Regional Development Assessment Panel Agenda

Meeting Date and Time: Tuesday, 16 April 2024; 1.00pm
Meeting Number: RDAP/8
Meeting Venue: 140 William Street, Perth
Public Observing: Online

A live stream will be available at the time of the meeting, via the following link:
RDAP/8 - 16 April 2024 - Shire of Capel

This DAP meeting will be live streamed open to the public rather than requiring attendance in person.

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Members on Leave of Absence
4. Noting of Minutes

PART B – SHIRE OF CAPEL

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

5.1 Lot 148 (No.168) Skippings Road, Boyanup – Extractive Industry Development Proposal – DAP/23/02479

PART C – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. General Business
3. 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 additional information documentation

ATTENDANCE

DAP Members

Tony Arias (Presiding Member)
Lindsay Baxter (Deputy Presiding Member)

Part B – Shire of Capel
Cr Peter McCleery (Local Government Member, Shire of Capel)
Cr John Fergusson (Local Government Member, Shire of Capel)

Minute Secretary

Ashlee Kelly (DAP Secretariat)

Officers in Attendance

Zoe Hendry (DAP Secretariat)

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

This meeting is being recorded and livestreamed on the DAP website in accordance with regulation 40(2A) of the *Planning and Development (Development Assessment Panels) Regulations 2011*. Members are reminded to announce their name and title prior to speaking.

2. Apologies

John Syme (Specialist Member)

3. Members on Leave of Absence

Nil.

4. Noting of Minutes

Signed minutes of previous meetings are available on the DAP website.

PART B – SHIRE OF CAPEL

1. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

2. Disclosure of Interests

Nil.

3. Form 1 DAP Applications

Nil.

4. Form 2 DAP Applications

Nil.

5. Section 31 SAT Reconsiderations

5.1 Lot 148 (No.168) Skippings Road, Boyanup – Extractive Industry Development Proposal – DAP/23/02479

ITEM 5.1 - LOT 148 SKIPPINGS ROAD, BOYANUP - EXTRACTIVE INDUSTRY DEVELOPMENT PROPOSAL

State Administrative Tribunal Reconsideration –
Responsible Authority Report
(Regulation 12)

DAP Name:	Regional DAP
Local Government Area:	Shire of Capel
Summary of Modifications	Refer to background section of report
Applicant:	Element Advisory Pty Ltd
Owner:	Campbell Nettleton & Ewen Nettleton
Value of Development:	$3,552,053.00
Responsible Authority:	Shire of Capel
Authorising Officer:	Bob Wallin, Senior Planning Officer
LG Reference:	PA48/2023
DAP File No:	DAP/23/02479
SAT File No	DR146 of 2023
Date of Decision under review:	2 August 2023
Application for Review Lodgement Date:	30 August 2023
Attachment(s):	1. Previous agenda item for DAP Meeting dated 2 August 2023. 2. Minutes of DAP dated 2 August 2023. 3. SAT directions 4. Updated Development Application and accompanying material (Environmental, Dust, Noise, Groundwater reports).

Responsible Authority Recommendation

That the Regional Development Assessment Panel, pursuant to section 31 of the *State Administrative Tribunal Act 2004* in respect of SAT application DR 146 of 2023, resolves to:

1. **Accept** that the DAP Application reference DAP/23/02479 is appropriate for consideration as the "Industry-Extractive" land use is compatible with the objectives of the Rural zone in accordance with Clause 16 (2) of the Shire of Capel Local Planning Scheme No. 8.

2. **Reconsider** its decision dated 2 August 2023 and **SET ASIDE the decision and substitute a new** decision for DAP Application reference DAP/23/02479 and accompanying plans, including updated plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of the Shire of Capel Local Planning Scheme No.8, subject to the following conditions:

Conditions

1. This decision constitutes planning approval only and is valid for a period of 8 years from the date of approval. If the subject development is not substantially commenced within 2 years of the licence being issued, the approval shall lapse and be of no further effect.

2. Resource extraction is only permitted for a maximum of 5 years after the issue of the Extractive Industry Licence.

3. Rehabilitation of the land may occur at any time within the term of this approval.

4. Extraction must be undertaken in accordance with the agreed staging plan, as approved by the local government. Commencement of the subsequent extraction stage shall be subject to the previous extraction site having substantially commenced rehabilitation.

5. Unless otherwise approved in writing by the Shire, the development may only proceed generally in accordance with the attached approved plans, as dated, marked and stamped by the Shire, subject to any amendments required as a consequence of the conditions of this approval or any subsequent Extractive Industry Licence issued by the Shire.

6. The maximum pit floor depth shall be a minimum 0.8m above the current maximum groundwater level (MGL) and no dewatering works are to be undertaken without prior Department of Water and Environmental Regulation consultation. The Local Government is to be notified within 24 hours if the water table is intercepted.

   Such exposure or interception of the groundwater shall be remedied to the satisfaction of the Shire in consultation with the Department of Water and Environmental Regulation.

7. All works associated with the extractive industry to be setback at least 20m from any boundaries and extractive areas to be in accordance with the updated Extraction Works Plan (Appendix A of Herring Storer Acoustics Ref 30435-5-22200).

Prior to the commencement of development/issuing of an Extractive Industry Licence

8. Prior to the commencement of development, a Rehabilitation Management and Monitoring Plan shall be submitted for approval by the Shire. The Rehabilitation Management and Monitoring Plan shall be consistent with Water Quality Protection Note 15 (WQPN 15) and the Guidelines for Preparing Mine Closure Plans[1], and covering the intended staging, final landform (including separation to groundwater), proposed post extraction land use and successful rehabilitation criteria and include a finished rehabilitated level at least 0.8m above the highest groundwater level.

