRV's accessibility and also its ability to position as close as practicable to the proposed BESS location.

As shown in the figure below, the swept path analysis confirms that an HRV can enter and exit the site in a forward gear and safely position in front of the BESS for unloading operations. Although the aisle is slightly constrained, the assessment demonstrated that an HRV can manoeuvre into place while maintaining a 500 mm clearance from the existing MSB.

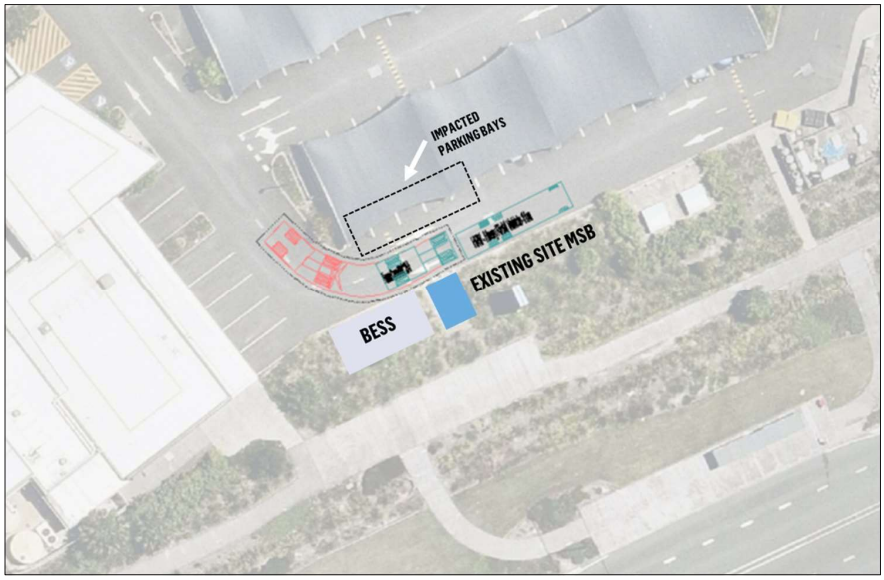
- Simultaneous delivery scenario: It is assumed that the installation of battery units will involve the use of a Franna crane (Mac 25-3) to position the batteries on site. Accordingly, a scenario involving the concurrent operation of a Franna crane and an HRV during BESS installation was assessed. The analysis confirmed that both vehicles can be accommodated within the car park layout simultaneously.



2.3 Further Considerations

It is noted some parking bays might be temporarily impacted while HVs are onsite for deliveries. Depending on the positioning of HRV/concrete truck, certain bays might be blocked. On-site traffic management is recommended during these times to ensure safe and efficient operations and also help to prevent conflicts with heavy vehicle movements.

Figure 2 Impacted parking bays



3. Transport Assessment

3.1 Construction Phase

The proposed development is expected to have a construction period of approximately two months and is projected to generate up to **14 vehicle (LV+HV)** movements per day at its peak. The breakdown of these movements are as follows:

- Construction staff movements: A total of six light vehicle (LV) movements are expected per day, comprising three inbound staff arrivals during the AM peak and three outbound departures during the PM peak.
- Heavy vehicle (HV) movements: A total of eight heavy vehicle movements are anticipated per day for approximately 2-3 days during the peak construction activities, including three inbound (loaded) and three outbound trips for battery deliveries and one inbound and one outbound trip for the Franna crane. Typically, heavy vehicle access will not be required during construction.

The following assumptions regarding construction activities have been provided by Energy Bay:

- A concrete truck delivery is expected to occur on a single day.
- Battery deliveries will occur over one to two days, shortly after site mobilisation.
- There will be no overlap between battery deliveries and the concrete truck delivery.

All surrounding road network including Baringa Drive, Edwards Terrace and Aura Boulevard are classified as urban neighbourhood collector or local streets under the Sunshine Coast Council's Road Hierarchy, with an environmental capacity range of 1,000–3,000 vehicles per day (vpd). Construction of the proposed BESS is expected to take approximately two months and is projected to generate typically six trips per day and up to 14 vehicle movements per day for two to three days during this period. This represents less than 0.5% of the network's environmental capacity and is therefore considered to have a negligible impact on its operation.

3.2 Operational Phase

Based on operational volume estimates provided by Energy Bay, the site will only generate occasional access for maintenance activities (maximum 2 LV movements per month). Given the negligible volume, no material impact on the surrounding road network is expected during the operational phase.

