Regional Development Assessment Panel Agenda

Meeting Date and Time: Tuesday, 2 December 2025; 9.30am
Meeting Number: RDAP/59
Meeting Venue: 140 William Street, Perth

A live stream will be available at the time of the meeting, via the following link:
RDAP/59 - 2 December 2025 - City of Bunbury

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Noting of Minutes

PART B – CITY OF BUNBURY

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
   - 3.1 Lot 16 Harris Road and Lot 304 on Deposited Plan 49062, Picton - Battery Energy Storage System (BESS) and Associated Access and Utilities – DAP/25/02922
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

PART C – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. Meeting Closure

Please note, presentations for each item will be invited prior to the items noted on the agenda and the presentation details will be contained within the related information documentation

DAP Members
Francesca Lefante (Presiding Member)
Eugene Koltasz (Deputy Presiding Member)
Robert Karelse
Cr Cheryl Kosziek (Part B – City of Bunbury)
Cr Todd Brown (Part B – City of Bunbury)

DAP Secretariat
Kristen Gray
Ashlee Kelly

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement

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3. Form 1 DAP Applications

3.1 Lot 16 Harris Road and Lot 304 on Deposited Plan 49062, Picton - Battery Energy Storage System (BESS) and Associated Access and Utilities – DAP/25/02922

4. Form 2 DAP Applications

Nil

5. Section 31 SAT Reconsiderations

Nil

LOT 16 HARRIS ROAD PICTON & LOT 304 ON DEPOSITED PLAN 49062 PICTON - Battery Energy Storage System (Bess) And Associated Access And Utilities

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Regional Development Assessment Panel
Local Government Area:	City of Bunbury
Applicant:	Hidding Urban Planning
Owner:	Lot 16 #Harris Road Picton John Windsor Cranston Lot 304 on DP 49062 Picton Public Transport Authority of Western Australia
Value of Development:	$100 Million
Responsible Authority:	City of Bunbury
Authorising Officer:	Alan Ferris – Chief Executive Officer
LG Reference:	5.2025.6.1
DAP File No:	DAP/25/02922
Application Received Date:	17 June 2025
Report Due Date:	19 November 2025
Application Statutory Process Timeframe:	90 Days
Attachment(s):	1. Location Plans 2. Planning Report 3. Proposed Plans 4. Water Technical Note 5. Traffic Technical Note and Crossover Sketch 6. Picton District Plan Environmental Assets 7. Acoustic Report 8. Bushfire Attack Level Assessment 9. Schedule of Submissions

Responsible Authority Recommendation

That the Regional DAP resolves to:

1. **Accept** that the DAP Application reference DAP/25/02922 is appropriate for consideration as a 'Use Not Listed (Energy Storage Facility)' land use and compatible with the objectives of the zoning table in accordance with Clause 16 of the City of Bunbury Local Planning Scheme No.8 and Greater Bunbury Region Scheme.

2. **Approve** DAP Application reference DAP/25/02922 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, the provisions of the City of Bunbury Local Planning Scheme No. 8 and the Greater Bunbury Region Scheme subject to the following conditions:

Conditions

Administrative

1. All development shall be in accordance with the approved development plans (attached) which form part of this development approval.

2. This decision constitutes development approval only and is valid for a period of four years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

3. All works required to satisfy a condition of this approval are required to be installed/ constructed and maintained in accordance with the approved plans and conditions of approval for the life of the development.

Access and Parking

4. Prior to the submission of a building permit, detailed design plans shall be prepared in accordance with relevant Australian Standards, Austroads Guidelines, Rail Safety National law (WA) 2024 and City of Bunbury/Public Transport Authority requirements, for all access, lighting, carparking, rail crossing and pedestrian movement requirements, to the satisfaction of the City of Bunbury and the Public Transport Authority. Once plans are approved construction is to be in accordance with the approved plans and be completed before the development is occupied.

5. Before the development is occupied, any alterations, relocation, or damage of existing infrastructure within the Harris Road reserve must be completed and reinstated to the specification and satisfaction of the City of Bunbury.

6. Prior to commencing works, a damage bond to the value of $10,000 must be paid to the City of Bunbury in accordance with the City of Bunbury's Local Planning Policy "Bonds".

Water

7. Prior to the commencement of works, a Water, Stormwater and Drainage Management Plan, prepared in accordance with the Department for Water's Stormwater Management Manual must be submitted for the approval of the City of Bunbury. The Stormwater and Drainage Management Plan will determine the drainage infrastructure required to support the development and as a minimum it must address:
   a) proposed development;
   b) storm events to be managed;
   c) onsite-retention for 1:1 year events;
   d) onsite-detention for 1:5 year events;
   e) overland flow path for larger events;
   i) effect of groundwater;
   f) use of water sensitive urban design principles;
   g) water quality;
   h) protection of adjacent / nearby waterways and wetlands; and
   i) information pertaining to all aspects of the proposed developments water requirements from a secure water source.
   j) conclusions / recommendations.

   Before the development is occupied, the recommendations of the approved Stormwater and Drainage Management Plan must be constructed and implemented to the satisfaction of the City of Bunbury.

8. Prior to the submission of a building permit, an application to construct or install an apparatus for the treatment of sewage and the disposal of effluent and liquid wastes must be submitted for the approval of the City of Bunbury's Environmental Health Services, in accordance with the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974.*

Noise

9. Prior to the commencement of works, an updated acoustic report, generally in accordance with the Environmental Noise Assessment Ref: 250810671-01A (dated 8 October 2025), must be submitted to the City of Bunbury for approval. The report must be prepared by a qualified acoustic engineer who is a member of the Australian Acoustical Society and must demonstrate predicted noise emissions from the development against the Environmental Protection Act 1986 and the Environmental Protection (Noise) Regulations 1997. Where non-compliances are identified, the report must specify mitigation measures to achieve compliance. The updated acoustic report must include amendments to:

    a) Address exceedances up to 5 dB identified in Table 5.1 (Scenario 1: Worst Case Operations).
    b) Assess noise emissions for all current noise-sensitive premises, including the potential effects of equipment precision and wear over time.
    c) Consider worst-case scenarios including tonal characteristics, with mitigation measures identified prior to construction.

10. Before the development is occupied, a qualified acoustic engineer shall certify to the satisfaction of the City of Bunbury that all recommendations of the amended Acoustic Report have been implemented. All ongoing operational requirements are to be carried out in accordance with the amended Acoustic Report.

Bushfire Management

11. Prior to the submission of a building permit, a Bushfire Management Plan (BMP) shall be submitted to and approved to the satisfaction of the Department of Fire and Emergency Services (DFES) and the City of Bunbury. The Bushfire Management Plan shall:
    a) Demonstrate compliance with the *CFA Design Guidelines and Model Requirements – Renewable Energy Facilities (Version 4.3, January 2025*), including a comprehensive assessment of the proposal against the guidelines;
    b) Include a detailed bushfire risk assessment specific to the Battery Energy Storage System (BESS), addressing both access and water supply.
    c) Identify and document all mitigation measures, design controls and operational procedures to manage bushfire risk during construction, operation and decommissioning; and
    d) Include a schedule of implementation responsibilities and ongoing management/maintenance requirements.

    The approved Bushfire Management Plan shall thereafter be implemented in full and maintained to the satisfaction of the City.

12. Before the development is occupied, a notification, pursuant to section 70A of the *Transfer of Land Act 1893*, is to be placed on the certificate(s) of title of the lot(s), including any strata or survey strata lot, falling within, or partially within, a 'bushfire prone area' as designated by an Order made by the Fire and Emergency Services Commissioner under section 18P of the *Fire and Emergency Services Act 1998*, advising of the existence of a hazard or other factor. The notification is to state as follows:

    "This land is within a 'bushfire prone area' as designated by an Order made by the Fire and Emergency Services Commissioner under section 18P of the Fire and Emergency Services Act 1998, and may be subject to a Bushfire Management Plan or Bushfire Protection Criteria Assessment."

Construction Management

13. Prior to issuing a building permit, a Construction Management Plan (CMP) shall be submitted for approval to the specifications and satisfaction of by the City of Bunbury

and Public Transport Authority and thereafter implemented in full. The management plan shall include details regarding mitigation measures to address impacts associated with construction works and must address the following issues:

a) public safety and amenity;
b) site plan and security;
c) contact details of essential site personnel, construction period and operating hours;
d) community information, consultation and complaints management plan;
e) construction staging plan;
f) noise, vibration and dust management;
g) pre-work dilapidation reports for City of Bunbury assets;
h) traffic, access and parking management;
i) Traffic Management Plan to be prepared in accordance with the Main Roads WA's Code of Practice;
j) waste management;
k) earthworks, excavation, land retention / piling and associated matters;
l) contamination risks;
m) Rail Safety National law (WA) 2024;
n) storm water and sediment control; and
o) any other matters deemed appropriate by the local government.

Western Power

14. Prior to development or at time of subdivision, arrangements shall be made for the provision of an easement pursuant to Section 167 of the Planning and Development Act 2005 for existing or planned distribution and transmission infrastructure being granted free of cost to Western Power.

Advice Notes

1. This is a development approval only. The applicant/owner is advised that it is their responsibility to ensure that the proposed development complies with all other applicable legislation, local laws and/or license requirements that may relate to the development.

2. It is the applicant's responsibility to ensure all required approvals are obtained prior to the works commencing. Works such as de-watering, native vegetation clearing or working near existing infrastructure may require separate approvals from relevant private or government agencies.

3. The developer / landowner is advised of their obligations to ensure that all sand drift, waste, building materials and equipment is contained within the boundaries of the site during the construction period.

4. The City of Bunbury advises that the development the subject of this development approval must comply with the *Environmental Protection Act 1986* and the *Environmental Protection (Noise) Regulations 1997* in relation to noise emissions.

5. There is a requirement to comply with the Aboriginal Heritage Act 1972 as amended, which protects all Aboriginal heritage sites in Western Australia whether they are known or otherwise.

   This development approval does not remove or affect any statutory responsibility or obligation the developer / landowner may have under the Aboriginal Heritage Act 1972. The developer / landowner is advised to contact the relevant State Government public authority(s) before commencing any site works to ensure that your statutory responsibilities or obligations are met.

Damaging or altering an Aboriginal heritage site constitutes an offence under the Aboriginal Heritage Act 1972 as amended and is punishable by law. Further information can be obtained from the Department of Planning, Lands and Heritage.

6. The clearing of native vegetation in Western Australia requires a Clearing Permit under the Environmental Protection Act 1986 unless the clearing is for an exempt purpose. Proponents are advised to contact the Department of Water and Environmental Regulation for further advice in this regard.

   It should also be noted that the clearing of native vegetation within the City of Bunbury may result in impacts upon threatened species that are protected under the Commonwealth Environment Protection & Biodiversity Conservation Act 1999. Proponents are advised to contact the Department of Agriculture, Water and Environment on (02) 6274 2496 for further advice regarding their obligations under the Act.

7. Disposal of septic effluent may require an amended soil disposal system or an approved alternative treatment unit for the treatment of sewage as approved by the Department of Health.

8. The City of Bunbury advises that the development the subject of this development approval must comply with the *Environmental Protection Act 1986* and the *Environmental Protection (Unauthorised Discharge) Regulations 2004* in relation to discharges into the environment. Further information can be obtained from the City of Bunbury.

9. The applicant is advised to liaise with Western Power to progress network connection and substation arrangements and to make any necessary easement provisions to its specifications and satisfaction.

10. The development should be designed and constructed to protect existing electricity infrastructure and interests, and no development, including drainage, fill, fencing, storage or parking, is permitted within line or cable easements or restriction zones without prior written approval from Western Power.

11. Anyone proposing to carry out construction or excavation works must contact 'Before You Dig Australia' (www.byda.com.au) to determine the location of buried gas infrastructure. The works must also be managed in accordance with the ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 Refer to ATCO document AGA-O&M-PR24- Additional Information for Working Around Gas Infrastructure https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html.

12. DWER advises that a minimum habitable floor level of 0.5 m above the adjacent 1% AEP flood level is recommended to ensure adequate flood protection – noting that the available contour information shows that the general surface elevation of the Lot is between 10 metres AHD and 11 metres AHD.

13. Acid sulfate soils (ASS) risk mapping indicates that the site is located within an area identified as representing a moderate to low risk of ASS occurring within 3 metres of the natural soil surface. Please refer to Department of Water and Environmental Regulation's acid sulfate soil guidelines for information to assist with the management of deep ground disturbing works if required. https://www.der.wa.gov.au/your-environment/acid-sulfatesoils/69-acidsulfatesoils-guidelines

14. Water quality protection notes 56 and 10 apply to the site in relation to fuel, chemical storage near sensitive water resources (Dec 2018) and Contaminant spills – emergency response (May 2020)

15. Any works carried out in proximity to Water Corporation Assets must receive prior approval by applying for an Asset Protection Risk Assessment (APRA).

Details: outline of development application

Region Scheme	Greater Bunbury Region Scheme
Region Scheme - Zone/Reserve	Industrial
Local Planning Scheme	City of Bunbury Local Planning Scheme No. 8
Local Planning Scheme - Zone/Reserve	Lot 16: General Industry Zone
GBRS Zoning/Reserve	Lot 304: Railways Reserve
Structure Plan/Precinct Plan	Picton Industrial Park Southern Precinct – District Structure Plan (October 2018)
Structure Plan/Precinct Plan - Land Use Designation	General Industry/Railways
Use Class and permissibility:	Use Not Listed (Energy Storage Facility)
Lot Size:	Lot 16: 478,685m^2 Lot 304: 51,514m^2 **Total: 530,199m^2**
Existing Land Use:	Vacant Land
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

Development approval is sought for a maximum 400 MWh Battery Energy Storage System (BESS) on the southeast section of Lot 16, Harris Road, Picton. The proposal includes the upgrade and use of the existing railway crossing for access across the existing railway line via Harris Road. The facility will store and dispatch electricity to support grid stability, integrate renewable energy into the South-West Interconnected System, and address supply intermittency.

The development includes 168 lithium-ion battery containers, 42 inverters, HV switch rooms, a control room, storage, internal access roads, parking, perimeter fencing, and transmission infrastructure. Structures will not exceed 6m in height, with setbacks of 40 m from property boundaries and 20 m from a drainage line, minimising visual impact. The design also accommodates potential future expansion of the adjacent substation to the north and seeks to remove eight existing trees.

The BESS will operate 24/7, charging during the day from excess electricity and discharging during peak periods. The facility seeks to enhance the Picton industrial area infrastructure and provide reliable energy for local businesses. Construction is expected to take 12–18 months with 15–20 personnel on-site during this time, and ongoing operations will require 2–4 staff, with a large number of additional personnel for occasional major maintenance periods.

A copy of the planning report and development plans are contained at attachments 2 and 3.

Background:

Context

The subject site is 530,199m² and zoned General Industry (Lot 16) under Local Planning Scheme No.8 (LPS8) and reserved as Railways (Lot 304) under the Greater Bunbury Region Scheme (GBRS). It is also identified within Precinct 2 of the Picton Industrial Park Southern Precinct – District Structure Plan (October 2018) and Special Control Area - Development Area 29 (SCA DA29). Lot 16 is predominantly cleared, historically being used for grazing and Lot 304 is currently a disused railway line operated by Arc Infrastructure.

Lot 16 is landlocked by the Railway reserve to the north, south and west, as well as privately owned land to east within the Shire of Dardanup. The railway corridor (Lot 304), included in the application for access purposes, is also landlocked other than via the proposed access to Harris Road to the south.

The site is located within a designated bushfire prone area, however no habitable buildings associated with the development are proposed within the area (See Attachment 1).

The subject site is generally surrounded by industrial land uses, however the submitted acoustic report (Attachment 7) demonstrates that there are nearby noise sensitive land uses within 180m – 380m from the potential noise sources that must be considered.

Development Application History

The landowner and their consultants have held prior discussions with the City officers about the proposed Battery Energy Storage System development on the subject land.

A pre-lodgement meeting was also arranged with the City of Bunbury planning team, during November 2024. The City was supportive of the development application, however raised comments relating to:

- Site access (including the inclusion of Lot 304 within the application);
- Obtaining comment from Arc Infrastructure and the Public Transport Authority (PTA); and
- Highlighted that further information may be required resulting from service authority referrals and advertising.

The application was for formally lodged on 22 January 2025 at which point a formal RFI was sent to the applicant requesting:

- Updated forms to include Lot 304 as party to the application;
- Vegetation removal plan;
- Sewage disposal information;
- Stormwater Management Plan; and
- Traffic Impact Statement.

The application was formally accepted 23 June 2025 after the applicant submitted the further information including updated forms which included the signature from PTA.

Following receipt of service agency advice and the City's detailed assessment, further information was requested on 14 August 2025 and formally accepted by the applicant on 21 August 2025. The information requested was as follows:

- A Bushfire Assessment addressing DFES comments, including an assessment against the *CFA Design Guidelines and Model Requirements – Renewable Energy*

Facilities v4 (Version 4.3, January 2025) and an associated risk management plan responding to matters of water supply and emergency access; and
- An acoustic report assessing the potential impacts of the proposed facility on nearby noise-sensitive land uses.

This request was resolved on 16 October 2025 following a meeting between the City and the applicant, where it was agreed that the application would proceed to determination with both parties accepting conditions requiring:

- Submission of a Bushfire Management Plan (BMP); and
- Submission of an updated acoustic assessment to the satisfaction of the City of Bunbury (Condition 9).

A difference of opinion remained regarding the scope and clearance of the BMP condition. The City's position was that the BMP should address the CFA guidelines, including the associated risk assessment with particular regard to access, and that both DFES and the City were be nominated as clearance authorities. The applicant's position was that the requirement should be limited to a standard BMP to the satisfaction of the City only.

Legislation and Policy:

Legislation

- Planning and Development Act 2005;
- Planning and Development Act (Development Assessment Panels) Regulations 2011 (DAP Regs);
- Planning and Development (Local Planning Schemes) Regulations 2015 (the Regulations);
- Greater Bunbury Regions Scheme 2014.

State Government Policies and Position Statements

- State Planning Policy 2.9 - Water Resources / Draft State Planning Policy 2.9 Planning for Water (SPP2.9);
- State Planning Policy 3.7 – Bushfire (SPP3.7); and
- Position Statement: Renewable Energy Facilities (December 2022).

Local Policies

- City of Bunbury Local Planning Strategy 2018 (Local Strategy);
- City of Bunbury Local Planning Scheme No. 8 (LPS8 or Scheme);
- Local Planning Policy 1.2 – Special Control Areas (DA29);
- Local Planning Policy 3 – Zone Development Standards (LPP3);
- Local Planning Policy 3.1 – Access and Parking for Pedestrians, Bicycles and Vehicles (LPP3.1); and
- Local Planning Policy No.48 – Landscaping (LPP48).

Structure Plans/Activity Centre Plans

- Picton Industrial Park Southern Precinct – District Structure Plan (October 2018)

Consultation:

Public Consultation

The proposal was advertised in accordance with Clause 64(1)(a) under Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015 (the 'deemed provisions') and Clause 37(1) of the Greater Bunbury Region Scheme.

The following methods of advertising were undertaken, with an advertising period of 28 days:

- letter sent to surrounding landowners and occupiers within approximately 200m;
- public notification signs erected onsite;
- public notice of proposal published in a locally circulated newspaper (4 weeks);
- public notice of proposal posted on the City of Bunbury's website; and
- copies of plans and supporting information made available at the City of Bunbury's customer service centre.

The public advertising of the application commenced on 4 July 2025 and closed on 4 August 2025 with one submission of conditional no objection received. The submission is summarised in the following table and officer comments provided:

Issue Raised	**Officer comments**
Assurance that lighting during construction and operation will not impact on rail operations	The Public Transport Authority (PTA) and ARC Infrastructure were consulted in relation to this objection and agreed in writing that they do not object to the proposal subject to a Construction Management Plan condition, that references the Rail Safety National law (WA) 2024 and is subject to clearance by PTA. This request has been met with Condition 4 and 13.

Referrals/Consultation with Service Agencies

The application was referred to the following agencies for a period of 42 days, concluding on 14 August 2025:

- Environment Protection Authority (EPA)
- Main Roads WA (MRWA)
- Water Corporation (Water Corp)
- Department of Planning Land and Heritage (Development Referrals)
- Department of Planning Land and Heritage (Aboriginal Heritage)
- Department of Planning Land and Heritage (Bushfire)
- Department of Fire and Emergency Services (DFES)
- Public Transport Authority (PTA)
- Department of Water and Environmental Regulation (DWER)
- Department of Biodiversity, Conservation and Attractions (DBCA)
- Western Power
- ATCO Australia - Gas division (ATCO)

The key issues raised within the referral responses are discussed in the "Planning Assessment" section of this report. Comments received and relevant officer comments are provided in Attachment 9.

Design Review Panel Advice

No comment from the Regional Design Review Panel was obtained.

Planning Assessment:

The proposal has been assessed against all the relevant legislative requirements of the State and local planning framework outlined in the Legislation and Policy of this report. The following matters have been identified as key considerations for the determination of this application:

Land Use

The proposed 'Energy Storage Facility' is not defined within the LPS8 and therefore is considered as a 'Use not listed – Energy Storage Facility'. Pursuant to Clause 18(4) of the

LPS8 the Local Government can determine that use is permitted within the zone provided it is consistent with the objectives of the zone. An assessment of the proposal has been taken against the objective of the General Industry Zone and Railways Reserve:

Zone/Reserve purpose:	**Assessment**
General Industry To provide for a broad range of industrial, service and storage activities which, by the nature of their operations, should be isolated from residential and other sensitive land uses. To accommodate industry that would not otherwise comply with the performance standards of light industry. Seek to manage impacts such as noise, dust and odour within the zone. To promote the establishment of industrial development that reinforces but does not compete with the role and functions of strategic industrial areas.	It is considered the proposed use is generally consistent with the purpose of this zone as the nature of the use to this scale is best separated from sensitive uses, particularly in relation to any associated noise impacts from a 24/7 land use. The land use is also strategically located in close proximity to Western Power's existing and future substations which make this an ideal location to assist the State's energy transition as identified in the *State Energy Transformation Strategy (March 2019)*, which is referenced in the Renewable Energy Facilities Position Statement. Additionally, it is considered that the proposed development will not prejudice the future development of the area for other general industry uses or the fulfilment of the goals relating to the sites designation with SCA DA29, as discussed later within this report.
Railways To provide for the passage of trains, the marshalling, maintenance and storage of rolling stock, and the conveying of the public and freight by rail;	It is considered that the proposed use of the land is appropriate provided it does not prejudice the use of the land for its intended purpose. The proposed plans show an intention that the proposed access is going to run perpendicular on the adjoining lot and utilise an existing railway crossing to access Harris Road. The application was referred to PTA and advertised to Arc Infrastructure who have agreed subject to a condition requiring a Construction Management Plan to be submitted which is to the satisfaction of PTA.

<u>Picton Industrial Park Southern Precinct – District Structure Plan</u>

The District Structure Plan – Picton Industrial Park Southern Precinct (District Plan) identifies the subject site as being within the Industrial Deferred area (Precinct 2). Access to this area is identified as being provided via a distributor road connection crossing the railway line to both the east and south (with the southern connection proposed). Refer to the extract below from the District Plan.



The District Plan notes that future subdivision or development, where relevant, should consider fauna habitat surveys, water management, foreshore management plans, provision of infrastructure, and bushfire risk. In this case, a fauna habitat survey and foreshore management plan are not considered necessary, as the site is not identified within the District Plan as containing significant vegetation and is not located adjacent to a waterbody that would warrant a foreshore management requirement.

Accordingly, the proposal is considered to satisfactorily address the remaining relevant matters, including water management, infrastructure provision, and bushfire risk, subject to the recommended conditions. The development is also not expected to prejudice future development within the precinct, noting its location in the south-west corner of Precinct 2 and its utilisation of the access arrangement identified in the District Plan.

Special Control Area – Development Area 29 (DA29)

The subject site is located within Special Control Area – Development Area 29 (SCA - DA29) which requires the implementation of a Local Structure Plan and aspires to:

- integrate the area with the Picton Industrial Park (Southern Precinct);
- accommodate a range of small to larger scale industrial manufacturing, transportation and/or storage land uses; and
- Retains and respects the ecological and landscape values of riparian corridors and water quality of the Ferguson River.

The proposal aligns with these aspirations, as the development is located in the corner of the broader area, allowing for the orderly future subdivision and development of remaining land. The site is not considered to form an ecologically significant portion of the precinct. In addition, the proposed land use will not conflict with the intended future uses within the General Industrial zone. Accordingly, the proposal is supported in the absence of a structure plan, as it will not prejudice the future planning or development of the precinct.

Local Planning Policy – Built Form

The proposal has been assessed against the requirements relating built form and landscaping, contained within Schedule 5 ‘Zone Requirements’ of the LPS8, Local Planning Policy 3.0 Zone Development Requirements (LPP3), Local Planning Policy 48 Landscaping (LPP48) and are compliant except for the following:

Landscaping			
Provision	**Requirement**	**Proposal**	**Assessment**

LPP3, LPP8 & LPP48	A minimum of 5% of the lot/development site area is to be landscaped in accordance with the Scheme and the relevant local planning policy <u>Street Setback landscaping</u> Primary and secondary street front setback areas are to be landscaped for the full frontage of the lot/development site, excluding any pedestrian and vehicular access points or car parking areas, to an average width of 3m, but with a minimum width of not less than 1.5m. <u>Other setback areas</u> Other setback areas not used for access, parking and/or waste management are to be landscaped in accordance with the Scheme and the relevant local planning policy. <u>Car Parking Areas</u> 1 shade tree per 8 car parking bays.	No landscaping is shown other then the land around the proposal which is proposed to be retained.	Compliance with these standards will be problematic, particularly if asset protection zones are required as part of bushfire management strategies. A variation to these standards is considered reasonable as the site has no direct amenity impact to nearby uses and is considerably setback from any public road. Long term, the site will be subject to local structure planning of the area which will seek to provide a level of amenity around the site where possible to do so and provide direct road frontage to the site.

<u>Bushfire</u>

State Planning Policy 3.7 – Bushfire (SPP 3.7) does not formally apply to the proposed development as there are no habitable buildings contained within the bushfire prone area. However, consistent with advice from Department of Planning, Lands and Heritage (DPLH), clauses 67(2)(q) and 67(2)(r) of the Deemed Provisions, consideration should of bushfire hazards and safety in addition to the State Planning Policies should be given. DPLH also noted that where the Department of Fire and Emergency Services (DFES) does not provide specific guidance for the proposed development, guidance from another state may be applied.

DFES has recommended that a comprehensive assessment against the *CFA Design Guidelines and Model Requirements – Renewable Energy Facilities v4 (version 4.3, January 2025)* be completed prior to determination. The use of guidance from another state, such as the CFA Guidelines, is supported by section 7.5 of SPP 3.7, which allows an outcomes-based approach where unique site characteristics exist. DFES specifically raised concerns regarding water supply, and access to the site.

The subject site is unique in that it has only a single access point across a railway crossing and is otherwise landlocked. This constraint is further amplified by the proposed land use, which has the potential to cause a bushfire and requires significantly greater firefighting water volumes compared to a typical development.

While there are no habitable buildings in the bushfire-prone area, the City acknowledges the bushfire risk due to the site's single access point and the BAL report (Attachment 8) identifying it as Flame Zone (BAL-FZ), indicating extreme exposure. This means there is fire risk both to the BESS site and from the BESS site, posing hazards to workers and emergency responders.

In this context, the City considers the DFES request to apply the CFA Design Guidelines, including a risk assessment focusing on water supply and site access, to be appropriate. Section 7.5(ii)(e) of SPP 3.7 specifically allows the use of alternative publications to assess bushfire risk where unique circumstances exist. Accordingly, the use of the CFA Guidelines in this instance is consistent with SPP 3.7 and will address the Bushfire Risk considerations of the Deemed Provisions.

Consequently, Condition 11 has been included to require the submission of a Bushfire Management Plan (BMP), including an assessment of the CFA guidelines, access and water supply, to the satisfaction of DFES and the City prior to construction.

Access

The proposed development includes two vehicle access points from the core BESS area, merging into a single accessway that runs parallel to the railway corridor before crossing the line (see attachments 3 and 5). PTA and ARC Infrastructure have supported this access, subject to a construction management plan as outlined earlier in the report.

The access has been reviewed by the City's Development Engineer who raised has no objection to the proposed access subject to detailed design plans being implemented. It is noted that this condition also requires the approval from ARC infrastructure and PTA as the final detail will be important in relation to its impact on rail infrastructure. Subject to this condition being included in the recommendation the application in relation to access can be supported.

Stormwater

The applicant provided a technical note from Oversby Consulting (Attachment 4) which outlines the stormwater strategy for the proposed development. The City's Development Engineer and DWER reviewed the strategy and accepted it in principle, however noted that further detailed plans will be required to ensure that stormwater and flooding is addressed adequately. Conditions 7 have been included in the recommendation requiring this to occur.

Subject to these plans being supported and approved by the City prior to the construction of the development the proposed development from a water management perspective is supported.

Vegetation Removal

The Picton Industrial Park Southern Precinct – District Structure Plan (October 2018) indicates that subject site has a historical use of the land for grazing and cropping activities and has been mostly cleared. The District Plan also indicates areas where there should be planned environmental restoration, conservation and enhancement within the precinct, see Attachment 8. It noted the District Plan does not indicate the protection of environmental assets at the subject site. The development within the proposed location is therefore not considered to impact the environmental values as identified in the Picton District Structure Plan.

In relation the removal of vegetation removal, referral advice was sought from DBCA and DWER who raised no objection to the removal of the vegetation subject to appropriate fauna dispersal measures being undertaken in accordance with the *Biodiversity Conservation Act 2016* (BC Act). DWER also noted that the approval of the development application would exempt the trees from requiring a clearing permit.

The City's Environment team supported this advice but queried whether the development could be modified to retain some trees. This recommendation was not adopted, as the District Plan does not identify the vegetation in this location as environmentally significant.

Based on the above, the proposed tree removal is considered reasonable, subject to compliance with the recommended conditions.

Noise Impact

Noise is a key consideration given the facility's 24/7 operation and close proximity to existing noise sensitive premises as identified in the submitted acoustic report (Attachment 7). The report was assessed by the City's health officers who highlighted the following issues with the report:

- Table 5.1: Scenario 1 Worst Case Operations: Daytime/Evening Assessment, dB LA10 – shows exceedances up to 5DB however also states that it complies.
- The assessment does not take into account precision and wear of equipment over time which may result in higher noise emissions
- The report states that '*If these Lot's* (the noise sensitive receiver lots) *actually contained Industrial premises, then compliance is achieved at the Lot boundaries at all times.'* The sensitive receivers are not industrial premises and therefore must be considered.
- The report states '*Given the distances between the BESS and NSR's, there is a reasonable possibility that tonality may not be evident and may not be applicable as a noise characteristic penalty. This could however be assessed post construction, with a noise mitigation plan to be implemented.'* An acoustic report should address these issues before they become a problem this requirement must be done prior to construction.

Despite these concerns, it is considered that an appropriate design solution can be achieved through an amended acoustic report submitted to, and approved by, the City prior to construction. Accordingly, a condition has been imposed requiring an updated acoustic report to address the matters outlined above.

Position Statement Renewable Energy Facility

This position statement applies to the redevelopment of existing, as well as new renewable energy facilities, however a Battery Energy Storage Facility does not fully meet the definition of a renewable energy facility. The definition for renewable energy facility within this statement states that a renewable energy facility is a premise used to generate energy from a renewable energy source. The proposed BESS however only stores electricity based on the energy market and is therefore its own use.

Notwithstanding this, it is considered that the objectives and measures sought by the statement, including environmental impacts, noise impacts and visual impacts, would apply to the proposal. It is considered that the assessment above covers the matters referred to in the statement and is therefore supported having due regard to the statement.

Conclusion

The proposed Battery Energy Storage System (BESS) at Lot 16 Harris Road and Lot 304 Picton has been assessed against the provisions of the Greater Bunbury Region Scheme, the City of Bunbury Local Planning Scheme No. 8, applicable structure planning frameworks, and relevant State and local planning policies. The use, while not defined under

the Scheme, is considered consistent with the objectives of the General Industry Zone and compatible with the Railways Reserve, subject to appropriate conditions of approval.

The development will complement the strategic role of the Picton Industrial Precinct, leverage proximity to existing Western Power infrastructure, and provide a critical facility supporting the State's transition to renewable energy and grid stability. The proposal has been publicly advertised and referred to relevant agencies, with no objections received that would preclude approval. Matters requiring further resolution, including bushfire management, acoustic compliance, water and stormwater design, and detailed access arrangements with Arc Infrastructure and the Public Transport Authority, can be satisfactorily managed through conditions of approval.

On this basis, it is considered that the proposal is consistent with the intent of the planning framework, will not prejudice the future development of surrounding Industrial Deferred land, and will deliver significant broader community benefits.

It is therefore recommended that the Development Assessment Panel resolves to grant development approval for the proposed Battery Energy Storage System at Lot 16 Harris Road and Lot 304 Picton, subject to the conditions and advice notes set out in the officer's recommendation.



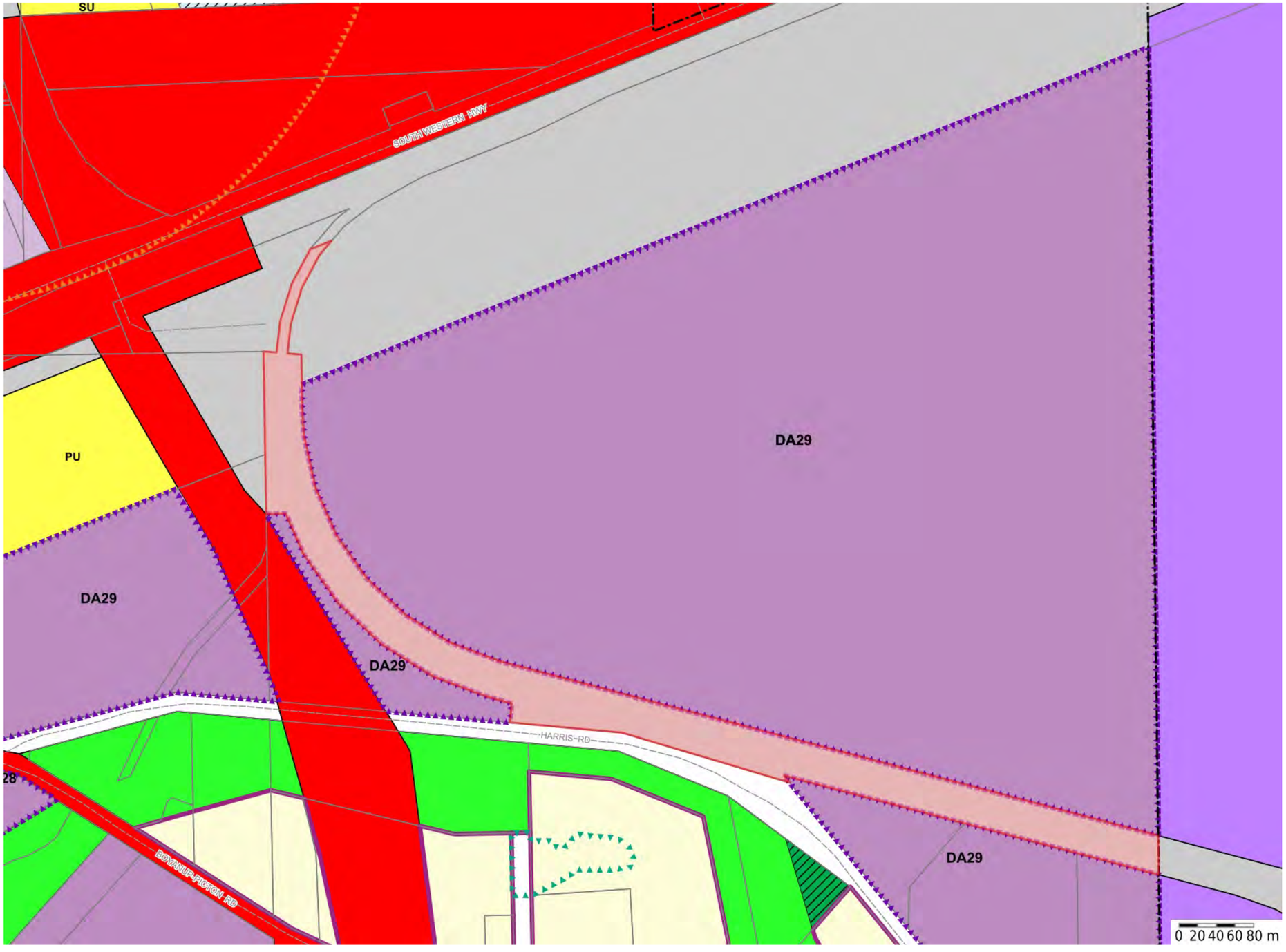
PIN	12071474
Lot Types	FHOLD
Area Sqm	478685
Diagram/Strata Plan#	P400561 16
Lot	16
Lodged Cadastre	No
Aboriginal Heritage Places	Yes
Local Dev Plan	No
Design Guidelines & DAPs PDF Link	No
Structure Plan	DSP PICTON INDUSTRIAL PARK - SOUTH
Acid Sulphate Soil	Moderate to low risk
Contaminated Site Class-073	Awaiting Classification
LPS8 Special Zone	BUNBURY
Public Purposes	
LPS8 Description	General industry
LPS8 RCodes	No
Additional Use	
Restricted Use	
GBRS Zone	Industrial
GBRS Special Area	No
GBRS Applications	No
Bush Fire Zone 2025	Yes
Geological Description	GUILDFORD FORMATION: mainly alluvial sandy clay
Geomorphic Wetland Classification	Palusplain
DOW Flood Zone	No
FMB Flood Zone	No
1% AEP Storm Event	No
Enviro Sensitive Area	No
1% AEP Storm Event	No

Property

Parcel Number	69471
Assessment Number	52175
Valuation Number	1891567
StreetView	Open StreetView
Address	Harris RD
Locality	PICTON 6229
Title	LOT: 16 DP: 400561
Volume	2850
Folio	776

Owner

Owner Name	John Windsor Cranston
Address	PO Box 1311
Locality	SUBIACO WA 6904



General

PIN	11855054
Lot Types	FHOLD
Area Sqm	51514
Diagram/Strata Plan#	P049062 304
Lot	304
R Code	No
Restricted Use	No
Additional use	No
Public Purpose Zone	No
Special Zone	No
Zone or Reserve	No
GBRS Zone	Railways
GBRS Special Area	No
GBRS Applications	No

Easement Prior 2010 **No**

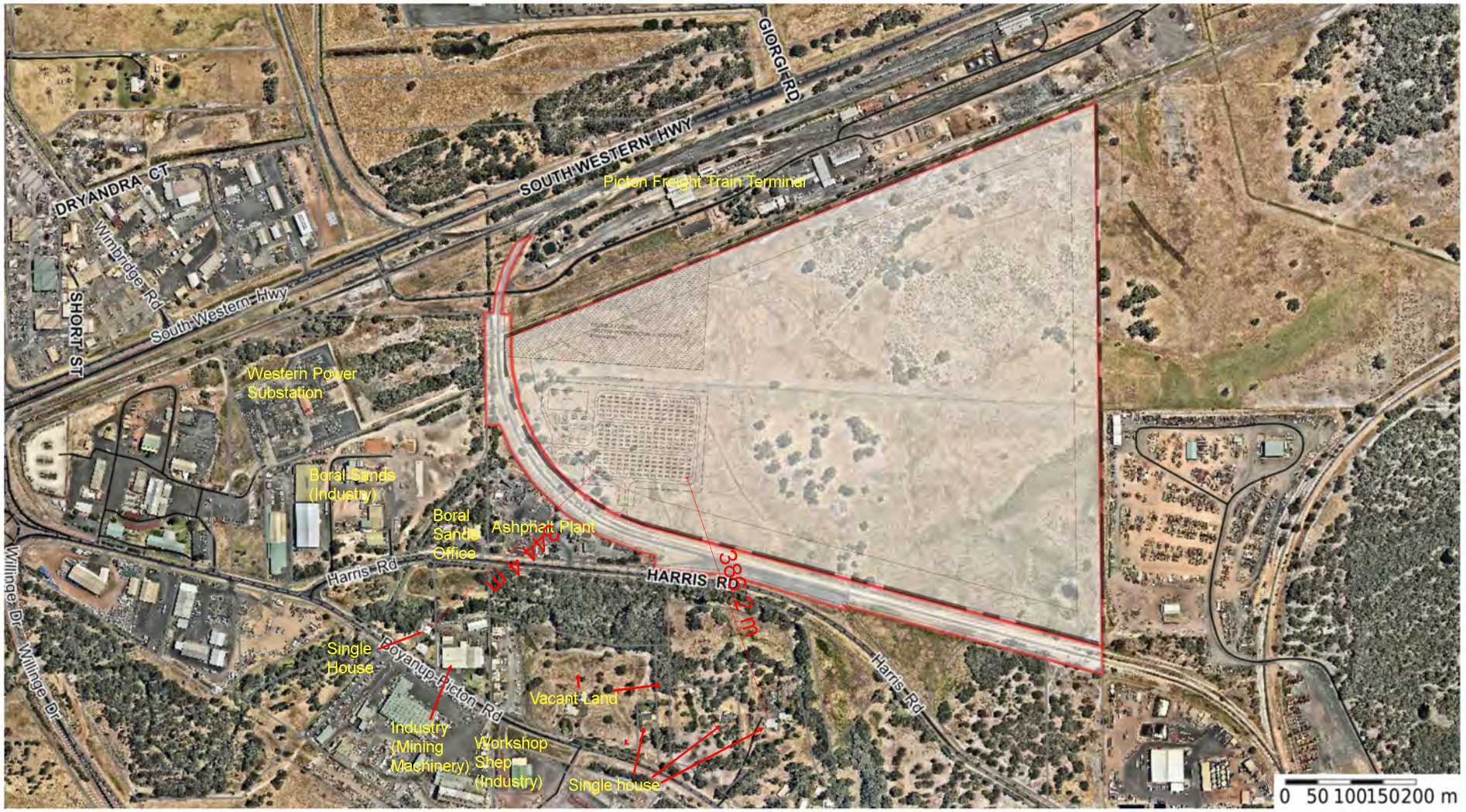
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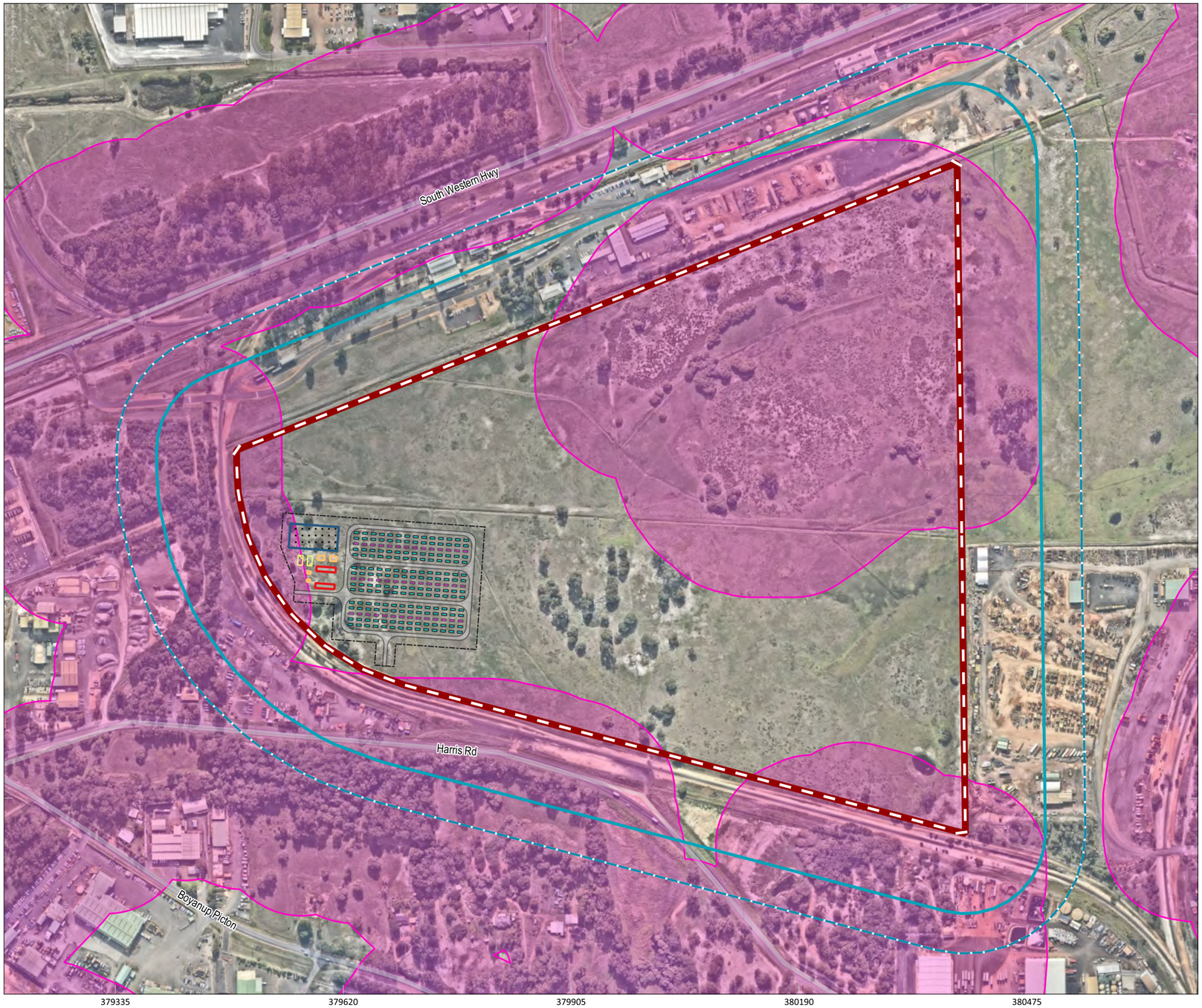
CITY OF BUNBURY