9. Prior to commencement of development, the condition of Skippings Road shall be upgraded to the satisfaction of the Shire of Capel.

10. Prior to the commencement of development, suitable arrangements being made with the Shire of Capel for the payment of a road reinstatement co-contribution for road deterioration purposes associated with Restricted Access Vehicle(s) in accordance with the WALGA co-contribution rates specified within the User Guide, estimating the incremental cost impact on sealed roads from additional freight tasks. Road Deterioration Co-contribution is to be made in arrears on the submission of the annual compliance report as required by the Extractive Industry License in accordance with the Shire of Capel Extractive Industry Local Law 2016.

11. Prior to the issue of an Extractive Industry Licence, the following Management Plans shall be submitted for approval by the Shire:
    a) Weed Management Plan; and
    b) Dieback Management Plan.

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12. Prior to the issue of an Extractive Industry Licence, the approved pit boundaries shall be surveyed by a suitably qualified surveyor, with the location of such pegs being to the satisfaction of the Shire.

13. Prior to the issue of an Extractive Industry Licence, the assigned rehabilitation bond for Stages 1 and 2 shall be provided to the Shire in the form of a bond or bank guarantee in pursuant the Shire's Schedule of Fees and Charges.

14. Prior to issue of an Extractive Industry Licence, suitable arrangement shall be undertaken to quantify water requirements for all aspects of the proposed extraction and provide evidence of a secure water source, to the satisfaction of the Shire.

15. Prior to issue of an Extractive Industry Licence, a Stormwater Management Plan is to be prepared and approved to the satisfaction of the Shire, consistent with WQPN 15, such as but not limited to details on how sediment mobilisation can be mitigated from activities crossing the drainage line to Stages 7 and 8.

16. Prior to issue of an Extractive Industry License, a 20m long asphalt cement seal apron be constructed at the intersection of Skippings Road and Boyanup West Road.

17. Prior to issue of an Extractive Industry License, a Dust Management Plan which shall include but is not limited to:

    1. Incorporating baseline and ongoing monitoring;
    2. Details management measures to minimise dust;
    3. Demonstrates best practice and details the methods to be used for all air borne particulate attenuation;
    4. Incorporates monitoring to determine the size and composition of particulates;
    5. Provides for continuous improvements in dust management; and
    6. Details complaint response procedures; to the satisfaction of the Shire of Capel.

General Conditions of Operations:

18. An Annual Audit of Compliance shall be prepared by a suitably qualified independent expert and submitted to the Shire annually. The Annual Audit of Compliance shall include:
    a) Details to demonstrate compliance with the conditions of this Development Approval;
    b) Tonnage of sand removed from the site and the period within which the sand was removed;
    c) Progress report on the approved Rehabilitation Management and Monitoring Plan including:
        i. Details of completed, ongoing and future rehabilitation areas
        ii. Photos of rehabilitated areas
        iii. Monitoring and reporting details, if available
        iv. Start and completion dates, and expected start dates, if applicable, and
        v. A map depicting the rehabilitation areas and their completion progress.

19. The maximum number to truck movements to and from the site per hour is limited to 8 movements (to and from site). Consideration by the Shire will be given for granting additional numbers to the stated hourly movements per day, with any variation to be approved in writing by the Shire's Chief Executive Officer.

20. Haulage of material is to be restricted to Skippings Road for access/entry.

21. The Extractive Industry license holder is to maintain (eg. Grading and watering) the section of Skippings Road that extends south from the existing cross over to the sealed portion of Boyanup West Road, to the satisfaction of the Shire and at the licence holder's expense.

22. There shall be no storage of hydrocarbons on-site. On-site refuelling of equipment will be from a mobile service vehicle carrying appropriate spill prevention and clean-up equipment. No major repairs or maintenance shall take place on site.

23. The hours of operation shall be from 7.00am to 7.00pm Monday to Friday, and 7:00am to 12:00pm Saturday. No operations shall be permitted on Sundays or Public Holidays.

24. Maximum batter slopes of 1:6 shall be applied to all rehabilitation slopes.

25. The pit boundary survey pegs shall remain in place for the duration of the operation to the satisfaction of the Shire.

26. The maximum volume of material to be stockpiled on site at any one time is 5,000m³.

27. All stockpiles shall be removed prior to the expiry of this approval.

28. A minimum 0.8-metre separation distance to the groundwater shall be maintained for the life of the extraction activities.

29. The Noise Management Plan being implemented to the satisfaction of the shire of Capel.

Advice Notes

1. Any proposed clearing of native vegetation is prohibited unless done under a clearing permit issued in accordance with the Environmental Protection Act 1986, or the clearing is exempt from the need for a clearing permit.

2. Groundwater shall not be exposed, extracted or dewatered during the operation of the extraction activities unless the appropriate approval has been obtained from the Department of Water and Environmental Regulation.

3. The proponent is advised of their obligations under the *Environmental Protection (Noise) Regulations 1997.*

4. In relation to Condition 9, the upgrading of Skippings Road will require:

    a) Widening the pavement to 6.1m; and
    b) A re-seal of 100mm gravel.

5. In relation to Condition 13, the calculation of bonds will be in accordance with the Shire's Local Planning Policy 6.2 – Extractive Industries.