4. Summary

This traffic and transport review memo has been prepared to assess design vehicle access to the proposed BESS site and to evaluate any traffic-related impacts associated with the development. Overall, the project is not expected to adversely affect the surrounding road network from a traffic and transport perspective. The key findings of the assessment are summarised below:

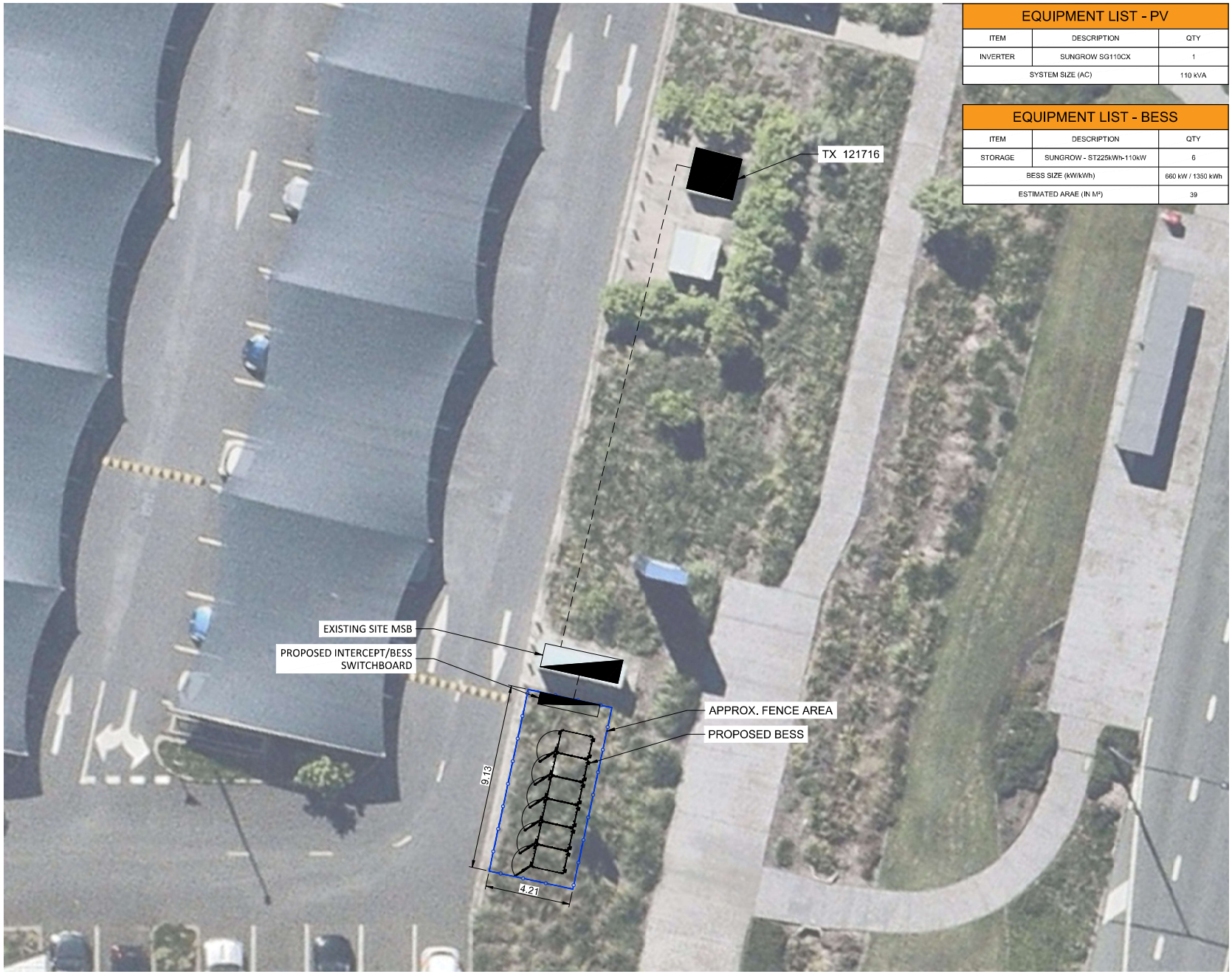
- The proposed development is expected to have a construction period of approximately two months and is projected to generate typically six vehicle trips per day and up to 14 vehicle movements per day during peak construction activities (for two to three days only).
- Vehicle manoeuvres have been tested through swept path analysis and found to be suitable within the existing car park layout. However, to support safe operation during the BESS installation, when a Franna crane and an HRV are operating concurrently, it is recommended that up to five parking bays be temporarily blocked.
- During the operational phase, only occasional access for annual inspection and maintenance is anticipated. This will be undertaken by light vehicle (ute or van).

As such, the development is expected to generate minimal traffic impacts and will not adversely affect the existing operation of the surrounding transport network.

Appendix A: BESS Location Layout

BESS LOCATION LAYOUT

SCALE NTS



EQUIPMENT LIST - PV		
ITEM	DESCRIPTION	QTY
INVERTER	SUNGROW SG110CX	1
SYSTEM SIZE (AC)		110 kVA

EQUIPMENT LIST - BESS		
ITEM	DESCRIPTION	QTY
STORAGE	SUNGROW - ST225kWh-110kW	6
BESS SIZE (kW/kWh)		660 kW / 1350 kWh
ESTIMATED ARAE (IN M²)		39

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2. THIS DESIGN IS COMPLIANT WITH THE FOLLOWING AUSTRALIAN STANDARDS:
   - A: AS 3000:2018
   - B: AS 3008.1.2017
   - C: AS 4777.1:2016
   - D: AS 4777.2:2020
   - E: AS 5033:2021

INSTALLATION NOTES:

1. ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE SPECIFIED.
2. SWITCHBOARD DIMENSIONS ARE APPROXIMATE.
3. PROPOSED EQUIPMENT LOCATION MAY VARY AS PER ACTUAL SITE CONDITION.