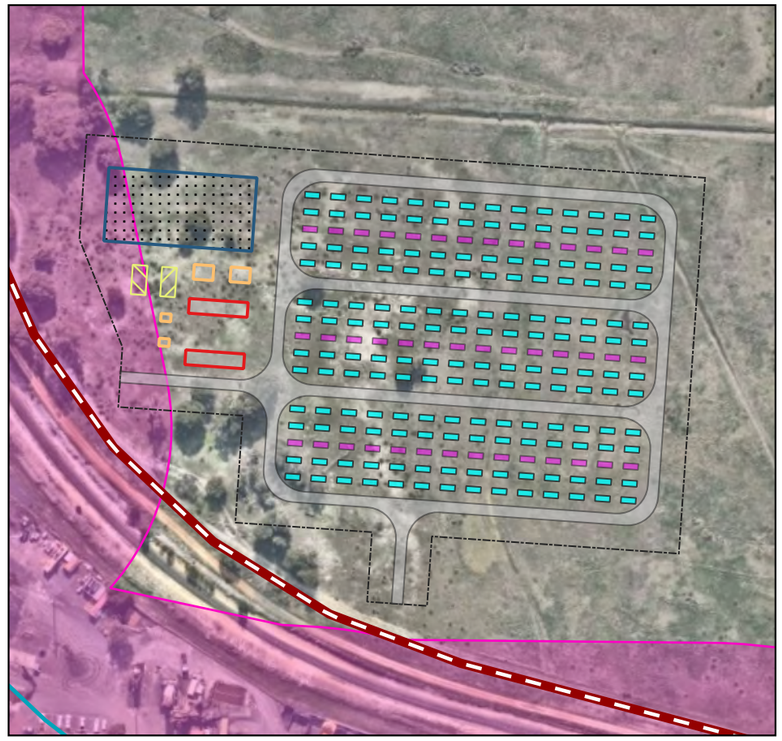
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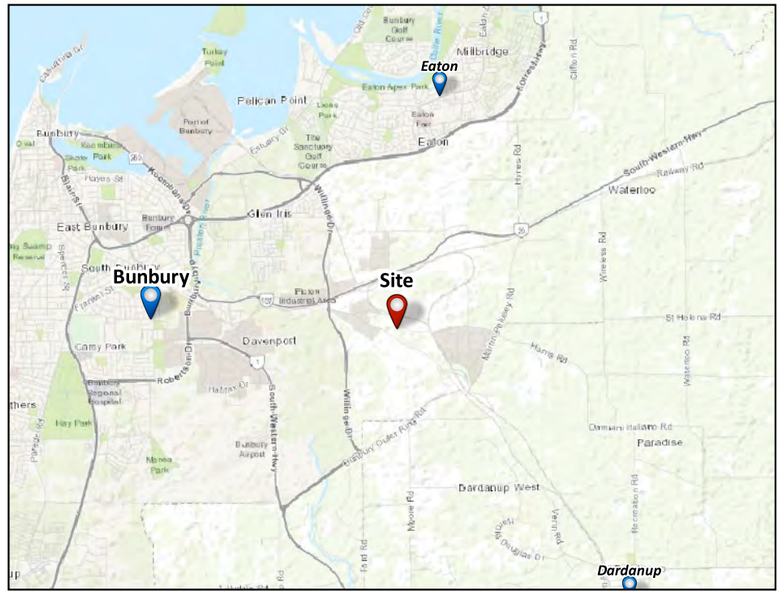


Figure 1: Site Overview

N

0 50 100 150 200 250 300 m

SCALE: 1:5,700	SHEET SIZE: A3 COLOUR	
COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 50	PROJECT NUMBER: A25.283	VERSION: 0
DATA SOURCE: Nearmap (9th June 2025)	DRAWN BY / REVIEWED BY: SM/DW	DATE: 17/9/2025

PROJECT/REPORT NAME
Bushfire Attack Level (BAL) Assessment Report
Lot 16 Harris Road, Picton

CLIENT
Kingslane Pty Ltd

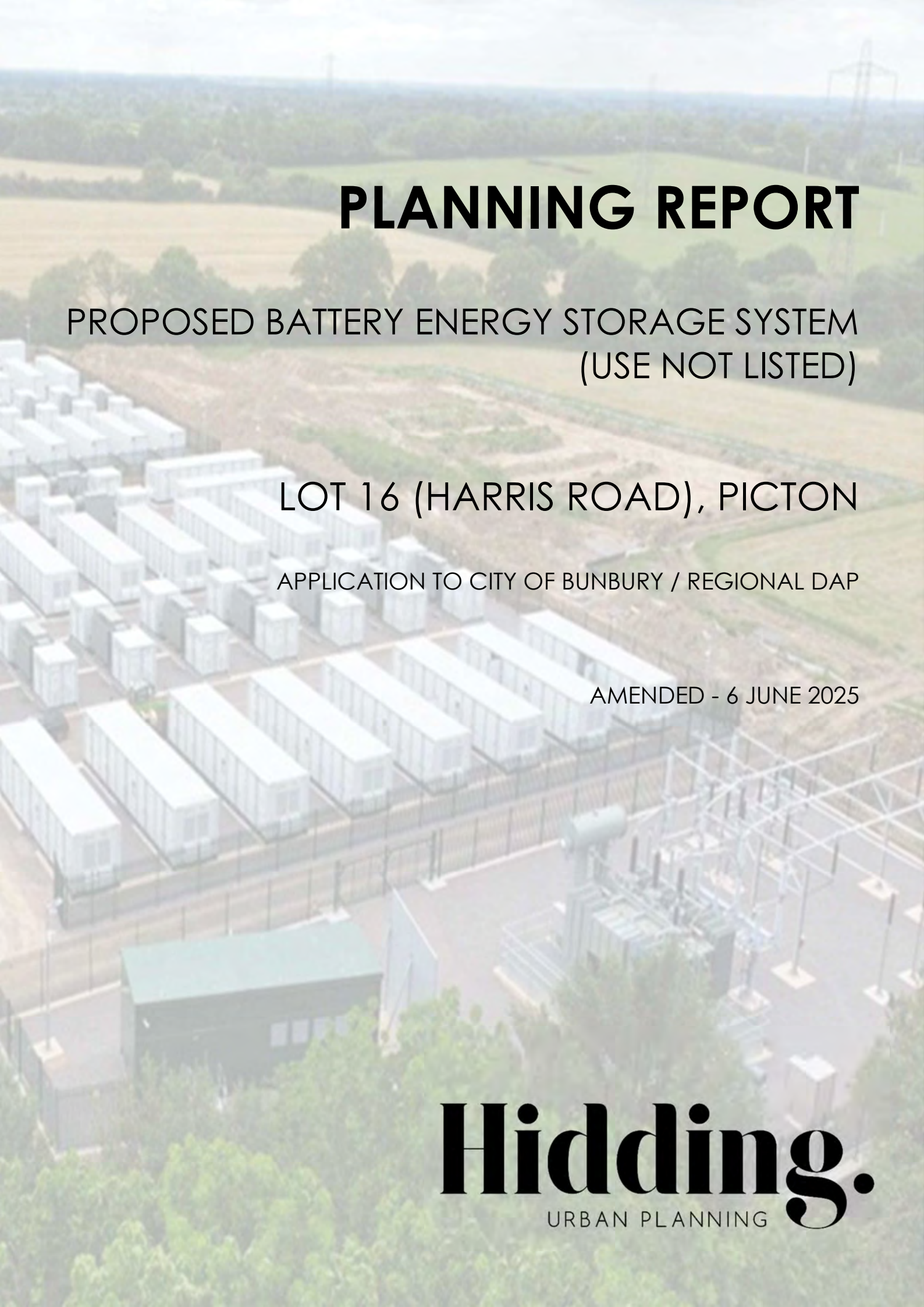
Legend

- Subject Site
- Buffer 100m
- Buffer 150m
- Bush Fire Prone Area Planning (OBRM-023)
- Bushfire Prone Area 2
- Fence Line
- Battery
- MVPS
- Control Room
- Storage
- Switchroom
- Transformer
- Transmission Line Arrangement
- Access Road

WESTERN ENVIRONMENTAL
Western Environmental Pty Ltd
08 6244 2310 | enquiries@westenv.com.au
Level 3/25 Prowse St, West Perth WA 6005
westenv.com.au

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PLANNING REPORT

PROPOSED BATTERY ENERGY STORAGE SYSTEM (USE NOT LISTED)

LOT 16 (HARRIS ROAD), PICTON

APPLICATION TO CITY OF BUNBURY / REGIONAL DAP

AMENDED - 6 JUNE 2025

Hidding.
URBAN PLANNING

This Planning Report has been prepared by **Hidding Urban Planning** in support of an Application for a Proposed Battery Energy Storage System (Use Not Listed) at Lot 16 (Harris Road), Picton.

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Hidding.
URBAN PLANNING

nik@hidding.com.au
0424 651 513
www.hidding.com.au
PO Box 920 Subiaco WA 6904

DOCUMENT HISTORY & DETAILS

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Document Revision: R02

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ANNEXURES:

Annexure 1: Certificate of Title

Annexure 2: Development Plans (SpringCity)

APPLICATION DETAILS

Table 1: Application Details

Property Location	Lot 16 (Harris Road), Picton
Applicant	Hidding Urban Planning
Landowner	John Windsor Cranston
Local Government	City of Bunbury
Determining Authority	Regional Development Assessment Panel (RDAP)
Local Planning Scheme	City of Bunbury Local Planning Scheme No. 8
City of Bunbury LPS8 Zoning	General Industry
Metropolitan Region Scheme	Industrial
Proposed Use	Battery Energy Storage System (Use Not Listed)
Estimated Construction Value	$100 million

1.0 INTRODUCTION

Hidding Urban Planning has prepared this Planning Report on behalf of John W. Cranston to support an Application for Development Approval for a Proposed Battery Energy Storage System (**BESS**) at Lot 16 (Harris Road), Picton (**Subject Land**), located within the City of Bunbury.

This report provides a detailed Town Planning assessment of the proposed development against the relevant State and local Planning framework. The information contained in this report confirms that the proposed BESS is appropriate for the site and is capable of approval.

Developing a battery facility at a utility scale in this locality is aimed to support greater energy security and environmental sustainability.

1.1 DEVELOPMENT ASSESSMENT PANEL (DAP) DETERMINATION

This Application is being lodged as an Opt-in Development Assessment Panel (**DAP**) application for determination by the Regional Development Assessment Panel.

Accordingly, please find ***attached*** the completed City of Bunbury Application for Development Approval Form, Greater Bunbury Region Scheme (GBRS) Form 1 and DAP Form 1, authorised by the landowner.

1.2 PRE-APPLICATION DISCUSSIONS

The landowner and its consultants have held prior discussions with the City of Bunbury administration and executive staff about the proposed Battery Energy Storage System development on the subject land.

A pre-lodgement meeting was also arranged with the City of Bunbury planning team, convened during November 2024.

Discussions have also occurred with Arc Infrastructure, operator of the adjacent rail line in respect of securing consent for rail line crossings. These discussions are continuing and the resulting outcome can be resolved through a formal referral. Discussions with the Public Transport Authority (PTA) have also occurred, and PTA has consented to application forms for the purpose of crossing the rail line.

2.0 SITE DETAILS

2.1 LEGAL DESCRIPTION OF LAND

This Development Application is made in respect of Lot 16 (Harris Road), Picton, the details of which are provided in **Table 2** below.

Table 2: Legal Description of Land

Lot	Plan	Vol/Folio	Address	Registered Proprietor
16	400561	2850/776	(Harris Road), Picton (no street address provided on Title)	John Windsor Cranston

The Certificate of Title of the land is attached at **Annexure 1**.

2.2 SITE DETAILS

The subject land is located within industrial area of Picton and is located approximately 7km south-east of the Bunbury City Centre in the South-West of Western Australia. The subject land sits to the immediate south of the Arc Infrastructure Picton freight rail complex.

The subject land is 48.9694ha in area and has been used for grazing for many years, and as a result, the land is predominantly cleared of vegetation. The land is currently used for grazing and cropping activities.

The location of the site is shown on the Aerial Photograph at **Figure 1** below.



Figure 1: Aerial Photograph

The subject land is located immediately to the east of the Western Power Picton Substation and Terminal Switch Yard.

The Picton industrial area is already well-linked to the rest of Greater Bunbury, including the port, central business district and residential areas. This access will improve further upon construction of the Bunbury Outer Ring Road which is being developed to the east of the subject land.

The subject land in the context of the Greater Bunbury area is highlighted below in **Figure 2**.

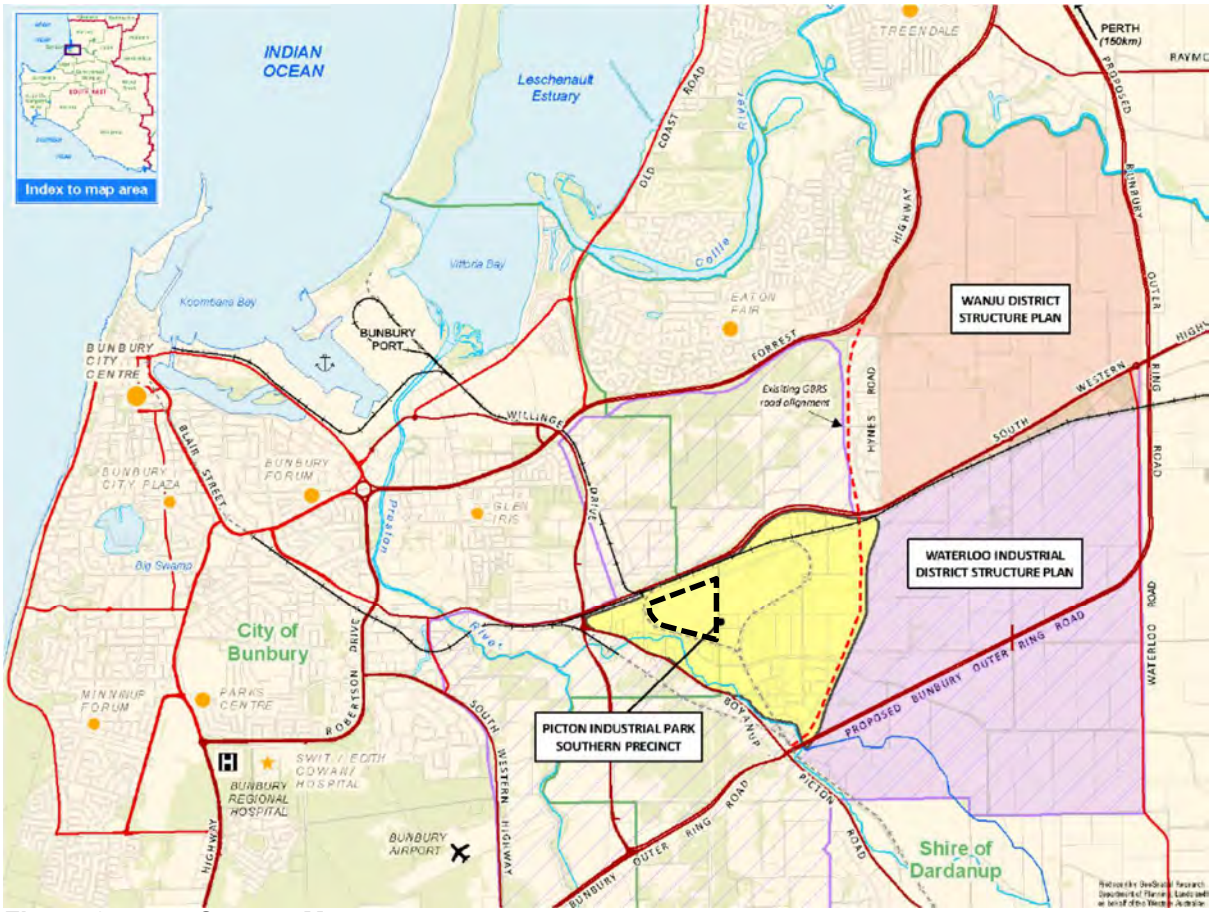


Figure 2: Context Map

3.0 PROPOSED DEVELOPMENT

3.1 PROJECT DETAILS

The proposed Battery Energy Storage System (BESS) development is detailed on plans attached at **Annexure 2** and shows the layout of the proposed facility and associated infrastructure, accessways and fencing. The proposed BESS is entirely located within Lot 16.

A Battery Energy Storage System (BESS) is a technology that stores electrical energy in the form of chemical energy within batteries. The stored energy can be later converted back to electricity when needed. BESS plays a crucial role in modern power systems by helping to balance the supply and demand of electricity, improving grid stability, and integrating renewable energy sources.

The proposal for the subject land is to develop a 100MW/400MWh Battery Energy Storage System connected to Western Australia's main electricity network, the South-West Interconnected System (SWIS), which serves most of the State's population. There is considerable potential for this project to address intermittencies in energy supply due to the ability for battery facilities to respond quickly to fluctuations in the grid and, in particular, to support intermittent wind and solar generation.

Large battery proposals such as this are necessary to support network operations and the transition to renewable energy.

The development site is strategically positioned adjacent to the Western Power Picton Substation and Terminal Switch Yard which provides for efficient connection to the network.

The proposed BESS development will comprise the following key components:

- 42 x 3.2MVA battery inverters
- 168 x 3MWh lithium-ion battery containers
- HV Switchrooms
- Control Room
- Storage Room
- Internal access roads
- Designated vehicle parking area
- Site perimeter fencing and gates
- Transmission lines

The proposed development will consist of 42 x 3.2MVA battery inverters and 168 x 3MWh lithium-ion battery containers connected to the SWIS via a HV sub-station located on the site. Access roads will be constructed between the battery containers and inverters, as well as space for vehicle parking and services. There will be a control room, storage room and switchrooms on the western side of the development area.

Specification sheets for the proposed battery storage systems and MVPS have previously been provided to the City, providing information on size, specification and elevation/design, as follows:

- BESS units each 6.058m (L) x 2.438m (W) x 2.896m (H)
- MVPS units each 6.058m (L) x 2.438m (W) x 2.896m (H)

The exact design of the control room, storage room and switchrooms are not yet fully known, however in general terms, these infrastructure components:

- Will not exceed two storey (or 6.00m) in height;
- Are unlikely to be visible from publicly accessible areas (i.e. Harris Road) due to distance away.

Therefore, these structures will not cause any amenity impacts. Further details will be available after Western Power confirms infrastructure requirements, however, these details cannot be confirmed until Western Power processes have been completed (post-development approval). The City is able to impose a condition limiting the size/height of structures and for further detail to be provided to the City prior to building permit stage, to the City's satisfaction. This provides the City with adequate control on size/height of development during the period of time that the exact infrastructure requirements are not fully known.

The BESS specifications are set out below:

BESS SYSTEM SPECIFICATIONS			
COMPONENT	**PARAMETER**	**VALUE**	**UNIT**
MVPS	MODEL	MVPS 4400-S2	_
	INVERTER MODEL	SCS 3800 UP	_
	MAXIMUM INPUT DC VOLTAGE	1,500	VDC
	NOMINAL AC VOLTAGE	10,000 - 35,000	VAC
	INVERTER CAPACITY (@ 40°C)	3,230	kVA
	QUANTITY	42	UNITS
	TOTAL CAPACITY (@ 40°C)	135,660	kVA
	QTY OF BESS CONTAINERS (PER MVPS)	4	UNITS
BESS	MODEL	TRINASTORAGE ELEMENTA 2 (8 RACKS)	_
	RATED CAPACITY	3,258	kWh
	MAXIMUM DC VOLTAGE	1,500	VDC
	CELL CAPACITY	306	Ah
	AMBIENT OPERATING TEMP.	-30 TO +50	°C
	QUANTITY	168	UNITS
	TOTAL CAPACITY	547,344	kWh

A perimeter fence-line around the development with gates at access locations is also proposed, as shown on the plans (2.4m link mesh).

The proposed development envelope will be approximately 3.50ha in area and is predominantly cleared and ready for development.

The proposed development has been set back 40m from the property boundaries and 20m from the centre line of the Water Corporation Drain which extends through the centre of the property in an east-west alignment.

The subject land is adjacent to the Western Power substation and terminal switch yard which exists to the west of the site, meaning that the site is well positioned for the BESS proposal, allowing direct connection and maximising efficiency.

The proposed development allows for the possible future expansion of the Western Power Picton Substation, which may extend into the area north of the proposed BESS.

3.2 OPERATION

The BESS will operate 24/7 and will typically charge during the day, absorbing excess electricity produced, storing the energy, and then discharging into the network during periods of peak demand, typically in the evenings when solar generation decreases and people return home from work and during peak summer months. This operation benefits the Western Power grid by helping balance supply and demand and assisting with grid stability and security.

The proposed facility offers numerous benefits to the Picton Industrial area. It will provide enhanced infrastructure support, which is essential for the growth and efficiency of local businesses. The proximity to the Western Power Substation and Terminal Switch yard will ensure reliable and robust energy supply, reducing potential downtime and increasing productivity.

Site access will be via the existing informal access road from Harris Road which crosses a rail line, located on the southern side of the site (refer **Photograph 1**). Discussions with Arc Infrastructure about the required crossings are continuing and can be resolved through a condition of development approval.

A preliminary crossover design has been considered and has been provided to the City separately.

Construction will commence once all approvals have been secured and following completion of any pre-construction conditions. It is anticipated that construction will take between 12-18 months. During this period there will be up to 15-20 personnel on site.

Local operational staff is expected to be 2-4 personnel at most during standard business hours Monday to Friday. Operational staff would undertake monitoring, cleaning and general maintenance of the infrastructure. Periodically, major maintenance that might be required may include replacement of infrastructure or equipment including battery modules, inverters,

switchgears, transformers or other infrastructure as may be required. During these major maintenance periods, a larger number of personnel will be required to attend the site, but for a limited period of time.



Photograph 1: Looking north (from Harris Road) to the existing site access (crossing rail line)

3.3 ASSESSMENT OF RELEVANT IMPACTS

3.3.1 Environmental

The historical use of the land for grazing and cropping activities for many years means that there is limited environmental value attributed to the site.

Given that the proposed BESS and associated infrastructure will be located in existing predominantly cleared, Industrial zoned land and no major vegetation clearing is proposed, it is considered that there is no environmental impact. The Picton Industrial Park Southern Precinct District Structure Plan assessed environmental assets for the wider industrial area and indicated no environmental assets on the subject land.

A Tree Removal Plan has been previously provided to the City indicating a need for only 8 trees to be removed.

The site is appropriately zoned (General Industry) for the proposed development.

3.3.2 Visual Amenity

The visual impact of the proposed development is not considered to be adverse or detrimental to the surrounding area given the location and setbacks of the development and because the proposed height of the battery storage infrastructure and other buildings mean that this development will maintain a relatively low profile.

3.3.3 Noise

Possible noise impacts from the development are mainly limited to noise from the battery modules, inverters and transformers and the construction phases of the overall development.

The inverters are the plant items that have the potential to generate noise during operation. The cooling fans within the inverters and the air conditioning units on the Battery Energy Storage Systems are the controlling noise emission components. The most stringent assigned noise level is the nighttime period. As the nighttime period is when temperatures are expected to be the lowest, the cooling fans are unlikely to cause a major noise issue.

In any event, the proponent must comply with the requirements of the *Environmental Protection Act 1986* and the *Environmental Protection (Noise) Regulations 1997* in regard to noise for both the construction and operational phases of the proposed facility, and this can be imposed as a condition of development approval.

3.3.4 Traffic & Access

As there is very little in the way of operational traffic for the proposed development, a Transport Impact Statement (TIS) is not required to be submitted to the local government under the *WAPC Transport Impact Assessment Guidelines Vol. 4 0 – Individual Developments.*

However, a Technical Note has been prepared by PTG Consulting and has been previously provided to the City.

As advised previously, access will be derived from the existing crossover (to be formalised) and site access road from Harris Road over the unused rail line. A preliminary crossover concept has been prepared and provided to the City.

Access during construction can be the subject of a traffic management plan, if required.

3.3.5 Stormwater

A Water Management Technical Note has been prepared by Oversby Consulting and has been previously provided to the City.

Oversby Consulting has chosen a perimeter swale option to deal with the stormwater. This means that the site can sheet water off in any direction and generally fits within the fence footprint.

The 1% AEP basin has been placed so there is a reason for excavating the sand in this location.

We understand that the application will be referred to DWER for comment.

3.3.6 Construction

The development is likely to be constructed over a period of 12-18 months. During construction, additional vehicles, construction equipment and construction personnel will be on-site. All access

for the construction phases of the project will occur through the existing site access from Harris Road. Internal access roads will be constructed to the development envelope.

Construction work will be carried out between 0700 hours and 1900 hours Monday to Saturday.

During construction there may be 10-20 vehicles per week visiting the site. The peak construction period is anticipated to require up to 20 personnel, with a likely average of 5 people throughout the construction phase.

A construction laydown area will be developed adjacent to the development envelope to store construction equipment, portable amenities and car parking areas.

The main impact during construction will be air quality through the generation of dust. Mitigation measures are likely to be necessary and could include the watering down of construction areas during earthworks and monitoring forecast wind levels. A Dust Management Plan can be required as a condition of development approval, or otherwise, it can be a component of an overall Construction Management Plan.

4.0 STATE PLANNING FRAMEWORK

4.1 STATE PLANNING STRATEGY 2050

The *State Planning Strategy 2050* (**SPS 2050**) provides the overarching context, principles, goals and strategic direction for land use planning in WA. The uptake of renewable energy generation and technology is an important component of the Strategy and is specifically discussed under strategic goals for global competitiveness, and strategic directions for physical infrastructure and environment.

The SPS 2050 makes specific reference to the need to improve the State's electricity network infrastructure to manage the increased generation and use of renewable energy.

The proposed BESS Project is consistent with and supports the implementation of the goals and strategic directions of the SPS 2050.

4.2 GREATER BUNBURY REGION SCHEME

The subject land is zoned "Industrial" in the Greater Bunbury Region Scheme and is appropriately zoned for the type of development/use proposed (refer **Figure 3**). The land abuts a "Railways" Reserve located to the north, south and west of the site.

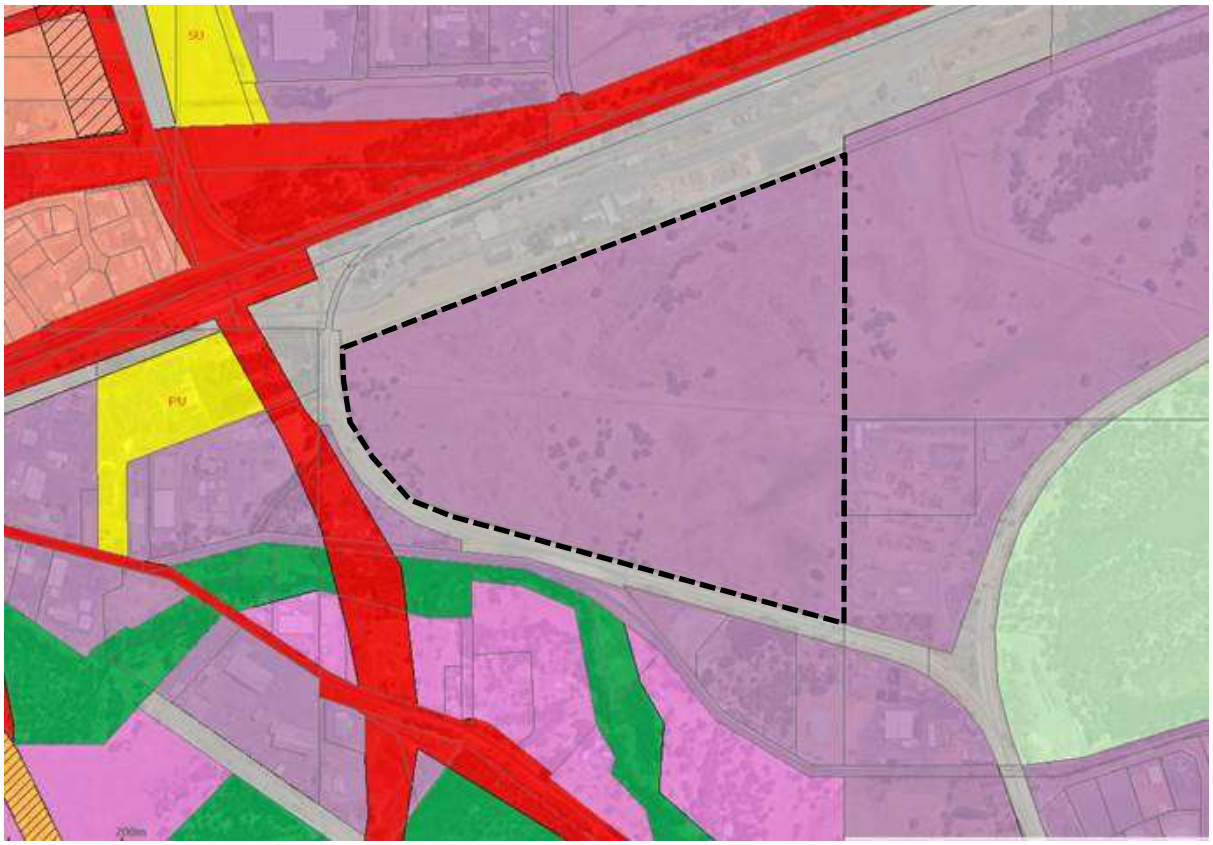


Figure 3: GBRS Zoning Map

4.3 STATE PLANNING POLICY 3.7 - PLANNING IN BUSHFIRE PRONE AREAS

The subject land is partially within a Bushfire Prone Area (refer **Figure 4**), however the proposed development itself has been sited completely outside of the mapped bushfire prone area (development area outlined in orange below).

Accordingly, no bushfire investigations are required to be submitted.

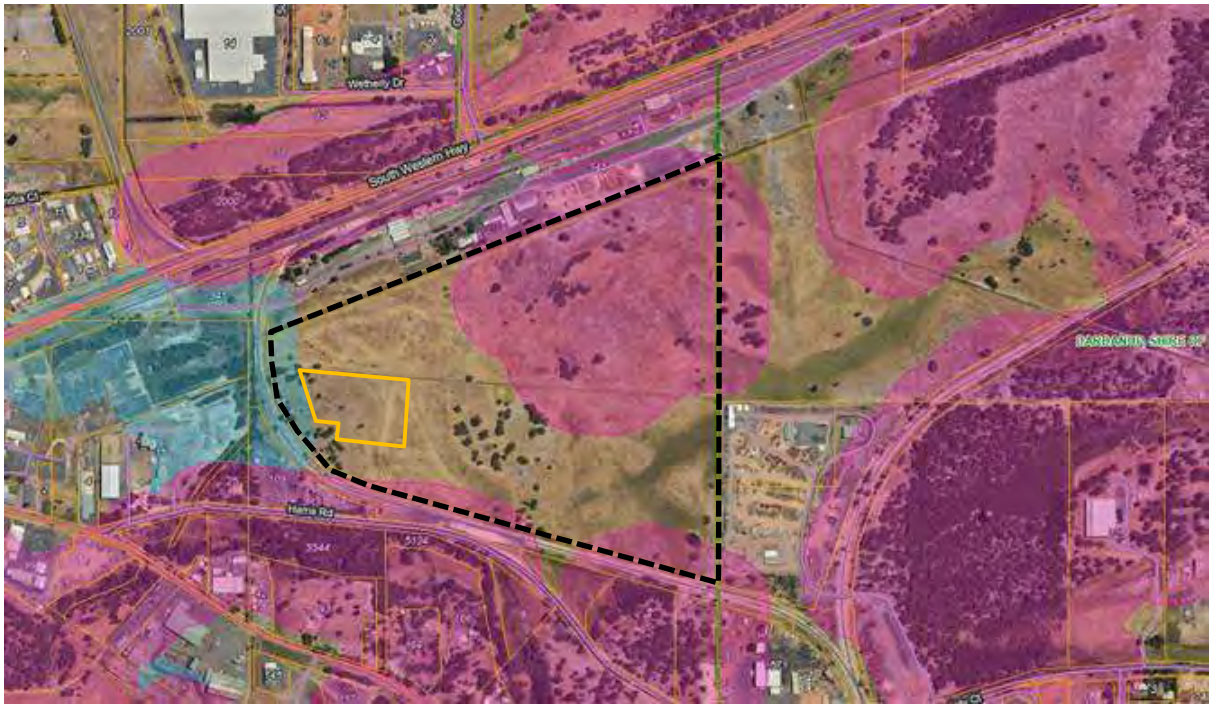


Figure 4: Bushfire Prone Area Map

4.4 POSITION STATEMENT: RENEWABLE ENERGY FACILITIES (WAPC, 2020)

The WAPC *Position Statement: Renewable Energy Facilities (March 2020)* (**Position Statement**) provides guidance to local governments on introducing renewable energy facilities into their local planning frameworks.

The Position Statement aims to support appropriate development of renewable energy facilities and associated infrastructure by encouraging the consideration and assessment of such development using a standardised framework including:

- The Position Statement describes that relevant provisions should be made in state and local planning instruments (local planning schemes, policies and strategies) to guide decision making regarding renewable energy facility proposals.
- The Position Statement lists the factors that should be considered during the assessment of such proposals, including community consultation, environmental impact, visual amenity, safety, heritage and construction impacts.
- The Position Statement seeks to maximise energy production and operational efficiency, and minimise potential impacts to environment, natural landscape and urban areas.

In response to the Position Statement, the land has selected based on its industrial zoning, location in proximity to the Western Power Picton Substation, and because the land is predominantly cleared.

Further, the project has been designed on a site where there will be minimal visual impact to the public realm due to the location of the development site. The site has also been selected to be located nearby to existing electrical infrastructure to maximise operational efficiency.

The City of Bunbury's Local Planning Scheme No. 8 has not yet been updated to include a Renewable Energy Facility land use, but it is considered this will be included in the subsequent scheme. Accordingly, the subject proposal will be assessed as a 'Use Not Listed'.

5.0 LOCAL PLANNING FRAMEWORK

5.1 CITY OF BUNBURY LOCAL PLANNING SCHEME NO. 8

5.1.1 Zoning & Land Use

The site is zoned "General Industry" in the City of Bunbury Local Planning Scheme No. 8 (LPS8) and this zone is entirely appropriate for the proposed BESS (refer **Figure 5**). The site is also within the Picton Industrial Park Southern Precinct District Structure Plan.

A review of the City's LPS8 indicates that the application should be treated as a Use Not Listed, as the proposed use does not fit neatly into any prescribed land use terms in LPS8. Other BESS proposals have been considered in the same way or have been classified under a "Renewable Energy Facility" land use, however this land use term is not yet found in the City's LPS8. Accordingly, the proposal should be treated as a Use Not Listed.

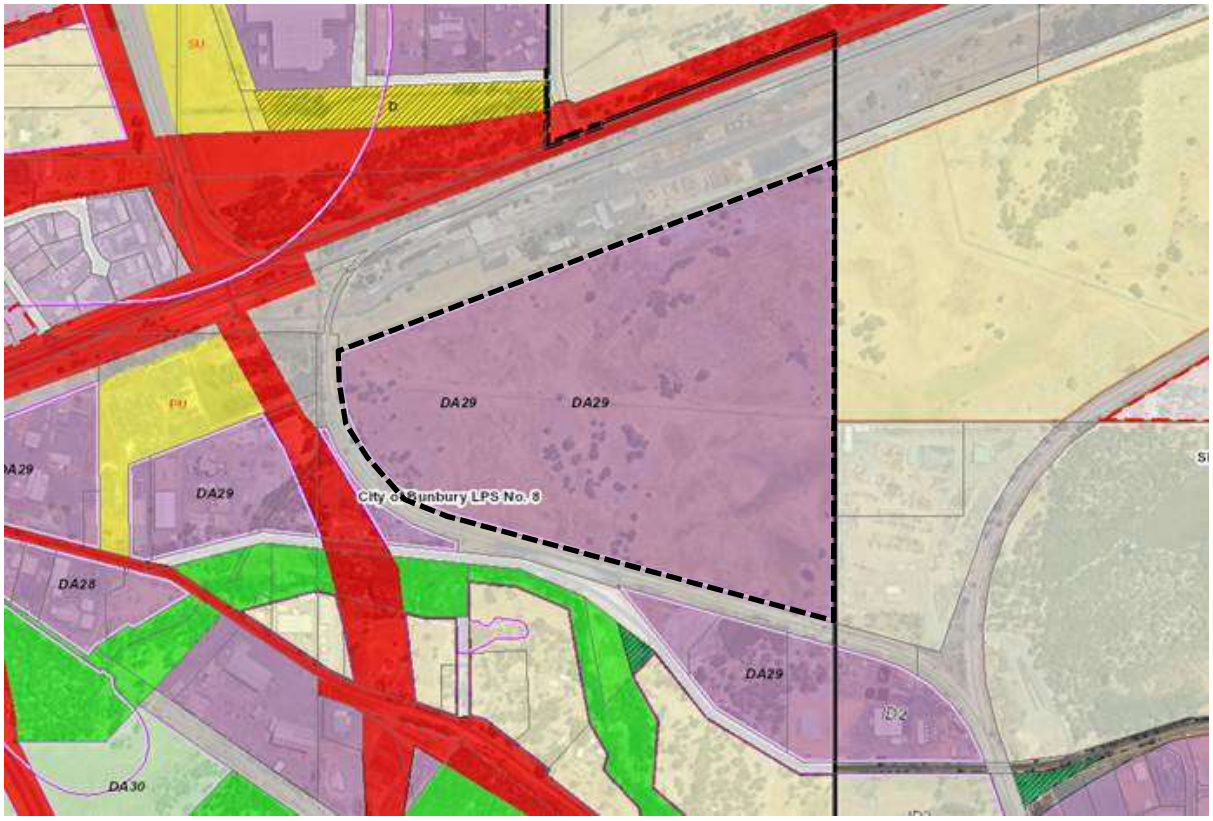


Figure 5: LPS8 Zoning Map

The proposal is required to be assessed in accordance with clause 18(4) of LPS 8, which is described as follows:

> *(4) The local government may, in respect of a use that is not specifically referred to in the Zoning Table and that cannot reasonably be determined as falling within a use class referred to in the zoning table -*

(a) determine that the use is consistent with the objectives of a particular zone and is therefore a use that may be permitted in the zone subject to conditions imposed by the local government; or

(b) determine that the use may be consistent with the objectives of a particular zone and give notice under clause 64 of the deemed provisions before considering an application for development approval for the use of the land; or

(c) determine that the use is not consistent with the objectives of a particular zone and is therefore not permitted in the zone.

Therefore, the proposed Battery Energy Storage System as a Use Not Listed is capable of approval having regard for the objectives and purpose of the "General Industry" zone.

Table 2 'Zone Objectives' of LPS8 set out the following objectives for the General Industry zone:

- *To provide for a broad range of industrial, service and storage activities which, by the nature of their operations, should be isolated from residential and other sensitive land uses.*
- *To accommodate industry that would not otherwise comply with the performance standards of light industry.*
- *Seek to manage impacts such as noise, dust and odour within the zone.*
- *To promote the establishment of industrial development that reinforces but does not compete with the role and functions of strategic industrial areas.*

The proposed development is considered to be an appropriate industrial/storage activity which is able to manage impacts such as noise, dust and odour and can promote the establishment of industrial development in the area, but not compete with the role and function of the strategic industrial area. Therefore, it is considered that the proposed use is consistent with the Objective of the zone and may be permitted in the zone subject to conditions imposed by the local government.

5.1.2 Development Standards

In addition to the proposed development complying with the objectives of the "General Industry" zone, the development is designed to ensure it complies with the relevant site and development requirements for the "General Industry" zone, as prescribed in Schedule 5 of LPS8.

Although the proposal is for a Use Not Listed, Schedule 5 of LPS8 describes a series of Development Standards that apply to the Zone more generally

Table 3 below provides a response to the development standards of Schedule 5 of LPS8.

Table 3: Compliance with the Development Requirements of LPS8

Requirements	LPS 8	Proposal
Minimum Boundary Setbacks		
Primary Street	4.5m	All setbacks far exceeded
Secondary Street	3.0m	(40m property setbacks proposed)
Side & Rear Setback	Minimum nil (0m)	
Landscaping	Primary and secondary street setback areas landscaped	As the site is large and does not have a boundary that interfaces with the public realm, and given the development type, it is considered that the landscaping requirement can be relaxed.
Loading	Loading to inside of buildings or side/rear of premises, separate from public access areas	Loading areas will occur in prescribed areas. No public attendance permitted to the site.

Accordingly, all of the relevant development standards have been met.

5.1.3 Special Control Area – Development Area

The subject land falls within the Special Control Area – Development Area 29 (**SCA-DA**).

Table 10 of Schedule 7 of LPS8 sets out the details of various Special Control Areas.

The purpose of the SCA-DA is, *"To designate areas requiring further investigations and structure and/or local development planning in relation to environmental and natural resource values, natural hazards, land use options, infrastructure servicing requirements, transportation infrastructure needs, landscaping and urban design."*

The Objectives of the SCA-DA are to:

> *(a) To identify areas requiring structure planning and/or local development planning prior to subdivision and/or development.*
>
> *(b) To coordinate and integrate orderly subdivision, infrastructure provision, land use and development in areas requiring structure planning and/or local development planning;*
>
> *(c) To guide the layout and design of lots, land uses and developments on land within a structure plan and/or a local development plan area;*
>
> *(d) To establish a framework for the assessment of applications for development approval within a structure plan and/or a local development plan area; and*

(e) To institute arrangements for the implementation of the plan by landowners, infrastructure providers and the local government.

The purpose of the SCA-DA therefore, is to signal the requirement for a Local Structure Plan to be prepared for the Development Area, and to coordinate the orderly development and subdivision of the precinct.

Notwithstanding that the SCA-DA requires a local structure plan prior to development or subdivision, Clause 27(2) of Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015 (Deemed Provisions) provides that, *"A decision-maker for an application for development approval or subdivision approval in area referred to in clause 15 as being an area for which a structure plan may be prepared, but for which no structure plan has been approved by the Commission, may approve the application if the decision-maker is satisfied that –*

(a) The proposed development or subdivision does not conflict with the principles of orderly and proper planning; and
(b) The proposed development or subdivision would not prejudice the overall development potential of the area."

This expressly allows for a decision-maker to consider a development proposal in the absence of a Local Structure Plan, and this is relevant in this proposal.

In the circumstances of this proposal, it is considered that the development will not conflict with the principles of orderly and proper planning and will not prejudice the overall development potential of the area. This is because:

1. The proposed development is located at a peripheral edge of the District Structure Plan area, bound to the north by the Arc Infrastructure Rail Complex and bound to the west by the existing Western Power Picton Substation.
2. The development area will occupy only 3.5ha of the site, which is a small portion of the 48.9694ha landholding.
3. The development area is located on zoned (General Industry) land under LPS8 and will not affect the planned alignment of the internal district distributor road. At the time of the preparation of a Local Structure Plan, the development area can simply be contained within its own smaller lot, with new access from the internal subdivisional road, and the balance of the precinct can be developed.
4. The benefits of the proposed development are such that it makes sense to have the development operational prior to the Local Structure Plan being progressed, which may take years to eventuate. The BESS development may also provide benefits to the wider development area, again indicating that this development is worthy of consideration prior to the Local Structure Plan being prepared.

It is for these reasons that the proposed development is capable of approval prior to a Local Structure Plan being prepared.

5.2 PICTON INDUSTRIAL PARK SOUTHERN PRECINCT DISTRICT STRUCTURE PLAN

The Picton Industrial Park Southern Precinct District Structure Plan is located to the east of Picton, an existing industrial area in the eastern part of Greater Bunbury, the regional centre for the South-West of Western Australia.

The subject land is located within the General Industry zone of the Picton Industrial Park Southern Precinct DSP, as identified in **Figure 6** below.

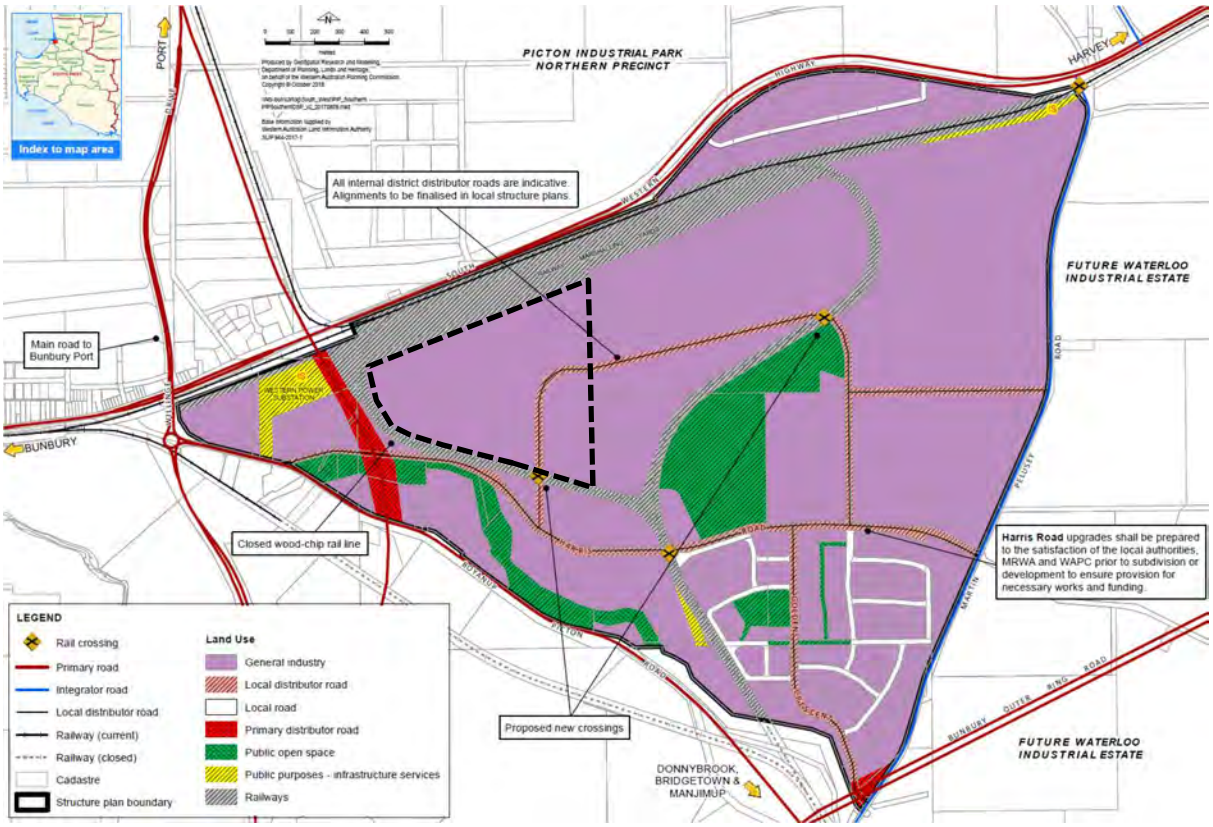


Figure 6: District Structure Plan Map Extract

The proposed development is capable of approval having regard to the provisions of the DSP for the following reasons:

- The proposed development and land use is considered to be appropriate with the General Industry zoning of the DSP.
- The DSP indicates a future internal subdivisional road to be created, however the proposed development site is situated well outside of this area and will not affect its implementation.
- The DSP signals no environmental assets on the subject land.