6. The applicant is advised to liaise with the Department of Water and Environmental Regulation regarding approvals required for any proposed screening related to extraction activity. Further information is available regarding Industry Regulation Guide to Licensing at http://www.der.wa.gov.au/our-work/licences-and-works-approvals or by contacting DWER regarding works approvals and licenses at info@dwer.wa.gov.au or 6364 7000

7. The applicant is advised to liaise with the Department of Water and Environmental Regulation prior to clearing vegetation. For further information and applying, please use the following link https://www.der.wa.gov.au/our-work/clearing-permits/46-clearing-permit-application-forms For further information please contact DWER by email at admin.nvp@dwer.wa.gov.au or by telephone (6364 7098)

8. The applicant is advised that if it is intended to use licensed groundwater to support the proposed extraction, they contact DWER's Bunbury water licensing branch on 97264111 to amend their existing licence under the *Rights in Water and Irrigation Act 1914.* It is further advised that if additional water is required over and above their current licensed allocation, the proponent should note that no additional water is available other than via a trade/agreement with another licensee.

9. In relation to Condition 11, a Dieback Management Plan is to be prepared, approved, and implemented to the satisfaction of the Shire, in consultation with DBCA, consistent with the *Best Practice Guidelines for Management of Phytophthora Dieback in the Basic Raw Materials Industries*

10. The applicant is advised that "Acid sulfate soils (ASS) risk mapping indicates that a portion of 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."

11. In respect of Condition 15, the applicant is advised that proposed extraction is to be implemented in accordance with DWER's Water quality protection note (WQPN) no. 15 '*Basic raw materials extraction*' (July 2019) where appropriate to the site situation to ensure environmental risks are appropriately mitigated.

12. In respect to Condition 17, the applicant is advised of the need to implement the updated Dust Management Plan dated November 2023 prepared by MBS Environmental.

13. In respect to Condition 28, the applicant is advised that pit level and groundwater monitoring will be required to ensure separation distances to groundwater are maintained.

14. In relation to Condition 29, this includes the requirement to construct the noise bund and its maintenance in accordance with the updated Acoustic Assessment (ref30435-5-22200.

Details: outline of development application

Region Scheme	Greater Bunbury Region Scheme
Region Scheme - Zone/Reserve	Rural
Local Planning Scheme	Shire of Capel Local Planning Scheme No.8 (LPS8)
Local Planning Scheme - Zone/Reserve	LPS8: Rural
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	LPS8: Industry – Extractive - A
Lot Size:	47.23407ha
Existing Land Use:	Single House / Rural Pursuits
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:

The applicant is seeking development approval for the extraction of sand on the subject lot (Lot 148) Skippings Road, Boyanup (**Attachment 4** – amended application report).

The proposal was originally determined by DAP at its meeting 2 August 2023. **Attachment 1** provides a copy of the agenda item providing the initial assessment. **Attachment 2** provides a copy of the minutes detailing the decision to refuse the application and reasons.

The applicant requested review at the State Administration Tribunal (SAT) and has been subject to mediation (see **Attachment 3** – directions).

The mediation process has resulted in an amended development application (see **Attachment 4**).

A summary of the key changes to setbacks and areas in the development application are listed in the table below:

Element	Original	Amended	Comments
Extraction area	13.23ha	12.78ha	No planning framework restricting this component of development
Setbacks			
Western boundary (stage 2)	10m (with bund proposed within 10m setback)	20m (bund outside setback area)	**Complies**
Eastern Boundary (stages 1, 4, 5 and 6)	10m	20m	**Complies**
Eastern Boundary (stages 7 and 8)	10m (with bund proposed within 10 setback)	20m (bund outside setback area)	**Complies**
Northern boundary (stage 8)	40m (with bund proposed within 40m setback)	40m (bund outside setback area)	**Complies**
Northern boundary (stage 1)	27m	27m	**Complies**
Setback to Multiple Use Wetland	nil	nil	Noted
Separation distance to nearest sensitive receptor	106m	136.1m (from edge of extraction area to dwelling)	Noted increase in distance combined with noise bund and updated dust and noise management plans.

Other modifications to proposed management arrangements include:

a) Updated Acoustic Report including data on ambient noise levels;
b) Updated Dust Management Plan to restrict operations within Stage 2 during winter months.
c) Including a traffic management plan to address signage and traffic management;
d) Updated groundwater monitoring, including a third year of groundwater monitoring;
e) Including a technical note clarifying values of Multiple Use Wetland;
f) Information to clarify clearing of native vegetation and associated rehabilitation to pasture.

Background:
Please see **Attachment 1** (previous RAR) for a background on the site history.

It is recognised that the Shire recommended approval for the proposal at the Regional Joint Development Assessment Panel (RJDAP) meeting held 2 August 2023, for the following reasons:

1. *The proposed development does not meet clause 16 (2) for the Objectives of the Rural Zone in the Shire of Capel Local Planning Scheme No. 8.*

2. *The proposed development does not meet the policy provisions of the Shire of Capel Local Planning Policy 6.2 - Extractive Industries with respect to development criteria:*

   - *AD1.2.1*
   - *AD1.2.3*
   - *AD1.3.1*
   - *AD1.4.1*

3. *The proposed development does not satisfactorily address the requirements of the Planning and Development (Local Planning Schemes) Regulations 2015 Clause 67(2) sub clauses (b), (c), (g), (n), (o), (p), (q), (y) and (za).*

The panel did not believe the proposal met the objectives of the Rural Zone under the Shire's Scheme and that the sand extraction process was capable of being managed to minimise impacts on the character of the rural area and the surrounding properties Further, it had not been adequately demonstrated that the proposed development will not potentially negatively impact on the environmental values of the wetlands in close proximity to the site or adjoining lots in the future.