ENERGY BAY

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ABN: 52 668 822 777
RE: T.NGUYEN

REV No.	REVISION DESCRIPTION	DRAWN BY	CHECKED BY	APPR'D BY	DATE
1	PRELIMINARY LAYOUT	MG	ND	TN	18.06.24

PROJECT:

BARINGA RETAIL CENTRE

CLIENT:

Stockland

ADDRESS:

BARINGA RETAIL CENTRE,
1 EDWARDS TCE,
BARINGA QLD 4551

DRAWING TITLE: BESS LAYOUT

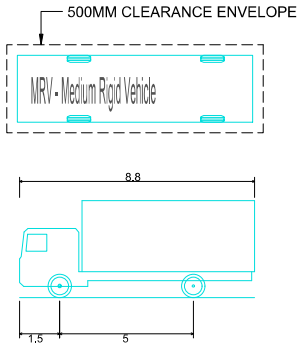
DRAWING NO: 04009-LAY-BESS-01

STATUS: PRELIMINARY DESIGN

DRAWN BY:	DATE:	DESIGNED BY:	DATE:	SHEET SIZE:
M.GARIN	18.06.24	M.GARIN	18.06.24	A1
DRG. CHECKED BY:	DATE:	DES. CHECKED BY:	DATE:	SCALE:
N.DOBARIYA	18.06.24	N.DOBARIYA	18.06.24	AS INDICATED
CAD FILE No:		APPROVED:	DATE:	REVISION:
04009-LAY.dwg		T.NGUYEN	18.06.24	1

PLOT DATE: 21 June, 2024 - 3:31pm

Appendix B: Swept Path Assessment



MRV - Medium Rigid Vehicle	
Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m

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IT IS THE CONTRACTORS' RESPONSIBILITY TO PRINT DRAWINGS IN COLOUR TO AVOID ANY POTENTIAL DISCREPANCIES IF DRAWINGS ARE PRINTED IN BLACK AND WHITE

URBIS

Baringa BESS

concrete Truck (MRV) Swept Paths

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REV	DESCRIPTION	DWN	CHK	DATE
A	Swept Path Diagram	DW	AS	15/05/2025

CLIENT
Energy Bay
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1:500 @ A3
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PROJECT NO. P0058422
DATE 15/05/2025
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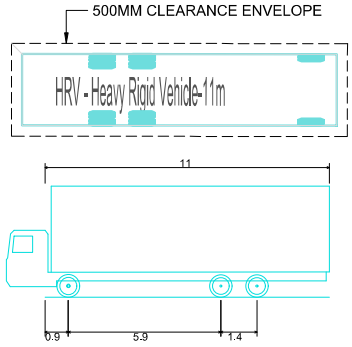
REVISION A



HRV - Heavy Rigid Vehicle-11m	
Overall Length	11.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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HRV Swept Paths

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REV	DESCRIPTION	DWN	CHK	DATE
A	Swept Path Diagram	DW	AS	15/05/2025

CLIENT
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PROJECT NO. P0058422
DATE 15/05/2025
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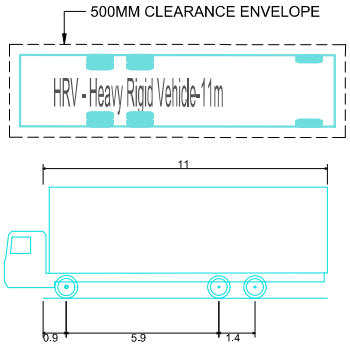
REVISION A



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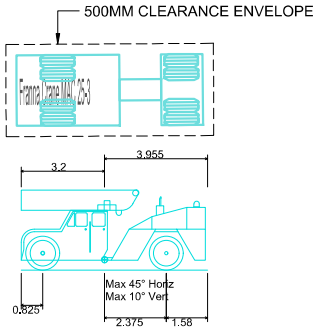
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



Franna Crane MAC 25-3	
Overall Length	7.155m
Overall Width	2.720m
Overall Body Height	3.075m
Min Body Ground Clearance	0.375m
Track Width	2.720m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	7.900m

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Franna Crane + HRV Swept Paths

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REV	DESCRIPTION	DWN	CHK	DATE
A	Swept Path Diagram	DW	AS	15/05/2025

CLIENT
Energy Bay

1:200 @ A3
0 1 2 3 4 5m

PROJECT NO. P0058422
DATE 15/05/2025
DRAWING NO. 3
REVISION A