- The DSP provides a bushfire assessment at a precinct level and indicates an existing vegetation class of Glass G grassland for the subject land, mainly due to its current unmanaged and cleared state.
- The DSP provides a bushfire assessment at a precinct level and indicates a pre-development bushfire hazard level of Moderate, explained in the DSP as being nominated based on a precautionary approach. The majority of Picton South DSP is located within a moderate bushfire hazard area. Given that proposed industrial development in the precinct will result in high density development footprints requiring clearing of a significant proportion of the on-site vegetation extent, the post-development vegetation extent will result in lower hazard levels.
- The proposed development can comply with stormwater requirements, to the satisfaction of the City.

6.0 CONCLUSION

Hidding Urban Planning seeks Development Approval for a Proposed Battery Energy Storage System (BESS) at Lot 16 (Harris Road), Picton on behalf of the landowner, J.W Cranston.

The proposed BESS is an important renewable energy project which will contribute greatly to the Greater Bunbury region, providing enhanced reliability of electricity in the region.

The proposed BESS is required to be considered as a Use Not Listed under the provisions of the City of Bunbury Local Planning Scheme No. 8 and is capable of approval.

In summary, the proposal warrants Development Approval for the following reasons:

- The proposed development accords with the State Planning Framework.
- The subject land is appropriately zoned “Industrial” under the Greater Bunbury Region Scheme for the proposed development.
- The proposed development is compliant with the development standards and requirements of the City of Bunbury Local Planning Scheme No. 8.
- The proposed development and use is capable of approval as a Use Not Listed as it aligns with the Objectives of the General Industry zone, which provides the decision-maker with the discretion to approve to the proposal.
- The proposed development and use is capable of approval prior to a Local Structure Plan being progressed for the Special Control Area – Development Area 29, as justified in this report.
- The proposed use is appropriate in the “General Industry” zone of the Picton Industrial Park Southern Precinct District Structure Plan.
- The proposed development sits outside of the mapped Bushfire Prone Area.
- The subject land is cleared and has no environmental constraints that prevents development.
- The proposed development is appropriately located adjacent to the Western Power Picton Substation.
- The proposed use will enhance the reliability of electricity in the region.

Having regard to the above, the proposed Battery Energy Storage System should be supported and approved.

For these reasons, and in-light of the assessment contained within this report, we respectfully request that the City of Bunbury have regard to the merits and broader benefits of the proposal when undertaking its assessment of the application, and to recommend approval to the Regional DAP, subject to reasonable conditions.

Hidding.
URBAN PLANNING

0424 651 513
PO Box 920 Subiaco WA 6904
hidding.com.au

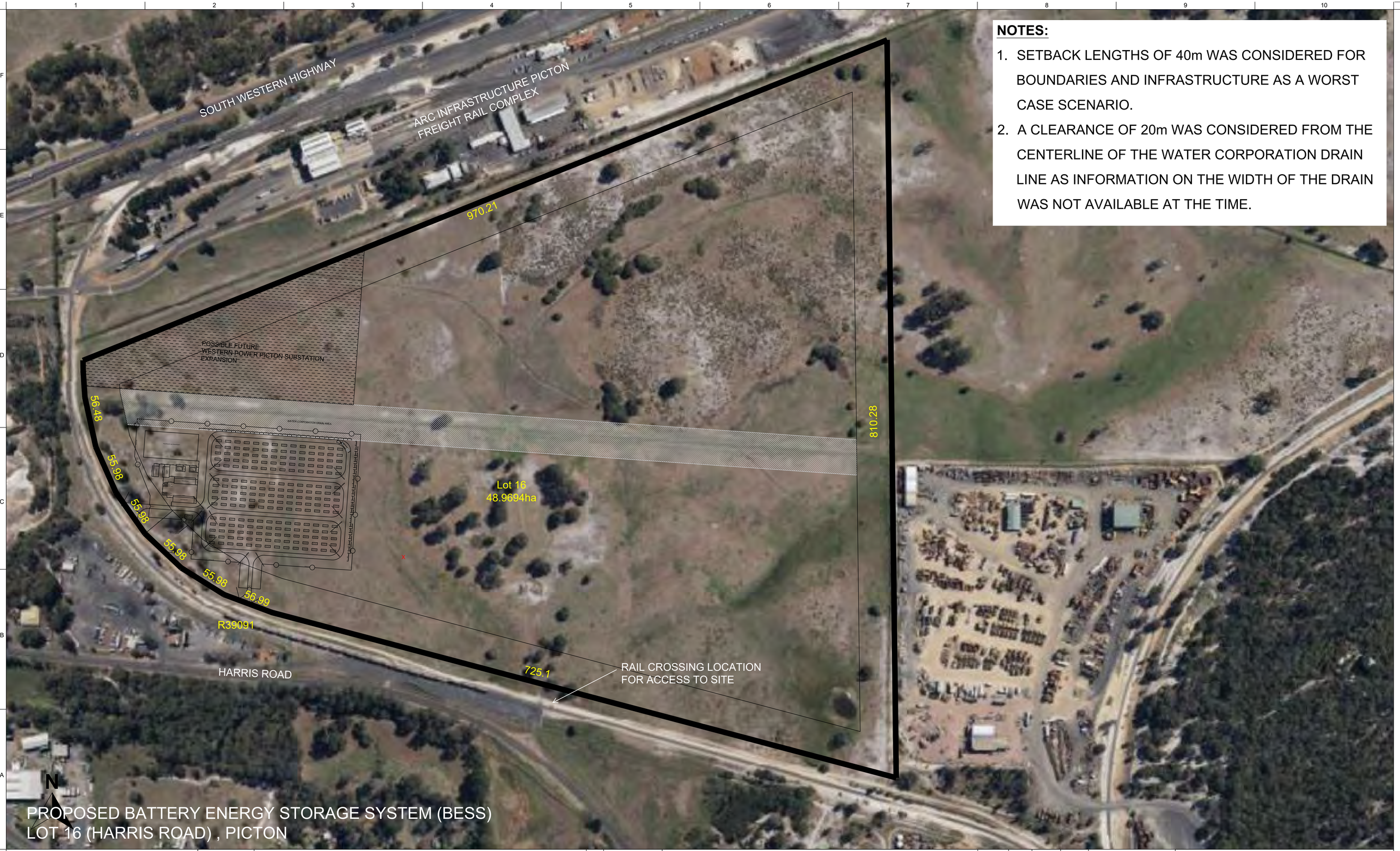
ANNEXURES

ANNEXURE 1

CERTIFICATE OF TITLE

ANNEXURE 2

DEVELOPMENT PLANS - SPRINGCITY



NOTES:

1. SETBACK LENGTHS OF 40m WAS CONSIDERED FOR BOUNDARIES AND INFRASTRUCTURE AS A WORST CASE SCENARIO.
2. A CLEARANCE OF 20m WAS CONSIDERED FROM THE CENTERLINE OF THE WATER CORPORATION DRAIN LINE AS INFORMATION ON THE WIDTH OF THE DRAIN WAS NOT AVAILABLE AT THE TIME.

PROPOSED BATTERY ENERGY STORAGE SYSTEM (BESS)
LOT 16 (HARRIS ROAD) , PICTON

Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
B	08/08/2024	ADDED AUXILIARY TRANSFORMER	AA	HDS	EM	
A	06/08/2024	ISSUED FOR INTERNAL REVIEW	AA	HDS	EM	

Revisions — Originator / Client

Drawing No.	Description

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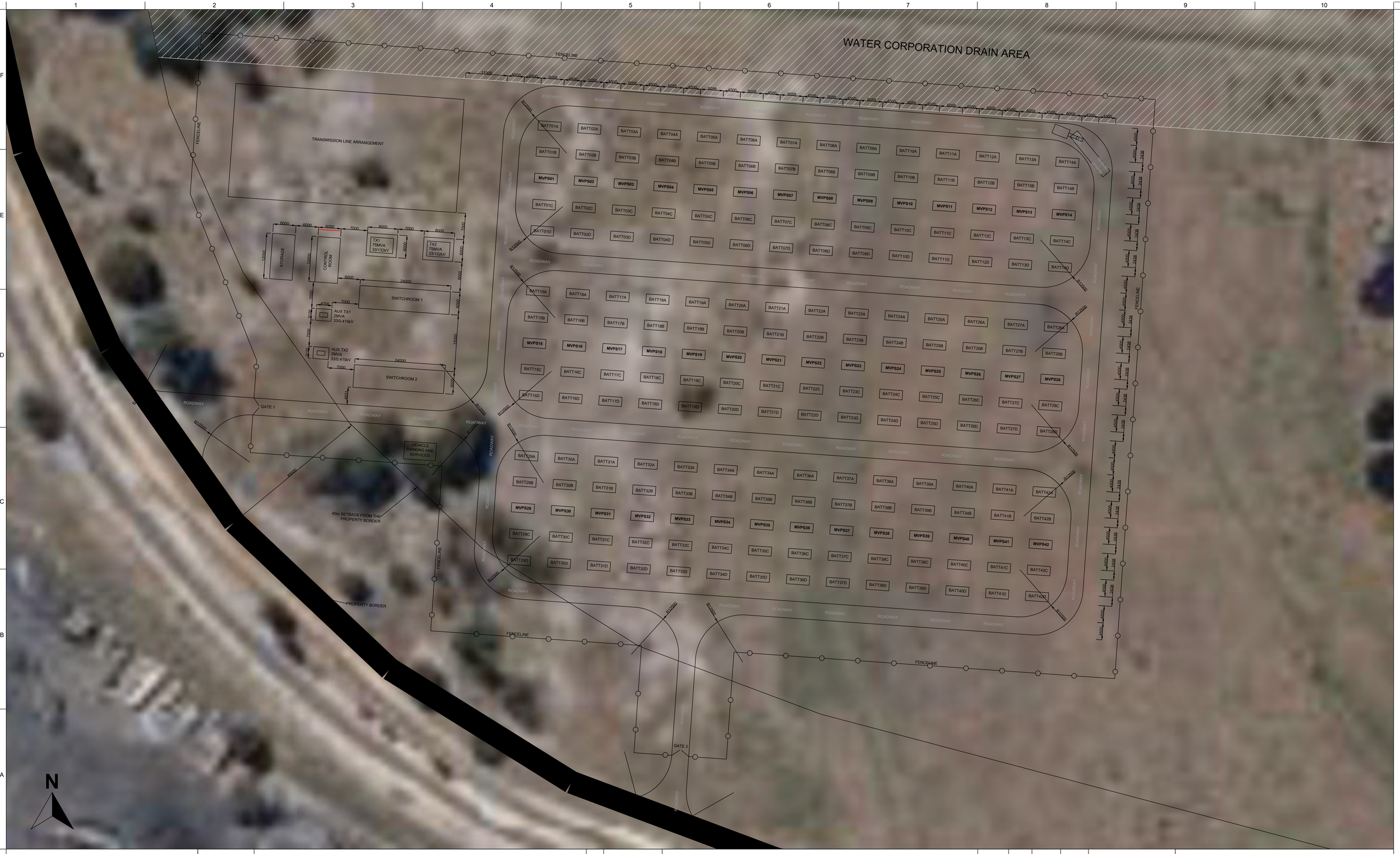
KONKERA PICTON BESS PROJECT
NETWORK CONNECTION

Document Title

KONKERA PICTON BESS
POWER DISTRIBUTION NETWORK DEVELOPMENT
SATELLITE MAP LAYOUT (SHEET 1)

Scale	SpringCity Project No.	Drawing No.	Doc. Type	Sheet No	Rev.
NTS	SP02426	SP02426-GA-002-01	Drawing	1 OF 2	B
A1					

Document No.



Drawing No.	Description	Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
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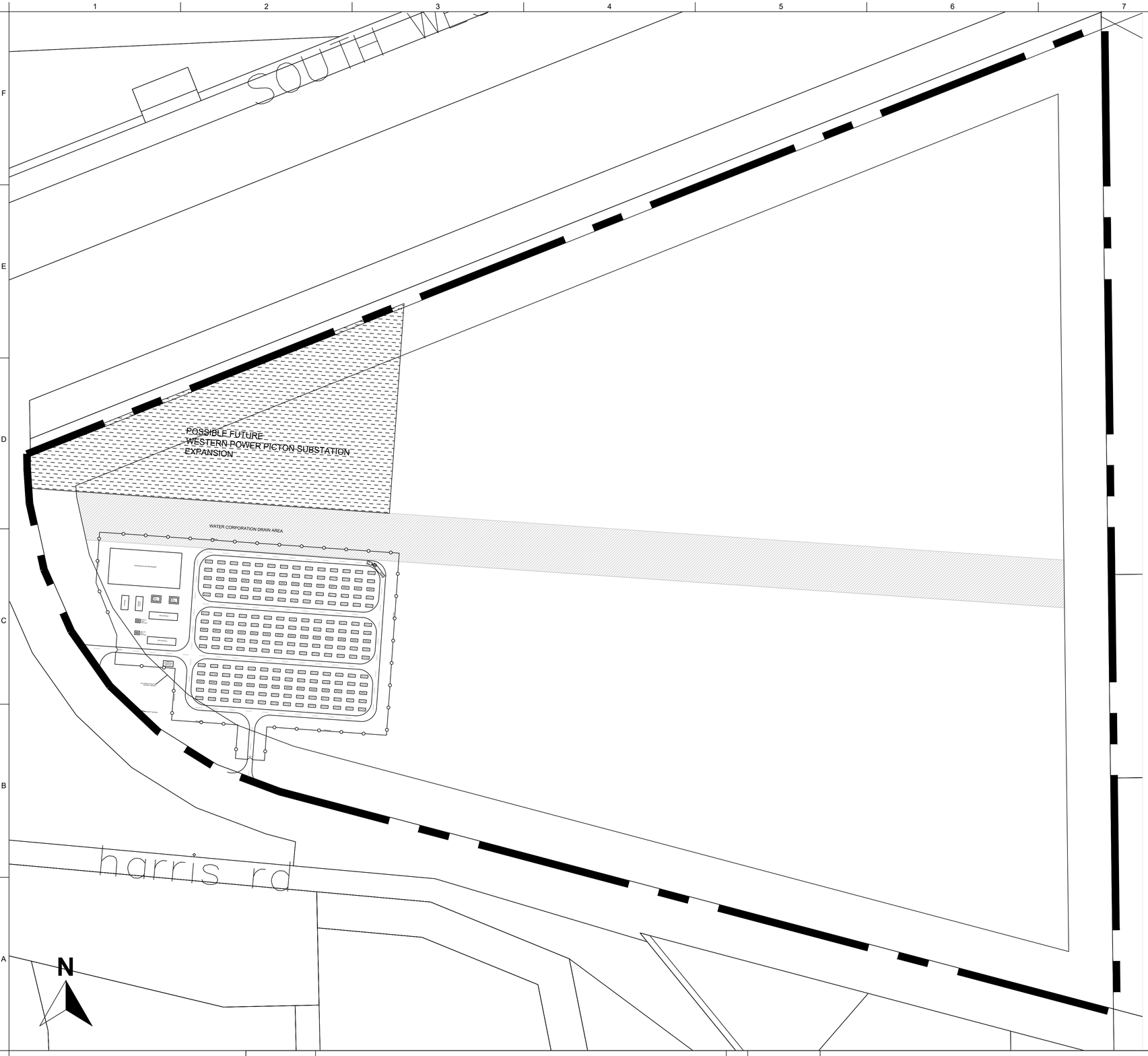
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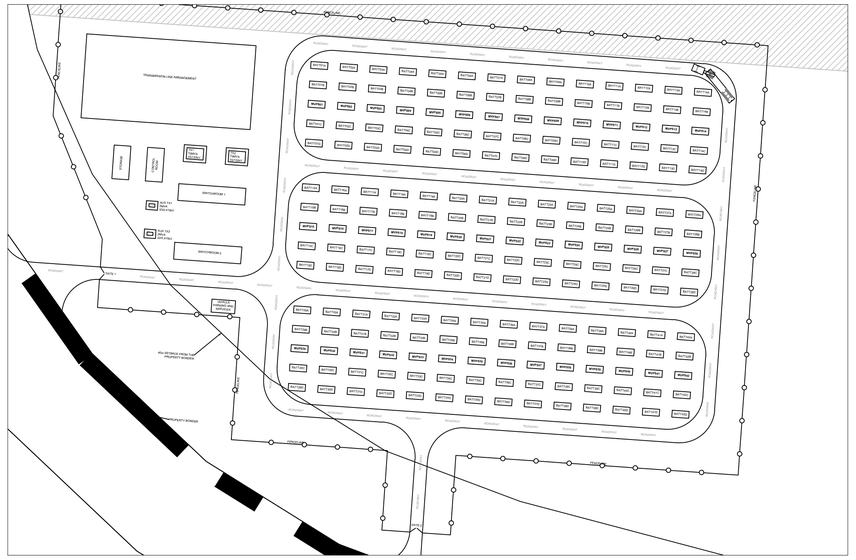
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SATELLITE MAP LAYOUT (SHEET 2)

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NTS A1	SP02426	SP02426-GA-002-02	Drawing	2 OF 2	B





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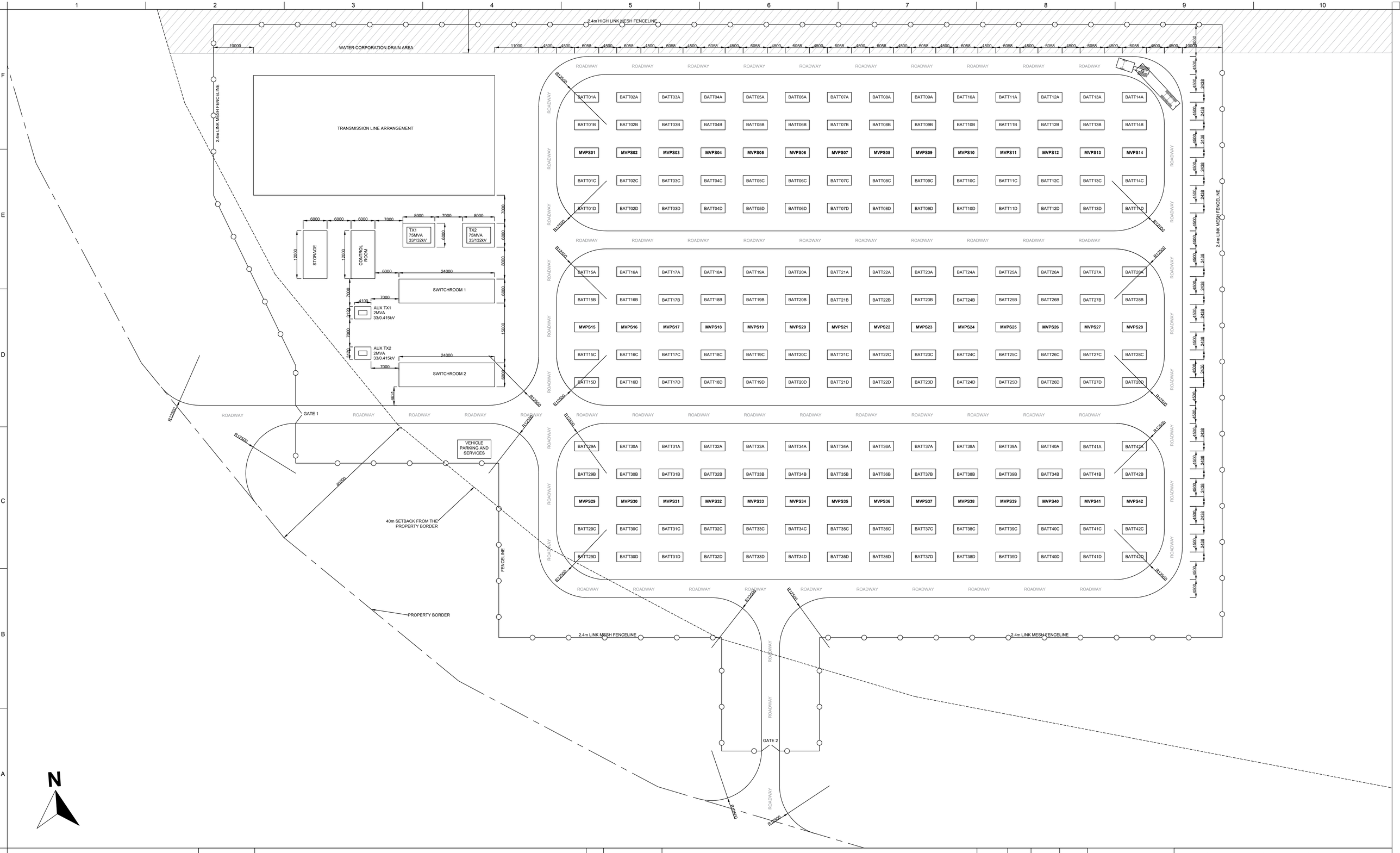
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MAP LAYOUT

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NTS A1	SP02426	SP02426-GA-003	Drawing	1	B



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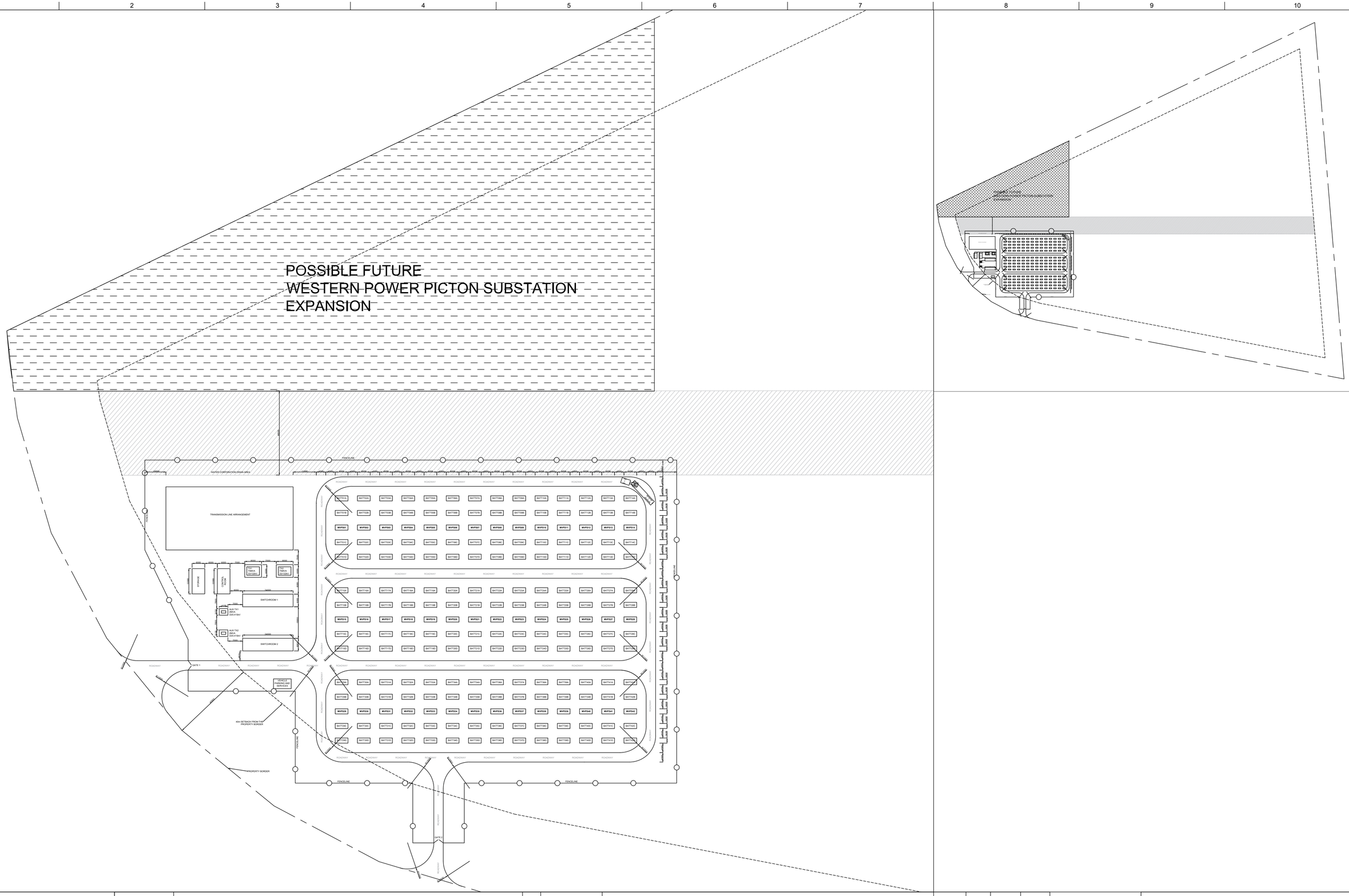
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NETWORK CONNECTION

Document Title

KONKERA PICTON BESS
POWER DISTRIBUTION NETWORK DEVELOPMENT
GENERAL ARRANGEMENT (SHEET 1)

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	SpringCity Project No.	Drawing No.	Doc. Type	Sheet No	Rev.
NTS A1	SP02426	SP02426-GA-001-01	Drawing	1 OF 2	B



		B	08/08/2024	ADDED AUXILIARY TRANSFORMER	AA	HDS	EM	
		A	02/08/2024	ISSUED FOR INTERNAL REVIEW	AA	HDS	EM	
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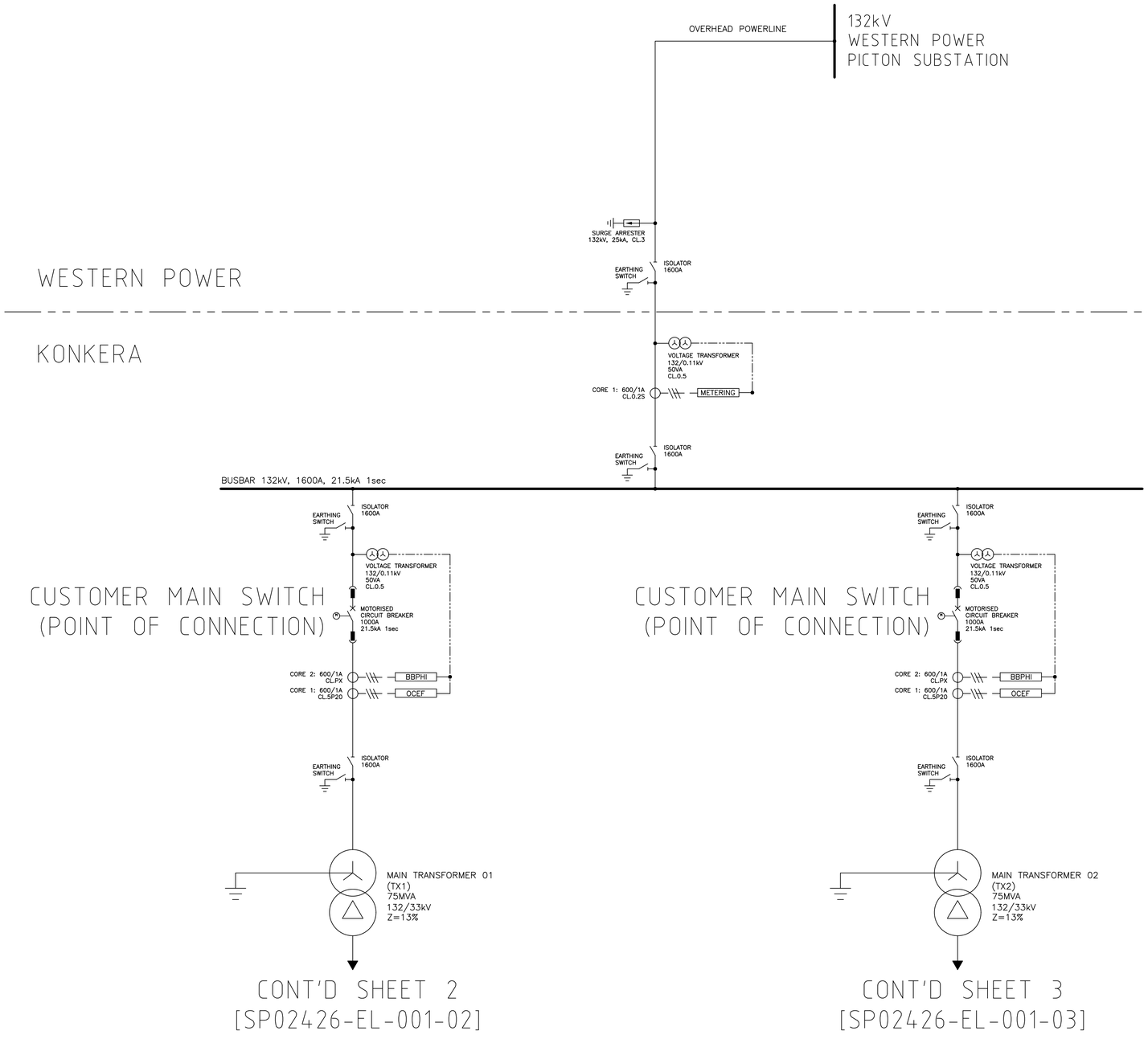
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KONKERA PICTON BESS
POWER DISTRIBUTION NETWORK DEVELOPMENT
GENERAL ARRANGEMENT (SHEET 2)

Scale	Document No.				
NTS	SpringCity Project No.	Drawing No.	Doc. Type	Sheet No	Rev.
A1	SP02426	SP02426-GA-001-02	Drawing	2 OF 2	B

LEGEND	
BBPHI	HIGH IMPEDANCE BUSBAR PROTECTION
METERING	REVENUE METERING
OCEF	OVERCURRENT EARTH FAULT PROTECTION



BESS SYSTEM SPECIFICATIONS			
COMPONENT	**PARAMETER**	**VALUE**	**UNIT**
MVPS	MODEL	MVPS 4400-S2	_
	INVERTER MODEL	SCS 3800 UP	_
	MAXIMUM INPUT DC VOLTAGE	1,500	VDC
	NOMINAL AC VOLTAGE	10,000 - 35,000	VAC
	INVERTER CAPACITY (@ 40°C)	3,230	kVA
	QUANTITY	42	UNITS
	TOTAL CAPACITY (@ 40°C)	135,660	kVA
	QTY OF BESS CONTAINERS (PER MVPS)	4	UNITS
BESS	MODEL	TRINASTORAGE ELEMENTA 2 (8 RACKS)	_
	RATED CAPACITY	3,258	kWh
	MAXIMUM DC VOLTAGE	1,500	VDC
	CELL CAPACITY	306	Ah
	AMBIENT OPERATING TEMP.	-30 TO +50	°C
	QUANTITY	168	UNITS
	TOTAL CAPACITY	547,344	kWh

Drawing No.	Description	Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
					Originator			Client
REFERENCE DRAWING		Revisions						
		B	09/08/2024	ADDED SYSTEM SPECIFICATIONS AND AUXILIARY TRANSFORMER	AA	HDS	EM	
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SINGLE LINE DIAGRAM (SHEET 1)

Scale	Document No.				
	SpringCity Project No.	Drawing No.	Doc. Type	Sheet No	Rev.
NTS A1	SP02426	SP02426-EL-001-01	Drawing	1 OF 3	B

LEGEND	
BBPHI	HIGH IMPEDANCE BUSBAR PROTECTION
METERING	REVENUE METERING
OCEF	OVERCURRENT EARTH FAULT PROTECTION

CONT'D SHEET 1
SP02426-EL-001-01

HV SWITCHROOM 01

MOTORISED CIRCUIT BREAKER 2000A 21.5kA 1sec

ISOLATOR 2000A

EARTHING SWITCH

BUSBAR 33kV, 2000A, 50kA 3sec

ISOLATOR 630A

EARTHING SWITCH

VOLTAGE TRANSFORMER 33/0.11kV 50VA CL.0.5

MOTORISED CIRCUIT BREAKER 200A 21.5kA 1sec

200/1A CL.5P20

OCEF

ISOLATOR 630A

EARTHING SWITCH

SURGE ARRESTER 33kV, 10kA, CL.3

EARTHING TRANSFORMER 100A 11kV

100/1A 5VA

AUXILIARY TRANSFORMER 01 (AUX TX1) 2MVA 33/415kV Z=6%

AUXILIARY LOADS

SPARE BAY 1

SPARE BAY 2

BATT01A 3,258kWh	MVPS01 3,230kVA	BATT01C 3,258kWh	BATT08A 3,258kWh	MVPS08 3,230kVA	BATT08C 3,258kWh	BATT15A 3,258kWh	MVPS15 3,230kVA	BATT15C 3,258kWh
BATT01B 3,258kWh		BATT01D 3,258kWh	BATT08B 3,258kWh		BATT08D 3,258kWh	BATT15B 3,258kWh		BATT15D 3,258kWh
BATT02A 3,258kWh	MVPS02 3,230kVA	BATT02C 3,258kWh	BATT09A 3,258kWh	MVPS09 3,230kVA	BATT09C 3,258kWh	BATT16A 3,258kWh	MVPS16 3,230kVA	BATT16C 3,258kWh
BATT02B 3,258kWh		BATT02D 3,258kWh	BATT09B 3,258kWh		BATT09D 3,258kWh	BATT16B 3,258kWh		BATT16D 3,258kWh
BATT03A 3,258kWh	MVPS03 3,230kVA	BATT03C 3,258kWh	BATT10A 3,258kWh	MVPS10 3,230kVA	BATT10C 3,258kWh	BATT17A 3,258kWh	MVPS17 3,230kVA	BATT17C 3,258kWh
BATT03B 3,258kWh		BATT03D 3,258kWh	BATT10B 3,258kWh		BATT10D 3,258kWh	BATT17B 3,258kWh		BATT17D 3,258kWh
BATT04A 3,258kWh	MVPS04 3,230kVA	BATT04C 3,258kWh	BATT11A 3,258kWh	MVPS11 3,230kVA	BATT11C 3,258kWh	BATT18A 3,258kWh	MVPS18 3,230kVA	BATT18C 3,258kWh
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BATT06A 3,258kWh	MVPS06 3,230kVA	BATT06C 3,258kWh	BATT13A 3,258kWh	MVPS13 3,230kVA	BATT13C 3,258kWh	BATT20A 3,258kWh	MVPS20 3,230kVA	BATT20C 3,258kWh
BATT06B 3,258kWh		BATT06D 3,258kWh	BATT13B 3,258kWh		BATT13D 3,258kWh	BATT20B 3,258kWh		BATT20D 3,258kWh
BATT07A 3,258kWh	MVPS07 3,230kVA	BATT07C 3,258kWh	BATT14A 3,258kWh	MVPS14 3,230kVA	BATT14C 3,258kWh	BATT21A 3,258kWh	MVPS21 3,230kVA	BATT21C 3,258kWh
BATT07B 3,258kWh		BATT07D 3,258kWh	BATT14B 3,258kWh		BATT14D 3,258kWh	BATT21B 3,258kWh		BATT21D 3,258kWh

Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
B	09/08/2024	ADDED SYSTEM SPECIFICATIONS AND AUXILIARY TRANSFORMER	AA	HDS	EM	
A	02/08/2024	ISSUED FOR INTERNAL REVIEW	AA	HDS	EM	

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Document Title

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SINGLE LINE DIAGRAM (SHEET 2)

Scale	Document No.				
NTS / A1	SpringCity Project No. SP02426	Drawing No. SP02426-EL-001-02	Doc. Type Drawing	Sheet No 2 OF 3	Rev. B

LEGEND	
BBPHI	HIGH IMPEDANCE BUSBAR PROTECTION
METERING	REVENUE METERING
OCEF	OVERCURRENT EARTH FAULT PROTECTION

CONT'D SHEET 1
SP02426-EL-001-01

HV SWITCHROOM 02

MOTORISED CIRCUIT BREAKER 2000A 21.5kA 1sec

EARTHING SWITCH

ISOLATOR 2000A

BUSBAR 33kV, 2000A, 50kA 3sec

EARTHING SWITCH

ISOLATOR 630A

VOLTAGE TRANSFORMER 33/0.11kV 50VA CL.0.5

MOTORISED CIRCUIT BREAKER 200A 21.5kA 1sec

200/1A CL.5P20

OCEF

ISOLATOR 630A

SURGE ARRESTER 33kV, 10kA, CL.3

EARTHING TRANSFORMER 100A 11kV

100/1A 5VA

AUXILIARY TRANSFORMER 02 (AUX TX2) 2MVA 33/415kV Z=6%

AUXILIARY LOADS

SPARE BAY 1

SPARE BAY 2

MVPS22 3,230kVA	BATT22A 3,258kWh	BATT22B 3,258kWh	BATT22C 3,258kWh; BATT22D 3,258kWh
MVPS23 3,230kVA	BATT23A 3,258kWh	BATT23B 3,258kWh	BATT23C 3,258kWh; BATT23D 3,258kWh
MVPS24 3,230kVA	BATT24A 3,258kWh	BATT24B 3,258kWh	BATT24C 3,258kWh; BATT24D 3,258kWh
MVPS25 3,230kVA	BATT25A 3,258kWh	BATT25B 3,258kWh	BATT25C 3,258kWh; BATT25D 3,258kWh
MVPS26 3,230kVA	BATT26A 3,258kWh	BATT26B 3,258kWh	BATT26C 3,258kWh; BATT26D 3,258kWh
MVPS27 3,230kVA	BATT27A 3,258kWh	BATT27B 3,258kWh	BATT27C 3,258kWh; BATT27D 3,258kWh
MVPS28 3,230kVA	BATT28A 3,258kWh	BATT28B 3,258kWh	BATT28C 3,258kWh; BATT28D 3,258kWh
MVPS29 3,230kVA	BATT29A 3,258kWh	BATT29B 3,258kWh	BATT29C 3,258kWh; BATT29D 3,258kWh
MVPS30 3,230kVA	BATT30A 3,258kWh	BATT30B 3,258kWh	BATT30C 3,258kWh; BATT30D 3,258kWh
MVPS31 3,230kVA	BATT31A 3,258kWh	BATT31B 3,258kWh	BATT31C 3,258kWh; BATT31D 3,258kWh
MVPS32 3,230kVA	BATT32A 3,258kWh	BATT32B 3,258kWh	BATT32C 3,258kWh; BATT32D 3,258kWh
MVPS33 3,230kVA	BATT33A 3,258kWh	BATT33B 3,258kWh	BATT33C 3,258kWh; BATT33D 3,258kWh
MVPS34 3,230kVA	BATT34A 3,258kWh	BATT34B 3,258kWh	BATT34C 3,258kWh; BATT34D 3,258kWh
MVPS35 3,230kVA	BATT35A 3,258kWh	BATT35B 3,258kWh	BATT35C 3,258kWh; BATT35D 3,258kWh
MVPS36 3,230kVA	BATT36A 3,258kWh	BATT36B 3,258kWh	BATT36C 3,258kWh; BATT36D 3,258kWh
MVPS37 3,230kVA	BATT37A 3,258kWh	BATT37B 3,258kWh	BATT37C 3,258kWh; BATT37D 3,258kWh
MVPS38 3,230kVA	BATT38A 3,258kWh	BATT38B 3,258kWh	BATT38C 3,258kWh; BATT38D 3,258kWh
MVPS39 3,230kVA	BATT39A 3,258kWh	BATT39B 3,258kWh	BATT39C 3,258kWh; BATT39D 3,258kWh
MVPS40 3,230kVA	BATT40A 3,258kWh	BATT40B 3,258kWh	BATT40C 3,258kWh; BATT40D 3,258kWh
MVPS41 3,230kVA	BATT41A 3,258kWh	BATT41B 3,258kWh	BATT41C 3,258kWh; BATT41D 3,258kWh
MVPS42 3,230kVA	BATT42A 3,258kWh	BATT42B 3,258kWh	BATT42C 3,258kWh; BATT42D 3,258kWh

Drawing No.	Description
REFERENCE DRAWING	

Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
B	09/08/2024	ADDED SYSTEM SPECIFICATIONS AND AUXILIARY TRANSFORMER	AA	HDS	EM	
A	02/08/2024	ISSUED FOR INTERNAL REVIEW	AA	HDS	EM	

Revisions — Originator / Client

www.springcity.com.au
Postal Address:
Level 3
99 St Georges Terrace,
Perth 6000 WA
TEL : +61 (08) 9460 3799

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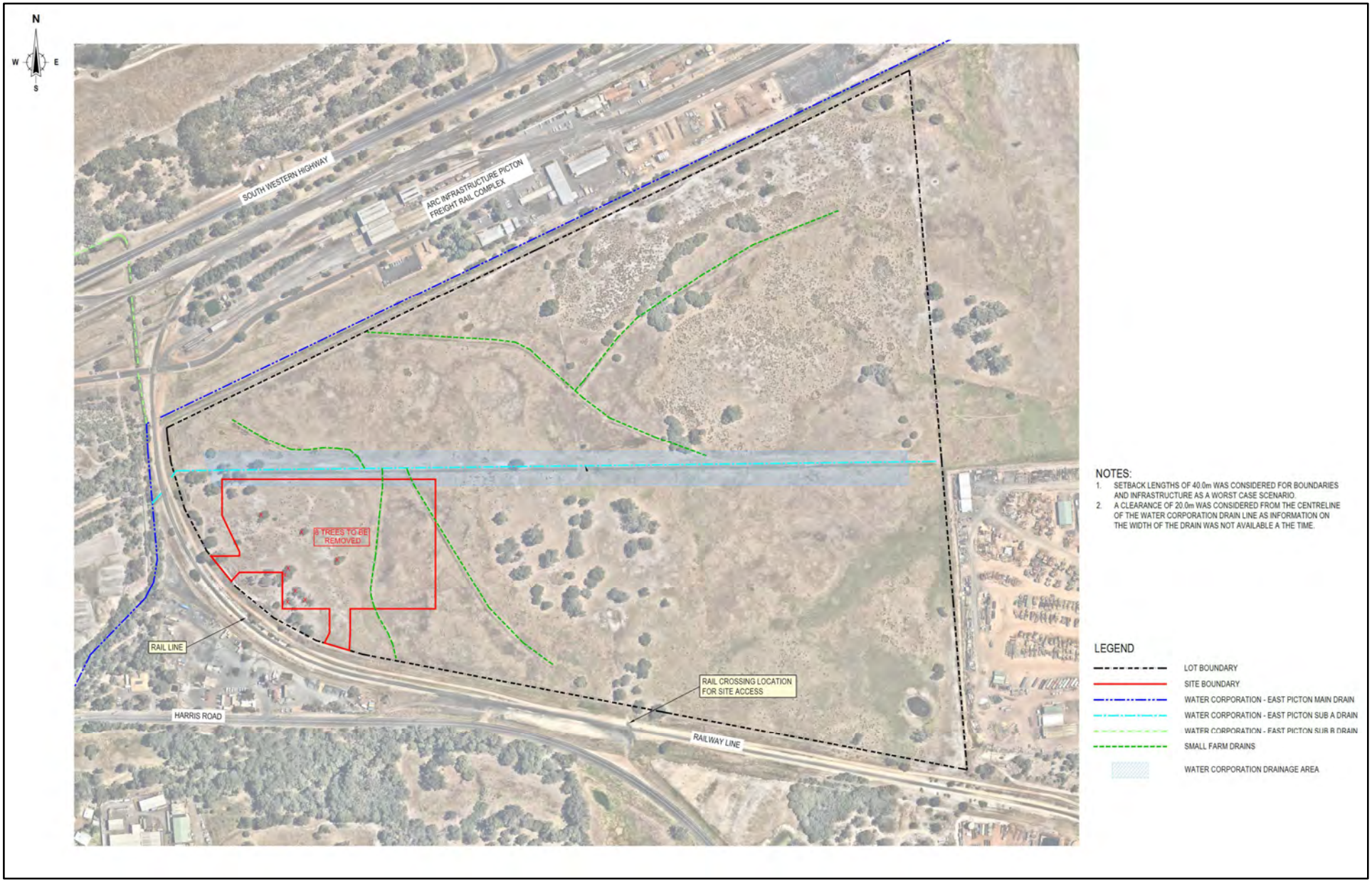
SPRINGCITY

KONKERA PICTON BESS PROJECT
NETWORK CONNECTION

Document Title

KONKERA PICTON BESS
POWER DISTRIBUTION NETWORK DEVELOPMENT
SINGLE LINE DIAGRAM (SHEET 3)

Scale	Document No.				
NTS / A1	SpringCity Project No. SP02426	Drawing No. SP02426-EL-001-03	Doc. Type Drawing	Sheet No 3 OF 3	Rev. B



TREE REMOVAL PLAN
PROPOSED BATTERY ENERGY STORAGE SYSTEM (BESS)
LOT 16 (HARRIS ROAD), PICTON

Hidding.
URBAN PLANNING

TrinaStorage

Trina Storage Elementa 2

Advanced, Flexible, High-efficiency ESS



4.07 MWh @1500V DC

Trina Storage Elementa 2 is a new generation, cutting-edge, grid-scale battery storage system built from the ground up using Trina's vertically integrated LFP cells.

Ultra Long-Life Trina Cells

Proprietary Lithium Iron Phosphate (LFP) cells
≥95% Energy Efficiency

Unique Pack Design

Intelligent liquid cooling technology - maintains $\Delta T < 2.5^{\circ}C$
Independent O&M window, two-way stop valve

Rack-Level Energy Management

Smart rack-level energy management
HV box at the rack level for cost optimization

Highly Integrated & Flexible Solution

Reduced CAPEX & OPEX
Improved TCO & Lower LCOS

Comprehensive Safety

State-of-the-art fire mitigation and suppression system
All international safety standards & certifications conformed

Easy Operation and Maintenance (O&M)

Designed for minimal downtime and simplified maintenance
Bankable warranties, guarantees & services

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Product Specifications



Battery parameters

Battery Cell	3.2V, 306 Ah
Electrical Configuration	1P416S10P (10 racks of 4 battery packs each)
Nominal Capacity	4073kWh
Typical Operational Duration	2-6 hours
Max Operating Voltage Range (DC)	1040V~1497.6V
Auxiliary Power-Max input power consumption	56kW (0.5p)

System parameters

Dimensions(W×H×D)	6058mm*2896mm *2438mm	
Weight	≤ 35 T / ≤ 77162 LB	
IP Level	IP55 - Excl. Chiller Compartment (Pack IP65, IP67 optional)	
Cooling Mode	Liquid cooling, 50% ethylene glycol aqueous solution	
Altitude	≤2000m	
Operating Ambient Temperature	-30~50℃	
Fire Safety	Fire panel with heat and smoke sensors	
	Fire resistant enclosure	
	Gas sensor and active ventilation system	
	Water based fire suppression system, Automatic aerosol-based fire suppression system (optional)	
Coating	C4-M (C5-M, optional)	
Color	RAL9016	
Communication Protocols	CAN/Modbus TCP	
Compliance	Battery Safety	UL9540A, UL1973(rack), IP65, IEC 62619, IEC 63056
	Transportation	UN 38.3, UN 3840
	EMC	EN/IEC 61000-6-2, EN/IEC 61000-6-4

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MV POWER STATION
4000-S2 / 4200-S2 / 4400-S2 / 4600-S2

MVPS-4000-S2 / MVPS-4200-S2 / MVPS-4400-S2 / MVPS-4600-S2



Robust
- Station and all individual components type-tested
- Optimally suited to extreme ambient conditions

Easy to Use
- Plug and play concept
- Completely pre-assembled for easy set-up and commissioning

Cost-Effective
- Easy planning and installation
- Low transport costs due to 20-foot skid

Flexible
- One design for the whole world
- DC-Coupling Ready
- Numerous options

MV POWER STATION 4000-S2 / 4200-S2 / 4400-S2 / 4600-S2

Turnkey Solution for PV Power Plants and large-scale storage systems

With the power of the new robust central inverters, the Sunny Central UP or Sunny Central Storage UP, and with perfectly adapted medium-voltage components, the new MV Power Station offers even more power density and is a turnkey solution available worldwide. Being the ideal choice for the new generation of PV power plants operating at 1500 VDC, the integrated system solution is easy to transport and quick to assemble and commission. The MVPS and all components are type-tested. The MV Power Station combines rigorous plant safety with maximum energy yield and minimized deployment and operating risk. The MV Power Station is prepared for DC coupling.