It was noted that there was to be an increase in traffic on Skippings Road and that the safety issues had not been adequately addressed.

As such, the applicant lodged an appeal with the State Administrative Tribunal (SAT) on 30 August 2023, and was subject to Mediation. The relevant parties attended the SAT process and agreed upon a set of documentation that would need to be either produced or updated to alleviate the concerns of the RJDAP.

As part of the Section 31 Reconsideration process, the applicant submitted the appropriate material on 3 January 2024 to the Shire for review and assessment. The updated and additional documentation is summarised below:

1. An updated Acoustic Report, incorporating ambient noise levels for the subject site.
2. An updated Dust Management Plan to address operations within stage 2 during winter months.
3. A Traffic Management Plan, prepared by SJ Traffic detailing the signage and traffic management required on Skippings Road during haulage for road safety purposes.
4. An updated groundwater monitoring report, incorporating a third year of groundwater monitoring.
5. A technical note from MBS Environmental, providing clarity surrounding the value of the Multiple Use Weltand.

6. Updated operational plans to clearly define the distances to the nearest sensitive land uses.
7. Clarification for native vegetation clearing proposed and associated proposed rehabilitation to pasture.

The Applicant has provided the summary on each of the updates listed above which were part of the S31 Reconsideration. The summary of the updates is contained in the **Planning Assessment** section below.

Legislation and Policy:
Please see **Attachment 1** (previous RAR).

Consultation:
Please see **Attachment 1** (previous RAR) for the full submissions and comprehensive responses from the Shire.

A summary list of issues raised previously are:

- Suitability of Skippings Road for haulage
- Authenticity of figures supplied for cost of development;
- Proximity to sensitive land uses (dwellings – closest being 106m and home schooling);
- Inadequacy of data on local weather conditions;
- Health safety from dust (including silica);
- Impacts on groundwater and environment;
- Impacts on surrounding businesses (beef cattle and equine).

The amended proposal has not been readvertised as it did not substantially change the extraction area. The amended proposal has slightly reduced the extraction footprint and increased setbacks. The main elements of change are focused on providing additional technical supporting documents to justify extraction and improve site management of externalities (dust and noise).

Referrals/consultation with Government/Service Agencies
Please see **Attachment 1** (previous RAR).

Planning Assessment:
Please see **Attachment 1** (previous RAR) for background. This Responsible Authority Report will focus on the amendments and the applicant's efforts to address the reasons for refusal outlined at the RJDAP meeting dated 2 August 2023.

Additional updated documents have been provided (**Attachment 4**). The following section will provide an assessment of these documents. It is noted that the Shire has recommended conditional approval at the previous meeting dated 2 August, so the information provided as part of the S31 Reconsideration only enhances the application in the view of the Shire, and reinforces the original reasons to support the application.

Updated Acoustic Report

Additional acoustic modelling was requested by the RJDAP, specifically concerning the inclusion of ambient noise of the locality. Ambient noise monitoring was conducted with the installation of a noise monitoring logger within the proposed extraction area and in proximity to neighbouring dwelling.

The Noise Management Plan (NMP), prepared by Herring Storer, has subsequently been updated to include on-site ambient noise monitoring, with levels shown in section 5 of the NMP. The findings of the ambient noise monitoring confirm that the average ambient noise experienced on the subject site fluctuates between approximately 35 and 45 decibels during the hours of proposed operations.

The proposed noise mitigation measures will ensure operations during extraction to not exceed the ambient noise level experienced within the locality. The updated NMP confirms that any noise impacts by operations are appropriately managed.

Updated Dust Management

The respondent sought additional information through mediation regarding the potential impacts of Existing Shed Dwelling Confirmed to be habitable dust in relation to the dwelling at Lot 379. Specific clarification was sought on the mitigation measures used, time of operations and methods of monitoring potential dust impacts.

Section 5 of the Dust Management Plan (DMP), prepared by MBS Environmental, includes updated management measures regarding special treatment of operations in proximity to Lot 379. The following dust mitigation measures are to be implemented:

a) Restrict activity in Stage 2 for vegetation and topsoil removal, sand extraction, recontouring and topsoil respread to the wetter months of the year (between May and October); and
b) Complete operations within Stages 1 and 2 within the first year of operations;
c) Place a continuous earthen bund of 2m high, along the norther and western boundaries of Stage 2. This is to be seeded with grass mix (and watered) to stabilise the soil.
d) An earthen bund along the northern and eastern boundaries of Stage 8 and 7 will be seeded or sprayed with soil binding agent.
e) Monitoring during extraction of Stage 2 will be undertaken to ensure visible dust does not cross the lot boundary. This may include the need to use chemical suppressants (hudromulch) and dust fencing.
f) Plan to restrict operations within Stage 2 during winter months.

The proposed updated dust management plan and its recommendations are supported.

Traffic Management Plan (TMP)

A TMP has been included to address signage and traffic management.

The TMP includes:

a) Register and assessment of potential traffic and safety risks;
b) Traffic management procedures to mitigate risk;
c) Analysis of traffic flows;
d) Procedure in case of emergency; and
e) Protocol for regular inspection and monitoring of traffic safety.

Conditions for the upgrading of Skippings Road are proposed, consistent with the previous RAR.

Updated groundwater monitoring

The respondent sought additional groundwater monitoring information to include findings from the 2023 winter season to provide confirmation of initially reported Maximum Groundwater Levels (MGL). Due to electrical faults, the 2023 MGL monitoring results yielded minimal additional information and did not provide certainty that the proposed 0.5m groundwater separation would avoid interception with the groundwater table.

Pursuant to the advice provided from DWER during assessment, the proposed separation of the extraction depth to MGL is to be increased to 0.8m and appropriately conditioned.

Technical note clarifying values of Multiple Use Wetland

This technical note has been prepared to confirm the wetlands environmental values and appropriate treatments. The conclusions are:

- The wetlands are confirmed to be multiple use wetlands;
- The proposed extraction is to have minimal impact on the quality of the wetlands;
- The wetlands are located on low-lying agricultural areas, highly degraded and of low environmental value;
- Conservation category wetlands located east of the subject site will not be impacted as natural groundwater flows are from east to west, away from high quality wetlands.

Based on this, the proposed extraction areas and rehabilitation plans are considered reasonable and extractive activity will not adversely impact the ecological functions of Conservation category wetlands located to the east of the subject land.

Information to clarify clearing of native vegetation and associated rehabilitation to pasture.

An additional audit of native vegetation has been undertaken. It concludes that previous classifications remain unchanged (existing vegetation classified as degraded).

It is noted that the extraction area has been reduced to comply with site boundary setbacks which reduces the area of vegetation required to be removed.

Reconsideration of Reasons for Refusal

With specific regard to the reasons for refusal, the Shire supports the proposal based on the following assessment:

Objectives of LPS8 Rural Zone (Clause 16(2):

Table 1: LPS8 Rural Zone Objectives Assessment		
Provision	**Assessment**	**Satisfied**
• To provide for the maintenance or enhancement of specific local rural character.	The amended plan preserves the existing character through use of screening, setbacks, staging and rehabilitation to pasture lands	**Satisfied**
• To protect extensive agricultural activities such as cropping and grazing and intensive uses such as horticulture as primary uses, with other rural pursuits and rural industries as secondary uses in circumstances where they demonstrate compatibility with the primary use.	The proposed staging and rehabilitation including slope and groundwater separation will ensure an end use of pasture for grazing.	**Satisfied**
• To maintain and enhance the environmental qualities of the landscape, vegetation, soils and water bodies, in order to protect sensitive areas especially the natural valley and watercourse systems from damage.	The proposal will enable: a) the retention of screening vegetation along the western boundary; b) Achieve suitable separation to groundwater; c) Manage surface drainage d) Manage dust and erosion through staging and rehabilitation.	**Satisfied**
• To provide for the operation and development of existing, future and potential rural land uses by limiting the introduction of sensitive land uses in the Rural zone.	The staging plan and management practices will ensure no disturbance to existing surrounding rural enterprises during operations. The end landform and rehabilitation will ensure the sustainable ongoing use of the site for grazing.	**Satisfied**

• To provide for a range of non-rural land uses where they have demonstrated benefit and are compatible with surrounding rural uses.	As above.	**Satisfied**

Local Planning Policy 6.2 Assessment:

Table 2: Local Planning Policy 6.2 Assessment			
Clause	**Provision**	**Assessment**	**Satisfied**
AD1.2.1	Development does not prejudicially affect native flora and fauna; groundwater quality, quantity and use; surface drainage and surface water quality including discharge of sediment and sites of cultural and/or historic significance on or near the land.	The amended design has a reduced footprint which enables areas of remnant vegetation to be retained on the western boundary boundaries as well as excluding areas of multiple use wetlands from extraction. The end landform will ensure existing groundwater conditions remain undisturbed and surface drainage patterns remain unchanged. The proposed extraction areas are primarily cleared grazing land and extraction will not result in loss of any significant habitat for fauna or loss of flora.	**Satisfied**
AD1.2.3	Excavaton shall not occur within 2 metres of the estimated maximum ground water level	The groundwater separation is less than 2 metres, however, the proposal is supported by DWER and satisfies the performance criteria PC1.2.3	**Satisfied**
AD1.3.1	Buffer distances to be in accordance with Guidance Note 3 – Separation Distances Between Industrial and Sensitive Land Uses (EPA – 2005).	The proposal satisfies the performance criteria and site management practices are supported by State government agencies in relation to dust and noise impacts. The amended plans add further measures to address risk associated with noise and dust impacts.	**Satisfied**
AD1.4.1	Visual screening to be provided through retention of existing vegetation and/or	Existing vegetation will be retained on the western boundary. Further earth bunds will screen extraction	**Satisfied**

	provision of an appropriate landscaping screen/bund to the satisfaction of the Shire. No walls or solid fences will be considered.	areas from neighbouring properties and the street.	

Clause 67 – Matters to be Considered (P&D Regs):

Table 3: Matters to be Considered Assessment			
Clause	**Provision**	**Assessment**	**Satisfied**
b)	The requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or and any other proposed planning instrument that the local government is seriously considering adopting or approving.	The reduced extraction footprint combined with amended management plans to address noise, dust, staging and rehabilitation, combined with conditions will ensure the orderly operation of the site and ensure sustainable end land use consistent with a rural setting.	**Satisfied**
c)	Any approved State planning policy	There are no specific State Planning Policies that apply to the proposal or site.	**Satisfied**
g)	Any local planning policy for the Scheme area	The proposal satisfies the requirements of LPS 8 and LPP 6.2 – Extractive Industries.	**Satisfied**
n)	The amenity of the locality including the following – (i) Environmental impacts of the development; (ii) The character of the locality; (iii) Social impacts of the development.	The reduced extraction footprint combined with amended management plans to address noise, dust management, staging and rehabilitation and the implementation of conditions will ensure that social, environmental and rural character considerations are appropriately addressed.	**Satisfied**
o)	The likely effect of the development on the natural	The amended plans ensure that potential	**Satisfied**

	environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or the water resource.	impacts on the natural and water environment are minimised and managed appropriately.	
p)	Whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved.	The amended plans ensure increased retention of vegetation along boundaries. The extraction footprint contains cleared grazing land with limited isolated stands of remnant trees.	**Satisfied**
q)	The suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bush fire, soil erosion, land degradation or any other risk.	The proposed staging, combined with rehabilitation and site management plans will ensures that the site is suitable for the proposed extraction and rehabilitation.	**Satisfied**
y)	Any submissions received on the application	Issues raised by submissions can be addressed by the amended site and managements plans and through implementation of conditions.	**Satisfied**
Za)	The comments or submissions received from any authority consulted under clause 66.	Government agency comments have been taken into account and addressed through conditions or through the amended plans.	**Satisfied**