MV POWER STATION
4000-S2 / 4200-S2 / 4400-S2 / 4600-S2

Technical Data	MVPS 4000-S2	MVPS 4200-S2
Input (DC)		
Available inverters	1 x SC 4000 UP or 1 x SCS 3450 UP or 1 x SCS 3450 UP-XT	1 x SC 4200 UP or 1 x SCS 3600 UP or 1 x SCS 3600 UP-XT
Max. input voltage	1500 V	1500 V
Number of DC inputs	dependent on the selected inverters	
Integrated zone monitoring	○	
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Output (AC) on the medium-voltage side		
Rated power at SC UP (at -25°C to + 35°C / 40°C optional 50°C)[1)]	4000 kVA / 3600 kVA	4200 kVA / 3780 kVA
Rated power at SCS UP (at -25°C bis +25°C / 40°C optional 50°C)[1)]	3450 kVA / 2930 kVA	3620 kVA / 3075 kVA
Charging power at SCS UP-XT (at -25°C bis +25°C / 40°C optional 50°C)[1)]	3590 kVA / 3000 kVA	3770 kVA / 3150 kVA
Discharging power at SCS UP-XT (at -25°C bis +25°C / 40°C optional 50°C)[1)]	4000 kVA / 3400 kVA	4200 kVA / 3570 kVA
Typical nominal AC voltages	10 kV to 35 kV	10 kV to 35 kV
AC power frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Transformer vector group Dy11 / YNd11 / YNy0	● / ○ / ○	● / ○ / ○
Transformer cooling methods	KNAN[2)]	KNAN[2)]
Transformer no-load losses Standard / Eco Design 1 / Eco Design 2	● / ○ / ○	● / ○ / ○
Transformer short-circuit losses Standard / Eco Design 1 / Eco Design 2	● / ○ / ○	● / ○ / ○
Max. total harmonic distortion	< 3%	
Reactive power feed-in (up to 60% of nominal power)	○	
Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited to 0.8 underexcited	
Inverter efficiency		
Max. efficiency[3)] / European efficiency[3)] / CEC weighted efficiency[4)]	98.8% / 98.6% / 98.5%	98.8% / 98.7% / 98.5%
Protective devices		
Input-side disconnection point	DC load-break switch	
Output-side disconnection point	Medium-voltage vacuum circuit breaker	
DC overvoltage protection	Surge arrester type I	
Galvanic isolation	●	
Internal arc classification medium-voltage control room (according to IEC 62271-202)	IAC A 20 kA 1 s	
General Data		
Dimensions (W / H / D)	6058 mm / 2896 mm / 2438 mm	
Weight	< 18 t	
Self-consumption (max. / partial load / average)[1)]	< 8.1 kW / < 1.8 kW / < 2.0 kW	
Self-consumption (stand-by)[1)]	< 370 W	
Ambient temperature -25°C to +45°C / -25°C to +55°C / -40°C to +45°C	● / ○ / ○	
Degree of protection according to IEC 60529	Control rooms IP23D, inverter electronics IP54	
Environment: standard / harsh	● / ○	
Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)	● / ○	
Maximum permissible value for relative humidity	95% (for 2 months/year)	
Max. operating altitude above mean sea level 1000 m / 2000 m	● / ○	
Fresh air consumption of inverter	6500 m³/h	
Features		
DC terminal	Terminal lug	
AC connection	Outer-cone angle plug	
Tap changer for MV-transformer: without / with	● / ○	
Shield winding for MV-Transformer: without / with	● / ○	
Monitoring package	○	
Station enclosure color	RAL 7004	
Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA	● / ○ / ○ / ○ / ○ / ○ / ○	
Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200	● / ○ / ○	
Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)	● / ○ / ○	
Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring	● / ○ / ○ / ○ / ○	
Integrated oil containment: without / with	● / ○	
Industry standards (for other standards see the inverter datasheet)	IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certificate	
● Standard features ○ Optional features – Not available		
Type designation	MVPS-4000-S2	MVPS-4200-S2

1) Data based on inverter. Further details can be found in the data sheet of the inverter.
2) KNAN = Ester with natural air cooling
3) Efficiency measured at inverter without internal power supply
4) Efficiency measured at inverter with internal power supply

Technical Data	MVPS 4400-S2	MVPS 4600-S2
Input (DC)		
Available inverters	1 x SC 4400 UP or 1 x SCS 3800 UP or 1 x SCS 3800 UP-XT	1 x SC 4600 UP or 1 x SCS 3950 UP or 1 x SCS 3950 UP-XT
Max. input voltage	1500 V	1500 V
Number of DC inputs	dependent on the selected inverters	
Integrated zone monitoring	○	
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Output (AC) on the medium-voltage side		
Rated power at SC UP (at -25°C to + 35°C / 40°C optional 50°C)[1]	4400 kVA / 3960 kVA	4600 kVA / 4140 kVA
Rated power at SCS UP (at -25°C bis +25°C / 40°C optional 50°C)[1]	3800 kVA / 3230 kVA	3960 kVA / 3365kVA
Charging power at SCS UP-XT (at -25°C bis +25°C / 40°C optional 50°C)[1]	3950 kVA / 3300 kVA	4130 kVA / 3455 kVA
Discharging power at SCS UP-XT (at -25°C bis +25°C / 40°C optional 50°C)[1]	4400 kVA / 3740 kVA	4600 kVA / 3910 kVA
Typical nominal AC voltages	10 kV to 35 kV	10 kV to 35 kV
AC power frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Transformer vector group Dy11 / YNd11 / YNy0	● / ○ / ○	● / ○ / ○
Transformer cooling methods	KNAN[2]	KNAN[2]
Transformer no-load losses Standard / Eco Design 1 / Eco Design 2	● / ○ / ○	● / ○ / ○
Transformer short-circuit losses Standard / Eco Design 1 / Eco Design 2	● / ○ / ○	● / ○ / ○
Max. total harmonic distortion	< 3%	
Reactive power feed-in (up to 60% of nominal power)	○	
Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited to 0.8 underexcited	
Inverter efficiency		
Max. efficiency[3] / European efficiency[3] / CEC weighted efficiency[4]	98.8% / 98.7% / 98.5%	98.8% / 98.7% / 98.5%
Protective devices		
Input-side disconnection point	DC load-break switch	
Output-side disconnection point	Medium-voltage vacuum circuit breaker	
DC overvoltage protection	Surge arrester type I	
Galvanic isolation	●	
Internal arc classification medium-voltage control room (according to IEC 62271-202)	IAC A 20 kA 1 s	
General Data		
Dimensions (W / H / D)	6058 mm / 2896 mm / 2438 mm	
Weight	< 18 t	
Self-consumption (max. / partial load / average)[1]	< 8.1 kW / < 1.8 kW / < 2.0 kW	
Self-consumption (stand-by)[1]	< 370 W	
Ambient temperature -25°C to +45°C / -25°C to +55°C / -40°C to +45°C	● / ○ / ○	
Degree of protection according to IEC 60529	Control rooms IP23D, inverter electronics IP54	
Environment: standard / harsh	● / ○	
Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)	● / ○	
Maximum permissible value for relative humidity	95% (for 2 months/year)	
Max. operating altitude above mean sea level 1000 m / 2000 m	● / ○	
Fresh air consumption of inverter	6500 m³/h	
Features		
DC terminal	Terminal lug	
AC connection	Outer-cone angle plug	
Tap changer for MV-transformer: without / with	● / ○	
Shield winding for MV-Transformer: without / with	● / ○	
Monitoring package	○	
Station enclosure color	RAL 7004	
Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA	● / ○ / ○ / ○ / ○ / ○ / ○	
Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200	● / ○ / ○	
Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)	● / ○ / ○	
Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring	● / ○ / ○ / ○ / ○	
Integrated oil containment: without / with	● / ○	
Industry standards (for other standards see the inverter datasheet)	IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certificate	
● Standard features ○ Optional features – Not available		
Type designation	MVPS-4400-S2	MVPS-4600-S2

Oversby Consulting Pty Ltd
PO Box 369
Dardanup WA 6236
T 044 761 4411
ABN 41 887 270 403

Water Management Technical Note

Ref: B25003
Date: 31st March 2025
Version: A

Project:
Lot 16 Harris Road, Picton Battery Energy Storage System

EXECUTIVE SUMMARY

This Water Management Technical Note has been prepared to support the Development Application (DA) for the proposed Lot 16 Harris Road, Picton Battery Energy Storage System (BESS). The development portions is termed the Site within this repot. The Site is to be developed to accommodate a 100MW/400MWh BESS connected to Western Australia's main electricity network, the South-West Interconnected System (SWIS). Further details on the proposal can be found in the Planning Report Proposed Battery Energy Storage System Lot 16 (Harris Road), Picton (Hidding, 2024).

This Technical Note outlines how stormwater will be managed so that the development is compliant with the approved Picton South District Water Management Strategy (DWMS) that covers the Site, as well as being suitable for the proposed BESS land use.

RELEVANT CURRENT SITE CHARACTERISTICS

The following is a summary of the current site. Further details can be found in Figure C01.

Area
The total Lot area is approximately 48.9694ha. The current proposed development Site is focused in the southwestern corner and covers approximately 3.59ha.

Landform and soils
The site is relatively flat. It contains very low Bassendean sand rises to approximately 10mAHD (based on historical LiDAR), with are generally 0.5m – 1.5m above the surrounding sand over sandy clay plain (Guilford formation). The plain area is intersected by small farm drains as well as the Water Corporation's East Picton Sub A Drain. The site generally falls to the west, while noting that the low sand rises affect the localised water movement.
The site is mapped as Moderate to Low risk for ASS within 3m of the soil surface by DWER's Acid Sulfate Soil Risk Map, Swan Coastal Plain.

Waterways and drainage lines
There are no natural waterways within the site or wider Lot 16. The small farm drains are generally 0.3m deep and approximately 2m wide. These drain to the East Picton Sub A Drain. The depth of the Sub A Drain is controlled by a series of drop weirs. The Sub A Drain begins on the eastern boundary of Lot 16 and discharges on the north western boundary. From here it flows under flows the rail line and accompanying maintenance track before discharging into the East Picton Main Drain. The East Picton Main Drain flows south and discharges into the Ferguson River between Harris Road and the Boyanup Picton Road.

Flooding.
DWER's flood mapping extends to just downstream of the rail culvert that the site discharges through. This flood mapping is for the Feguson River. The mapped level of the floodplain is approximately 9.66mAHD. Taking into account back flooding up the East Picton Main Drain and the potential for flow being restricted through the discharge culvert because of this, a flood level of 10mAHD is assumed for the Sub A Drain where it adjoins the site.

Wetlands
Approximately half of the site is mapped as a Multiple Use palusplain wetland (ID 14,329) under DBCA's Geomorphic Wetland, Swan Coastal Plain mapping. This western mapped portion corresponds to the lower plain area. There are no Resource Enhancement or Conservation category wetlands within 200m of the site.

Groundwater
Based on groundwater level mapping undertaken as part of the DWMS, the depth to groundwater varies in relation to the landform for the Site. Under the high points of the sand rises. the separation to groundwater is up to 1.5m, with this separation decreasing on the plain areas until groundwater is effectively at the surface. The Sub A Drain and farm drains effectively control any further rise in groundwater.

Wastewater
The site is within a Sewage Sensitive area, as mapped under the Government Sewage Policy (2019). This is due to the being within an Estuary Catchment and within 1km of a sensitive wetland.

PROPOSED MANAGEMENT STRATEGIES

STORMWATER MANAGEMENT

The development is to manage its stormwater so that it releases water at predevelopment rates while treating the water prior to infiltration or release. Details on this process are outlined below and can be viewed on Figure C02.

Water Quality Management
The onsite treatment of the 1EY event is to be undertaken through the use of planted bioretention basins. The entire 1EY is to be captured and infiltrated through the bioretention media. A subsoil network 300-500mm below the basin base will be used to control groundwater rise and allow for effective continual infiltration of the stormwater. The bioretention basin base area is to be approximately 2% of the overall feeding effective impervious area. This equates to an area of approximately 718m^2. A perimeter swale with an approximate 1m wide base width will allow for this treatment area.

Detention Management
For events above the 1EY, the focus is to control the release of water to the Sub A Drain. The rate of release is to be equivalent to the predevelopment flow rate for the corresponding event. In keeping with the approved DWMS, the two critical events for detention to predevelopment rates are the 10% AEP and 1% AEP.

10% AEP
As a guide, and in keeping with the City of Bunbury's *Information Guide- Stormwater Disposal from Private, Commercial and Industrial Properties (I9)*, the development is to store 2m^3 of stormwater per 65m^2 of impervious area to control the 10% AEP. Based on this, an approximate required volume is 941.5m^3. Further details are outlined in Table 1. Using the swale design to achieve the 1EY treatment area, the perimeter swale at 0.6m deep swale to the overflow weir with 1:4 sides provides storage in excess of the 10% AEP requirement. The exact required storage will be determined as part of detailed design

Table 1: 10% AEP Basin Storage Details.

Total Site area (m^2)	Effective impervious area (90%) (m^2)	Required volume (m^3)	Volume in perimeter basin (m^3)	Approximate perimeter basin top water level area(m^2)
35900	32310	994.2	1330.0	4200

1% AEP
To comply with the DWMS and the need for management of the 1% AEP flow rate from the greater catchment, there will also be the requirement for additional storage above the 10% standard rate. The exact amount of storage and discharge structure will be determined as part of detailed design.
As a guide, the pro rata storage volume for the Site, as set out in the DWMS for the entire Catchment has been assumed. The pro rata rate is approximately 1m^3 of storage for every 20.8m^2 of catchment area. This is based on Catchment 8 being 81.65ha and requiring 39170m^3 of required storage. Table 2 provides the approximate volumes required. It also outlines the additional 1% AEP basin required volume, as well as an approximate area, assuming a 1m deep basin with 1:4 sides for the additional water.

Table 1: 1% AEP Basin Storage Details.

Total area (m2)	Required storage rate	Required volume (m^3)	Volume held in perimeter basin in excess of 10% AEP requirement (m^3)	Remaining volume within 1% AEP basin (m^3)	Approximate basin top water level area (m^2)
35900	1m^3 / 20.8m^2 of catchment area	1722	335	1387	1940

Water Corporation drain management
Flows to the Sub A Drain are to be at or below predevelopment flow rates.
To allow for future modifications of the drain and floodplain storage, a 20m setback from the site's infrastructure is proposed at this stage. The final setback will be determined as part of detailed design.

Any crossings of the Sub A Drain are to be to Water Corporation standards and receive approval from the Water Corporation.

FLOOD MANAGEMENT
Due to the electrical nature of the BESS development, there is a need for key infrastructure to be above the 1% AEP flood risk from regional flooding as well as stormwater storage on site. For any transformers and other key electrical infrastructure, the separation is to be 1m from both types of flooding. Other infrastructure may be set 0.5m above the 1% AEP regional flood and 0.3m above any internal flooding. Assuming a likely regional 1% AEP flood level of 10mAHD, the key electrical infrastructure will be located at 11mAHD or above. The final level is to be determined based on the flood assessment within Lot 16 and site.

GROUNDWATER MANAGEMENT

The shallow depth of the groundwater means that this needs to be considered as part of the stormwater management. All basins are to have 0.3-0.5m of separation from their base to the controlled groundwater levels. Groundwater is to be controlled to a level close to the Annual Average Maximum Groundwater Level. Minor variations to the controlled level in comparison to the AAMGL is considered suitable, provided there is no significant impact on any surrounding ecosystems or mobilisation of significant contaminants within the groundwater. These contaminants may include high concentrations of nutrients, metals or ASS. Treatment of the outflowing groundwater can also be considered as part of detailed design.

ECOSYSTEM PROTECTION AND ENHACMENT

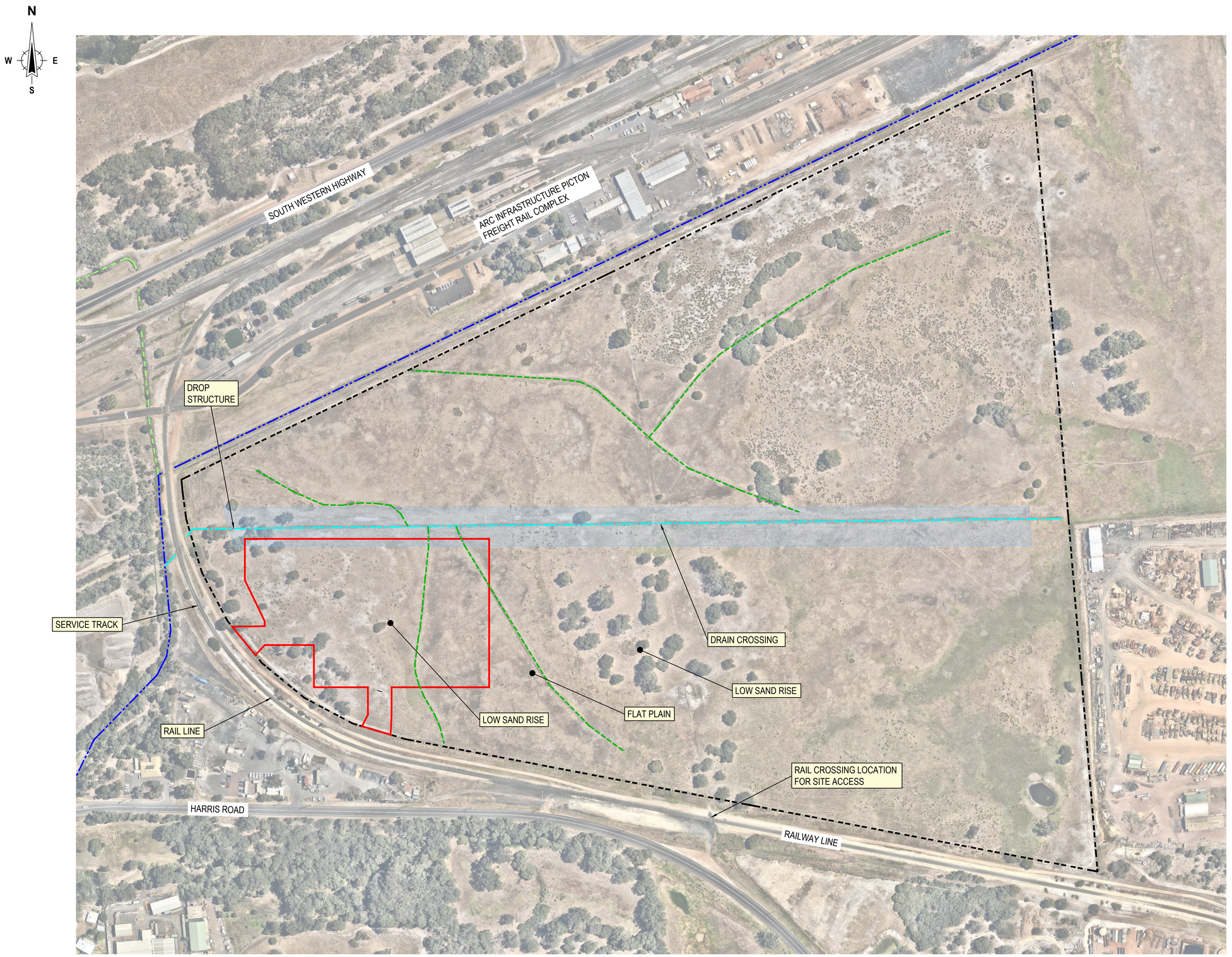
The subject land is located more than 50m from any significant wetland or natural waterway. The treatment of water prior to leaving the Site, in conjunction with the separation distances, provides suitable protection of the surrounding and downstream ecosystems.

CONCLUSION

The development and its proposed stormwater management is considered suitable for the location and requirements set out in the approved DWMS. Further detailed investigations are to be undertaken as a condition of the Development Application. These detailed designs are to be approved by the City of Bunbury, with support from the Department of Water and Environmental Regulation.

REFERENCES

Hidding, 2024. Planning Report Proposed Battery Energy Storage System Lot 16 (Harris Road), Picton
Spring City 2024. Konkera Picton BESS Project Layout and Electrical Plans



NOTES:

1. SETBACK LENGTHS OF 40.0m WAS CONSIDERED FOR BOUNDARIES AND INFRASTRUCTURE AS A WORST CASE SCENARIO.
2. A CLEARANCE OF 20.0m WAS CONSIDERED FROM THE CENTRELINE OF THE WATER CORPORATION DRAIN LINE AS INFORMATION ON THE WIDTH OF THE DRAIN WAS NOT AVAILABLE A THE TIME.

LEGEND

- LOT BOUNDARY
- SITE BOUNDARY
- WATER CORPORATION - EAST PICTON MAIN DRAIN
- WATER CORPORATION - EAST PICTON SUB A DRAIN
- WATER CORPORATION - EAST PICTON SUB B DRAIN
- SMALL FARM DRAINS
- WATER CORPORATION DRAINAGE AREA

REV	DATE	ISSUE DESCRIPTION	DRAWN	DESIGN	CHECK
A	1/4/25	ISSUED FOR APPROVAL	KJB	BO	BO

STATUS

SCALE

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Oversby Consulting

PROJECT
PROPOSED BATTERY ENERGY STORAGE SYSTEM (BESS), LOT 16 HARRIS ROAD, PICTON

DRAWING TITLE
SITE PLAN

PROJECT No.	DRAWING No.	REVISION
B25003	C01	A

N

W E

S

1% AEP OUTFLOW PIPE, SET AT BASE OF BASIN TO SUB A DRAIN

10% AEP DISCHARGE PIPE, SET ABOVE THE 1EY DETENTION VOLUME. FLOWS TO SUB A DRAIN

WATER CORPORATION - EAST PICTON SUB A DRAIN

OVERFLOW WEIR FROM 1% AEP BASIN TO SUB A DRAIN

OVERFLOW WEIR TO 1% AEP BASIN

1% AEP STORAGE REQ 1387m³ (1940m²)
ASSUMES: 1.0m DEEP, 1:4 SIDES.
CONSTRUCTED AROUND EXISTING TREES

1% AEP BASIN CONNECTION PIPE

1EY AND 10% AEP BIORETENTION SYSTEM.
1:4 SIDES.
BASE AREA: 712m²
VOLUME TO 0.6m DEEP: 1330m³ REQ.

10% AEP BASIN BALANCE PIPE

TRANSMISSION LINE ARRANGEMENT

STORAGE

CONTROL ROOM

TX1
75MVA
33/132kV

TX2
75MVA
33/132kV

SWITCHROOM 1

AUX TX1
2MVA
33/0.415kV

AUX TX2
2MVA
33/0.415kV

SWITCHROOM 2

ROADWAY

GATE 1

GATE 2

VEHICLE PARKING AND SERVICES

RAIL LINE

BATT01A BATT02A BATT03A BATT04A BATT05A BATT06A BATT07A BATT08A BATT09A BATT10A BATT11A BATT12A BATT13A BATT14A
BATT01B BATT02B BATT03B BATT04B BATT05B BATT06B BATT07B BATT08B BATT09B BATT10B BATT11B BATT12B BATT13B BATT14B
MVPS01 MVPS02 MVPS03 MVPS04 MVPS05 MVPS06 MVPS07 MVPS08 MVPS09 MVPS10 MVPS11 MVPS12 MVPS13 MVPS14
BATT01C BATT02C BATT03C BATT04C BATT05C BATT06C BATT07C BATT08C BATT09C BATT10C BATT11C BATT12C BATT13C BATT14C
BATT01D BATT02D BATT03D BATT04D BATT05D BATT06D BATT07D BATT08D BATT09D BATT10D BATT11D BATT12D BATT13D BATT14D

BATT15A BATT16A BATT17A BATT18A BATT19A BATT20A BATT21A BATT22A BATT23A BATT24A BATT25A BATT26A BATT27A BATT28A
BATT15B BATT16B BATT17B BATT18B BATT19B BATT20B BATT21B BATT22B BATT23B BATT24B BATT25B BATT26B BATT27B BATT28B
MVPS15 MVPS16 MVPS17 MVPS18 MVPS19 MVPS20 MVPS21 MVPS22 MVPS23 MVPS24 MVPS25 MVPS26 MVPS27 MVPS28
BATT15C BATT16C BATT17C BATT18C BATT19C BATT20C BATT21C BATT22C BATT23C BATT24C BATT25C BATT26C BATT27C BATT28C
BATT15D BATT16D BATT17D BATT18D BATT19D BATT20D BATT21D BATT22D BATT23D BATT24D BATT25D BATT26D BATT27D BATT28D

BATT29A BATT30A BATT31A BATT32A BATT33A BATT34A BATT34A BATT36A BATT37A BATT38A BATT39A BATT40A BATT41A BATT42A
BATT29B BATT30B BATT31B BATT32B BATT33B BATT34B BATT35B BATT36B BATT37B BATT38B BATT39B BATT34B BATT41B BATT42B
MVPS29 MVPS30 MVPS31 MVPS32 MVPS33 MVPS34 MVPS35 MVPS36 MVPS37 MVPS38 MVPS39 MVPS40 MVPS41 MVPS42
BATT29C BATT30C BATT31C BATT32C BATT33C BATT34C BATT35C BATT36C BATT37C BATT38C BATT39C BATT40C BATT41C BATT42C
BATT29D BATT30D BATT31D BATT32D BATT33D BATT34D BATT35D BATT36D BATT37D BATT38D BATT39D BATT40D BATT41D BATT42D

LEGEND

- LOT BOUNDARY
- SITE BOUNDARY
- WATER CORPORATION - EAST PICTON SUB A DRAIN
- WATER CORPORATION DRAINAGE AREA
- 10% AEP BALANCE PIPE
- 10% AEP DISCHARGE PIPE
- 1% AEP INTERCONNECTING PIPE
- 1% AEP DISCHARGE PIPE
- OVERFLOW WEIR
- 10% AEP BIORETENTION SYSTEM
- 1% AEP BASIN
- GENERAL OVERLAND FLOW ARROW
- FLOW DISCHARGE

REV	DATE	ISSUE DESCRIPTION	DRAWN	DESIGN	CHECK
A	11/7/24	ISSUED FOR APPROVAL	KJB	BO	BO

STATUS

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0 5 10 15 20 25
SCALE 1:500

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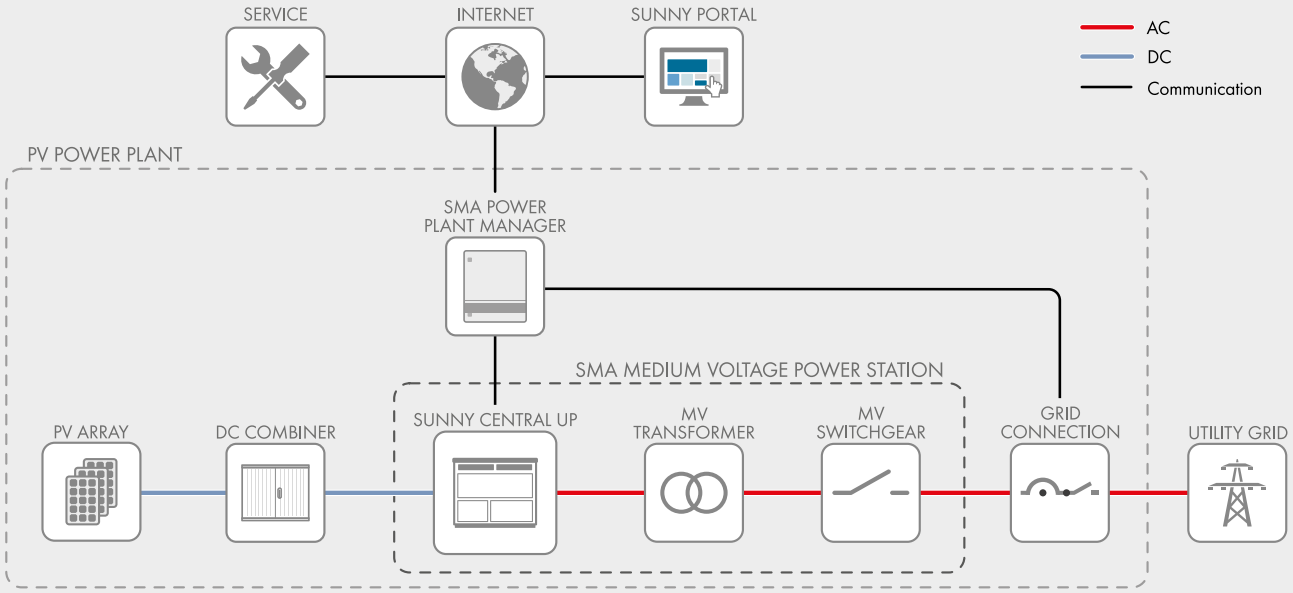
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PROJECT
PROPOSED BATTERY ENERGY STORAGE SYSTEM (BESS),
LOT 16 HARRIS ROAD, PICTON

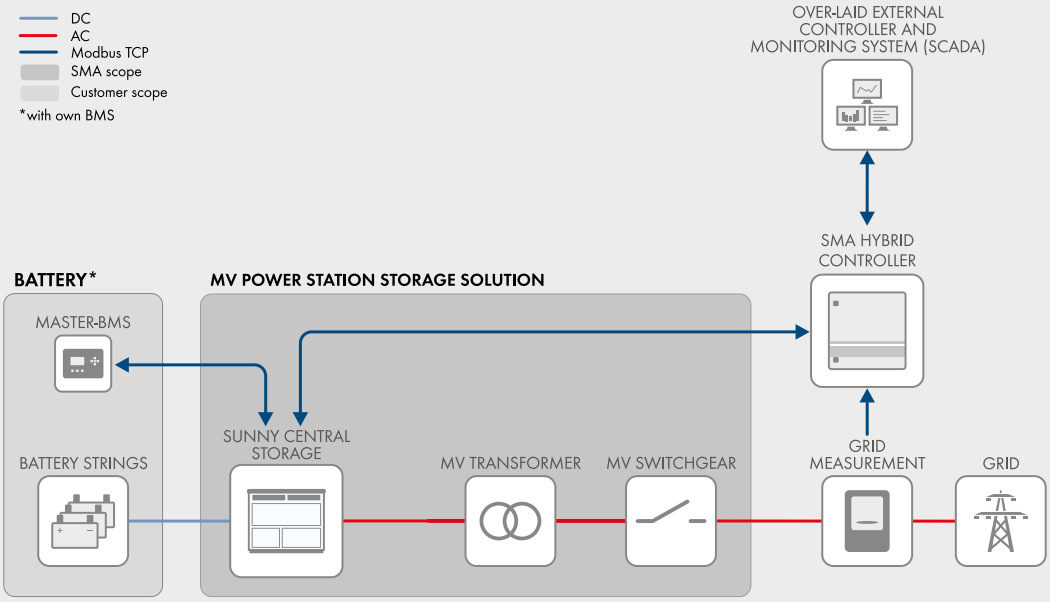
DRAWING TITLE
POST DEVELOPMENT MANAGEMENT PLAN

PROJECT No.	DRAWING No.	REVISION
25003	C02	A

System diagram with Sunny Central UP



System diagram with Sunny Central Storage UP



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Technical Memorandum

Subject	BESS Development, Lot16 Harris Road, Picton		
Client	Trustee for J W Cranston Family Trust	Project No.	PTG/02207
Date	24/04/2025	Revision	A
Prepared by	Brian Sii	Discipline	Traffic and Transport
Reviewed by	Scott Lambie	Office	Perth

1 INTRODUCTION

PTG Consulting Pty Ltd (PTG) has been commissioned by the Trustee for J W Cranston Family Trust to prepare a technical memorandum to document the transport impact of the proposed Battery Energy Storage System (BESS) development in Picton (City of Bunbury).

This technical memo aims to consider the operations of the proposed development and its connections to the adjacent road network, with a focus on traffic volumes, access and impact on the existing cycling route along the frontage road (Harris Road).

2 PROPOSED DEVELOPMENT

The proposed development is located at Lot 16 Harris Road Picton (the Site) and has historically been used for grazing and cropping activities. The location of the Site is shown **Figure 1.**

Figure 1 Site Aerial Image



3 VEHICLE ACCESS AND PARKING

3.1 Access Arrangements

Access to and from the Site is proposed to be via an existing informal access road from Harris Road across the heavy rail line, located along the southern boundary of the Site. The crossover will be formalised and upgraded to cater for the heavy vehicles (19m Semi-trailer) with a maximum width of 10m, in reference to the City of Bunbury industrial properties crossover widths.

The figure below shows that a 19m semi-trailer can access and egress the Site via the proposed crossover location across the rail crossing without unnecessary encroachment into the road shoulders or opposing traffic lane. The proposed access location onto Harris Street is suitably located on the outside of a gentle curve, which provides for generous sight distance availability in both directions.

Figure 2 Access off Harris Road



3.2 Internal Roads

The internal access roads will be constructed to accommodate one-way circulation traffic for heavy vehicles up to 19m semi-trailer. Swept path analysis shown in **Figure 3** demonstrates the internal road layouts required to accommodate a semi-trailer.

Figure 3 3Internal Swept Path

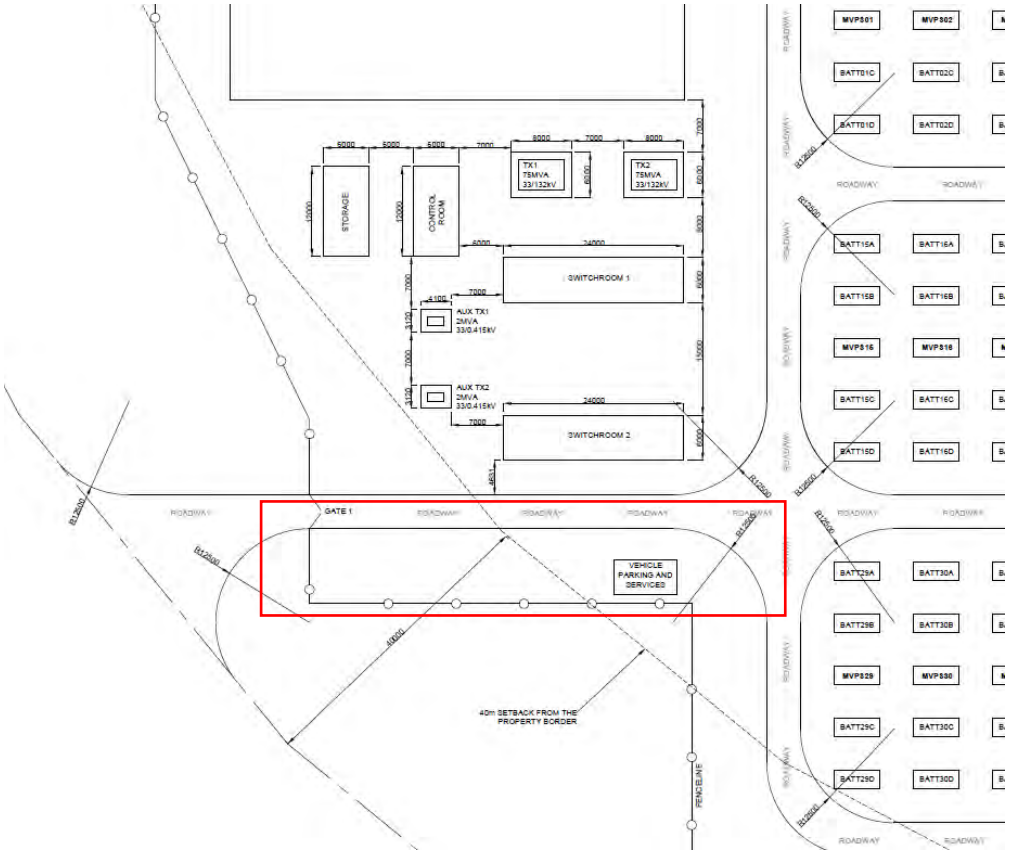


3.3 Car Parking

Vehicle car parking is proposed to be located near the southwestern boundary of the Site, directly south of where the switch rooms and control rooms are located, as shown in below. The car parking area is proposed to be unmarked as the development is unlikely to generate any significant car parking demand on a day-to-day basis once it is operating (See **Figure 4**).

During construction phase, contractors are expected to park within temporary hard stands within the Site and is unlikely to have any parking shortfall concern.

Figure 44 On-site Car Parking Area



4 TRAFFIC VOLUMES

4.1 Existing Traffic Generation

The Site is currently being used for grazing and cropping purposes and does not generate any significant vehicle traffic.

4.2 Development traffic generation

The construction period is anticipated to be between 12-18 months. During this period, there may be a range of 10-20 delivery vehicles per week visiting the site. The peak construction period is anticipated to require up to 20 personnel, with a likely average of 5 workers per day throughout the construction phase. Once complete, local operational staff numbers are expected to be 2-4 personnel at most during standard business hours on each day.

Based on a first principles approach, the Site is anticipated to generate a peak of 40 vehicle trips per day during the construction phased. During the operational phase, the traffic generation of the Site is expected to be even lower, with a maximum of 4 local staff required to attend the Site per day, which translates to a maximum trip generation of 4 trips during the peak hours and 8-10 trips per day.

According to the Transport Impact Assessment Guidelines Volume 1, a development generating below 10 vehicle trips in the peak hour can be considered as "low Impact" and typically would not require a formal TIS report to support the development.

5 IMPACT ON OTHER MODE OF TRANSPORT

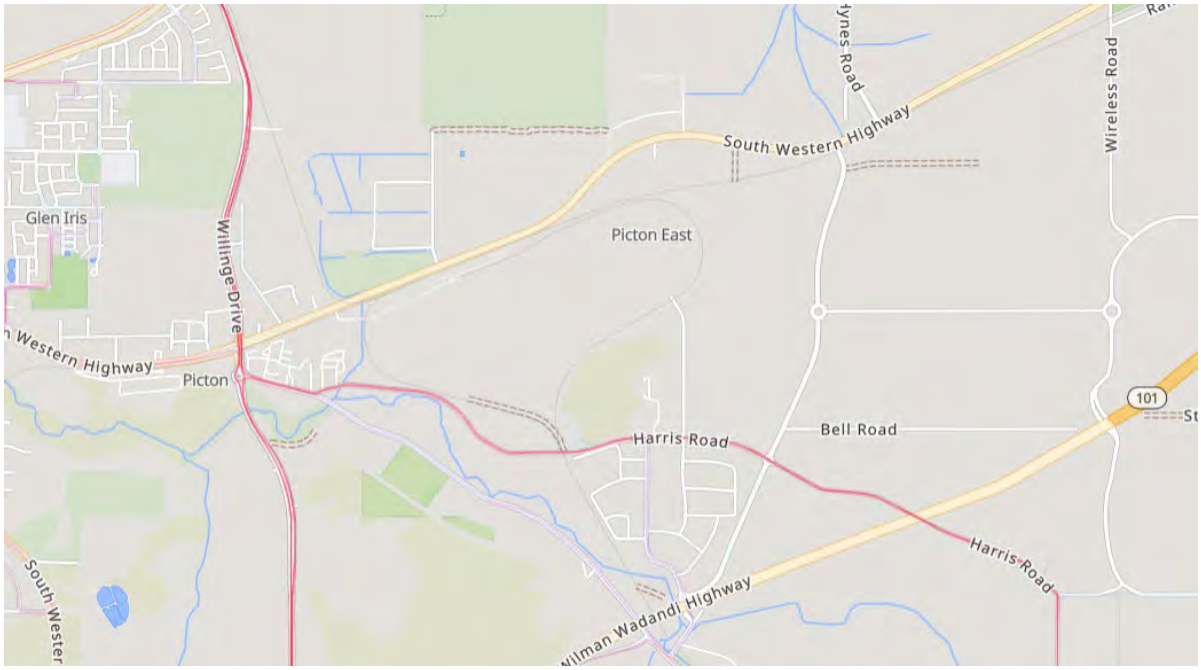
5.1 Public Transport Services

There are currently no public transport services available in the vicinity of the Site. Additionally, no future public transport services or facilities are planned in the foreseeable future. This has minimal impact to the proposed development as public transport accesses are not essential to the operation of the Site.

5.2 Pedestrian and Cycling Facilities

It is noted that Harris Road is a popular cycling route, frequently utilised by local cycling groups. PTG Consulting contacted a number of cycling groups within Bunbury, including South West Cycle club, Bunbury 40+ Cycling club and the Ride with GPS cyclist data logging group which were able to provide basic cycling route data for the Picton area.

Figure 5 Cycling routes heat map



While cycling facilities and access is not critical for the proposed development, the additional traffic generated may result in a slight increase in the likelihood of crashes along Harris Road. However, as calculated, the traffic generation of the Site is very low, and advice received from cycling groups was that the route is typically used by groups during the early mornings or weekends and would generally not coincide with the usual staff arrival and departure times for the Site.

With that, the impact of the proposed operations of the development on the existing Harris Road cycling usage is likely to negligible.

During the construction period, when larger trucks would access the Site at an increased frequency, a localised work site traffic management scheme can be implemented through the form of advanced warning signs and even temporary speed limit reductions if considered appropriate. Periods of construction activity could also be managed through consultation with Cycling groups to minimise any conflicts in activity within Harris Road.

5.3 Train and Railway Line

It is noted that the proposed access will cross an existing rail line associated with the adjacent Arc Infrastructure site and management arrangements will be negotiated between the Site operators and Arc Infrastructure. The use of the rail service road is expected to be very low and infrequent, which would minimise the likelihood of any train-vehicle conflict. Additionally, ample sight distance is available on both sides of the existing level crossing point, allowing drivers to observe an oncoming train from afar.

Therefore, through operational management practices and the on-site attributes, the proposed access is expected to have minimal road safety implications and risk of crashes.

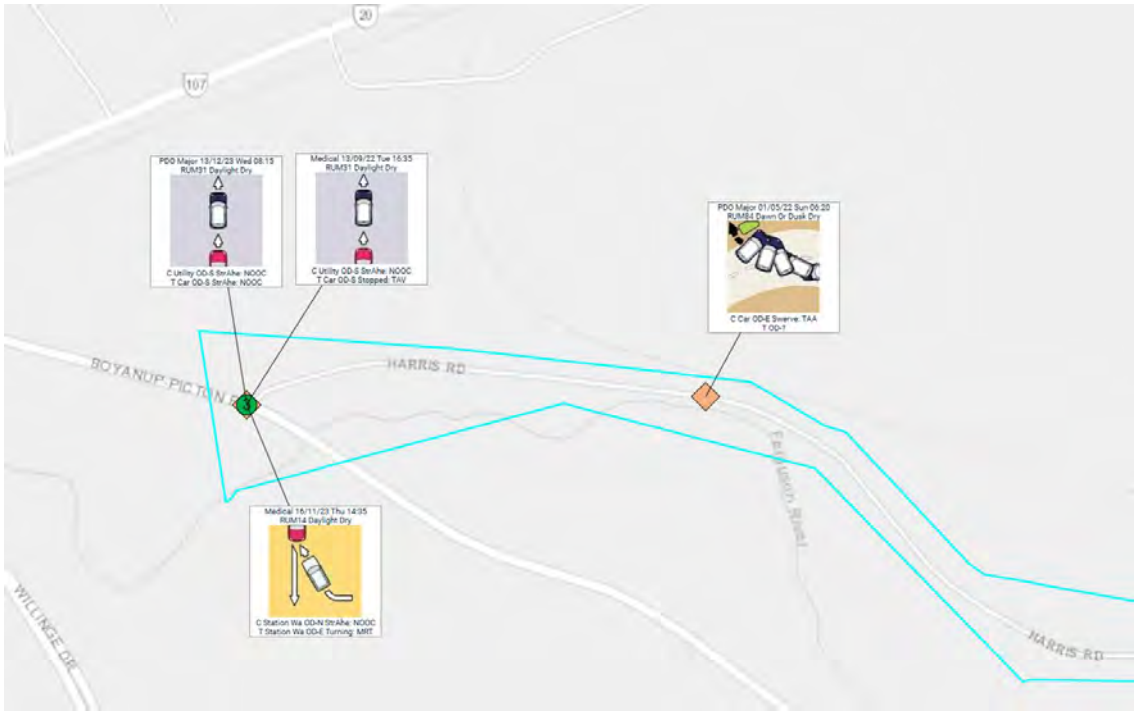
6 SAFETY CONCERNS

A review of the existing crash data from Main Roads WA Traffic Map for the period between 1st January 2020 to 31 December 2024 was conducted along Harris Road.

The crash history record shows that there were 3 crashes recorded at the intersection of Harris Street and Boyanup Picton Road, including 2 rear-end and 1 right-turn crashes. Two of the crashes required medical attention. One hit-animal crash was recorded near the proposed site access.

Given the very low incident of midblock crashes recorded along Harris Road in the vicinity of the Site access, the low traffic generation of the proposed development is unlikely to significantly impact the overall safety of the surrounding road network.

Figure 6 Historical Crash Record

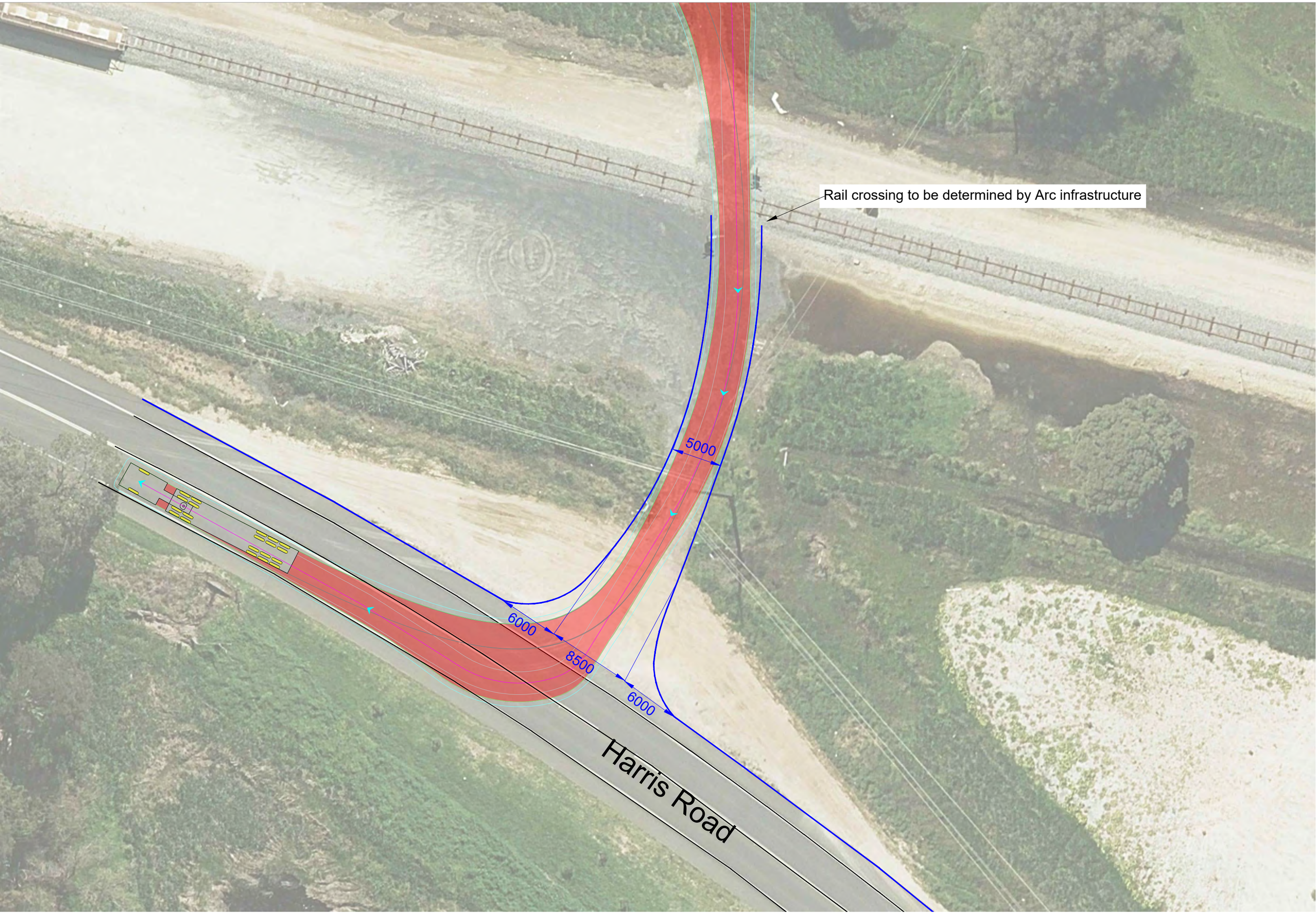


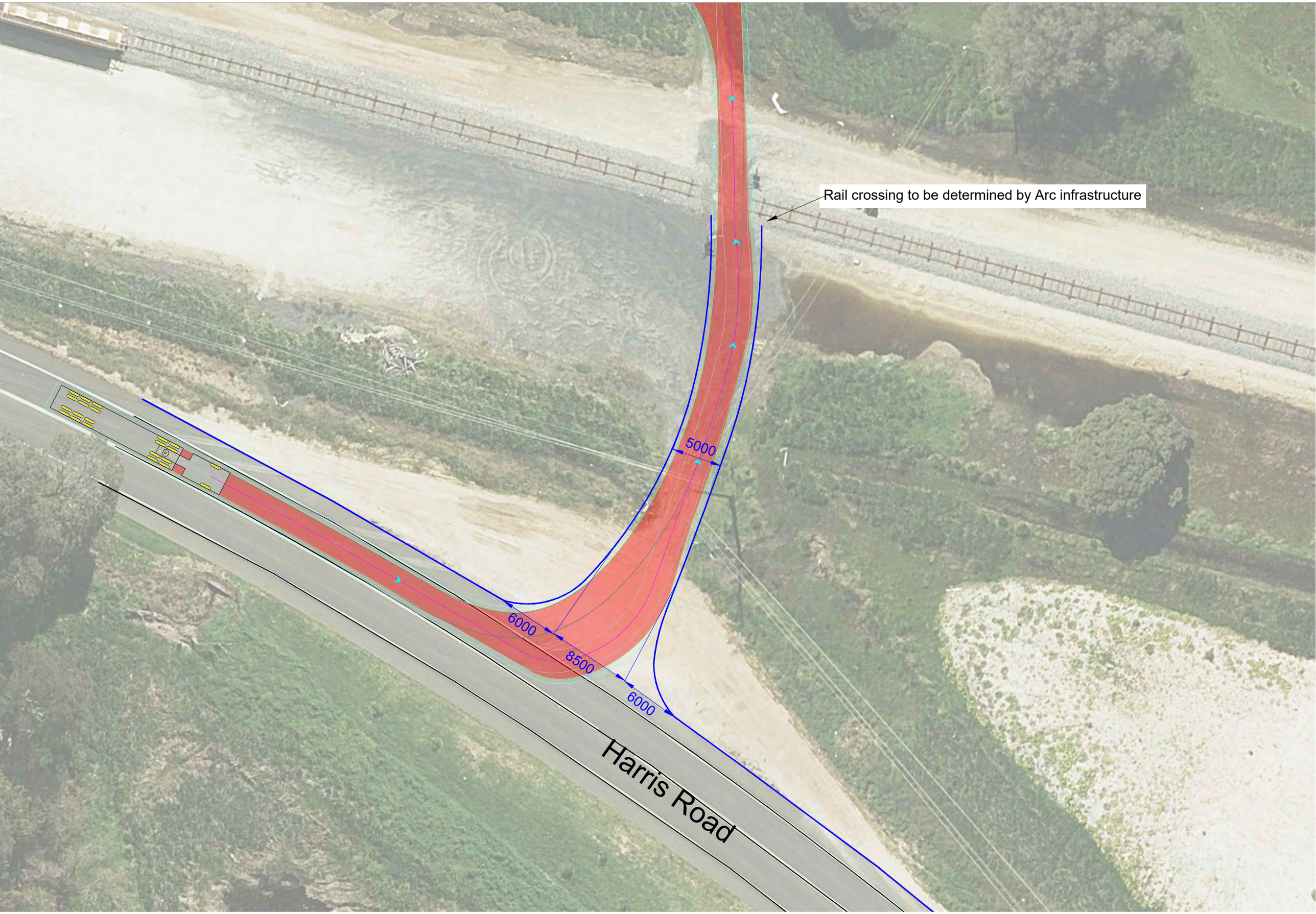
7 SUMMARY

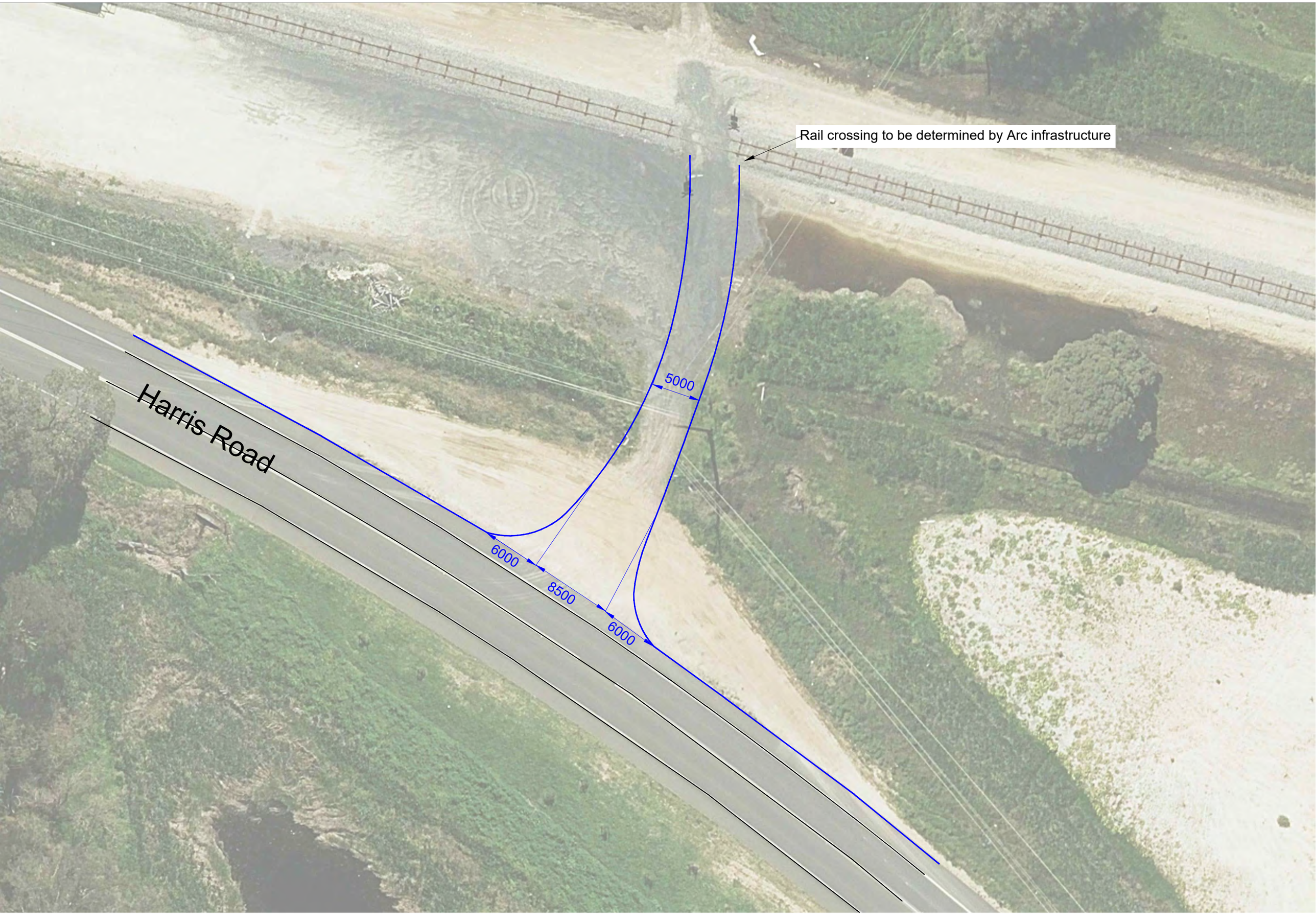
PTG Consulting Pty Ltd has prepared a technical memorandum assessing the transport impact of a proposed Battery Energy Storage System (BESS) development on Harris Road, Picton, commissioned by the Trustee for the J W Cranston Family Trust.

Key Points:

- The BESS is proposed for Lot 16 Harris Road, Picton, previously used for grazing and cropping.
- Access via an upgraded crossover from Harris Road across the Arc Infrastructure railway line.
- Internal roads to be designed for one-way circulation of 19m semi-trailers.
- Car parking requirement is minimal and the proposed parking area is expected to meet demand during operation and construction.
- Construction phase (12–18 months) may generate up to 40 vehicle trips / day.
- Operational phase will involve very low traffic generation - max 10 vehicle trips / day.
- Traffic impact is categorized as “low impact” under WAPC Transport Assessment Guidelines.
- No Public Transport services currently available or planned near the site.
- Harris Road is a known cycling route. The minimal additional traffic generated by the site is unlikely to affect cyclists significantly.
- Site access crosses a railway; managed through coordination with Arc Infrastructure with minimal safety risks expected.
- Crash data (2020–2024) indicates low incidence of crashes near the site.
- No significant safety concerns identified as a result of development. Overall risk from development is considered to be minimal.


Rail crossing to be determined by Arc infrastructure
5000
6000
8500
6000
Harris Road


Rail crossing to be determined by Arc infrastructure
5000
6000
8500
6000
Harris Road


Rail crossing to be determined by Arc infrastructure
Harris Road
5000
6000
8500
6000

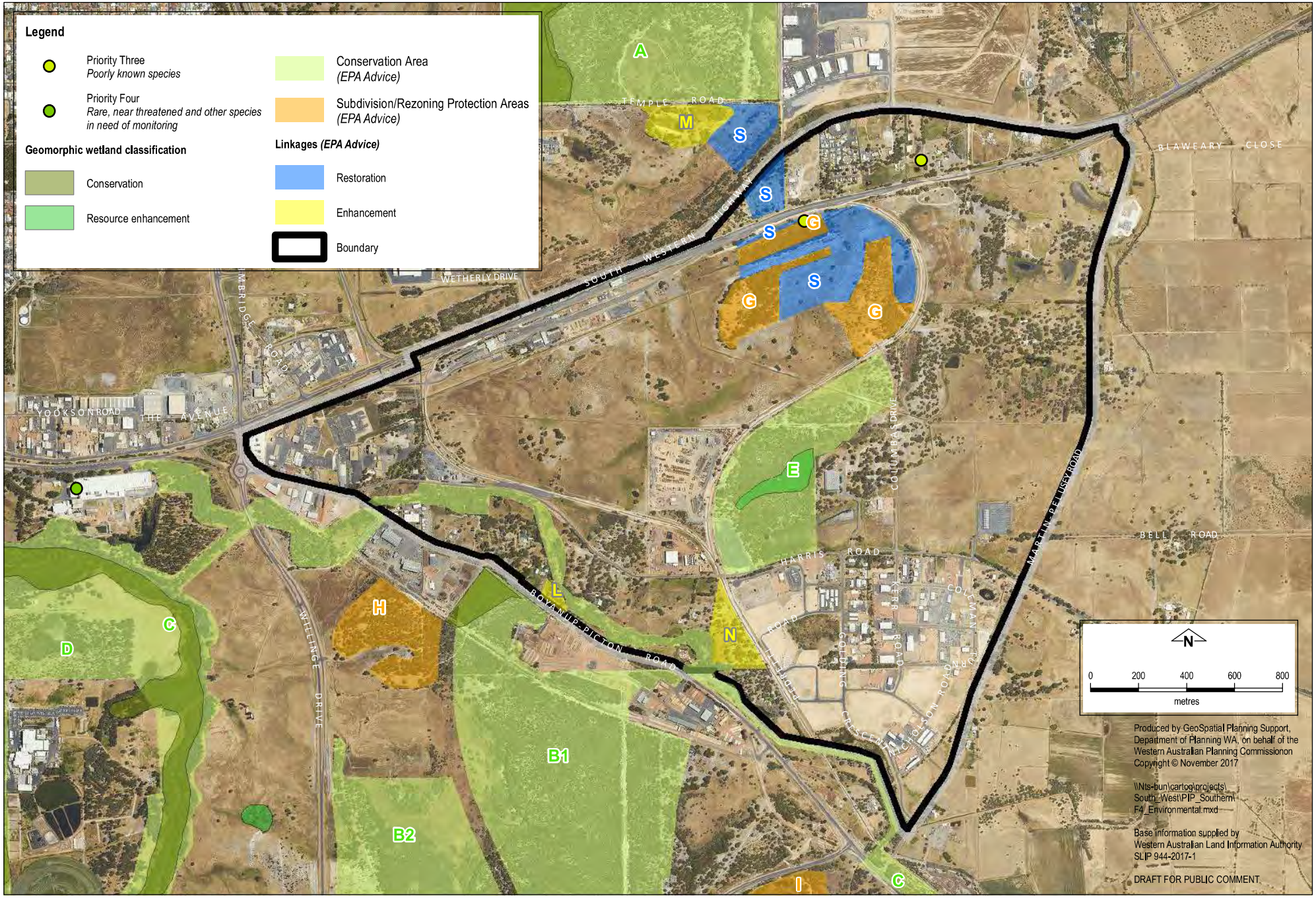


Figure 6: Environmental assets

Lloyd George Acoustics
PO Box 717
Hillarys WA 6923
T: 9401 7770
www.lgacoustics.com.au

Environmental Noise Assessment - Picton Battery Energy Storage System (BESS)

Lot 16 (Harris Rd), Picton, WA

Reference: 250810671-01A

Prepared for:
Kingslane Pty Ltd

Reference: 250810671-01A

Lloyd George Acoustics Pty Ltd
ABN: 79 125 812 544

PO Box 717
Hillarys WA 6923
www.lgacoustics.com.au

Contacts	General	Terry George	Matt Moyle	Matt Nolan
E:	info@lgacoustics.com.au	terry@lgacoustics.com.au	matt@lgacoustics.com.au	matt.nolan@lgacoustics.com.au
P:	9401 7770	0400 414 197	0412 611 330	0448 912 604
Contacts	Accounts	Rob Connolly	Hao Tran	Dave Perry
E:	accounts@lgacoustics.com.au	rob@lgacoustics.com.au	hao@lgacoustics.com.au	dave@lgacoustics.com.au
P:	9401 7770	0410 107 440	0438 481 207	0410 468 203

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Date	Rev	Description	Author	Verified
26-Sep-25	0	DRAFT Issued to Client	Rob Connolly	Terry George
8-Oct-25	A	IF recalculated and ANL's Assessed	Rob Connolly	Terry George

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1. INTRODUCTION

Lloyd George Acoustics was engaged by Kingslane Pty Ltd to undertake an environmental noise assessment for a Battery Energy Storage System (BESS) to be located at Lot 16 (Harris Rd), Picton, WA - refer *Figure 1-1*.



Figure 1-1: Subject Site Location (Source: DPLH PlanWA)

This facility will comprise of 168x 3MWh lithium-ion battery energy storage systems (BESS) held in containers, 42x 3.2MVA battery inverters, 2x 2MVA transformers (MVT), 4x 75MVA high voltage (HV) substations, control room & storage facilities. HVAC is included within the inverters and BESS containers to assist with cooling the equipment, as well as high speed fans on each battery pack. Fan speeds of 100 percent are considered only likely in extreme heat and load conditions during daytime and evening operations. Average run speeds of 50 to 80 percent are considered during night-time operations. This report considers three scenarios based on noise data for each running condition. A site plan is attached in *Appendix A*.

With regard to noise emissions, consideration is given to noise from the proposed BESS containers and inverter fan units, as well as MV transformers and HV substations at neighbouring properties, against the prescribed standards of the *Environmental Protection (Noise) Regulations 1997*.

It is noted that this proposed BESS facility is located in land falling under the Shire of Bunbury Local Planning Scheme (LPS) # 8 and is located within the Picton Industrial Park (Southern Precinct) District Structure Plan (DSP).

Appendix C contains a description of some of the terminology used throughout this report.

2. CRITERIA

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (the Regulations as follows:

"7. Prescribed standard for noise emissions

(1) Noise emitted from any premises or public place when received at other premises –

(a) must not cause, or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and

(b) must be free of –

(i) tonality; and

(ii) impulsiveness; and

(iii) modulation,

when assessed under regulation 9.

(2) For the purposes of subregulation (1)(a), a noise emission is taken to significantly contribute to a level of noise if the noise emission … exceeds a value which is 5 dB below the assigned level at the point of reception."

Tonality, impulsiveness and modulation are defined in regulation 9 (refer *Appendix C*). Under regulation 9(3), *"Noise is taken to be free of the characteristics of tonality, impulsiveness and modulation if -*

(a) the characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and

(b) the noise emission complies with the standard prescribed under regulation 7(1)(a) after the adjustments in the table [Table 2-1] … are made to the noise emission as measured at the point of reception."

Table 2-1: Adjustments Where Characteristics Cannot Be Removed

Where Noise Emission is Not Music*			Where Noise Emission is Music	
Tonality	Modulation	Impulsiveness	No Impulsiveness	Impulsiveness
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

* These adjustments are cumulative to a maximum of 15 dB.

The assigned levels (prescribed standards) for all premises are specified in regulation 8(3) and are shown in *Table 2-2*. The L_{A10} assigned level is applicable to noises present for more than 10% of a representative assessment period, generally applicable to "steady-state" noise sources. The L_{A1} is for short-term noise sources present for less than 10% and more than 1% of the time. The L_{Amax} assigned level is applicable for incidental noise sources, present for less than 1% of the time.

Table 2-2: Baseline Assigned Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial Premises	All hours	60	75	80
Industrial and Utility Premises	All hours	65	80	90

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

The influencing factor (IF), in relation to noise received at noise sensitive premises, has been calculated as 12 to 15 dB, as determined in *Appendix B*. *Table 2-3* shows the assigned levels including the influencing factor at the receiving locations.

It is noted that a number of the lots are zoned as Industrial development under City of Bunbury LPS #8, however currently four of these Lots have residential dwellings cited on them. For the purposes of this assessment (and also conservatism) these dwellings were considered as residential noise sensitive receptors, with the IF calculation assessed based on Industrial zoning land usage.

Table 2-3: Assigned Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
R3, R4 & R5 +12 dB IF Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	57	67	77
	0900 to 1900 hours Sunday and public holidays (Sunday)	52	62	77
	1900 to 2200 hours all days (Evening)	52	62	67
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	47	57	67
R2 +15 dB IF Noise sensitive premises: highly sensitive area[1]	0700-1900 Monday to Saturday	60	70	80
	0900-1900 Sunday and public holidays	55	65	80
	1900-2200 all days	55	65	70
	2200-0700 Monday to Saturday or 2200-0900 Sunday and public holidays	50	60	70
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial Premises	All hours	60	75	80
R1, R6 & R7 Industrial and Utility Premises	All hours	65	80	90

1. highly sensitive area means that area (if any) of noise sensitive premises comprising —
(a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
(b) any other part of the premises within 15 metres of that building or that part of the building.

It must be noted the assigned levels above apply outside the receiving premises and at a point at least 3 metres away from any substantial reflecting surfaces.

The assigned levels are statistical levels and therefore the period over which they are determined is important. The Regulations define the Representative Assessment Period (RAP) as "*a period of time of not less than 15 minutes, and not exceeding 4 hours, determined by* an *inspector* or *authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission"*. An inspector or authorised person is a person appointed under Sections 87 & 88 of the *Environmental Protection Act 1986* and include Local Government Environmental Health Officers and Officers from the Department of Water Environmental Regulation. Acoustic consultants or other environmental consultants are not appointed as an inspector or authorised person. Therefore, whilst this assessment is based on a 4-hour RAP, which is assumed to be appropriate given the nature of the operations, this is to be used for guidance only.

3. METHODOLOGY

Computer modelling has been used to predict the noise emissions from the development to all nearby receivers. The software used was *SoundPLAN 9.1* with the ISO 9613-2:2024-01 algorithms selected, as they include the influence of meteorological conditions. Input data required in the model are listed below and discussed in *Section 3.1* to *Section 3.4*:

- Meteorological Information;
- Topographical data;
- Ground Absorption; and
- Source sound power levels.

3.1. Meteorological Conditions

Meteorological information utilised is provided in *Table 3-1* and is considered to represent worst-case conditions for noise propagation. At wind speeds greater than those shown, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

Table 3-1: Modelling Meteorological Conditions

Parameter	Day (7.00am to 7.00pm)	Night (7.00pm to 7.00am)
Temperature (°C)	20	15
Humidity (%)	50	50
Wind Speed (m/s)	Up to 5	Up to 5
Wind Direction*	All	All

* The modelling package allows for all wind directions to be modelled simultaneously.

Alternatives to the above default conditions can be used where one year of weather data is available and the analysis considers the worst 2% of the day and night for the month of the year in which the worst-case weather conditions prevail (source: *Draft Guideline on Environmental Noise for Prescribed Premises*, May 2016). In most cases, the default conditions occur for more than 2% of the time and therefore must be satisfied.

3.2. Topographical Data

Topographical data was adapted from publicly available information (e.g. *Google*) in the form of spot heights and combined with the site plan.

The proposed ground level (PGL) for the BESS and Substation areas were set at 9.5 metres. Surrounding site buildings have been included in the model with the control, storage and switch room buildings modelled at heights of 6m, as these can provide barrier attenuation when located between a source and receiver, much the same as a hill. Receivers are modelled 1.5m above ground level. No site perimeter walls are included in the modelling.

Figure 3-1 shows a 2D overview of the noise model with the location of all relevant receivers identified.



Figure 3-1: Overview of Noise Model

Figure 3-2 shows a 3D image of the noise model.

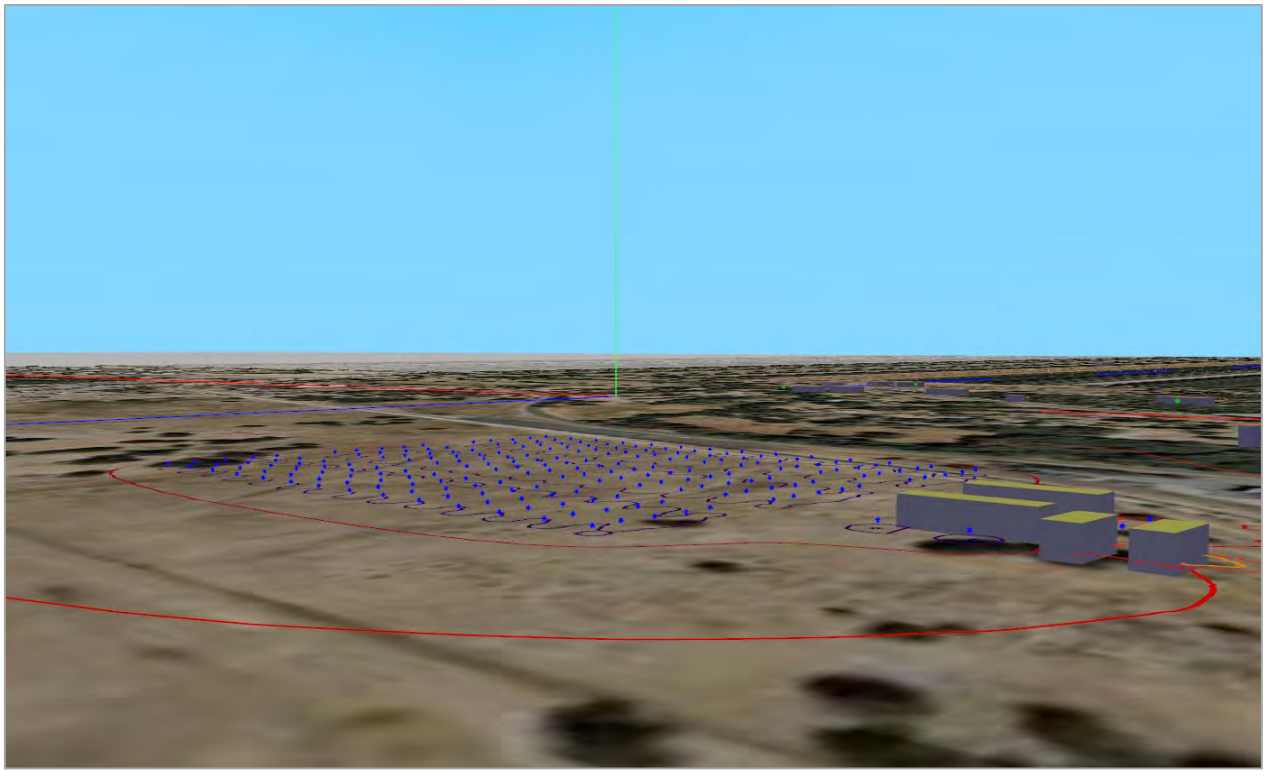


Figure 3-2: 3D View of Noise Model

3.3. Ground Absorption

The ground absorption has been assumed to be 0.8 (80%) as an average as it is predominantly grass and forest, noting that 0.0 represents hard reflective surfaces such as water and 1.0 represents absorptive surfaces such as grass.

3.4. Source Sound Levels

The source sound power levels for the proposed plant were provided by the Client. The sound power levels for the transformers were derived from *AS2374-2003: Power transformers Minimum Energy Performance Standard (MEPS) requirements for distribution transformers* and are provided in *Table 3-2*. As the project is in its infancy stage, the final selection and number of each type of equipment is subject to change at this stage.

Table 3-2: Source Sound Power Levels, dB

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	63	125	250	500	1k	2k	4k	8k	
BESS running at 100 percent, (168 off)	78	88	85	94	88	86	84	77	**94**
BESS running at 80 percent, (168 off)	65	75	72	81	75	73	71	64	**81**
BESS running at 50 percent, (168 off)	61	71	68	77	71	69	67	60	**77**
Inverters running at 100 percent with Manufacturers Silencer Kit Option, (42 off)	66	68	79	80	81	82	76	75	**87**
Inverters running at 80 percent with Manufacturers Silencer Kit Option, (42 off)	62	64	75	76	77	78	72	71	**82**
Inverters running at 60 percent with Manufacturers Silencer Kit Option, (42 off)	55	57	68	69	70	71	65	64	**76**
HV Sub Station Transformer running at 100 percent = 75MVA in Standard Mode, (2 off)	103	105	100	100	94	89	84	77	**100**
HV Sub Station Transformer running at 100 percent = 75MVA in Reduced Mode, (2 off)	95	97	92	92	86	81	76	69	**92**
MV Transformer running at 100 percent = 2MVA in Standard Mode, (2 off)	81	83	78	78	72	67	62	55	**78**

The following is noted in relation to *Table 3-2*:

- Each BESS & Inverter unit is modelled as an omni-directional point source at a height of 3 m above the PGL of 9.5 metres;
- Each HV & MV Transformer unit is modelled as an omni-directional point source at a height of 3 m above the PGL of 9.5 metres;
- All BESS overall sound power data was provided by the Manufacturer for a previous similar project;

- All Inverter overall sound power data is based on a White Paper Report provided by the same Manufacturer of a similar model fitted all with Silencer Kits with the daytime sound power levels based on power charging mode and the night-time levels based on grid feed mode;
- All noise sources are assumed to be L_{A10} unless noted otherwise;
- All sources are modelled to be operating concurrently;
- All noise sources are modelled as being in uncovered areas;
- During operations, an L_{10} parameter has been used as these operations are predicted to occur for more than 24-minutes in a 4-hour period.

4. RESULTS

Currently the daytime & evening scenario allows for 100 percent BESS & Inverter run speeds, whilst the night-time scenario allows for up to 50 - 80 percent BESS & 60 – 80 percent Inverter run speeds, due in main to the cooler average night-time temperatures. The noise levels were predicted for three scenarios:

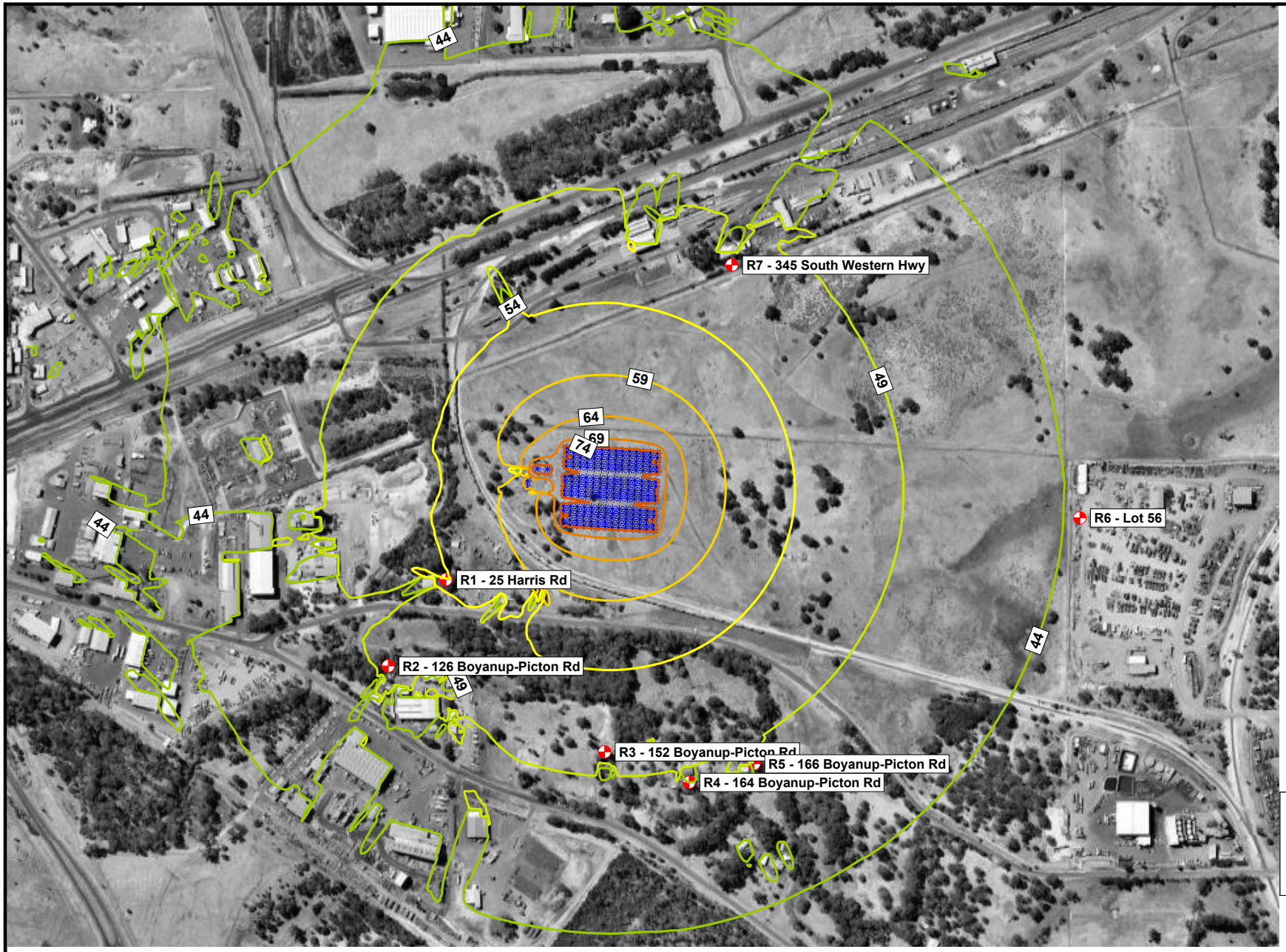
- Scenario 1: Daytime/Evening Meteorological Conditions – Worst Case Operations with Run Speeds of up to 100 percent – All BESS, Attenuated Inverters, MV & and HV transformer substations concurrently operating at 100 percent (L_{10}).
- Scenario 2: Night-time Meteorological Conditions – Reduced Operations with Inverter Run Speeds of up to 80 percent – All BESS & Attenuated Inverters concurrently operating at 80 percent. MV & and HV transformer substations concurrently operating in Standard mode (L_{10}).
- Scenario 3: Night-time Meteorological Conditions – Limited Operations with Inverter Run Speeds of up to 60 percent – All BESS at 50 percent, Attenuated Inverters at 60 percent, MV Transformers operating in standard mode with HV transformer substations operating in Reduced mode (L_{10}).

The results for Scenarios 1 to 3 are provided in *Table 4-1*. Noise contour plots are also provided in *Figure 4-1* to *Figure 4-3* showing noise levels across the study area.

Table 4-1: Scenario 1 to Scenario 3 Predicted Levels, dB(A)

Receiver	Scenario 1 (L_{10})	Scenario 2 (L_{10})	Scenario 3 (L_{10})
R1 - 25 Harris Rd	55	45	40
R2 - 126 Boyanup-Picton Rd	51	41	36
R3 - 152 Boyanup-Picton Rd	52	40	35
R4 - 164 Boyanup-Picton Rd	51	40	35
R5 - 166 Boyanup-Picton Rd	50	40	34
R6 - Lot 56 Harris Rd	43	34	28
R7 - 345 South Western Hwy	52	43	37

Figure 4-1



Predicted Noise level L_{A10} dB

- = 44
- = 49
- = 54
- = 59
- = 64
- = 69
- = 74

N

Signs and symbols

- Source
- Receiver

Scale 1:8500

0 40 80 160 240 320 m

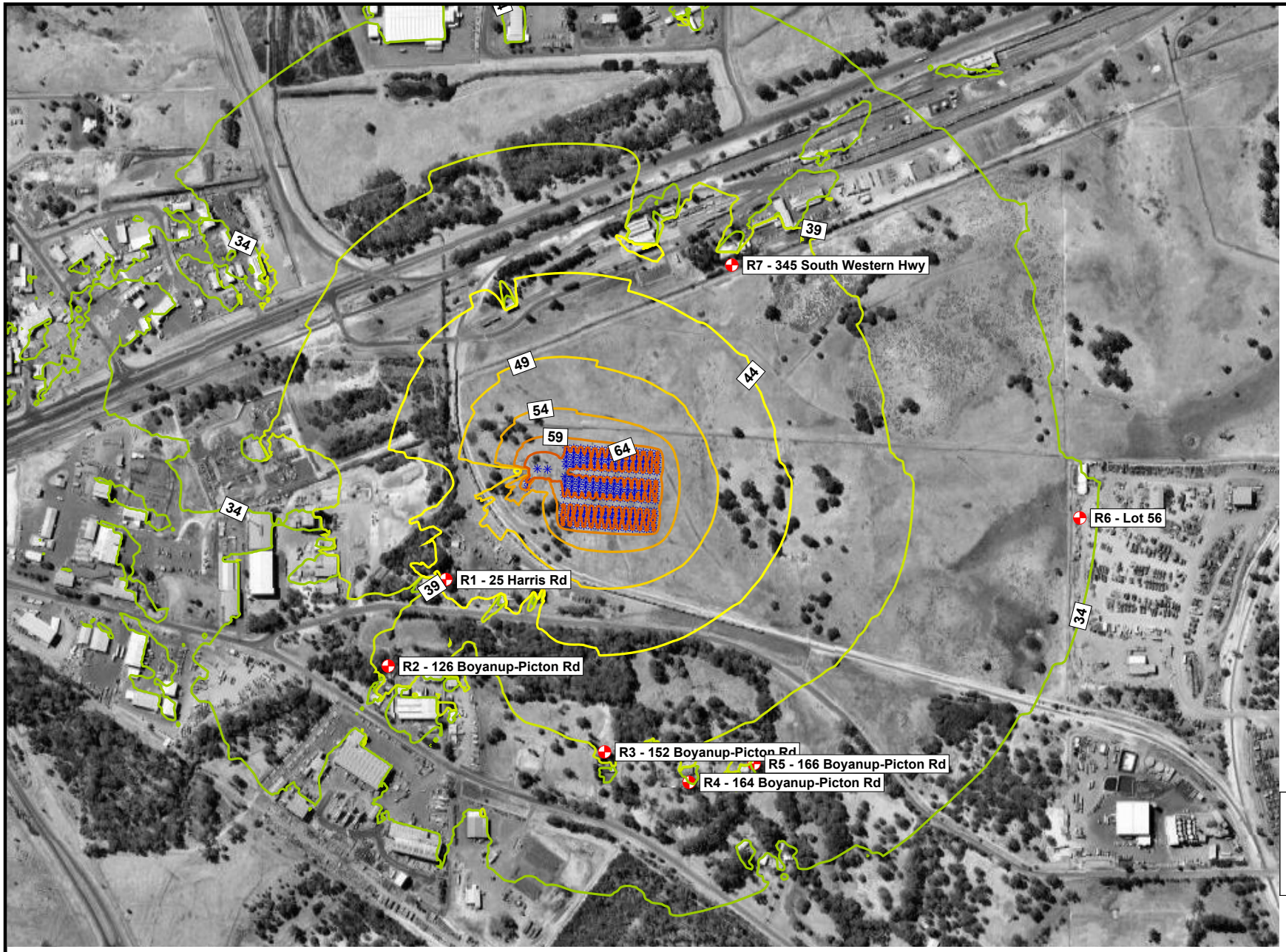
Lot 16 (Harris Rd) Picton BESS - Daytime Operations - Worst Case Scenario 100 Percent Run Speed L_{A10}

Noise Level Contours - All BESS, Inverters, MV & HV Transformers Plant Only

No Tonality Penalty Included - 1.5m Above Ground

Lloyd George Acoustics
by Rob Connolly
rob@lgacoustics.com.au
(61) 410 107 440

Figure 4-2



Predicted Noise level L_{A10} dB

- = 34
- = 39
- = 44
- = 49
- = 54
- = 59
- = 64

N

Signs and symbols

- Source
- Receiver

Scale 1:8500

0 40 80 160 240 320 m

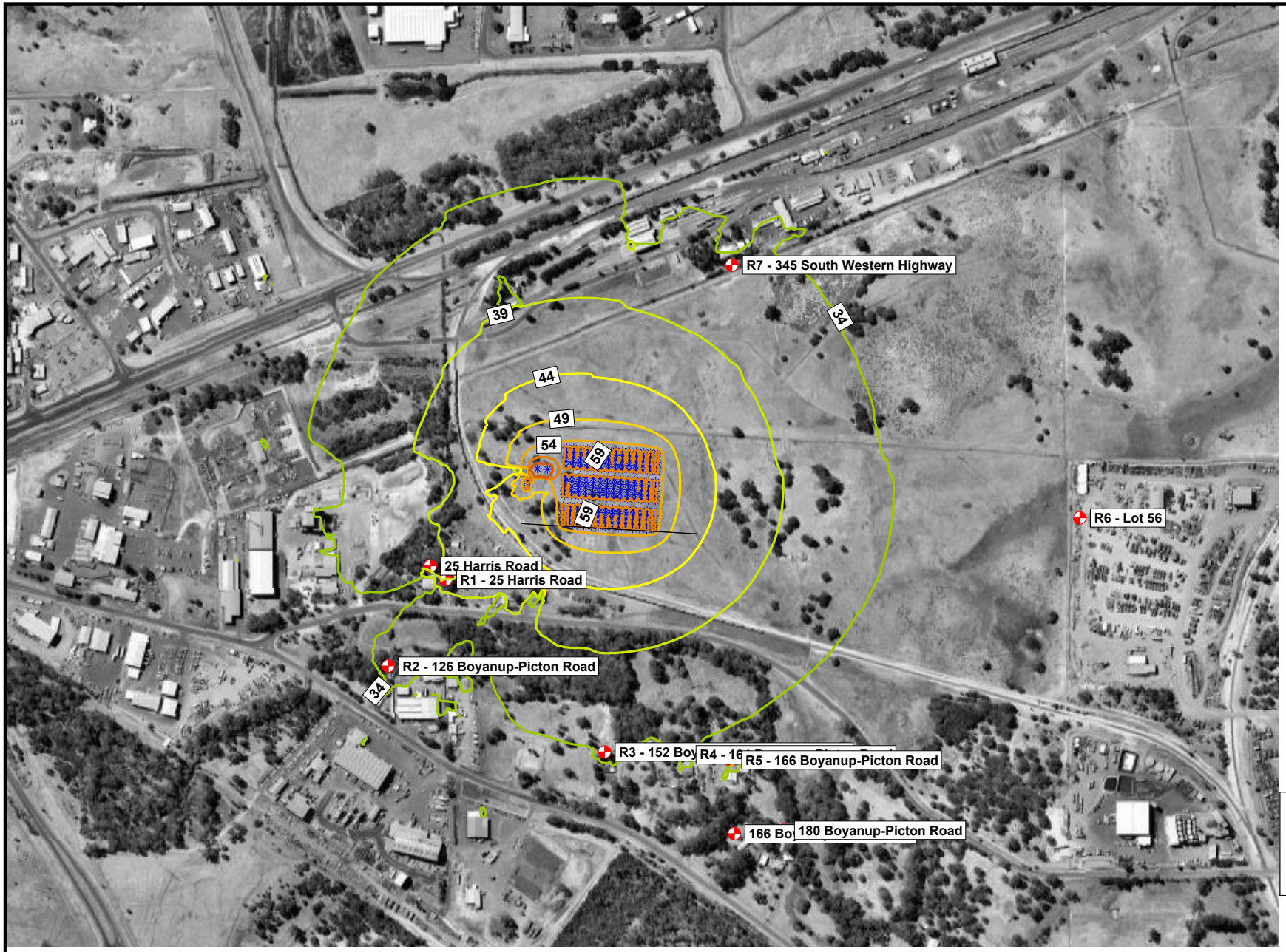
Lot 16 (Harris Rd) Picton BESS - Night-time Operations - Reduced Scenario 80 Percent Run Speed L_{A10}

Noise Level Contours - All BESS & Inverters @ 80 Percent, MV & HV Standard Mode Transformers Plant Only

No Tonality Penalty Included - 1.5m Above Ground

Lloyd George Acoustics
by Rob Connolly
rob@lgacoustics.com.au
(61) 410 107 440

Figure 4-3



Predicted Noise level L_{A10} dB

- = 34
- = 39
- = 44
- = 49
- = 54
- = 59
- = 64

N

Signs and symbols

- Source
- Receiver

Scale 1:8500

0 40 80 160 240 320 m

Lot 16 (Harris Rd) Picton BESS - Night-time Operations - Limited Scenario 50/60 Percent Run Speed L_{A10}

L_{A10} Noise Level Contours - All BESS @ 50 Percent, Inverters @ 60 Percent, MV Standard & HV Reduced Mode Transformers Plant Only
No Tonality Penalty Included - 1.5m Above Ground

Lloyd George Acoustics
by Rob Connolly
rob@lgacoustics.com.au
(61) 410 107 440

5. ASSESSMENT

5.1. Scenario 1 – Daytime/Evening Worst Case Operations

Table 5-1 provides the noise levels for Scenario 1, for worst-case daytime operations. Intrusive noise characteristics are possible so noise levels are adjusted by +5 dB for possible tonal characteristics, however tonality is generally less detectable during the daytime period as a result of the expected higher background noise levels.

Table 5-1: Scenario 1 Worst Case Operations: Daytime/Evening Assessment, dB L_{A10}

Receiver	Predicted Total	Adjusted Level*	Assigned Day Level	Assigned Sunday/Evening Level	Assessment
R1 - 25 Harris Rd	55	60	65	65	*Complies / Complies*
R2 - 126 Boyanup-Picton Rd	51	56	60	55	*Complies / +1 dB*
R3 - 152 Boyanup-Picton Rd	52	57	57	52	*Complies / +5 dB*
R4 - 164 Boyanup-Picton Rd	51	56	57	52	*Complies / +4 dB*
R5 - 166 Boyanup-Picton Rd	50	55	57	52	*Complies / +3 dB*
R6 - Lot 56 Harris Rd	43	48	65	65	*Complies / Complies*
R7 - 345 South Western Hwy	52	57	65	65	*Complies / Complies*

* Adjusted by + 5 dB for tonality

As can be seen, compliance is achieved at all identified receivers during the daytime period with a marginal +1 dB exceedance at R2 with up to a maximum +5 dB exceedance at 3 other receivers in the Sunday/Evening periods. It is noted that if tonality isn't actually present in the noise spectrum at the receptors then compliance is achieved. General advice is presented in *Section 7* to reduce the noise levels as low as reasonable practicable.