Conclusion:
The applicant seeks approval for the extraction of sand from the subject site. The assessment of the proposal recognises that the land use is discretionary.

The applicant has provided additional information and made modifications to the proposal to improve outcomes in terms of dust management, increasing setbacks, providing additional data on existing ambient noise levels and traffic management.

On this basis, approval is recommended subject to conditions as previously recommended subject to minor changes to reflect updated documents.

Alternatives

It is acknowledged that the land use can be supported under the Zoning Table of LPS8, and that a majority of the concerns raised in this report can be addressed through the imposition of conditions on a development approval. The Shire believes that the development in its proposed form is not considered acceptable due to the level of inconsistency with the State and Local Planning Framework.

However, the Panel may take the view that the development should be refused on the grounds that negative impacts of the development cannot be reasonably managed or mitigated appropriately.

As such, the Shire has provided an alternative recommendation for refusal is provided as follows, should the RJDAP be of the opinion that the development is not supportable:

It is recommended that the Regional Joint Development Assessment Panel resolves to:

Refuse DAP Application reference DAP/23/02479 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of the Shire of Capel Planning Scheme No.8, for the following reasons:

Reasons:

1. The proposed development does not meet clause 16 (2) for the Objectives of the Rural Zone in the Shire of Capel Local Planning Scheme No. 8.

2. The proposed development does not meet the policy provisions of the Shire of Capel Local Planning Policy 6.2 - Extractive Industries with respect to development criteria:

    - AD1.2.1
    - AD1.2.3
    - AD1.3.1
    - AD1.4.1

3. The proposed development does not satisfactorily address the requirements of the *Planning and Development (Local Planning Schemes) Regulations 2015* Clause 67(2) sub clauses (b), (c), (g), (n), (o), (p), (q), (y) and (za).

EXTRACTIVE INDUSTRY DEVELOPMENT PROPOSAL
LOT 148 (No.168) SKIPPINGS ROAD, BOYANUP

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Regional JDAP	
Local Government Area:	Shire of Capel	
Applicant:	Element Advisory Pty Ltd	
Owner:	Campbell Nettleton & Ewen Nettleton	
Value of Development:	$3,552,053.00 ☐ Mandatory (Regulation 5) ☒ Opt In (Regulation 6)	
Responsible Authority:	Shire of Capel	
Authorising Officer:	Bob Wallin, Senior Planning Officer	
LG Reference:	PA48/2023	
DAP File No:	DAP/23/02479	
Application Received Date:	21 March 2023	
Report Due Date:	17 July 2023	
Application Statutory Process Timeframe:	90 Days	
Attachment(s):	1. Development Application and accompanying material (Environmental, Dust, Noise, Groundwater reports). 2. Schedule of submissions (public). 3. Schedule of submissions (agencies). 4. Shire of Capel Local Planning Policy LPP6.2 Extractive Industries.	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☐ Yes ☒ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

It is recommended that the Regional Joint Development Assessment Panel resolves to:

Accept that the DAP Application reference DAP/23/02479 is appropriate for consideration as the "Industry-Extractive" land use is compatible with the objectives of the Rural zone in accordance with Clause 16 (2) of the Shire of Capel Local Planning Scheme No. 8.

Approve DAP Application reference RJDAP/23/02448 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the Shire of Capel Local Planning Scheme No. 8, subject to the following conditions:

Conditions

1. This decision constitutes planning approval only and is valid for a period of 8 years from the date of approval. If the subject development is not substantially commenced within 2 years of the licence being issued, the approval shall lapse and be of no further effect.

2. Resource extraction is only permitted for a maximum of 5 years after the issue of the Extractive Industry Licence.

3. Rehabilitation of the land may occur at any time within the term of this approval.

4. Extraction must be undertaken in accordance with the agreed staging plan, as approved by the local government. Commencement of the subsequent extraction stage shall be subject to the previous extraction site having substantially commenced rehabilitation.

5. Unless otherwise approved in writing by the Shire, the development may only proceed generally in accordance with the attached approved plans, as dated, marked and stamped by the Shire, subject to any amendments required as a consequence of the conditions of this approval or any subsequent Extractive Industry Licence issued by the Shire.

6. The maximum pit floor depth shall be a minimum 0.8m above the current maximum groundwater level (MGL) and no dewatering works are to be undertaken without prior Department of Water and Environmental Regulation consultation. The Local Government is to be notified within 24 hours if the water table is intercepted.

   Such exposure or interception of the groundwater shall be remedied to the satisfaction of the Shire in consultation with the Department of Water and Environmental Regulation.

7. All works associated with the extractive industry be setback at least 20m from any boundary, include the location of bunds.