5.2. Scenario 2 – Night-time Reduced Operations

Table 5-2 provides the noise levels for Scenario 2, for reduced night-time operations. Intrusive noise characteristics are expected; so noise levels are adjusted by +5 dB for possible tonal characteristics.

Table 5-2: Scenario 2 Reduced Operations: Night-time Assessment, dB L_{A10}

Receiver	Predicted Total	Adjusted Level*	Assigned Night Level	Assessment
R1 - 25 Harris Rd	45	50	65	*Complies*
R2 - 126 Boyanup-Picton Rd	41	46	50	*Complies*
R3 - 152 Boyanup-Picton Rd	40	45	46	*Complies*
R4 - 164 Boyanup-Picton Rd	40	45	46	*Complies*
R5 - 166 Boyanup-Picton Rd	40	45	46	*Complies*
R6 - Lot 56 Harris Rd	34	39	65	*Complies*
R7 - 345 South Western Hwy	43	48	65	*Complies*

* Adjusted by + 5 dB for tonality

As can be seen compliance is achieved at all identified receivers.

5.3. Scenario 3 – Night-time Limited Operations

Table 5-3 provides the noise levels for Scenario 3, for limited night-time operations. Intrusive noise characteristics are expected; so noise levels are adjusted by +5 dB for possible tonal characteristics.

Table 5-3: Scenario 3 Limited Operations: Night-time Assessment, dB L_{A10}

Receiver	Predicted Total	Adjusted Level*	Assigned Night Level	Assessment
R1 - 25 Harris Rd	40	45	65	*Complies*
R2 - 126 Boyanup-Picton Rd	36	41	50	*Complies*
R3 - 152 Boyanup-Picton Rd	35	40	46	*Complies*
R4 - 164 Boyanup-Picton Rd	35	40	46	*Complies*
R5 - 166 Boyanup-Picton Rd	34	39	46	*Complies*
R6 - Lot 56 Harris Rd	28	33	65	*Complies*
R7 - 345 South Western Hwy	37	42	65	*Complies*

* Adjusted by + 5 dB for tonality

As can be seen compliance is achieved at all identified receivers.

6. DISCUSSION

Table 6-1 provides a breakdown of the noise contribution of each source group type at the closest and most impacted identified noise sensitive receiver R3 for all three operational scenarios. Note that no tonal penalty is applied to the noise levels in *Table 6-1*. It is noted that the BESS are the dominant noise source during all three running scenarios.

Table 6-1: Breakdown of Noise Source Group Contributions, dB L_{A10}

Receiver	Scenario	BESS	Inverters	HV Transformers	MV Transformers	Total
R3 - 152 Boyanup-Picton Rd	**1**	**51**	38	31	16	**52**
	2	**39**	33	32	17	**40**
	3	**35**	26	24	17	**35**

The limited running of plant (Scenario 3) running on lower speed, decreases the noise levels at R3 by 17 dB versus daytime 100 percent operation (Scenario 1). With future more detailed usage periods, load and noise data, the scenarios could be remodelled with greater precision, which may result in lower noise emissions especially applicable for the worst-case daytime scenario.

7. RECOMMENDATIONS

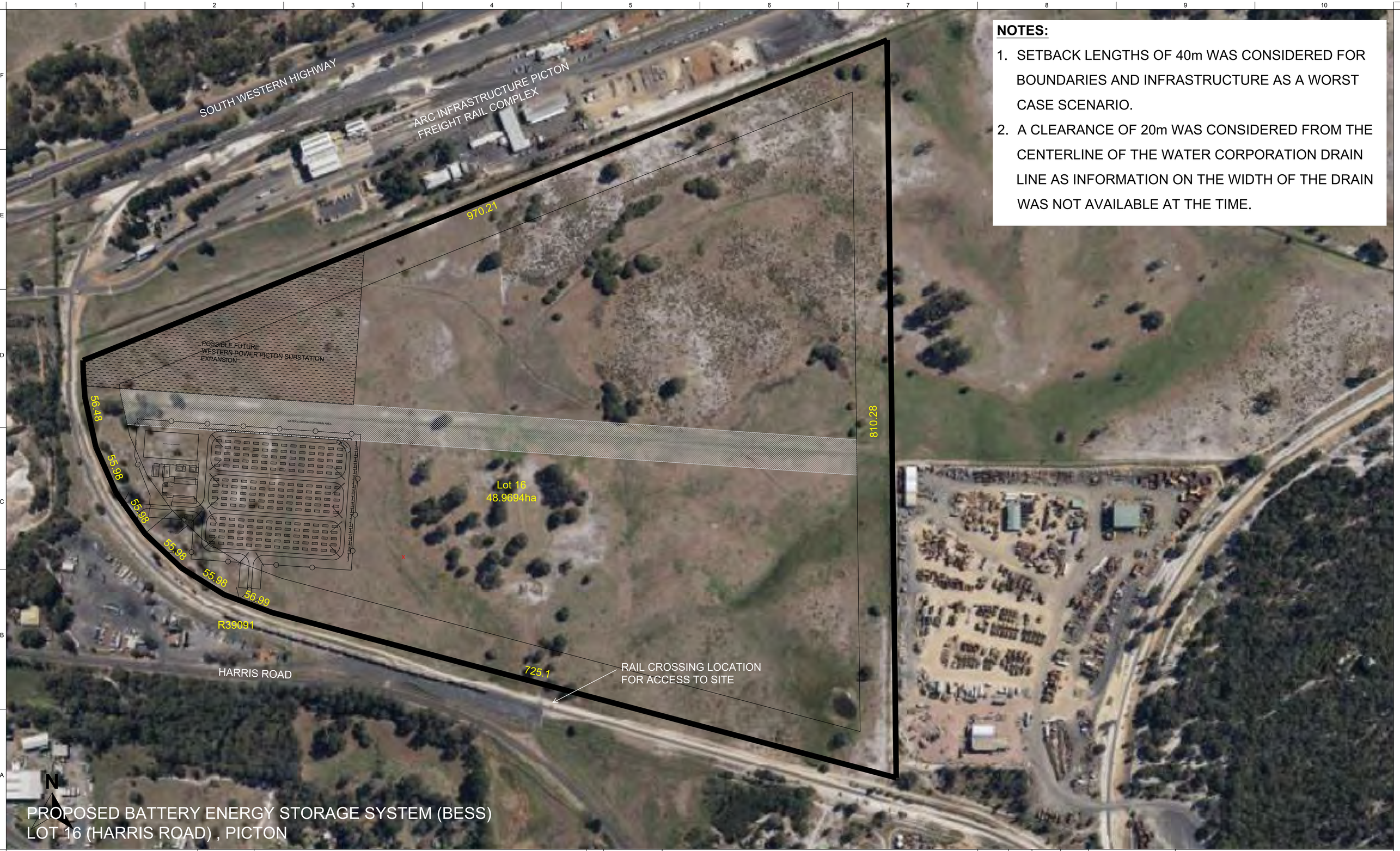
To achieve compliance at all times, a 5 dB reduction is required to the overall L_{A10} noise levels at the noise sensitive receptors assuming the noise is tonal. It is noted that the only predicted exceedances are during the 'worst-case' running scenario during Evening/Sunday periods at the residential noise sensitive receptors which are located on Industrial development zoned areas under City of Bunbury LPS #8. If these Lot's actually contained Industrial premises, then compliance is achieved at the Lot boundaries at all times.

It is worth noting that the investigation is inherently conservative, in that it assumes that all plant are concurrently operational, downwind conditions are occurring and tonality is present Further studies to investigate and confirm actual running operation patterns/procedures may be carried out in the future as the project progresses as this 'worst-case' scenario may not be applicable outside of normal day-time periods.

Different BESS containers could be investigated that have lower sound power levels or alternatively the current proposed plant providers may have noise mitigated options available. For example, low pressure drop acoustic louvres can be utilised on the BESS fan grilles to mitigate the noise as well as investigation on the use of noise barriers should the 'worst-case' scenario run speed actually be required outside of normal daytime hours.

Given the distances between the BESS and NSR's, there is a reasonable possibility that tonality may not be evident and may not be applicable as a noise characteristic penalty. This could however be assessed post construction, with a noise mitigation plan to be implemented.

Appendix A – Development Plans



NOTES:

1. SETBACK LENGTHS OF 40m WAS CONSIDERED FOR BOUNDARIES AND INFRASTRUCTURE AS A WORST CASE SCENARIO.
2. A CLEARANCE OF 20m WAS CONSIDERED FROM THE CENTERLINE OF THE WATER CORPORATION DRAIN LINE AS INFORMATION ON THE WIDTH OF THE DRAIN WAS NOT AVAILABLE AT THE TIME.

PROPOSED BATTERY ENERGY STORAGE SYSTEM (BESS)
LOT 16 (HARRIS ROAD) , PICTON

Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
B	08/08/2024	ADDED AUXILIARY TRANSFORMER	AA	HDS	EM	
A	06/08/2024	ISSUED FOR INTERNAL REVIEW	AA	HDS	EM	

Revisions — Originator / Client

Drawing No.	Description

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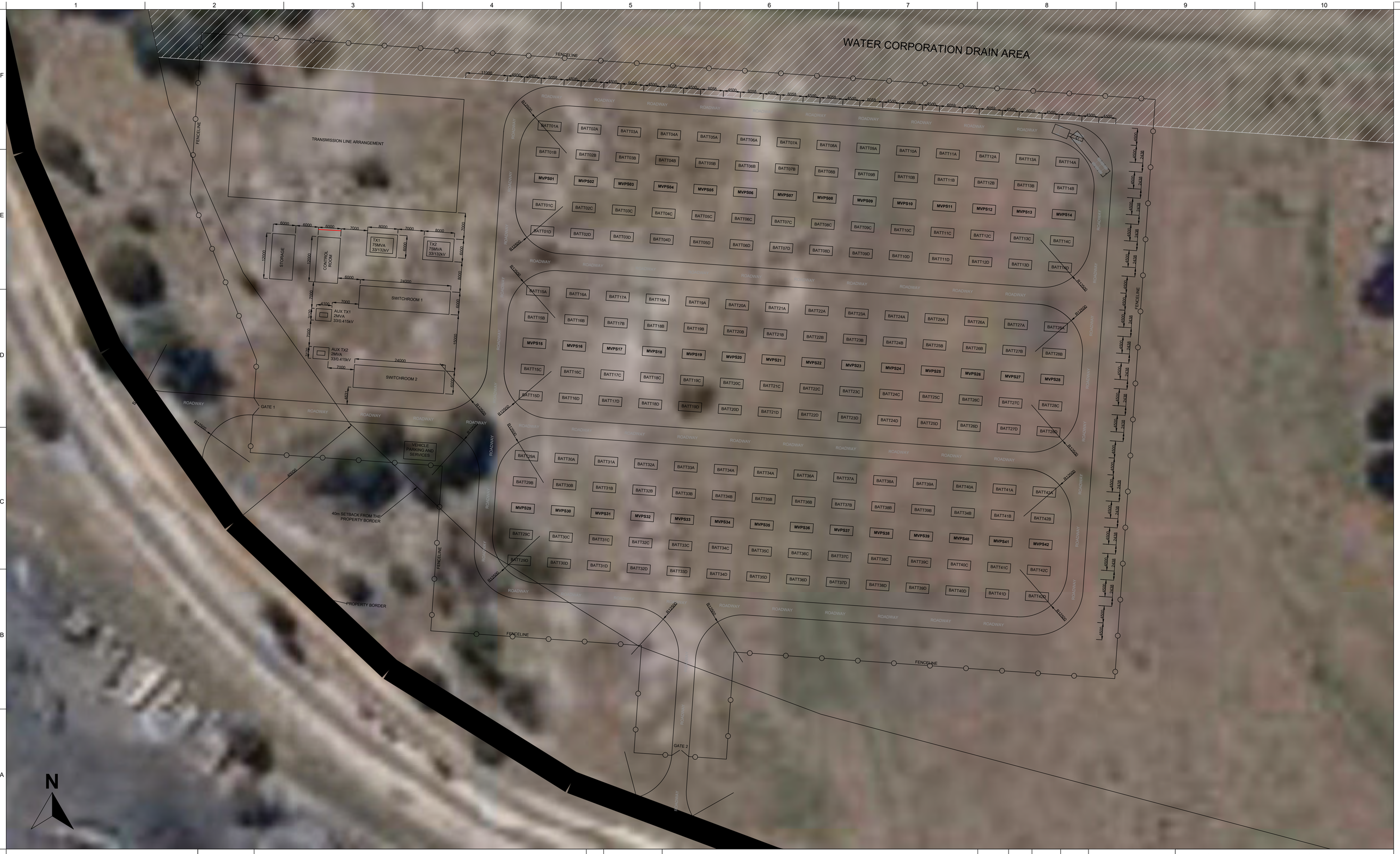
KONKERA PICTON BESS PROJECT
NETWORK CONNECTION

Document Title

KONKERA PICTON BESS
POWER DISTRIBUTION NETWORK DEVELOPMENT
SATELLITE MAP LAYOUT (SHEET 1)

Scale	SpringCity Project No.	Drawing No.	Doc. Type	Sheet No	Rev.
NTS	SP02426	SP02426-GA-002-01	Drawing	1 OF 2	B
A1					

Document No.



Drawing No.	Description	Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
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		B	08/08/2024	ADDED AUXILIARY TRANSFORMER	AA	HDS	EM	
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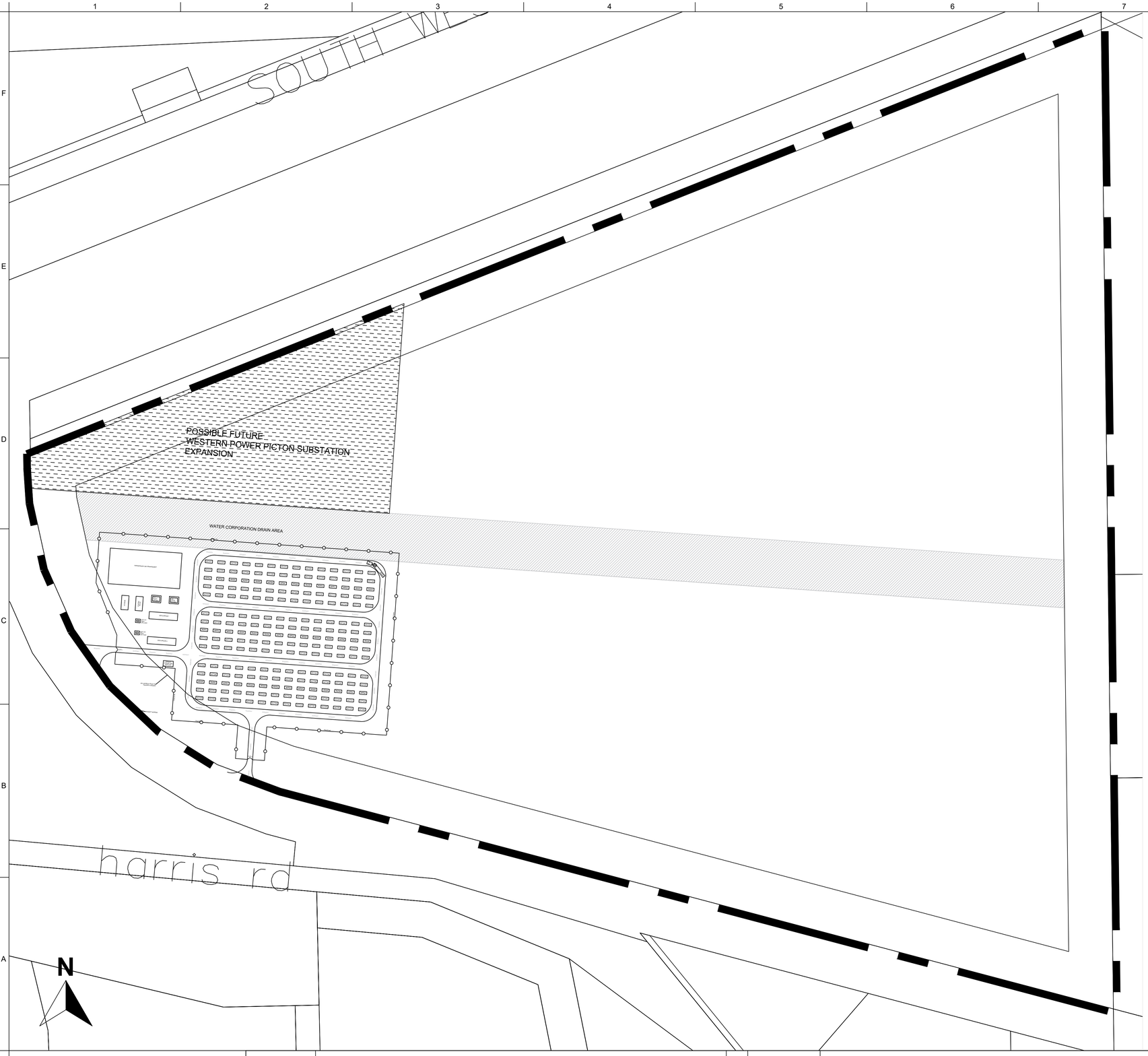
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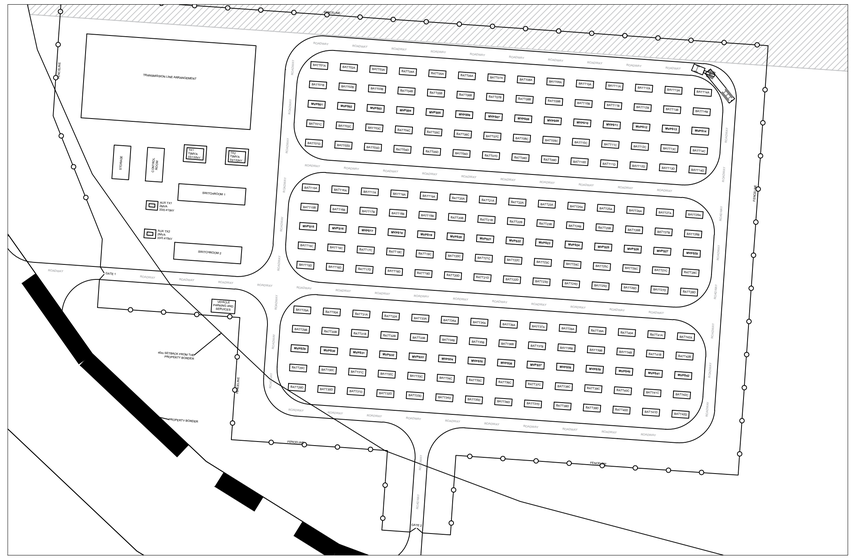
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POWER DISTRIBUTION NETWORK DEVELOPMENT
SATELLITE MAP LAYOUT (SHEET 2)

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NTS A1	SP02426	SP02426-GA-002-02	Drawing	2 OF 2	B





Drawing No.	Description
	REFERENCE DRAWING

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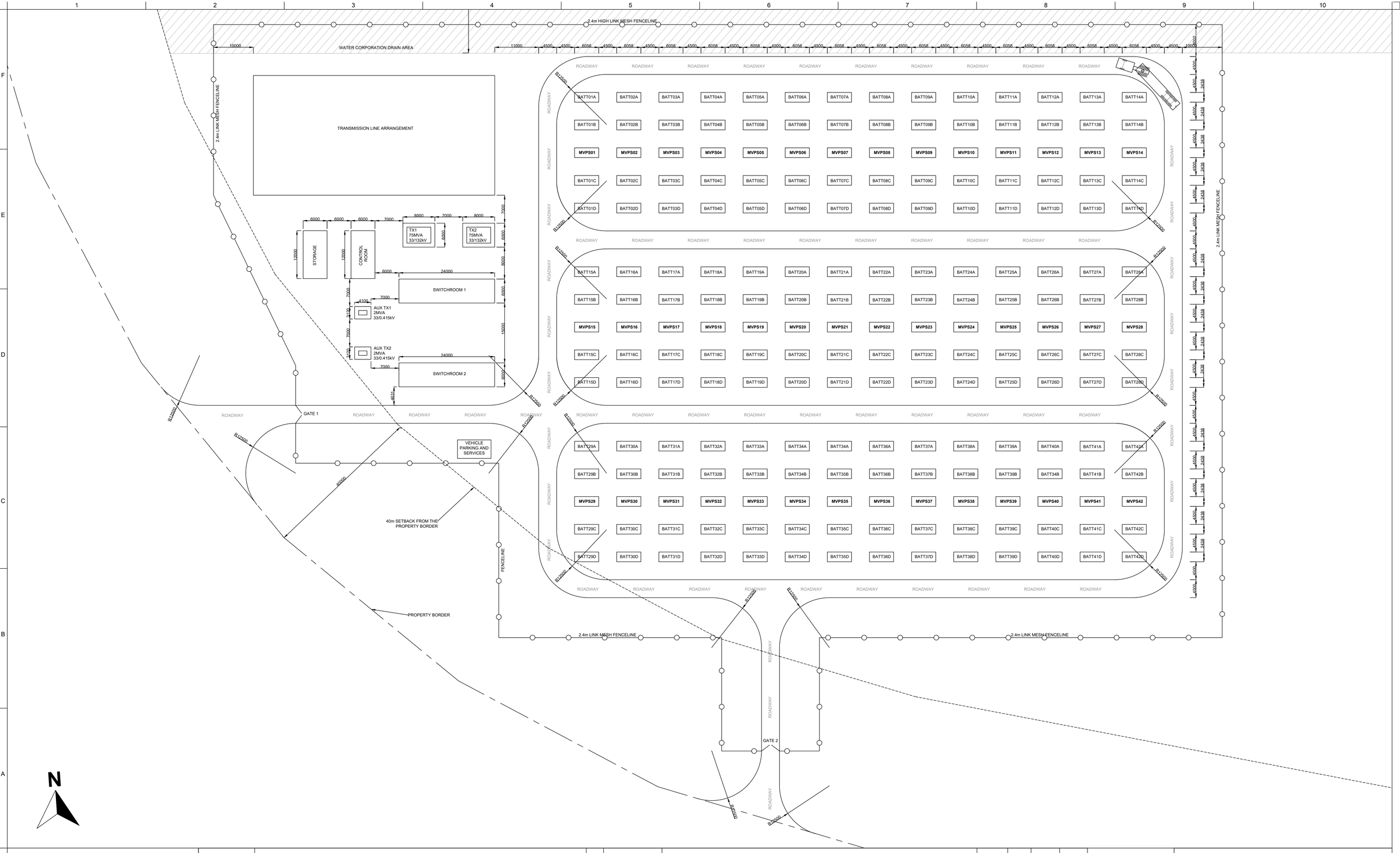
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Document Title

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MAP LAYOUT

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	SpringCity Project No.	Drawing No.	Doc. Type	Sheet No	Rev.
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Drawing No.	Description	Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
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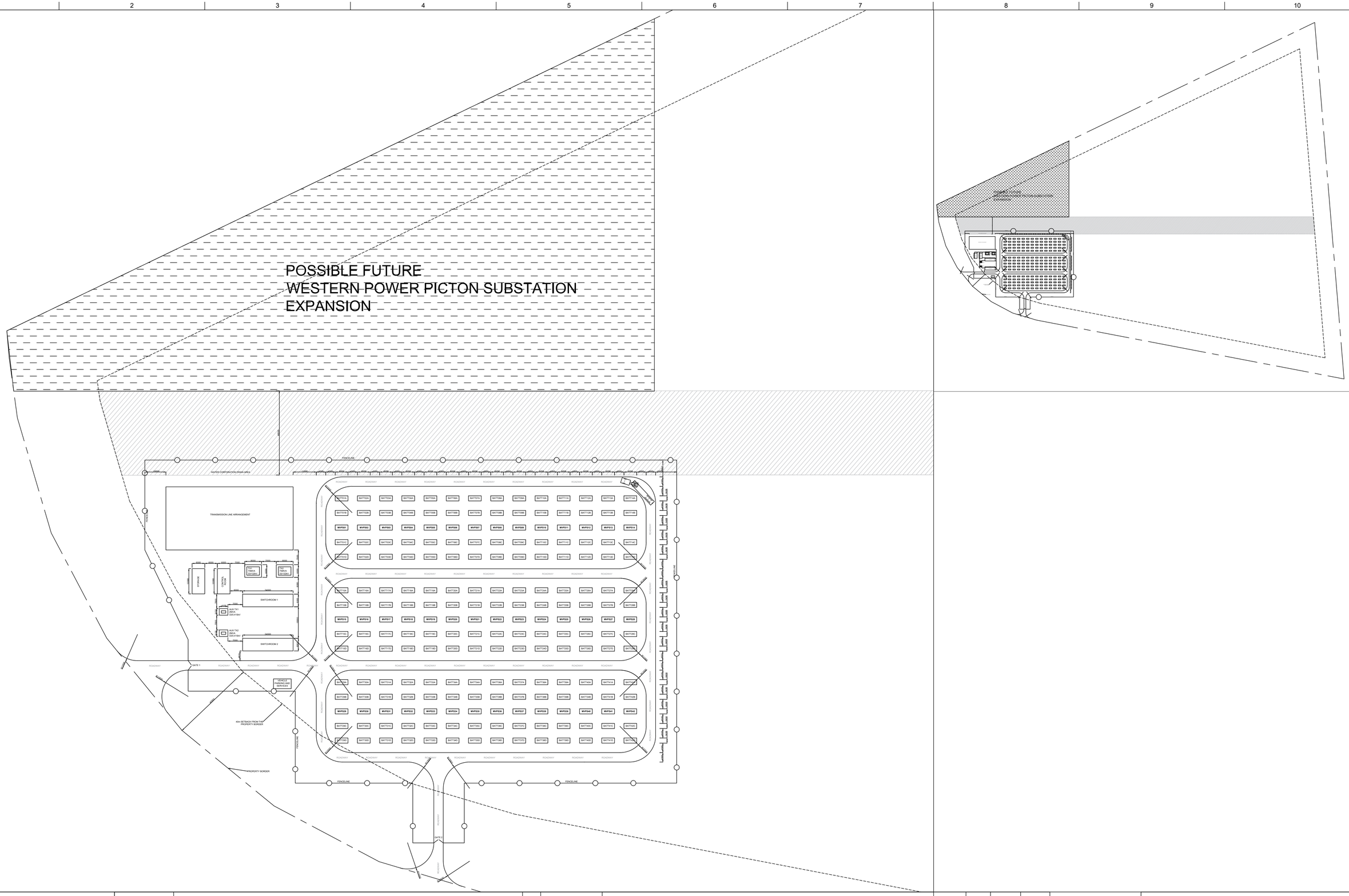
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NETWORK CONNECTION

Document Title

KONKERA PICTON BESS
POWER DISTRIBUTION NETWORK DEVELOPMENT
GENERAL ARRANGEMENT (SHEET 1)

Scale	Document No.				
	SpringCity Project No.	Drawing No.	Doc. Type	Sheet No	Rev.
NTS A1	SP02426	SP02426-GA-001-01	Drawing	1 OF 2	B



		B	08/08/2024	ADDED AUXILIARY TRANSFORMER	AA	HDS	EM	
		A	02/08/2024	ISSUED FOR INTERNAL REVIEW	AA	HDS	EM	
Drawing No.	Description	Rev. No.	Date	Description	Prepared	Drawn	Checked	Reviewed
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GENERAL ARRANGEMENT (SHEET 2)

Scale	Document No.				
NTS	SpringCity Project No.	Drawing No.	Doc. Type	Sheet No	Rev.
A1	SP02426	SP02426-GA-001-02	Drawing	2 OF 2	B

Appendix B – Influencing Factor Calculation

The assigned levels combine a baseline assigned level with an influencing factor, with the latter increasing the assigned level on the basis of the existence of significant roads and commercial or industrial zoned land within an inner circle (100 metre radius) and an outer circle (450 metre radius) of the noise sensitive premises. The calculation for the influencing factor is:

$$= \frac{1}{10}(\%\ \text{Type A}_{100} + \%\ \text{Type A}_{450}) + \frac{1}{20}(\%\ \text{Type B}_{100} + \%\ \text{Type B}_{450})$$

where:

$\%\ \text{Type A}_{100}$ = the percentage of industrial land within a100m radius of the premises receiving the noise

$\%\text{TypeA}_{450}$ = the percentage of industrial land within a 450m radius of the premises receiving the noise

$\%\ \text{Type B}_{100}$ = the percentage of commercial land within a100m radius of the premises receiving the noise

$\%\text{TypeB}_{450}$ = the percentage of commercial land within a 450m radius of the premises receiving the noise

+ Transport Factor (maximum of 6 dB)

= 2 for each secondary road (6,000 to 15,000 vpd) within 100m

= 2 for a major road (>15,000 vpd) within 450m

= 6 for a major road within 100m

The nearest noise sensitive premises are identified as:

- R1 - 25 Harris Rd
- R2 - 126 Boyanup-Picton Rd
- R3 - 152 Boyanup-Picton Rd
- R4 - 164 Boyanup-Picton Rd
- R5 - 166 Boyanup-Picton Rd
- R6 - Lot 56 Harris Rd
- R7 - 345 South Western Hwy

Table B-1 shows the percentage of industrial and commercial land within the inner (100 metre radius) and outer (450 metre radius) circles of the noise sensitive premises, with this also shown on F*igure B-1* for Receiver R3.

Table B-1: Percentage of Land Types within 100m and 450m Radii

Receiver	Land Type	Within 100m	Within 450m
R2	Type A - Industrial and Utility	87	65
	Type B – Commercial	0	0
R3-R5	Type A - Industrial and Utility	69	48
	Type B – Commercial	0	0

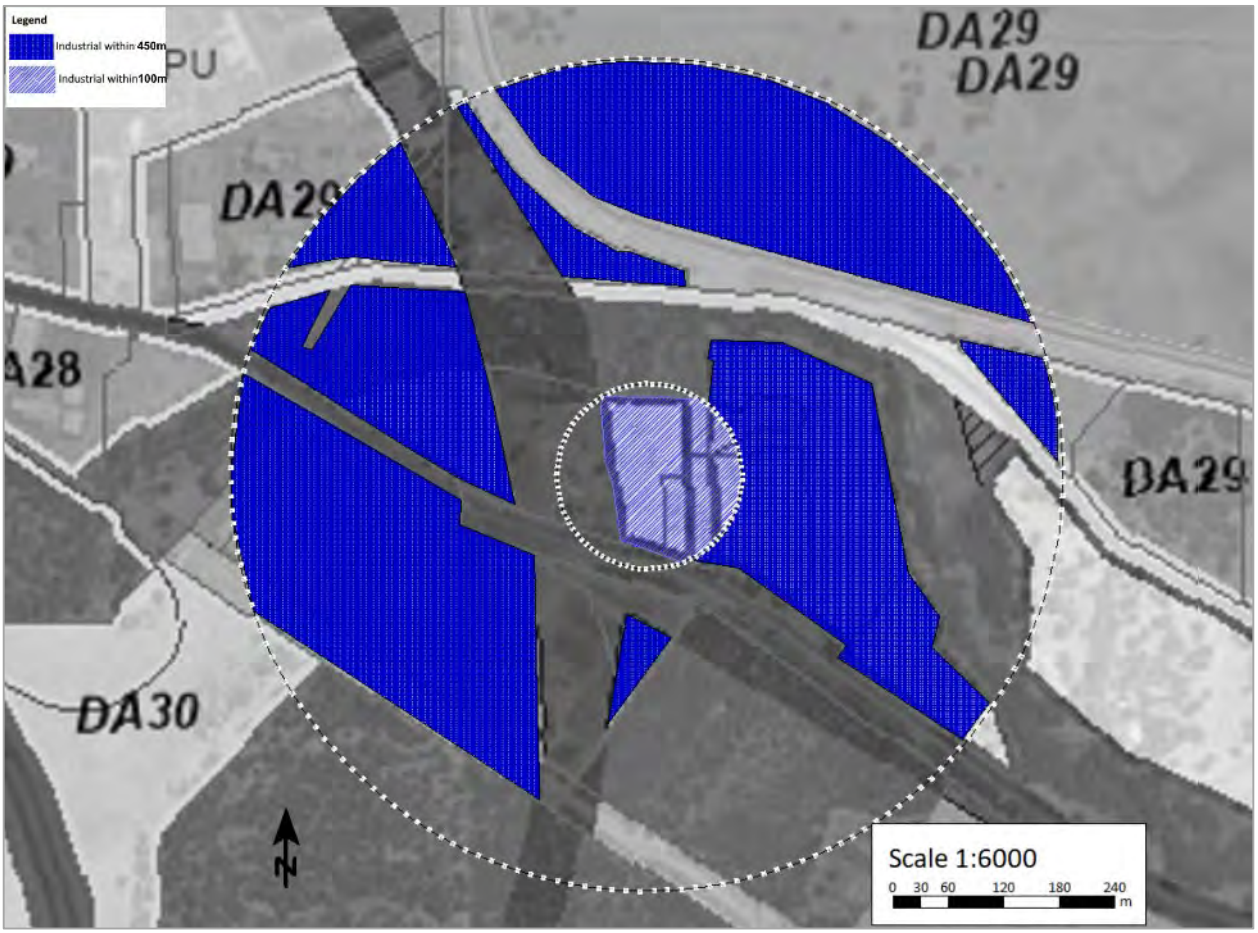


Figure B-1: Land Types within 100m and 450m Radii of R3

From the Main Roads WA Traffic Map (refer *Figure B-2*), *Table B-2* shows that there are no minor or major roads within the inner (100 metre radius) and outer (450 metre radius) circles.

Table B-2: Relevant Roads within 100m and 450m Radii

Receiver	Within 100m		Within 450m
	Major Road (+ 6 dB)	Secondary Road (+ 2 dB)	Major Road Not Within 100m (+ 2 dB)
R1 – R7	-	-	-



Figure B-2: MRWA Published Traffic Data

Table B-3 combines the percentage land types and Transport Factor to calculate the influencing factor.

Table B-3: Influencing Factor Calculation, dB

Receiver	Industrial Land	Commercial Land	Transport Factor	Total
R2	15.2	0.0	0.0	**15**
R3-R5	11.6	0.0	0.0	**12**

The influencing factor calculated in *Table B-3* is combined with those baseline assigned levels of *Table 2-2*, resulting in the project assigned levels provided in *Table 2-3*.

Appendix C – Terminology

The following is an explanation of the terminology used throughout this report:

- **Decibel (dB)**

The decibel is the unit that describes the sound pressure levels of a noise source. It is a logarithmic scale referenced to the threshold of hearing.

- **A-Weighting**

An A-weighted noise level has been filtered in such a way as to represent the way in which the human ear perceives sound. This weighting reflects the fact that the human ear is not as sensitive to lower frequencies as it is to higher frequencies. An A-weighted sound level is described as L_A, dB.

- **Sound Power Level (L_w)**

Under normal conditions, a given sound source will radiate the same amount of energy, irrespective of its surroundings, being the sound power level. This is similar to a 1kW electric heater always radiating 1kW of heat. The sound power level of a noise source cannot be directly measured using a sound level meter but is calculated based on measured sound pressure level at known distances. Noise modelling incorporates source sound power levels as part of the input data.

- **Sound Pressure Level (L_p)**

The sound pressure level of a noise source is dependent upon its surroundings, being influenced by distance, ground absorption, topography, meteorological conditions etc. and is what the human ear actually hears. Using the electric heater analogy above, the heat will vary depending upon where the heater is located, just as the sound pressure level will vary depending on the surroundings. Noise modelling predicts the sound pressure level from the sound power levels taking into account ground absorption, barrier effects, distance etc.

- **L_{ASlow}**

This is the noise level in decibels, obtained using the A-frequency weighting and the S (slow) time weighting. Unless assessing modulation, all measurements use the slow time weighting characteristic.

- **L_{AFast}**

This is the noise level in decibels, obtained using the A-frequency weighting and the F (fast) time weighting. This is used when assessing the presence of modulation.

- **L_{APeak}**

This is the greatest absolute instantaneous sound pressure level in decibels using the A-frequency weighting.

- **L_{Amax}**

An L_{Amax} level is the maximum A-weighted noise level during a particular measurement.

- **L_{A1}**

The L_{A1} level is the A-weighted noise level exceeded for 1 percent of the measurement period and is considered to represent the average of the maximum noise levels measured.

- **L_{A10}**

The L_{A10} level is the A-weighted noise level exceeded for 10 percent of the measurement period and is considered to represent the "intrusive" noise level.

- **L_{A90}**

The L_{A90} level is the A-weighted noise level exceeded for 90 percent of the measurement period and is considered to represent the "background" noise level.

- **L_{Aeq}**

The equivalent steady state A-weighted sound level ("equal energy") in decibels which, in a specified time period, contains the same acoustic energy as the time-varying level during the same period. It is considered to represent the "average" noise level.

- **One-Third-Octave Band**

Means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20000 Hz inclusive.

- **Representative Assessment Period**

Means a period of time not less than 15 minutes, and not exceeding four hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission.

- **L_{Amax} assigned level**

Means an assigned level, which, measured as a L_{ASlow} value, is not to be exceeded at any time.

- **L_{A1} assigned level**

Means an assigned level, which, measured as a L_{ASlow} value, is not to be exceeded for more than 1 percent of the representative assessment period.

- **L_{A10} assigned level**

Means an assigned level, which, measured as a L_{ASlow} value, is not to be exceeded for more than 10 percent of the representative assessment period.

- **Tonal Noise**

A tonal noise source can be described as a source that has a distinctive noise emission in one or more frequencies. An example would be whining or droning. The quantitative definition of tonality is:

– the presence in the noise emission of tonal characteristics where the difference between -

(a) the A-weighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ Slow}$ levels.

This is relatively common in most noise sources.

- **Modulating Noise**

A modulating source is regular, cyclic and audible and is present for at least 10% of the measurement period. The quantitative definition of modulation is:

– a variation in the emission of noise that —

(a) is more than 3 dB $L_{A\ Fast}$ or is more than 3 dB $L_{A\ Fast}$ in any one-third octave band; and

(b) is present for at least 10% of the representative assessment period; and

(c) is regular, cyclic and audible.

- **Impulsive Noise**

An impulsive noise source has a short-term banging, clunking or explosive sound. The quantitative definition of impulsiveness means:

– a variation in the emission of a noise where the difference between L_{Apeak} and L_{Amax} is more than 15 dB when determined for a single representative event.

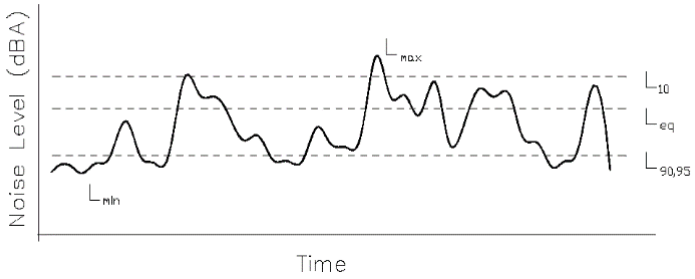
- **Major Road**

Is a road with an estimated average daily traffic count of more than 15,000 vehicles.

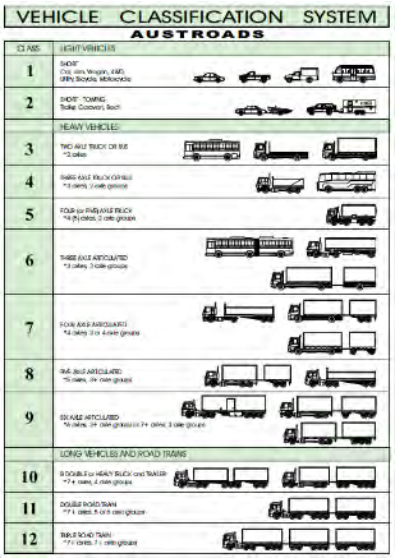
- **Secondary / Minor Road**

Is a road with an estimated average daily traffic count of between 6,000 and 15,000 vehicles.

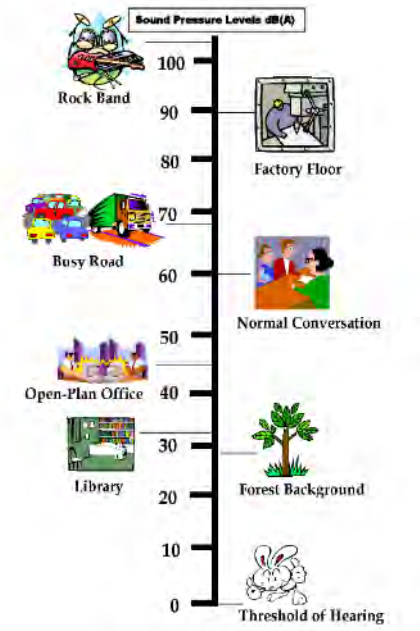
- **Chart of Noise Level Descriptors**



- **Austroads Vehicle Class**



- **Typical Noise Levels**



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(08) 6162 8980
PO Box 437, Leederville, WA 6903
enquiries@westenv.com.au

Bushfire Attack Level (BAL) Assessment Report

Site details	
Address: Lot 16 Harris Road	
Suburb: Picton	**State:** Western Australia
Local Government Area: City of Bunbury	
Description of Building Works: Construction of a Battery Energy Storage System	

Report details			
Project number	**A25.283**	**Report version**	1
Assessment date	1/09/2025	**Report date**	2/10/2025
Author	Dylan Wray BPAD L2 44656	**Review**	Daniel Panickar BPAD L3 37802

Site Context

Kingslane Pty Ltd have submitted a Development Application (DA) for the construction of a Battery Energy Storage System (BESS) on Lot 16 Harris Road, Picton (hereafter referred to as the subject site; Figure 1).

The majority of the proposed infrastructure within the subject site is not within a designated bushfire prone area as per the *Western Australia Map of Bush Fire Prone Areas* (DFES, 2024), with only a non-habitable storage building designated as bushfire prone (Figure 1). However, the City of Bunbury (the City), on advice from the Department of Fire and Emergency Services (DFES), have requested a bushfire risk assessment be undertaken to support the development.

Given the DA has already been lodged and is under assessment, Western Environmental Approvals Pty Ltd (WEPL) have been engaged to undertake this assessment, with a focus on the appropriate siting of proposed assets. WEPL have prepared this Bushfire Attack Level (BAL) report as a preliminary bushfire assessment in lieu of a full Bushfire Management Plan (BMP). A BMP and assessment against the Country Fire Authority's (CFA) *Design Guidelines and Model Requirements for Renewable Energy Facilities Version 4* (the CFA

Guidelines; 2023) can be prepared, if required as a condition of development approval. However, as the proposed BESS infrastructure is not within a bushfire prone area and non-habitable storage buildings are exempt from assessment, our professional opinion is that a BMP is not required.

A site assessment was undertaken on the 01/09/2025 for the purpose of determining the BAL in accordance with *Australian Standard AS 3959: 2018 Construction of Buildings in Bushfire Prone Areas* (AS 3959: 2018; SA, 2018) Simplified Procedure (Method 1).

In addition, a Method 2 BAL calculation has also been undertaken in line with the methodology set out in AS 3959: 2018 (SA, 2018) to ensure that the proposed assets will be sited in areas where the radiant heat flux from a potential bushfire will not exceed 10 kW/m^2 (see Appendix A for calculations). Required separation distances between proposed assets and each vegetation plot in this BAL assessment were calculated, with the resulting setback distances adopted as vegetation management areas surrounding the development. The Method 2 BAL calculations were undertaken solely to determine the setback required to achieve the required radiant heat flux.

The 10 kW/m^2 radiant heat flux threshold is widely adopted as being sufficient to significantly reduce the risk of radiant heat from the surrounding vegetation igniting the proposed assets within the site, in line with general guidance in the CFA Guidelines. Ultimately, this also implies that the resultant separation distances between the proposed BESS and classified vegetation will reduce the likelihood of bushfire ignition resulting from the functioning of the BESS. The separation distances prescribed around these assets varies in width from 22 m to 33 m, well exceeding the 10 m recommended by the Western Australian Planning Commission (WAPC) *Position Statement: Renewable energy facilities* (WAPC, 2020).

Vegetation Classification and Effective Slope

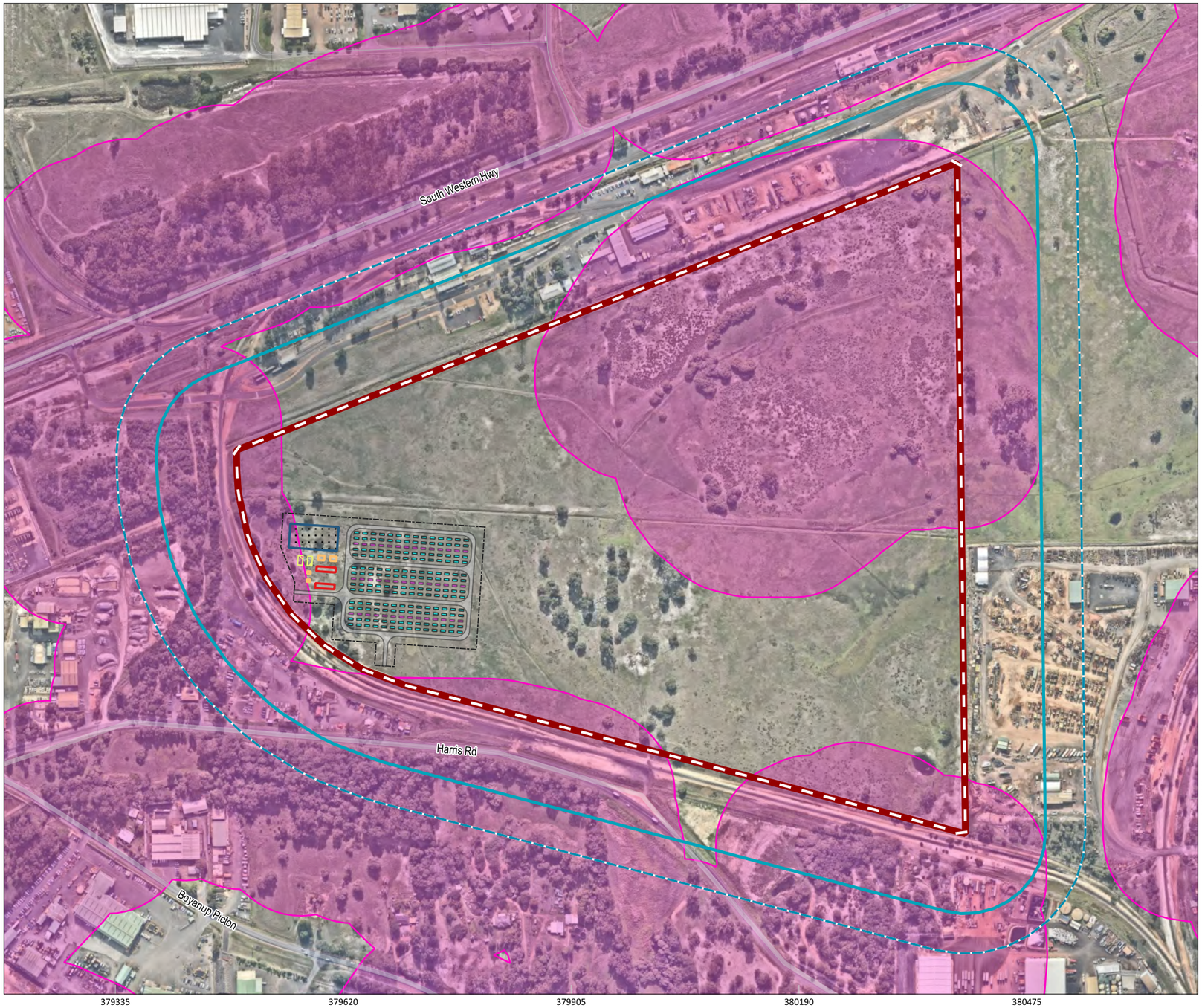
Vegetation and effective slope (i.e. slope under vegetation) within the subject site and surrounding 150 m (the assessment area) was assessed in accordance with Clause 2.2.3 of AS 3959: 2018. Each distinguishable vegetation class with the potential to determine the BAL is identified in Table 1 and presented in Figure 2 with photos provided in Appendix B.

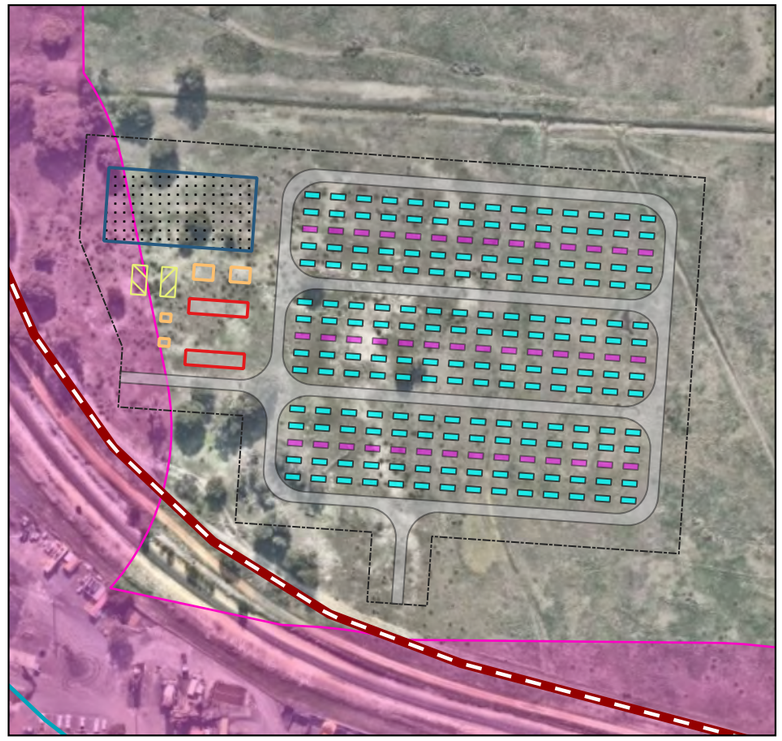
Vegetation within the fenced compound has been excluded given it will be cleared to facilitate the proposed development. Vegetation within the vegetation managed area has been excluded given it will be managed as low threat vegetation in perpetuity to ensure that the radiant heat flux exposure for the renewable energy assets does not exceed 10 kW/m^2 at a flame temperature of 1090 K.

Table 1: Vegetation Classification

Plot	Vegetation classification	Effective slope
1	Class A Forest	Downslope >0 to 5 degrees
2	Class A Forest	All upslopes and flat land (0 degrees)
3	Class B Woodland	All upslopes and flat land (0 degrees)
4	Class D Scrub	All upslopes and flat land (0 degrees)

Plot	Vegetation classification	Effective slope
5	Class G Grassland	Downslope >0 to 5 degrees
6	Class G Grassland	All upslopes and flat land (0 degrees)
7	Excluded - clause 2.2.3.2 (e)	-





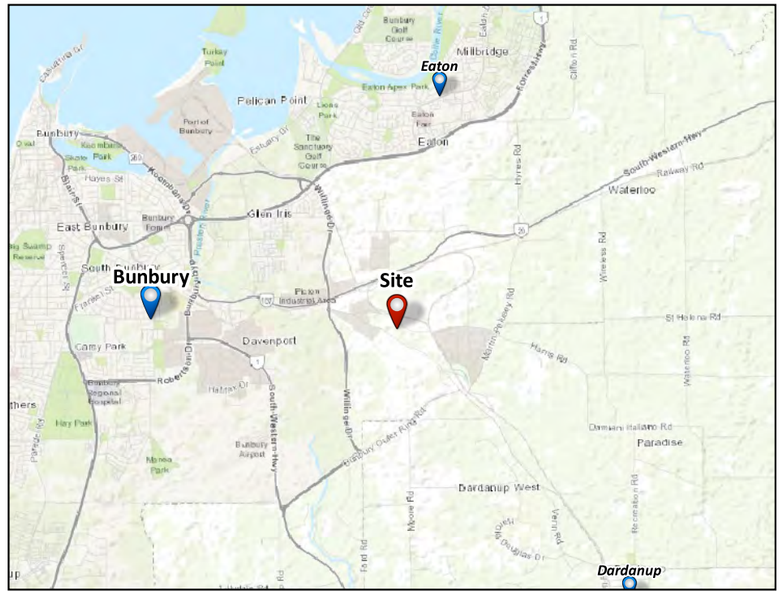


Figure 1: Site Overview

N

0 50 100 150 200 250 300 m

PROJECT/REPORT NAME: Bushfire Attack Level (BAL) Assessment Report Lot 16 Harris Road, Picton		
SCALE: 1:5,700	SHEET SIZE: A3 COLOUR	CLIENT: Kingslane Pty Ltd
COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 50	PROJECT NUMBER: A25.283	VERSION: 0
DATA SOURCE: Nearmap (9th June 2025)	DRAWN BY / REVIEWED BY: SM/DW	DATE: 17/9/2025

Legend

- Subject Site
- Buffer 100m
- Buffer 150m
- Bush Fire Prone Area Planning (OBRM-023)
- Bushfire Prone Area 2
- Fence Line
- Battery
- MVPS
- Control Room
- Storage
- Switchroom
- Transformer
- Transmission Line Arrangement
- Access Road

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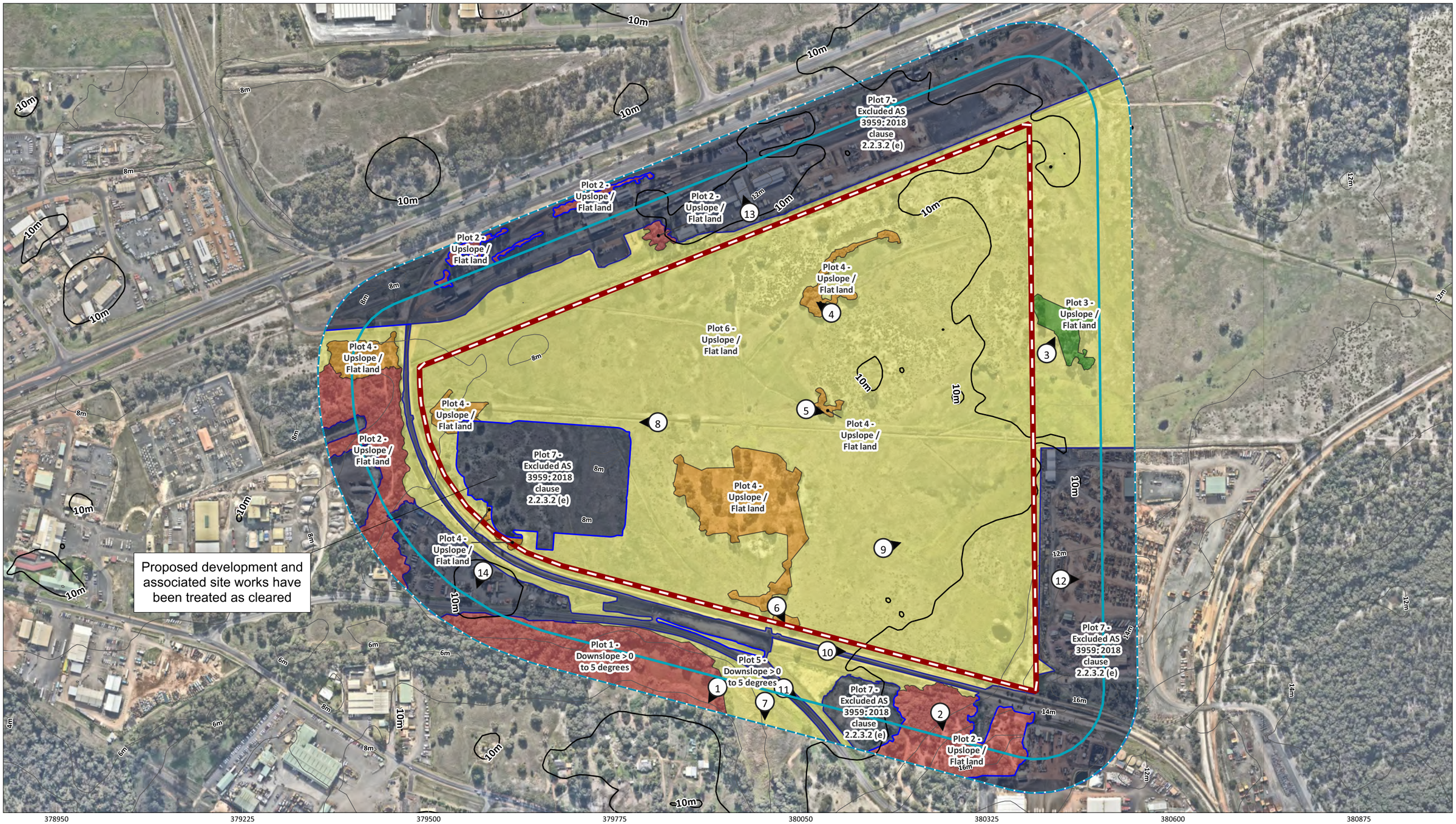


Figure 2: Vegetation Classification

N

0 50 100 150 200 250 300 m

PROJECT/REPORT NAME: Bushfire Attack Level (BAL) Assessment Report Lot 16 Harris Road, Picton		
SCALE: 1:5,500	SHEET SIZE: A3 COLOUR	CLIENT: Kingslane Pty Ltd
COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 50	PROJECT NUMBER: A25.283	VERSION: 0
DATA SOURCE: Nearmap (9th June 2025)	DRAWN BY / REVIEWED BY: SM/DW	DATE: 17/9/2025

Legend

- Subject Site
- Buffer 100m
- Buffer 150m
- Photos
- 2m Contours (DPIRD-072)
  - 2m
  - 10m

Vegetation Classification

- Class A - Forest
- Class B - Woodland
- Class D - Scrub
- Class G - Grassland
- Excluded AS 3959: 2018 2.2.3.2 (e)

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Relevant Fire Danger Index

The Fire Danger Index for the subject site has been determined in accordance with Table 2.1 of AS 3959: 2018 and is presented in Table 2.

Table 2: Fire Danger Index (FDI)

Relevant Fire Danger Index			
FDI 40 ☐ *Table 2.4.5*	FDI 50 ☐ *Table 2.4.4*	FDI 80 ✓ *Table 2.4.3*	FDI 100 ☐ *Table 2.4.2*

Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below in Table 3. Appendix A contains the Method 2 BAL assessment calculations, using a flame temperature of 1090 K.

Table 3: Method 1 BAL Calculation (BAL Contours)

Plot	Vegetation classification	Effective slope	Separation distances required (m)					
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5	10 kW/m² @ 1090 K
1	Class A Forest	Downslope >0 to 5 degrees	<20	20 - <27	27 - <37	37 - <50	50 - <100	56
2	Class A Forest	All upslopes and flat land (0 degrees)	<16	16 - <21	21 - <31	31 - <42	42 - <100	49
3	Class B Woodland	All upslopes and flat land (0 degrees)	<10	10 - <14	14 - <20	20 - <29	29 - <100	35
4	Class D Scrub	All upslopes and flat land (0 degrees)	<10	10 - <13	13 - <19	19 - <27	27 - <100	33
5	Class G Grassland	Downslope >0 to 5 degrees	<7	7 - <9	9 - <14	14 - <20	20 - <50	24
6	Class G Grassland	All upslopes and flat land (0 degrees)	<6	6 - <8	8 - <12	12 - <17	17 - <50	22
7	Excluded - clause 2.2.3.2 (e)	-	No separation distances required - BAL-LOW					

Determined Bushfire Attack Level (BAL)

The determined Bushfire Attack Level (highest BAL) for the proposed works has been determined in accordance with Clause 2.2.6 of AS 3959: 2018 relevant data from the site assessment shown in Figure 3 and Figure 4.

Following the clearing of the fenced compound and Vegetation Management Area, and maintenance of these areas as non-vegetated areas or low threat vegetation, all components of the development will be subject to a radiant heat flux not exceeding 12.5 kW/m^2 (BAL-12.5) with the batteries, Medium Voltage Power Stations (MVPS), inverters, switchrooms and transformers sited in areas with a radiant heat flux not exceeding 10 kW/m^2 as depicted in Figure 3 and Figure 4.

Assessment Validity

This BAL rating is based on the information current at the date of this document and is valid for 12 months.

379000 379250 379500 379750 380000 380250 380500 380750

6309500

6309250

6309000

6308750

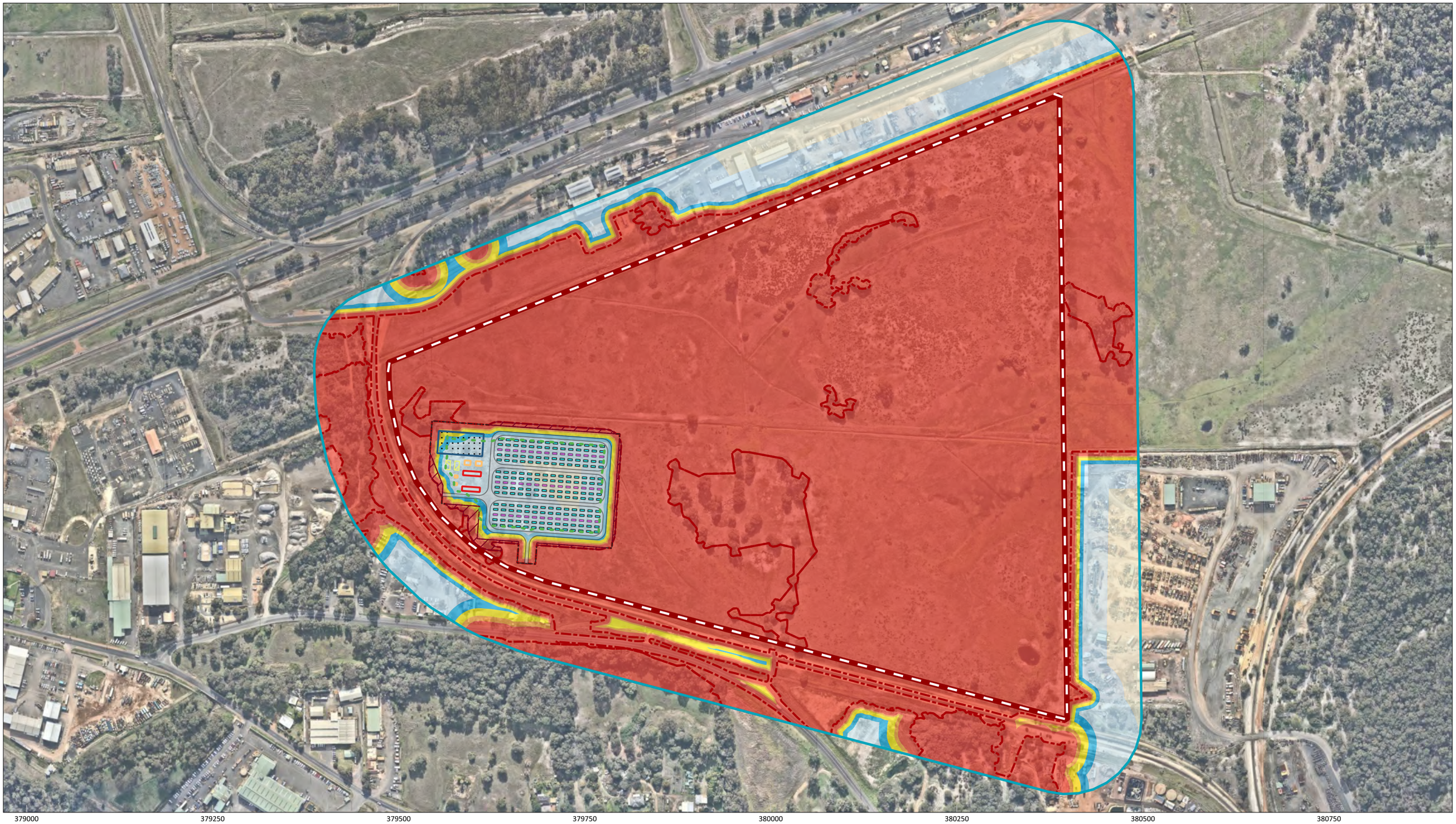


Figure 3: Bushfire Attack Level (BAL) contours

N

0 50 100 150 200 250 300 m

PROJECT/REPORT NAME: Bushfire Attack Level (BAL) Assessment Report Lot 16 Harris Road, Picton		
SCALE: 1:5,000	SHEET SIZE: A3 COLOUR	CLIENT: Kingslane Pty Ltd
COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 50	PROJECT NUMBER: A25.283	VERSION: 0
DATA SOURCE: Nearmap (9th June 2025)	DRAWN BY / REVIEWED BY: SM/DW	DATE: 17/9/2025

Legend

- Subject Site
- Buffer 100m
- Vegetation Management Area
- Fence Line
- Battery
- MVPS
- Control Room
- Storage
- Switchroom
- Transformer
- Transmission Line Arrangement
- Access Road
- Bushfire Hazard Interface
- 10kW/m2

Bushfire Attack Level (BAL)

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

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08 6244 2310 | enquiries@westenv.com.au
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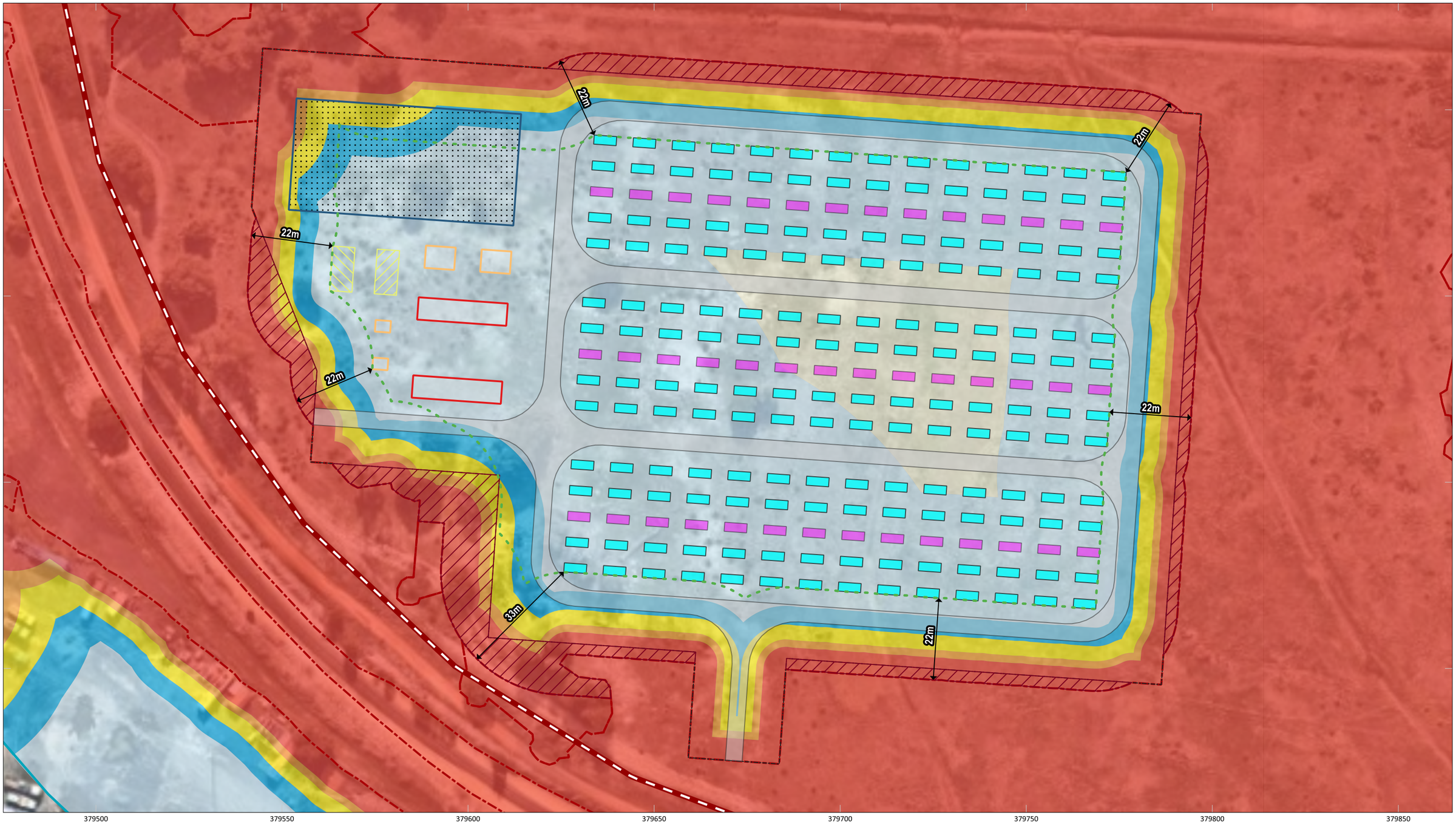


Figure 4: Bushfire Attack Level (BAL) contours and setbacks

N 0 10 20 30 40 50 m		PROJECT/REPORT NAME: Bushfire Attack Level (BAL) Assessment Report Lot 16 Harris Road, Picton	
SCALE: 1:1,000	SHEET SIZE: A3 COLOUR	CLIENT: Kingslane Pty Ltd	
COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 50		PROJECT NUMBER: A25.283	VERSION: 0
DATA SOURCE: Nearmap (9th June 2025)		DRAWN BY / REVIEWED BY: SM/DW	DATE: 17/9/2025

Legend

- Subject Site
- Buffer 100m
- Vegetation Management Area
- Fence Line
- Battery
- MVPS
- Control Room
- Storage
- Switchroom
- Transformer
- Transmission Line Arrangement
- Access Road
- Bushfire Hazard Interface
- 10kW/m2

Bushfire Attack Level (BAL)

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

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Conclusion

The proposed BESS is sited appropriately to ensure that the radiant heat exposure of renewable energy assets during a bushfire is reduced so that it does not exceed 10 kW/m^2 at a flame temperature of 1090 K. This siting of renewable energy assets is also designed to reduce the potential for a fire originating from this infrastructure to spread to surrounding vegetation, igniting a bushfire. This method is considered best practice in Western Australia.

A full assessment of the BESS facility against the Guidelines and the CFA Guidelines has not been undertaken, however in our professional opinion and experience, the facility has the ability to meet the requirements of each of these documents and is recommended for approval.

References

Country Fire Authority (CFA). (2023). *Design Guidelines and Model Requirements: Renewable Energy Facilities Version 4*. Government of Victoria.

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Western Australian Planning Commission (WAPC). (2024b). *Planning for Bushfire Guidelines*. Government of Western Australia.

Appendix A
Method 2 BAL Calculations

NBC Bushfire Attack Assessment Report V4.1

AS3959 (2018) Appendix B - Detailed Method 2

Print Date: 8/09/2025 **Assessment Date:** 8/09/2025

Site Street Address: Picton BESS, Picton

Assessor: Daniel Panickar; Western Environmental

Local Government Area: WA **Alpine Area:** No

Equations Used

Transmissivity: Fuss and Hammins, 2002
Flame Length: RFS PBP, 2001/Vesta/Catchpole
Rate of Fire Spread: Noble et al., 1980
Radiant Heat: Drysdale, 1985; Sullivan et al., 2003; Tan et al., 2005
Peak Elevation of Receiver: Tan et al., 2005
Peak Flame Angle: Tan et al., 2005

Run Description: Forest 3.2

Vegetation Information

Vegetation Type: Forest

Vegetation Group: Forest and Woodland

Vegetation Slope: 3.2 Degrees **Vegetation Slope Type:** Downslope

Surface Fuel Load(t/ha): 25 **Overall Fuel Load(t/ha):** 35

Vegetation Height(m): 2 Only Applicable to Shrub/Scrub and Vesta

Site Information

Site Slope: 0 Degrees **Site Slope Type:** Level

Elevation of Receiver(m): Default **APZ/Separation(m):** 56

Fire Inputs

Veg./Flame Width(m): 100 **Flame Temp(K):** 1090

Calculation Parameters

Flame Emissivity: 95 **Relative Humidity(%):** 25

Heat of Combustion(kJ/kg) 18600 **Ambient Temp(K):** 308

Moisture Factor: 5 **FDI:** 80

Program Outputs

Level of Construction: BAL 12.5 **Peak Elevation of Receiver(m):** 11.31

Radiant Heat(kW/m2): 9.78 **Flame Angle (degrees):** 73

Flame Length(m): 23.65 **Maximum View Factor:** 0.168

Rate Of Spread (km/h): 2.99 **Inner Protection Area(m):** 40

Transmissivity: 0.764 **Outer Protection Area(m):** 16

Fire Intensity(kW/m): 54123

Run Description: Forest flat

Vegetation Information

Vegetation Type: Forest

Vegetation Group: Forest and Woodland

Vegetation Slope: 0 Degrees

Vegetation Slope Type: Level

Surface Fuel Load(t/ha): 25

Overall Fuel Load(t/ha): 35

Vegetation Height(m): 2

Only Applicable to Shrub/Scrub and Vesta

Site Information

Site Slope: 0 Degrees

Site Slope Type: Level

Elevation of Receiver(m): Default

APZ/Separation(m): 49

Fire Inputs

Veg./Flame Width(m): 100

Flame Temp(K): 1090

Calculation Parameters

Flame Emissivity: 95

Relative Humidity(%): 25

Heat of Combustion(kJ/kg) 18600

Ambient Temp(K): 308

Moisture Factor: 5

FDI: 80

Program Outputs

Level of Construction: BAL 12.5

Peak Elevation of Receiver(m): 9.52

Radiant Heat(kW/m2): 9.95

Flame Angle (degrees): 74

Flame Length(m): 19.8

Maximum View Factor: 0.169

Rate Of Spread (km/h): 2.4

Inner Protection Area(m): 35

Transmissivity: 0.774

Outer Protection Area(m): 14

Fire Intensity(kW/m): 43400

Run Description: Grassland 3.2

Vegetation Information

Vegetation Type: Grassland

Vegetation Group: Grassland

Vegetation Slope: 3.2 Degrees

Vegetation Slope Type: Downslope

Surface Fuel Load(t/ha): 4.5

Overall Fuel Load(t/ha): 4.5

Vegetation Height(m): 0

Only Applicable to Shrub/Scrub and Vesta

Site Information

Site Slope: 0 Degrees

Site Slope Type: Level

Elevation of Receiver(m): Default

APZ/Separation(m): 24

Fire Inputs

Veg./Flame Width(m): 100

Flame Temp(K): 1090

Calculation Parameters

Flame Emissivity: 95

Relative Humidity(%): 25

Heat of Combustion(kJ/kg) 18600

Ambient Temp(K): 308

Moisture Factor: 5

FDI: 110

Program Outputs

Level of Construction: BAL 12.5

Peak Elevation of Receiver(m): 3.78

Radiant Heat(kW/m2): 9.65

Flame Angle (degrees): 80

Flame Length(m): 7.68

Maximum View Factor: 0.154

Rate Of Spread (km/h): 17.83

Inner Protection Area(m): 24

Transmissivity: 0.822

Outer Protection Area(m): 0

Fire Intensity(kW/m): 41462

Run Description: Grassland Flat

Vegetation Information

Vegetation Type: Grassland
Vegetation Group: Grassland
Vegetation Slope: 0 Degrees
Vegetation Slope Type: Level
Surface Fuel Load(t/ha): 4.5
Overall Fuel Load(t/ha): 4.5
Vegetation Height(m): 0
Only Applicable to Shrub/Scrub and Vesta

Site Information

Site Slope: 0 Degrees
Site Slope Type: Level
Elevation of Receiver(m): Default
APZ/Separation(m): 22

Fire Inputs

Veg./Flame Width(m): 100
Flame Temp(K): 1090

Calculation Parameters

Flame Emissivity: 95
Relative Humidity(%): 25
Heat of Combustion(kJ/kg) 18600
Ambient Temp(K): 308
Moisture Factor: 5
FDI: 110

Program Outputs

Level of Construction: BAL 12.5
Peak Elevation of Receiver(m): 3.38
Radiant Heat(kW/m2): 9.55
Flame Angle (degrees): 80
Flame Length(m): 6.87
Maximum View Factor: 0.152
Rate Of Spread (km/h): 14.3
Inner Protection Area(m): 22
Transmissivity: 0.827
Outer Protection Area(m): 0
Fire Intensity(kW/m): 33248

Run Description: Scrub flat

Vegetation Information

Vegetation Type: Scrub/Tall Heath
Vegetation Group: Shrub & Heath
Vegetation Slope: 0 Degrees
Vegetation Slope Type: Level
Surface Fuel Load(t/ha): 25
Overall Fuel Load(t/ha): 25
Vegetation Height(m): 3
Only Applicable to Shrub/Scrub and Vesta

Site Information

Site Slope: 0 Degrees
Site Slope Type: Level
Elevation of Receiver(m): Default
APZ/Separation(m): 33

Fire Inputs

Veg./Flame Width(m): 100
Flame Temp(K): 1090

Calculation Parameters

Flame Emissivity: 95
Relative Humidity(%): 25
Heat of Combustion(kJ/kg) 18600
Ambient Temp(K): 308
Moisture Factor: 5
FDI: 80

Program Outputs

Level of Construction: BAL 12.5
Peak Elevation of Receiver(m): 5.69
Radiant Heat(kW/m2): 9.94
Flame Angle (degrees): 78
Flame Length(m): 11.63
Maximum View Factor: 0.163
Rate Of Spread (km/h): 4.17
Inner Protection Area(m): 33
Transmissivity: 0.801
Outer Protection Area(m): 0
Fire Intensity(kW/m): 53816

Run Description:	Woodland Flat		
Vegetation Information			
Vegetation Type:	Woodland		
Vegetation Group:	Forest and Woodland		
Vegetation Slope:	0 Degrees	**Vegetation Slope Type:**	Level
Surface Fuel Load(t/ha):	15	**Overall Fuel Load(t/ha):**	25
Vegetation Height(m):	2	Only Applicable to Shrub/Scrub and Vesta	
Site Information			
Site Slope:	0 Degrees	**Site Slope Type:**	Level
Elevation of Receiver(m):	Default	**APZ/Separation(m):**	35
Fire Inputs			
Veg./Flame Width(m):	100	**Flame Temp(K):**	1090
Calculation Parameters			
Flame Emissivity:	95	**Relative Humidity(%):**	25
Heat of Combustion(kJ/kg)	18600	**Ambient Temp(K):**	308
Moisture Factor:	5	**FDI:**	80
Program Outputs			
Level of Construction:	BAL 12.5	**Peak Elevation of Receiver(m):**	6.04
Radiant Heat(kW/m2):	9.8	**Flame Angle (degrees):**	78
Flame Length(m):	12.36	**Maximum View Factor:**	0.162
Rate Of Spread (km/h):	1.44	**Inner Protection Area(m):**	27
Transmissivity:	0.797	**Outer Protection Area(m):**	8
Fire Intensity(kW/m):	18600		

Appendix B:
Classified Vegetation Photos

Plot 1	Class A Forest
Photo 1 Dense vegetation to the south of the subject site containing trees up to 30 m in height with canopy cover greater than 30% and understorey comprising of grasses and small shrubs. The slope under this vegetation was assessed to be downslope 0-5 degrees (exact slope 3.2 degrees).	
Plot 2	**Class A Forest**
Photo 2 Dense vegetation to the south of the subject site containing trees up to 30 m in height with canopy cover greater than 30% and understorey comprising of grasses and small shrubs. The slope under this vegetation was assessed to be flat/upslope.	
Plot 3	**Class B Woodland**
Photo 3 (Background) Dense vegetation to the east of the subject site containing trees up to 30 m in height with canopy cover less than 30% with grassy understorey. The slope under this vegetation was assessed to be flat/upslope.	

Plot 4	Class D Scrub
Photo 4 Dense shrubs within the subject site up to 6 m in height with canopy cover greater than 30%. The slope under this vegetation was assessed to be flat/upslope.	
Plot 4	**Class D Scrub**
Photo 5 Dense shrubs within the subject site up to 6 m in height with canopy cover greater than 30%. The slope under this vegetation was assessed to be flat/upslope.	
Plot 4	**Class D Scrub**
Photo 6 Dense shrubs within the subject site up to 6 m in height with canopy cover greater than 30%. The slope under this vegetation was assessed to be flat/upslope.	

Plot 5	Class G Grassland
Photo 7 Unmanaged grass to the south of the subject site with an average height greater than 100mm. The slope under this vegetation was assessed to be downslope 0-5 degrees (exact slope 3.2 degrees).	
Plot 6	**Class G Grassland**
Photo 8 Unmanaged grass within the subject site with an average height greater than 100mm. The slope under this vegetation was assessed to be flat/upslope.	
Plot 6	**Class G Grassland**
Photo 9 Unmanaged grass within the subject site with an average height greater than 100mm. The slope under this vegetation was assessed to be flat/upslope.	

Plot 7	Excluded - clause 2.2.3.2 (e)
Photo 10 Non-vegetated areas excluded in accordance with Clause 2.2.3.2 (e) of AS 3959: 2018.	
Plot 7	**Excluded - clause 2.2.3.2 (e)**
Photo 11 Non-vegetated areas excluded in accordance with Clause 2.2.3.2 (e) of AS 3959: 2018.	
Plot 7	**Excluded - clause 2.2.3.2 (e)**
Photo 12 Non-vegetated areas excluded in accordance with Clause 2.2.3.2 (e) of AS 3959: 2018. Drone utilised due to access restrictions.	

Plot 7	Excluded - clause 2.2.3.2 (e)
Photo 13 Non-vegetated areas excluded in accordance with Clause 2.2.3.2 (e) of AS 3959: 2018. Drone utilised due to access restrictions.	

Plot 7	Excluded - clause 2.2.3.2 (e)
Photo 14 Non-vegetated areas excluded in accordance with Clause 2.2.3.2 (e) of AS 3959: 2018. Drone utilised due to access restrictions.	

Appendix C
Additional Information / Advisory Notes

This assessment was undertaken as per AS 3959: 2018. It is important that the current version of AS 3959, is consulted for construction purposes.

This BAL rating is based on the information current at the date of this letter and is valid for 12 months from the date of this letter.

Bushfire Attack Level (BAL) as set out in the Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas (AS 3959), as referenced in the Building Code of Australia.

Bushfire Attack Level (BAL)	Classified vegetation within 100 m of the site and radiant heat flux exposure thresholds	Description of predicted bush fire attack and levels of exposure	Construction Section as per AS 3959
BAL-LOW		There is insufficient risk to warrant specific construction requirements.	4
BAL-12.5	≤12.5 kW/m^2	Ember attack	3 and 5
BAL-19	>12.5 kW/m^2 ≤19 kW/m^2	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux.	3 and 6
BAL-29	>19 kW/m^2 ≤29 kW/m^2	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux	3 and 7
BAL-40	>29 kW/m^2 ≤40 kW/m^2	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux with the increased likelihood of exposure to flames.	3 and 8
BAL-FZ	>40 kW/m^2	Direct exposure to flames from fire front in addition to radiant heat flux and ember attack	3 and 9

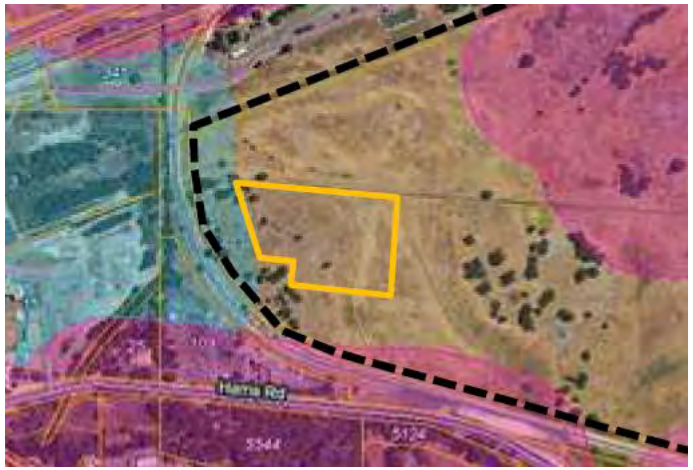
Source: "*AS 3959: 2018 Construction of buildings in bushfire-prone areas*" published by Standards Australia, Sydney.

Schedule of Submissions

Proposed Battery Energy Storage System BESS

LOT16 #Harris Road Picton

#	Name / Address	Summary of Submission	Officer Comments on Submission
Government / Service Agency Comments			
1.	ATCO Gas Gary Middleton Engineering Services eservices.archive@atco.com 15 July 2025	ATCO Gas Australia (ATCO) has **no objection** to the proposed application, based on the information and plan provided. Advice notes: • Anyone proposing to carry out construction or excavation works must contact 'Before You Dig Australia' (www.byda.com.au) to determine the location of buried gas infrastructure. Refer to ATCO document AGA-O&M-PR24- Additional Information for Working Around Gas Infrastructure https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html • Proposed construction and excavation works need to be managed in accordance with the ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html Please accept this email as ATCO's written response. *N.b. Refer to attachments supplied within email.*	Noted. Advice notes added and merged to limit repetition. See merged advice note below: 1. *Anyone proposing to carry out construction or excavation works must contact 'Before You Dig Australia' (www.byda.com.au) to determine the location of buried gas infrastructure. The works must also be managed in accordance with the ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 Refer to ATCO document AGA-O&M-PR24- Additional Information for Working Around Gas Infrastructure https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html.*
2.	Department of Planning, Lands and Heritage Briony Moran briony.moran@dplh.	I can see Jackie has already replied regarding your email and directing the request for comment to the DFES land use planning section, since our small bushfire policy team at DPLH has very limited capacity to review specific plans and proposals. I'll just add a couple of general points below. Changes to the scope of SPP 3.7 Bushfire last year mean that it would generally not	Noted. Consideration to Clauses 67q and 67r of the Deemed Provisions is addressed within the planning assessment.

#	Name / Address	Summary of Submission	Officer Comments on Submission
	wa.gov.au 7 July 2025	apply to energy infrastructure, but Clauses 67q and 67r of the Deemed Provisions list bushfire hazards and safety generally as matters to be considered, as well as relevant SPPs. There can be specific bushfire planning aims or requirements listed in some local planning schemes, or within other WAPC policy documents such as Position statement renewable energy facilities. The SPP 3.7 Explanatory Note provides some brief background (see section 1.5). Decision-makers may still request documentation for bushfire risks where SPP 3.7 does not apply, and documents can still be based on or use established terms and practices from the Planning for Bushfire Guidelines. Where DFES have not published guidance for some types of development in WA they may recommend or apply guidance from another state in providing advice.	
3.	Department Fire and Emergency Services Emma Darcey DFES Land Use Planning advice@dfes.wa.gov.au 8 August 2025	Thank you for the checklist, I have referred this to our regional operations officers as there was no BMP, and it appears that the development footprint is just outside the map of bushfire prone areas. See the image which has been taken from the referred Planning Report (Figure 4): 	It is noted that DFES's initial comment was made in response to the advertised planning report, which identified a bushfire-prone area adjoining, but not within, the development area. An updated referral was sent from DFES land use planning team prior to obtaining advice from their operations team stating that given the nature of use and the proximity to the bushfire prone area that a comprehensive assessment against the *CFA Design Guidelines and Model Requirements – Renewable Energy Facilities v4 (version 4.3, January 2025)* is completed prior to determination. (see DFES referral below received 14 August 2025) Bushfire and DFES comments have been addressed within planning assessment.

#	Name / Address	Summary of Submission	Officer Comments on Submission
		The blue area is now pink, but the development line is right on the boundary of this. If you are of the opinion that this development does fall within the bushfire prone area, then the policy requires a BMP to be submitted. Without a BMP there is really no comment that DFES can make as there is no document for us to assess. I have given operations until the 13th to provide any operational comments which I will forward to you if received. Please let me know if you require anything else in the meantime.	
4.	Department Fire and Emergency Services Sasha De Brito Senior Land Use Planning Officer advice@dfes.wa.gov.au **14 August 2025**	Dear Mr Tancheff, **RE: Lot 16 Harris Road & Lot 304 on Deposited Plan 49062 Picton - Proposed Battery Energy Storage System** This advice relates to the *State Planning Policy 3.7 Bushfire* (SPP 3.7) and supporting *Planning for Bushfire Guidelines* (Guidelines), as well as DFES' role and responsibilities as Hazard Management Agency for Fire in Western Australia. The proposed Battery Energy Storage System does not appear to fall into an area designated as bushfire prone pursuant to the *Fire and Emergency Services Act 1998 (as amended)* as identified on the *Map of Bush Fire Prone Areas*. However, DFES recommends that a comprehensive assessment against the *CFA Design Guidelines and Model Requirements – Renewable Energy Facilities v4 (version 4.3, January 2025)* is completed prior to determination. These Guidelines are currently considered best practice for renewable energy facilities within Western Australia. This referral was also forwarded to DFES Operations; however no comments have been received at this time. I will close this referral until advised otherwise. Please contact me at any time should you have any further questions.	As above this referral relates to updated advice from the land use team requiring assessments prior to determination. It is noted that this advice was based on the bushfire area being in close proximity to the development area not within. However, A Bushfire Attack Level Assessment later submitted by the applicant showed the development within the development area (see attachment 8 referred to in the planning assessment). Bushfire consideration has been addressed in planning assessment.

#	Name / Address	Summary of Submission	Officer Comments on Submission
		Many thanks	
5.	Department Fire and Emergency Services Sasha De Brito Senior Land Use Planning Officer advice@dfes.wa.gov.au 14 August 2025	Further to my response this morning, DFES Operations for the Southwest have provided some comment which does support the recommendation to have the site assessed against the CFA Guidelines. • The documentation provided does not provide any detail regarding water supply for firefighting, or containment issues for firefighting operations at the time of an event. On closer inspection, I also note the site is landlocked from the public road system due to the Bunbury Busselton Railway line. It should also be noted that early engagement with DFES Operations is required to determine the plan of action in the event of an emergency given the site can only be accessed across a railway line. These kinds of issues should really be documented in a Risk Management Plan for the facility, which is also a requirement of the CFA Guidelines.	Noted, this referral adds to concerns previously highlighted by DFES relating to site access and water supply which are to be captured in a risk management plan and an assessment against the CFA guidelines. Bushfire consideration has been detailed on the planning assessment.
	Department of Fire & Emergency Services Sasha De Brito advice@dfes.wa.gov.au 25 September 2025	I think assessing the bushfire risk is an appropriate step to take even if this development footprint is outside the bushfire prone area as there is still a risk of bushfire on this lot and your list covers what is usually required for BESS facilities if they are bushfire prone. The last dot point details some specific requirements of the CFA guidelines but I think it is also important to document external public road access to the site given the land locked nature and difficulty emergency services may have accessing the site. As mentioned in my last email the CFA Guidelines also require a Risk Management Plan to inform the design of the facility. Not sure if your last point is reiterating that a full assessment against the CFA is required or just the specific	Noted, consideration has been detailed on the planning assessment.

#	Name / Address	Summary of Submission	Officer Comments on Submission
		elements you mention? https://www.cfa.vic.gov.au/plan-prepare/building-planning-regulations/renewable-energy-fire-safety Section 3.2 of the CFA Renewable Energy Facilities guidelines runs through the risk management process which includes more than just bushfire. DPLH are drafting renewable energy guidelines (initial focus on wind farms) but in the absence of any WA guidelines we continue to recommend full assessment against the CFA. Above email in response to the below from City dated 24 September 2025 Thankyou, for the referral advice. In note that on the back of this advice we have pushed out the DAP meeting waiting on further Information from the applicant. The applicant has informed us they will provide the following in response to your concerns, obviously pending the findings, do you think there is anything missing from the below scope advised to us by the applicant? ***Bushfire:*** *Western Environmental has been engaged to undertake site assessment of the vegetation surrounding the proposed BESS location and prepare a Bushfire Attack Level (BAL) report to support the DA. This stage will include:* • *A review of bushfire risk and project related background information.* • *A site assessment to classify vegetation within 150 m of the subject site as per the requirements of Australian Standard 3959:2018 Construction of Buildings in Bushfire Prone Areas (AS 3959: 2018).* • *Collection of risk data and assessment utilising site information, aerial photographs, topographical maps and GIS data systems.* • *A BAL contour map.* • *A 10 kW/m2 radiant heat flux threshold line (BAL-10) required for vegetation clearing to facilitate the appropriate siting of the BESS.* • *General advice regarding internal road design, firebreaks, firefighting*	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		equipment and water requirements to comply with the Country Fire Authority (CFA) Design Guidelines and Model Requirements for Renewable Energy Facilities Version 4 (the CFA Guidelines; 2023). *We believe this will be sufficient for all relevant parties to consider the bushfire risk, particularly given the site is not in a bushfire prone area and is within an industrial zone largely cleared of vegetation (with more clearing proposed).*	
7.	Department of Fire & Emergency Services Sasha De Brito advice@dfes.wa.gov.au 27 October 2025	I refer to your email dated 6 October 2025 regarding the submission of a Bushfire Attack Level (BAL) Assessment (Version 1), prepared by Western Environmental and dated 2 October 2025, for the above proposed development. This advice specifically relates to the calculation of the Bushfire Attack Level (BAL) by a method other than Method 1 as outlined in AS 3959:2018 Construction of Buildings in Bushfire Prone Areas (AS 3959). <u>Recommendation: Method 2 validated</u> DFES advises that the Method 2 has been validated in accordance with the methodology for a Method 2 calculation as set out in Appendix B: Detailed Method for Determining the Bushfire Attack Level (BAL) – Method 2 of AS 3959. Could you please forward notification of the application determination to DFES for our records. If you require any clarification or further information regarding the below assessment, please do not hesitate to contact me on telephone number 9395 9703	Noted, this referral confirms that the submitted BAL report (Attachment 8), that utilised Method 2 findings showing the proposed development within a Fire Zone as accurate.
5.	Department of Planning, Lands and Heritage Aboriginal Heritage Samantha Hansen	Thank you for your enquiry dated 3 July 2025 seeking comment from the Department of Planning, Lands and Heritage (DPLH), Aboriginal Heritage Conservation team, regarding the proposed Battery Energy Storage System located at Lot 16 Harris Road, Picton. A review of the Register of Places and Objects, as well as the DPLH Aboriginal Heritage Database, concludes that the subject area does not intersect with any	Noted and an advice note added to recommendation relating to aboriginal heritage obligations.