Prior to the commencement of development/issuing of an Extractive Industry Licence

8. Prior to the commencement of development, a Rehabilitation Management and Monitoring Plan shall be submitted for approval by the Shire. The Rehabilitation Management and Monitoring Plan shall be consistent with Water Quality Protection Note 15 (WQPN 15) and the Guidelines for Preparing Mine Closure Plans[1], and covering the intended staging, final landform (including separation to groundwater), proposed post extraction land use and successful rehabilitation criteria and include a finished rehabilitated level at least 0.8m above the highest groundwater level.

9. Prior to commencement of development, the condition of Skippings Road shall be upgraded to the satisfaction of the Shire of Capel.

10. Prior to the commencement of development, suitable arrangements being made with the Shire of Capel for the payment of a road reinstatement co-contribution for road deterioration purposes associated with Restricted Access Vehicle(s) in accordance with the WALGA co-contribution rates specified within the User Guide, estimating the incremental cost impact on sealed roads from additional freight tasks. Road Deterioration Co-contribution is to be made in arrears on the submission of the annual

compliance report as required by the Extractive Industry License in accordance with the Shire of Capel Extractive Industry Local Law 2016.

11. Prior to the issue of an Extractive Industry Licence, the following Management Plans shall be submitted for approval by the Shire:
    a) Weed Management Plan; and
    b) Dieback Management Plan.

12. Prior to the issue of an Extractive Industry Licence, the approved pit boundaries shall be surveyed by a suitably qualified surveyor, with the location of such pegs being to the satisfaction of the Shire.

13. Prior to the issue of an Extractive Industry Licence, the assigned rehabilitation bond for Stages 1 and 2 shall be provided to the Shire in the form of a bond or bank guarantee in pursuant the Shire's Schedule of Fees and Charges.

14. Prior to issue of an Extractive Industry Licence, suitable arrangement shall be undertaken to quantify water requirements for all aspects of the proposed extraction and provide evidence of a secure water source, to the satisfaction of the Shire.

15. Prior to issue of an Extractive Industry Licence, a Stormwater Management Plan is to be prepared and approved to the satisfaction of the Shire, consistent with WQPN 15, such as but not limited to details on how sediment mobilisation can be mitigated from activities crossing the drainage line to Stages 7 and 8.

16. Prior to issue of an Extractive Industry License, a 20m long asphalt cement seal apron be constructed at the intersection of Skippings Road and Boyanup West Road.

17. Prior to issue of an Extractive Industry License, a Dust Management Plan which shall include but is not limited to:

    1. Incorporating baseline and ongoing monitoring;
    2. Details management measures to minimise dust;
    3. Demonstrates best practice and details the methods to be used for all air borne particulate attenuation;
    4. Incorporates monitoring to determine the size and composition of particulates;
    5. Provides for continuous improvements in dust management; and
    6. Details complaint response procedures; to the satisfaction of the Shire of Capel.

General Conditions of Operations:

18. An Annual Audit of Compliance shall be prepared by a suitably qualified independent expert and submitted to the Shire annually. The Annual Audit of Compliance shall include:
    a) Details to demonstrate compliance with the conditions of this Development Approval;
    b) Tonnage of sand removed from the site and the period within which the sand was removed;
    c) Progress report on the approved Rehabilitation Management and Monitoring Plan including:
        i. Details of completed, ongoing and future rehabilitation areas
        ii. Photos of rehabilitated areas
        iii. Monitoring and reporting details, if available

iv. Start and completion dates, and expected start dates, if applicable, and
v. A map depicting the rehabilitation areas and their completion progress.

19. The maximum number to truck movements to and from the site per hour is limited to 8 movements (to and from site). Consideration by the Shire will be given for granting additional numbers to the stated hourly movements per day, with any variation to be approved in writing by the Shire's Chief Executive Officer.

20. Haulage of material is to be restricted to Skippings Road for access/entry.

21. The Extractive Industry license holder is to maintain (eg. Grading and watering) the section of Skippings Road that extends south from the existing cross over to the sealed portion of Boyanup West Road, to the satisfaction of the Shire and at the licence holder's expense.

22. There shall be no storage of hydrocarbons on-site. On-site refuelling of equipment will be from a mobile service vehicle carrying appropriate spill prevention and clean-up equipment. No major repairs or maintenance shall take place on site.

23. The hours of operation shall be from 7.00am to 7.00pm Monday to Friday, and 7:00am to 12:00pm Saturday. No operations shall be permitted on Sundays or Public Holidays.

24. Maximum batter slopes of 1:6 shall be applied to all rehabilitation slopes.

25. The pit boundary survey pegs shall remain in place for the duration of the operation to the satisfaction of the Shire.

26. The maximum volume of material to be stockpiled on site at any one time is 5,000m^3.

27. All stockpiles shall be removed prior to the expiry of this approval.

28. A minimum 0.8-metre separation distance to the groundwater shall be maintained for the life of the extraction activities.

Advice Notes

1. Any proposed clearing of native vegetation is prohibited unless done under a clearing permit issued in accordance with the Environmental Protection Act 1986, or the clearing is exempt from the need for a clearing permit.

2. Groundwater shall not be exposed, extracted or dewatered during the operation of the extraction activities unless the appropriate approval has been obtained from the Department of Water and Environmental Regulation.

3. The proponent is advised of their obligations under the *Environmental Protection (Noise) Regulations 1997.*

4. In relation to Condition 9, the upgrading of Skippings Road will require:

    a) Widening the pavement to 6.1m; and
    b) A re-seal of 100mm gravel.

5. In relation to Condition 13, the calculation of bonds will be in accordance with the Shire's Local Planning Policy 6.2 – Extractive Industries.