#	Name / Address	Summary of Submission	Officer Comments on Submission
	Heritage and Property Services Samantha.Hansen@dplh.wa.gov.au 22 July 2025	known Aboriginal heritage places or Registered sites. Therefore, based on the current information held by DPLH, no approvals under the Aboriginal Heritage Act 1972 (AHA) are required in this instance. Please note that limited Aboriginal heritage surveys have been completed over the subject land and, as such, it is unknown if there is Aboriginal cultural heritage present. Therefore, Hidding Urban Planning on behalf of J Cranston needs to be made aware of its obligations under the AHA. DPLH also advises Hidding Urban Planning regularly checks ACHIS should new Aboriginal heritage be reported within your subject area. Should you have any queries regarding this advice please contact Samantha Hansen, A/Assistant Manager at Samantha.hansen@dplh.wa.gov.au or on 08 6551 8030.	
6.	Department of Biodiversity, Conservation and Attractions Matthew Wansborough South West Region swlanduseplanning@dbca.wa.gov.au 4 August 2025	I refer to your email dated 3 July 2025 requesting comments from the Department of Biodiversity, Conservation and Attractions (DBCA) on the above development application. The following comments are provided pursuant to DBCA's responsibilities under the Biodiversity Conservation Act 2016 (BC Act). Advice to City Lot 16 contains trees that may be suitable habitat for Western Ringtail Possum and black cockatoo species, which are listed as threatened under the BC Act and *Federal Environment Protection and Biodiversity Conservation Act 1999*. If found to be present, threatened fauna should be encouraged to disperse into the surrounding vegetation prior to clearing commencing. Any vegetation clearing should be undertaken in such a manner that allows the dispersal of threatened fauna. If fauna does not disperse, a fauna spotter holding authorisation under the BC Act may need to be contacted to manage displaced	Noted and advice notes added to recommendation.

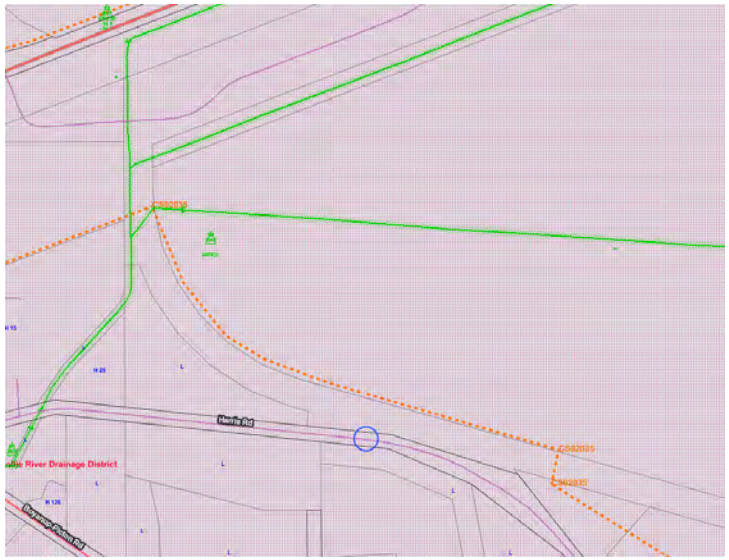
#	Name / Address	Summary of Submission	Officer Comments on Submission
		threatened fauna. The taking (including capturing or killing) of threatened fauna is regulated under the BC Act. For further information regarding responsibilities relate to threatened fauna please email speciesandcommunities@dbca.wa.gov.au The proponent should seek advice from the Department of Water and Environmental Regulation (DWER) in relation to clearing permit requirements. If a clearing permit is required, DBCA expects that the environmental values that are likely to be impacted by the proposed development will be adequately considered through the assessment of the clearing permit, through which DBCA may provide advice to DWER Thank you for the opportunity to comment on this proposal. Please contact Matthew Wansborough at the Parks and Wildlife South West Region office on 9725 4300 or email swlanduseplanning@dbca.wa.gov.au if you have any queries regarding this advice.	
6a	Western Power Doreen Rowley – Land Use Planning Specialist Land Access & Land Use Planning Doreen.Rowley@westernpower.com.au 21 October 2025	Thank you for the opportunity to review and respond to the RDAP development application - DAP/25/02922 LOT16, Harris Road, Picton - Battery Energy Storage System. I have liaised with Western Power's internal customer connection team in respect to the proposed development, noting the existing and potential Western Power assets relevant to the proposal. The proposed connection to Western Power's Picton substation has not been validated and the applicant/owner shall engage with Western Power to assess connection options for the interface of the BESS facility to the transmission network and consider feasibility of submitting their Connection Application. Prior to commencement of works, the proponent shall ensure that the connection, location, design, access and ongoing maintenance and operations of assets is supported and agreed with Western Power.	Noted. Condition added to recommendation, in addition to a consolidated version of advice notes.

#	Name / Address	Summary of Submission	Officer Comments on Submission
		Western Power further recommends the following Condition prior to development or subdivision for the provision of an easement on the subject site, pursuant to Section 167 of the *Planning and Development Act 2005*: 1. *Prior to development or at time of subdivision, arrangements shall be made for the provision of an easement pursuant to Section 167 of the Planning and Development Act 2005 for existing or planned distribution and transmission infrastructure being granted free of cost to Western Power.* Western Power recommends the following standard Advice Notes prior to development or subdivision on the subject site, pursuant to Section 167 of the *Planning and Development Act 2005*: *Advice Notes:* 1. *(i) The development shall be designed and constructed to protect Western Power infrastructure and interests from potential land use conflict.* 1. *(ii) No development (including drainage, fill, fencing, storage or parking) will be permitted within Western Power line and cable easements or restriction zones without the prior written approval of Western Power.* 1. *(iii) The applicant should formally progress the Western Power network connection and substation arrangements with Western Power.* 1. *(iv) Arrangements being made to the specifications of Western Power for the provision of necessary electricity easements as and where required.*	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		Should you wish to discuss the above matter further, please contact Doreen Rowley on Doreen.Rowley@westernpower.com.au.	
	Department of Planning Lands and Heritage Land Use Planning Kim Muste kim.muste@dplh.wa.gov.au 12 August 2025	Please accept this email as the Department of Planning Lands and Heritage submission on the RDAP Development Application DAP/25/02922, LOT16 Harris Road Battery Energy Storage System. No objection is raised to the development application and the following comments and advice are provided: 1. The industrial based landuse is consistent with: a. The Industrial zone under the Greater Bunbury Region Scheme. b. The General Industry zone under the Picton Industrial Park Southern Precinct District Structure Plan. c. WAPC Position Statement: Renewable Energy Facilities (March 2020). d. The General Industry zone under the City of Bunbury Local Planning Scheme No. 8 (LPS8), noting the application is to be considered as a Use Not Listed. 2. The subject land falls within the Special Control Area – Development Area 29 (SCA-DA) of LPS8 that is an area that requires further investigation and structure and/or local development planning. Based on the reasons detailed within the development application report, the application of Clause 27(2) of Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015 (Deemed Provisions) for the development application to be determined in the absence of a local structure plan is supported. 3. It is recommended that the City of Bunbury consider the following issues consistent with information detailed within the development application report: a. Confirmation of consent/support for two railway crossings from Arc Infrastructure and the Public Transport Authority.	Noted, support from Arc and PTA has been obtained see planning assessment.

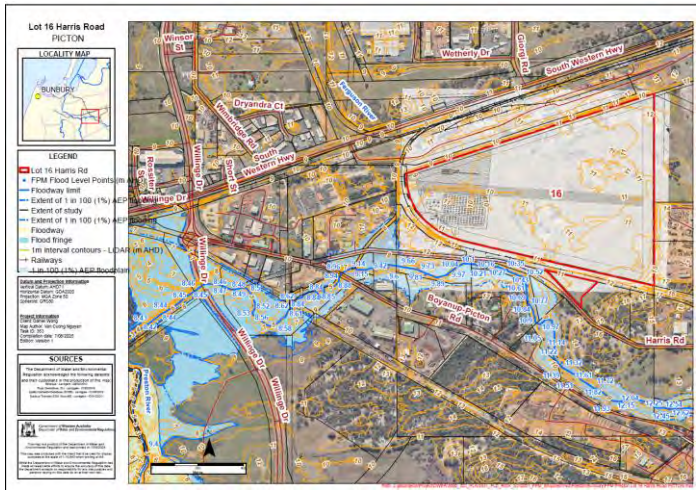
#	Name / Address	Summary of Submission	Officer Comments on Submission
		b. Confirmation of support from Western Power.	
8.	Main Roads Southwest Region Southwest Region Planning Services swrplanning@mainroads.wa.gov.au 8 August 2025	Hi David, I refer to your email of 3 July 2025 and advise that Main Roads has no objections in principle to the proposed development.	Noted.
9.	Water Corporation Julie Dossal Advisor – Land Use Planning LandPlanning@watercorporation.com.au 7 August 2025	Thank you for your email dated 3rd July 2025. Water Corporation offers the following comments in support of the proposal. **Wastewater** Reticulated sewerage is not currently available to the subject lot and is not planned for in the next 5-year plan. Long term future planned sewerage main route is planned at this stage within the southern boundary of the lot. **Drainage** Major drainage infrastructure is located within the subject lot area. The developer is required to fund the full cost of protecting or modifying any existing Water Corporation drainage facilities or infrastructure which may be affected by the development. Prescribed Proximities and relevant legislation are available in our guidelines. Before development can take place, a Drainage and Water Management Plan needs	Noted, City's Health department supportive of an Aerated Wastewater Treatment System to treat black water associated with the use. Condition has been included in recommendation relating to the requirement for APRA.

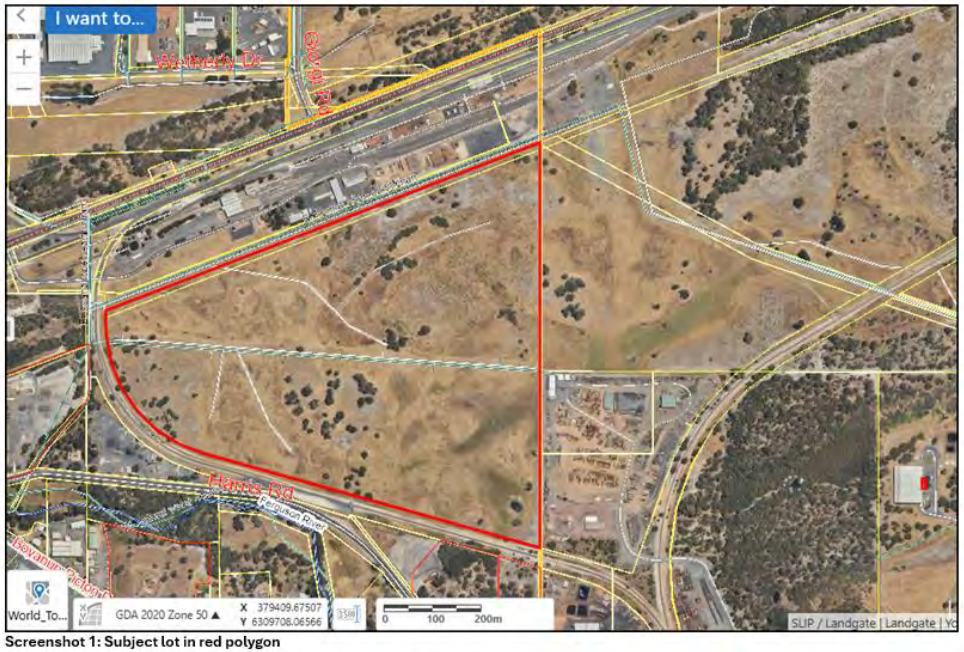
#	Name / Address	Summary of Submission	Officer Comments on Submission
		to be adopted and approved, by the Department of Water and Environmental Regulations for this area, to set regional drainage conditions for the subject and surrounding area. **Approval for works** Any works carried out in proximity to our Assets must receive prior approval by applying for an Asset Protection Risk Assessment (APRA) To assess whether the proposed development will require, and APRA details of the Prescribed Proximities and relevant legislation are available in our guidelines. The information provided above is subject to review and may change. If the proposal has not proceeded within the next 6 months, please contact us to confirm that this information is still valid. Should you have any queries or require further clarification on any of the above issues, please do not hesitate to contact me.	
	Water Corporation Julie Dossal Advisor – Land Use Planning LandPlanning@watercorporation.com.au 28 August 2025	I have included a snippet of our mapping system which shows the drainage infrastructure quite clearly in green. The orange dotted line is planned wastewater which I outlined in the response to you. This is long term planned beyond 2035 and is to service development south of this subject lot. As you can appreciate this is conceptual planning and is subject to change.	Noted.

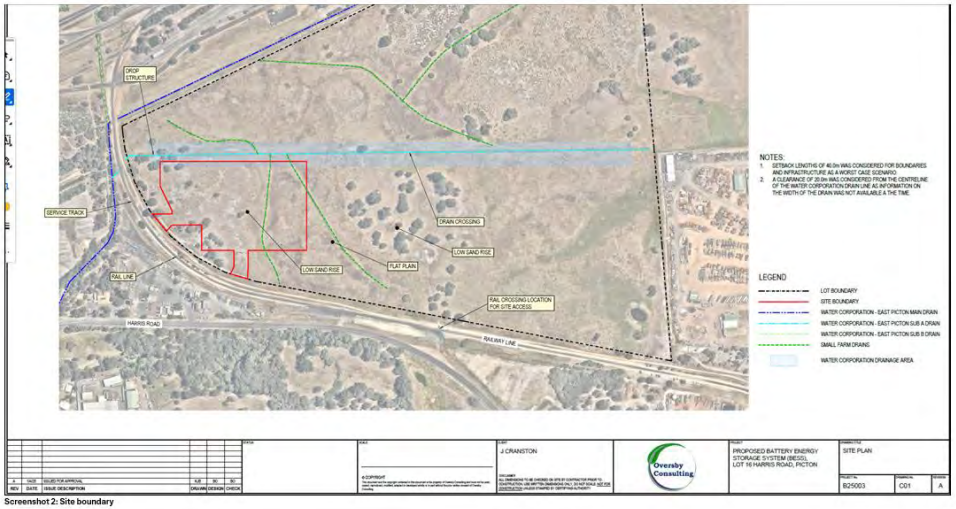
#	Name / Address	Summary of Submission	Officer Comments on Submission
			
	Department of Water and Environmental Regulations Daniel Wong daniel.wong@dwer.wa.gov.au 7 August 2025	Thank you for providing the above proposal for the Department of Water and Environmental Regulation (Department) to consider. The proposal for the subject land is to develop a 100MW/400MWh Battery Energy Storage System connected to Western Australia's main electricity network. Screenshots 1-3 below show the proposed lot and structures. To support this proposal, the following relevant information/reports were provided: • *Planning Report - Proposed Battery Energy Storage System (Use Not Listed) - Lot 16 (Harris Road), Picton - Application to City Of Bunbury / Regional Dap* (by Hidding Urban Planning, Ref C2583, Rev R02, dated: 6/6/25) (to be	Noted and where relevant conditions and advice notes included in recommendation.

#	Name / Address	Summary of Submission	Officer Comments on Submission
		referred to as the Planning Report) • *Water Management Technical Note - Lot 16 Harris Road, Picton Battery Energy Storage System* (by Oversby Consulting, Ref: B25003, version A, dated: 31st March 2025) (to be referred to as the WMP) The Department has identified the potential environmental/water impacts it considers. The key issues and recommendations are provided below and these matters should be addressed: • **Issue 1**: Flood • **Advice 1**: A minimum habitable floor level of 0.5 m above the adjacent 1% AEP flood level is recommended to ensure adequate flood protection – noting that the available contour information shows that the general surface elevation of the Lot is between 10 metres AHD and 11 metres AHD • **Issue 2:** Stormwater, groundwater and sediment management • **Advice 2:** The following is advised: o A construction management plan being prepared to include details, such as, but not limited to: ▪ ensuring the Water Corporation's East Picton Sub A Drain (or any other drainage infrastructure) is protected during construction works. ▪ ensuring sediment, fill or other material are not mobilised into the drainage infrastructure during the works. ▪ excluding sediment from entering the drainage infrastructure during major storm events. o Detailed designs being provided at the relevant planning stage to ensure stormwater is managed as per the commitments in the *Water Management Technical Note - Lot 16 Harris Road, Picton Battery Energy Storage System* (by Oversby Consulting, Ref: B25003, version A, dated: 31st March 2025) o The Water Corporation (WC) be consulted with regards to the stormwater detailed designs, crossings of the Sub A Drain, or interference with any drainage infrastructure o To ensure there is an appropriate separation between the watertable	

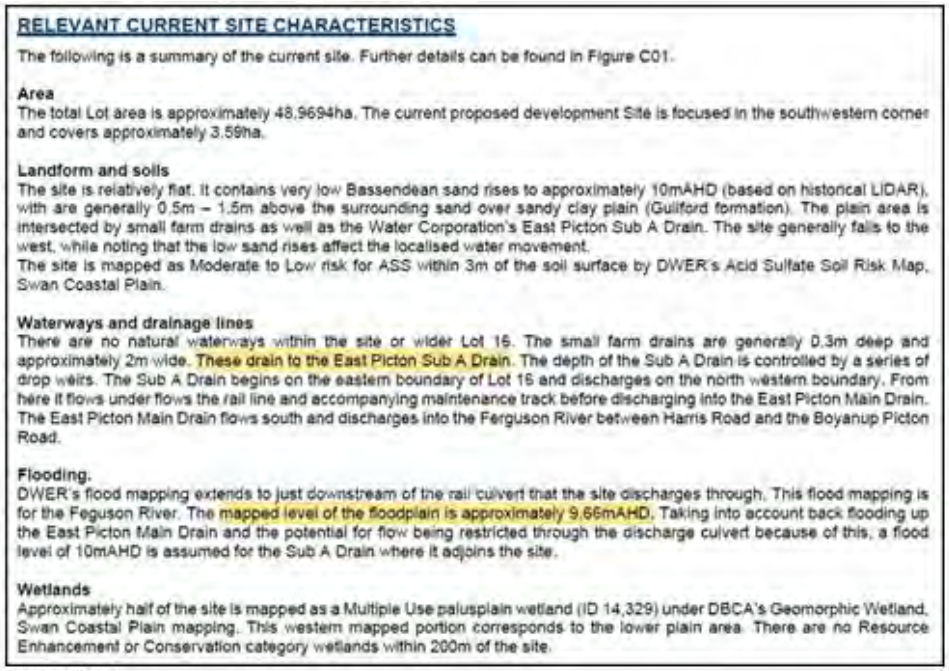
#	Name / Address	Summary of Submission	Officer Comments on Submission
		and development, consideration is required with regards to the amount of fill required (including to account for flood protection – Issue 1) o The City is advised to liaise with its engineers on matters of stormwater and groundwater management • **Issue 3:** The clearing of native vegetation in this proposal may be subject to the *Environmental Protection Act 1986* (EP Act) • **Advice 3:** The proponent is to obtain Developmental Approval prior to clearing to ensure the clearing is exempt under the EP Act and clearing to be in accordance with the City's Firebreak and Fuel Hazard Reduction notice. For further clarification, the applicant can contact DWER's Native Vegetation Regulation section by email (admin.nvp@dwer.wa.gov.au) or by telephone (6364 7098) • **Issue 4:** Acid sulfate soils • **Advice 4:** The following advice noted be applied: Acid sulfate soils (ASS) risk mapping indicates that the site is located within an area identified as representing a moderate to low risk of ASS occurring within 3 metres of the natural soil surface. Please refer to Department of Water and Environmental Regulation's acid sulfate soil guidelines for information to assist with the management of deep ground disturbing works if required. https://www.der.wa.gov.au/your-environment/acid-sulfatesoils/69-acidsulfatesoils-guidelines • **Issue 5:** General water quality advice • **Advice 5:** The proponent is advised to refer to the following Water quality protection notes (WQPN) where practical and appropriate to the site situation: o WQPN 56 - Tanks for fuel and chemical storage near sensitive water resources (Dec 2018) o WQPN 10 - Contaminant spills – emergency response (May 2020) • **Issue 6:** Water supply • **Advice 6:** The proponent is to quantify their water requirements for all aspects of the proposed BESS and provide evidence of a secure water source,	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		to the satisfaction of the City More detail pertaining to the above issues are provided in Table 1 below. In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed. Should you require any further information on the comments please contact the undersigned. Thank you.  Attached to email above	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		 Screenshot 1: Subject lot in red polygon	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		 Screenshot 2: Site boundary	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		 Screenshot 3: Proposed structures	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		 **RELEVANT CURRENT SITE CHARACTERISTICS** The following is a summary of the current site. Further details can be found in Figure C01. **Area** The total Lot area is approximately 48.9694ha. The current proposed development Site is focused in the southwestern corner and covers approximately 3.59ha. **Landform and soils** The site is relatively flat. It contains very low Bassendean sand rises to approximately 10mAHD (based on historical LIDAR), with are generally 0.5m – 1.5m above the surrounding sand over sandy clay plain (Guilford formation). The plain area is intersected by small farm drains as well as the Water Corporation's East Picton Sub A Drain. The site generally falls to the west, while noting that the low sand rises affect the localised water movement. The site is mapped as Moderate to Low risk for ASS within 3m of the soil surface by DWER's Acid Sulfate Soil Risk Map, Swan Coastal Plain. **Waterways and drainage lines** There are no natural waterways within the site or wider Lot 16. The small farm drains are generally 0.3m deep and approximately 2m wide. These drain to the East Picton Sub A Drain. The depth of the Sub A Drain is controlled by a series of drop weirs. The Sub A Drain begins on the eastern boundary of Lot 16 and discharges on the north western boundary. From here it flows under flows the rail line and accompanying maintenance track before discharging into the East Picton Main Drain. The East Picton Main Drain flows south and discharges into the Ferguson River between Harris Road and the Boyanup Picton Road. **Flooding.** DWER's flood mapping extends to just downstream of the rail culvert that the site discharges through. This flood mapping is for the Feguson River. The mapped level of the floodplain is approximately 9.66mAHD. Taking into account back flooding up the East Picton Main Drain and the potential for flow being restricted through the discharge culvert because of this, a flood level of 10mAHD is assumed for the Sub A Drain where it adjoins the site. **Wetlands** Approximately half of the site is mapped as a Multiple Use palusplain wetland (ID 14,329) under DBCA's Geomorphic Wetland, Swan Coastal Plain mapping. This western mapped portion corresponds to the lower plain area. There are no Resource Enhancement or Conservation category wetlands within 200m of the site. **Screenshot 4**	

#	Name / Address	Summary of Submission	Officer Comments on Submission

PROPOSED MANAGEMENT STRATEGIES

STORMWATER MANAGEMENT

The development is to manage its stormwater so that it releases water at predevelopment rates while treating the water prior to infiltration or release. Details on this process are outlined below and can be viewed on Figure C02.

Water Quality Management

The onsite treatment of the 1EY event is to be undertaken through the use of planted bioretention basins. The entire 1EY is to be captured and infiltrated through the bioretention media. A subsoil network 300-500mm below the basin base will be used to control groundwater rise and allow for effective continual infiltration of the stormwater. The bioretention basin base area is to be approximately 2% of the overall feeding effective impervious area. This equates to an area of approximately 718m^2. A perimeter swale with an approximate 1m wide base width will allow for this treatment area.

Detention Management

For events above the 1EY, the focus is to control the release of water to the Sub A Drain. The rate of release is to be equivalent to the predevelopment flow rate for the corresponding event. In keeping with the approved DWMS, the two critical events for detention to predevelopment rates are the 10% AEP and 1% AEP.

10% AEP

As a guide, and in keeping with the City of Bunbury's *Information Guide- Stormwater Disposal from Private, Commercial and Industrial Properties (I9)*, the development is to store 2m^3 of stormwater per 65m^2 of impervious area to control the 10% AEP. Based on this, an approximate required volume is 941.5m^3. Further details are outlined in Table 1. Using the swale design to achieve the 1EY treatment area, the perimeter swale at 0.6m deep swale to the overflow weir with 1:4 sides provides storage in excess of the 10% AEP requirement. The exact required storage will be determined as part of detailed design

Table 1: 10% AEP Basin Storage Details.

Total Site area (m^2)	Effective impervious area (90%) (m^2)	Required volume (m^3)	Volume in perimeter basin (m^3)	Approximate perimeter basin top water level area(m^2)
35900	32310	994.2	1330.0	4200

1% AEP

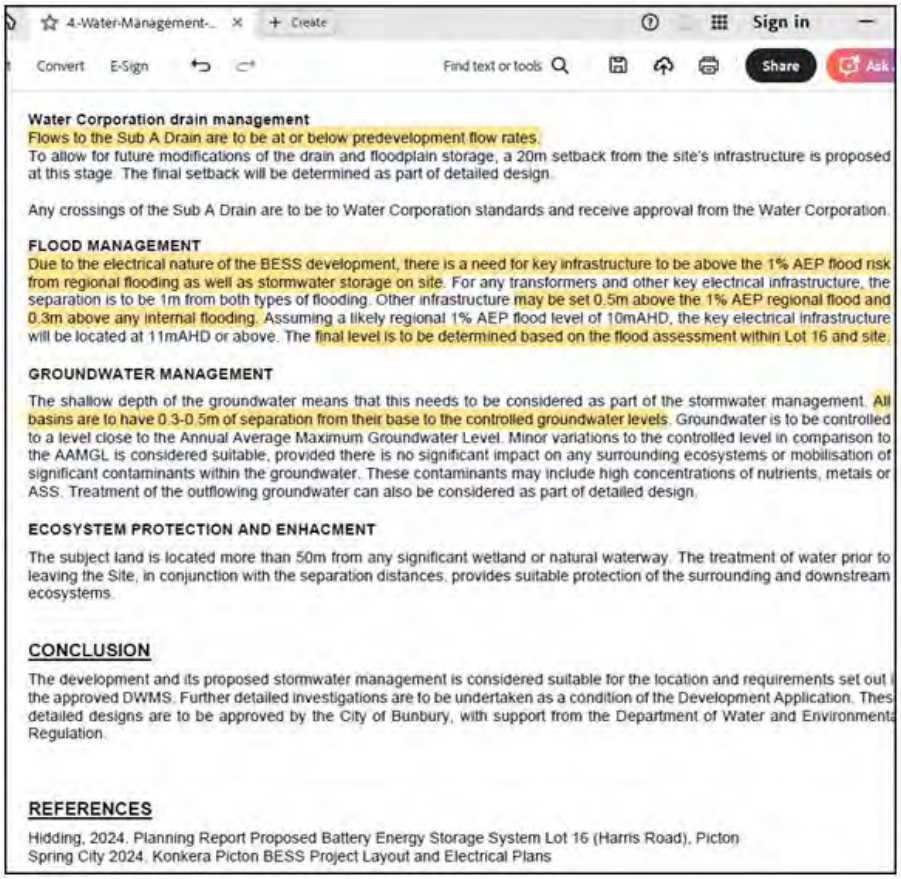
To comply with the DWMS and the need for management of the 1% AEP flow rate from the greater catchment, there will also be the requirement for additional storage above the 10% standard rate. The exact amount of storage and discharge structure will be determined as part of detailed design.

As a guide, the pro rata storage volume for the Site, as set out in the DWMS for the entire Catchment has been assumed. The pro rata rate is approximately 1m^3 of storage for every 20.8m^2 of catchment area. This is based on Catchment 8 being 81.65ha and requiring 39170m^3 of required storage. Table 2 provides the approximate volumes required. It also outlines the additional 1% AEP basin required volume, as well as an approximate area, assuming a 1m deep basin with 1:4 sides for the additional water.

Table 1: 1% AEP Basin Storage Details.

Total area (m2)	Required storage rate	Required volume (m^3)	Volume held in perimeter basin in excess of 10% AEP requirement (m^3)	Remaining volume within 1% AEP basin (m^3)	Approximate basin top water level area (m^2)
35900	1m^3 / 20.8m^2 of catchment area	1722	335	1387	1940

Screenshot 5

#	Name / Address	Summary of Submission	Officer Comments on Submission
			

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Water Corporation drain management

Flows to the Sub A Drain are to be at or below predevelopment flow rates.

To allow for future modifications of the drain and floodplain storage, a 20m setback from the site's infrastructure is proposed at this stage. The final setback will be determined as part of detailed design.

Any crossings of the Sub A Drain are to be to Water Corporation standards and receive approval from the Water Corporation.

FLOOD MANAGEMENT

Due to the electrical nature of the BESS development, there is a need for key infrastructure to be above the 1% AEP flood risk from regional flooding as well as stormwater storage on site. For any transformers and other key electrical infrastructure, the separation is to be 1m from both types of flooding. Other infrastructure may be set 0.5m above the 1% AEP regional flood and 0.3m above any internal flooding. Assuming a likely regional 1% AEP flood level of 10mAHD, the key electrical infrastructure will be located at 11mAHD or above. The final level is to be determined based on the flood assessment within Lot 16 and site.

GROUNDWATER MANAGEMENT

The shallow depth of the groundwater means that this needs to be considered as part of the stormwater management. All basins are to have 0.3-0.5m of separation from their base to the controlled groundwater levels. Groundwater is to be controlled to a level close to the Annual Average Maximum Groundwater Level. Minor variations to the controlled level in comparison to the AAMGL is considered suitable, provided there is no significant impact on any surrounding ecosystems or mobilisation of significant contaminants within the groundwater. These contaminants may include high concentrations of nutrients, metals or ASS. Treatment of the outflowing groundwater can also be considered as part of detailed design.

ECOSYSTEM PROTECTION AND ENHACMENT

The subject land is located more than 50m from any significant wetland or natural waterway. The treatment of water prior to leaving the Site, in conjunction with the separation distances, provides suitable protection of the surrounding and downstream ecosystems.

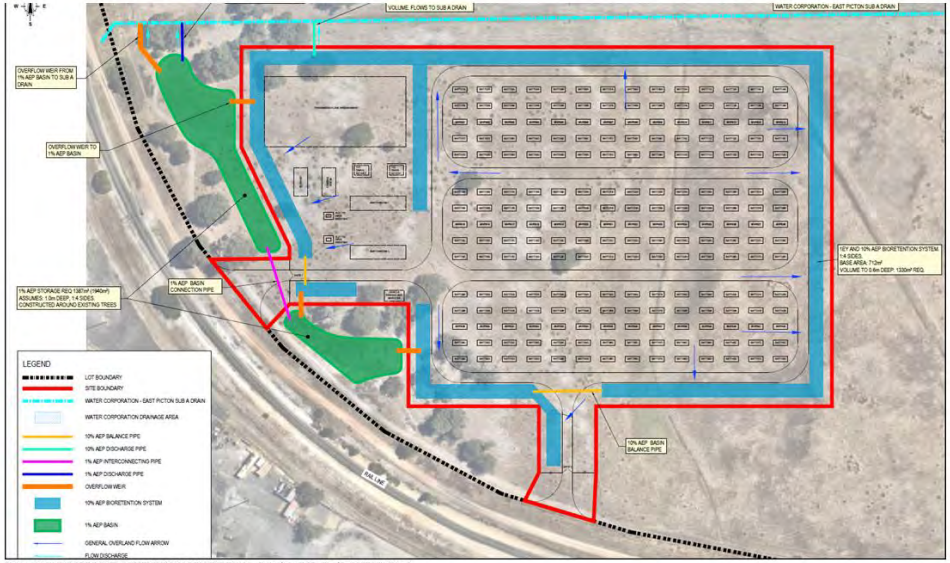
CONCLUSION

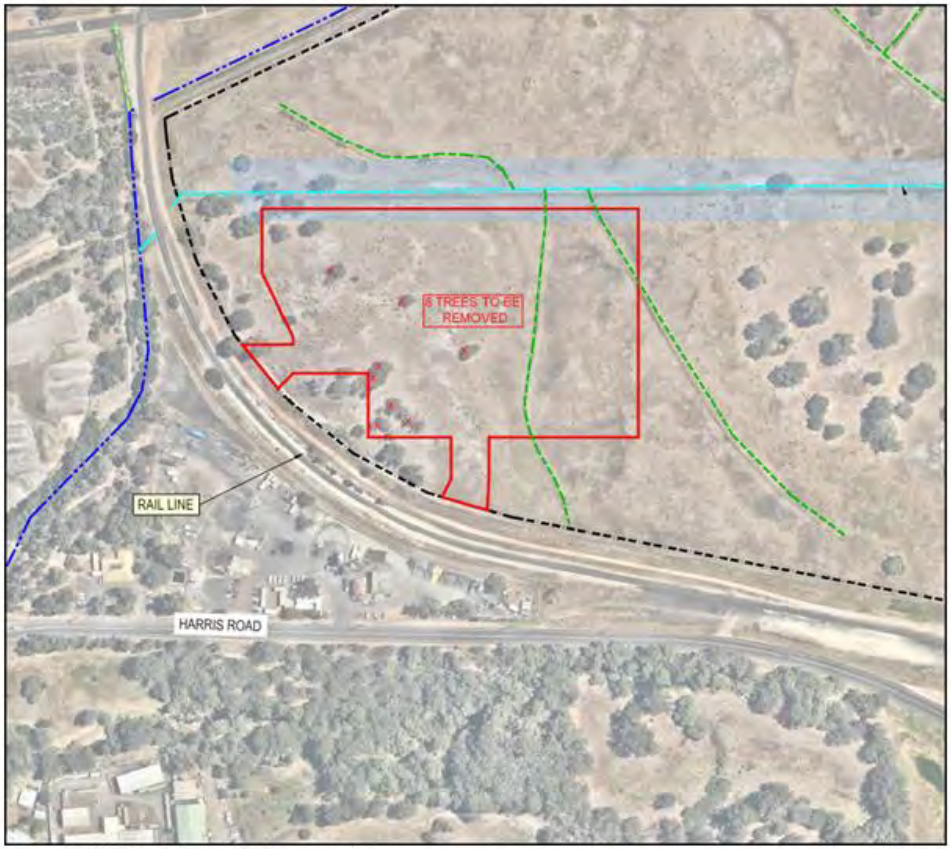
The development and its proposed stormwater management is considered suitable for the location and requirements set out i the approved DWMS. Further detailed investigations are to be undertaken as a condition of the Development Application. Thes detailed designs are to be approved by the City of Bunbury, with support from the Department of Water and Environmenta Regulation.

REFERENCES

Hidding, 2024. Planning Report Proposed Battery Energy Storage System Lot 16 (Harris Road), Picton
Spring City 2024. Konkera Picton BESS Project Layout and Electrical Plans

Screenshot 6

#	Name / Address	Summary of Submission	Officer Comments on Submission
		 Screenshot 7: POST DEVELOPMENT MANAGEMENT PLAN – Drawing: C02 ; Project 25003 ; Rev A	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		 Screenshot 8: Trees proposed to be removed	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		Table 1 - Department of Water and Environmental Regulation detailed comments on DAP/25/02922 / City Reference: 5/20 - 2850/776	

Item No.	Reviewer comment/advice
1	**Issue 1**: Flood **Advice 1**: A minimum habitable floor level of 0.5 m above the adjacent 1% AEP flood level is recommended to ensure adequate flood protection – noting that the available contour information shows that the general surface elevation of the Lot is between 10 metres AHD and 11 metres AHD **Discussion 1**: The Department of Water in carrying out its role in floodplain management provides advice and recommends guidelines for development on floodplains with the object of minimising flood risk and damage. Based on the results of the Ferguson River Flood Study, the general area is affected by major flooding with the 1% AEP flood level expected to vary as shown in the attached plan. Based on our recommended floodplain development strategy for this area, proposed development (i.e. filling, building, etc.) is considered acceptable with respect to major flooding, however, a minimum habitable floor level of 0.5 m above the adjacent 1% AEP flood level is recommended to ensure adequate flood protection. The available contour information shows that the general surface elevation of the Lot is between 10 m AHD and 11 m AHD.

#	Name / Address	Summary of Submission	Officer Comments on Submission
		2 **Issue 2:** Stormwater and sediment management **Advice 2:** The following is advised: • a) A construction management plan being prepared to include details, such as, but not limited to: o ensuring the Water Corporation's East Picton Sub A Drain (or any other drainage infrastructure) is protected during construction works. o ensuring sediment, fill or other material is not mobilised into the the drainage infrastructure during the works. o excluding sediment from entering the drainage infrastructure during major storm events. • b) Detailed designs being provided at the relevant planning stage to ensure stormwater is managed as per the commitments in the *Water Management Technical Note - Lot 16 Harris Road, Picton Battery Energy Storage System* (by Oversby Consulting, Ref: B25003, version A, dated: 31st March 2025) • c) The Water Corporation (WC) be consulted with regards to the stormwater detailed designs, crossings of the Sub A Drain, or interference with any drainage infrastructure • d) To ensure there is an appropriate separation between the watertable and development, consideration is required with regards to the amount of fill required (including to account for flood protection – Issue 1) • e) The City is advised to liaise with its engineers on matters of stormwater and groundwater management **Discussion 2:** The proponent has committed to manage stormwater in the WMP (Screenshots 4-7), noting that the details provided are conceptual/high level, with a greater level of detail to be provided in the Development Application Stage (with detailed designs), as per the statement: • "Further detailed investigations are to be undertaken as a condition of the Development Application. These detailed designs are to be approved by the City of Bunbury, with support from the Department of Water and Environmental Regulation."	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		In summary, the WMP commits to: • capture the entire **1EY** stormwater event using planted retention basins (with bioretention media) and perimeter swales to treat the stormwater being detained • control the **10% AEP** event as per the City of Bunbury's *Information Guide - Stormwater Disposal from Private, Commercial and Industrial Properties (I9)* • comply with the DWMS and the need for management of the **1% AEP** flow rate from the greater catchment to allow for additional storage above the 10% standard rate The use of the Water Corporation's East Picton Sub A Drain is proposed to accept stormwater flows from this development, noting the WMP statement: • "Flows to the Sub A Drain are to be at or below predevelopment flow rates. To allow for future modifications of the drain and floodplain storage, a 20m setback from the site's infrastructure is proposed at this stage. The final setback will be determined as part of detailed design. Any crossings of the Sub A Drain are to be to Water Corporation standards and receive approval from the Water Corporation." Based on the WMP's commitments, and to ensure appropriate stormwater management during and after construction, the above is advised. The subject site has a high watertable, as per the statement: • "Based on groundwater level mapping undertaken as part of the DWMS, the depth to ground-water varies in relation to the landform for the Site. Under the high points of the sand rises. the separation to groundwater is up to 1.5m, with this separation decreasing on the plain areas until groundwater is effectively at the surface. The Sub A Drain and farm drains effectively control any further rise in groundwater." To ensure there is an appropriate separation between the watertable and base of drainage basins, consideration is required with regards to the amount of fill required (including flood protection – Issue 1)	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		3 **Issue 3:** The clearing of native vegetation in this proposal may be subject to the *Environmental Protection Act 1986* (EP Act) **Advice 3:** The proponent is to obtain Developmental Approval prior to clearing to ensure the clearing is exempt under the EP Act and clearing to be in accordance with the City's Firebreak and Fuel Hazard Reduction notice. For further clarification, the applicant can contact DWER's Native Vegetation Regulation section by email (admin.nvp@dwer.wa.gov.au) or by telephone (6364 7098) **Discussion 3:** DWER notes that 8 trees are proposed to be removed with this development (Screenshot 8). In the event the clearing of native vegetation is proposed, the following is advised: Under section 51C of the *Environmental Protection Act 1986* (EP Act), clearing of native vegetation is an offence unless undertaken under the authority of a clearing permit, or the clearing is subject to an exemption. Exemptions for clearing that are a requirement of written law, or authorised under certain statutory processes, are contained in Schedule 6 of the EP Act. Exemptions for low impact routine land management practices outside of environmentally sensitive areas (ESAs) are contained in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (the Clearing Regulations). Clearing for proposed structures Based on the information provided it is likely that once Development Approval has been issued, the proposed clearing for the structures will be exempt from the requirement for a clearing permit under Regulation 5, Item 1 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (the Clearing Regulations). Please note that in the absence of Development Approval, this exemption does not apply. The proposed clearing for the Bushfire Protection Zone surrounding the structures *may* be exempt from the requirement for a clearing permit under Schedule 6, Clause 1 of the EP Act. Please note that this exemption would only apply if the clearing is in accordance with the City of Bunbury's Firebreak and Fuel Hazard Reduction notice. The clearing of this area may also be exempt under Regulation 5, Item 1 if it is specified and considered within the Development Approval, noting that this exemption relates to clearing to the extent necessary for a building or structure. If further clarification is required please contact DWER's Native Vegetation Regulation section by email (admin.nvp@dwer.wa.gov.au) or by telephone (6364 7098).	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		4 **Issue 4:** Acid sulfate soils **Advice 4:** The following advice noted be applied: Acid sulfate soils (ASS) risk mapping indicates that the site is located within an area identified as representing a moderate to low risk of ASS occurring within 3 metres of the natural soil surface. Please refer to Department of Water and Environmental Regulation's acid sulfate soil guidelines for information to assist with the management of deep ground disturbing works if required. https://www.der.wa.gov.au/your-environment/acid-sulfatesoils/69-acidsulfatesoils-guidelines **Discussion 4:** Acid sulfate soils (ASS) risk mapping indicates that the site is located within an area identified as representing a moderate to low risk of ASS occurring within 3 metres of the natural soil surface. Please refer to Department of Water and Environmental Regulation's (DWER) acid sulfate soil guidelines for information to assist with the management of ground and/or groundwater disturbing works: https://www.der.wa.gov.au/your-environment/acid-sulfate-soils/69-acidsulfatesoils-guidelines." 5 **Issue 5:** General water quality advice **Advice 5:** The proponent is advised to refer to the following Water quality protection notes (WQPN) where practical and appropriate to the site situation: • WQPN 56 - Tanks for fuel and chemical storage near sensitive water resources (Dec 2018) • WQPN 10 - Contaminant spills – emergency response (May 2020) **Discussion 5:** DWER notes that this development will likely involve the storage of chemicals, such as oil in the transformers. As such, the above is advised where appropriate. 6 **Issue 6:** Water supply **Advice 6:** The proponent is to quantify their water requirements for all aspects of the proposed BESS and provide evidence of a secure water source, to the satisfaction of the City **Discussion 5:** No details have been provided in the referral with regards to a water supply, such as to facilitate construction works (e.g. dust suppression) or to support landscaping (irrigation requirements). It is not known if the take of groundwater is proposed to support this development.	
	Public Transport Authority & Arch	ARC	Noted and condition included in recommendation.

#	Name / Address	Summary of Submission	Officer Comments on Submission
	Infrastructure Daniel Pinfold PTA Liz Bryant ARC 2 September 2025	Hi David The conditions stated below by Daniel cover Arc's conditions. Please note the Rail Safey National Law was updated in 2024, hence you will notice we amendment in red. Regards Liz Bryant Commercial & Contracts Officer PTA Hi David, I have conferred with my team and we are comfortable with the conditions. I have made a small amendment (as seen in red below) so please let me know if that is acceptable. @Liz Bryant are you ok with these conditions? Kind Regards, Daniel Pinfold Assistant Planner | Infrastructure Planning & Land Services **City email (with red changes as indicated in PTA email).**	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		I apologise for not responding prior, I am comfortable with these conditions as it looks to target the main issues raised by the PTA and Arc, specifically surrounding the current level crossing. I will check with my manager today and await confirmation from Liz or Shelley however as it stands I am comfortable with these conditions. <u>Responding to City's Email below:</u> Hi Daniel Thank you, for the email and phone conversation earlier. As discussed the City and the Applicant have agreed to an extension to our RDAP hearing date due to some concerns raised from DFES and Identification of sensitive uses nearby triggering the requirement for a noise impact assessment particularly during the nighttime hours (we don't anticipate this to be an issue because of the noise already associated with nearby industrial uses and the rail corridor). In addition, we discussed that you are supportive with the City's approach to this Development Application, as it will be an effective way to ensure the development does not impact the use of the railway corridor during construction, during operation and during any future maintenance works. To help us progress the application to supportive decision recommended to the RDAP committee it would be great if you could review the City's draft conditions and for PTA and Arc to confirm that they are supportive of the proposal subject to these conditions (or any changes that you would like to have made to them). See conditions below: 1. Prior to issuing a building permit, a Construction Management Plan (CMP) shall	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		be submitted for approval to the specifications and satisfaction of by the City of Bunbury and Public Transport Authority and thereafter implemented in full. The management plan shall include details regarding mitigation measures to address impacts associated with construction works and must address the following issues: a) public safety and amenity; b) site plan and security; c) contact details of essential site personnel, construction period and operating hours; d) community information, consultation and complaints management plan; e) construction staging plan; f) noise, vibration and dust management; g) pre-work dilapidation reports for City of Bunbury assets; h) traffic, access and parking management; i) waste management; j) earthworks, excavation, land retention / piling and associated matters; k) contamination risks; l) Rail Safety National law (WA) 2024 m) storm water and sediment control; and any other matters deemed appropriate by the local government. 2. Prior to the issuing of a building permit, detailed design plans shall be prepared in accordance with relevant Australian Standards, Austroads Guidelines, Rail Safety National law (WA) 2024 and City of Bunbury/Public Transport Authority requirements, for all access, carparking, rail crossing and pedestrian movement requirements, to the satisfaction of the City of Bunbury and the Public Transport Authority. Once plans are approved construction is to be in accordance with the approved plans and be completed before the development is occupied. Happy to discuss further.	

#	Name / Address	Summary of Submission	Officer Comments on Submission
		Kind Regards David Tancheff Senior Planning Officer	
Public Submission – Support / No Objection			
1.	AURIZON Gregg Shemwell 900 Ann Street FORTITUDE VALLEY QLD 4006 29 July 2025	SUPPORT No objection based upon the information available. The only comment is that Aurizon would want assurance that lighting during construction and operation doesn't impact on rail operations.	Noted, recommended conditions include Construction Management Plan to be reviewed by PTA.
2.	Shire of Dardanup Alan Longbon Coordinator Planning Building & Compliance Alan.Longbon@dardanup.wa.gov.au 11 August 2025	I advise the material has been internally reviewed by Shire staff and we advise we have no objection to the proposal. Kind regards,	Noted.

PART C – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals

2. Meeting Closure