6. The applicant is advised to liaise with the Department of Water and Environmental Regulation regarding approvals required for any proposed screening related to extraction activity. Further information is available regarding Industry Regulation Guide to Licensing at http://www.der.wa.gov.au/our-work/licences-and-works-approvals or by contacting DWER regarding works approvals and licenses at info@dwer.wa.gov.au or 6364 7000

7. The applicant is advised to liaise with the Department of Water and Environmental Regulation prior to clearing vegetation. For further information and applying, please use the following link https://www.der.wa.gov.au/our-work/clearing-permits/46-clearing-permit-application-forms For further information please contact DWER by email at admin.nvp@dwer.wa.gov.au or by telephone (6364 7098)

8. The applicant is advised that if it is intended to use licensed groundwater to support the proposed extraction, they contact DWER's Bunbury water licensing branch on 97264111 to amend their existing licence under the *Rights in Water and Irrigation Act 1914.* It is further advised that if additional water is required over and above their current licensed allocation, the proponent should note that no additional water is available other than via a trade/agreement with another licensee.

9. In relation to Condition 11, a Dieback Management Plan is to be prepared, approved, and implemented to the satisfaction of the Shire, in consultation with DBCA, consistent with the *Best Practice Guidelines for Management of Phytophthora Dieback in the Basic Raw Materials Industries*

10. The applicant is advised that "Acid sulfate soils (ASS) risk mapping indicates that a portion of 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."

11. In respect of Condition 15, the applicant is advised that proposed extraction is to be implemented in accordance with DWER's Water quality protection note (WQPN) no. 15 '*Basic raw materials extraction*' (July 2019) where appropriate to the site situation to ensure environmental risks are appropriately mitigated.

12. In respect to Condition 28, the applicant is advised that pit level and groundwater monitoring will be required to ensure separation distances to groundwater are maintained.

Details: outline of development application

Region Scheme	Greater Bunbury Region Scheme
Region Scheme - Zone/Reserve	Rural

Local Planning Scheme	Shire of Capel Local Planning Scheme No.8 (LPS8)
Local Planning Scheme - Zone/Reserve	LPS8: Rural
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	LPS8: Industry – Extractive - A
Lot Size:	47.23407ha
Existing Land Use:	Single House / Rural Pursuits
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:

The applicant is seeking development approval for the extraction of sand on the subject lot (Lot 148) Skippings Road, Boyanup (Attachment 1 – application report).

The proposed extraction area relates to 13.23ha of the site (28%) of the subject land. The proposed extraction area is mainly contained within historically cleared land except for small clusters of native trees, predominantly along the western boundary totalling an area of 0.2ha.

The proposed extraction is expected to yield 234, 254 tonnes of sand, with daily operations not anticipated to exceed 1,200 tonnes per day with a total maximum estimated 50 trips per day. Noting that heavier haulage may occur depending on campaigns to be interspersed with longer period of lower movement volumes.

Haulage is proposed to use an existing crossover onto Skippings Road. It then proposes to travel approximately 1.6km south along Skippings Road (gravel constructed), to Boyanup Road West.

The proposed project life is five years with an additional year for rehabilitation. Extraction is proposed to occur over 8 stages ranging in size from 1.28ha to 2ha, gradually moving northward. The last two stages will require traversing over a multiple use wetland.

Several setback variations are proposed. The following table provides a summary of setbacks proposed and required setbacks.

Location	**Proposed Setback**	**Required**
Western boundary (stage 2)	10m (with bund proposed within 10m setback)	20m

Eastern Boundary (stages 1, 4, 5 and 6)	10m	20m
Eastern Boundary (stages 7 and 8)	10m (with bund proposed within 10 setback)	20m
Northern boundary (stage 8)	40m (with bund proposed within 40m setback)	40m (Local Law) 20m (LPS8)
Interface with Multiple Use Wetlands	nil	50m (local Law)

Following extraction, the site is to be re-contoured to allow rehabilitation to pasture for grazing.

Background:

03/05/1981 – "Piggery" approved on the subject land.

07/07/1981 – single dwelling approved.

21/03/2023 – Development application (PA48/2023; DAP/23/02479) for sand extraction submitted to the Shire by current owner of subject land.

1/05/2023 – received payment of application fees and updated information requested (PA48/2023: DAP/23/02479).

12/05/2023 – Development application (PA48/2023; DAP/23/02479) for sand extraction advertised for a period of 28 days, until 9 June 2023.

Legislation and Policy:

Legislation

- *Planning and Development Act 2005* (P&D Act);
- *Planning and Development (Local Planning Schemes) Regulations 2015* (LPS Regulations);
- *Planning and Development (Development Assessment Panels) Regulations 2011* (DAP Regulations);
- Greater Bunbury Region Scheme (GBRS);
- Shire of Capel Local Planning Scheme No. 8 (LPS8).

State Government Policies

- State Planning Policy 2.4 – Basic Raw Materials

Local Policies

- Shire of Capel Local Planning Policy 6.2 – Extractive Industries

Consultation:

Public Consultation

The application was advertised through a notice in the South Western Times and on the Shire's website, as well as being referred to surrounding landowners for a period of 28 days. Sixteen (16) submissions from community members were received raising objections (see Attachment 2).

A number of key concerns raised are summarised as follows:

Suitability of Skippings Road for haulage

- The development proposes a haulage route that is to use an existing crossover access onto Skippings Road (southern portion of lot) and head south (1.6km) to Boyanup West Road.

- Skippings Road is a gravel constructed road with a surface width ranging from 5.8m to 4.6m (at culvert points) with no shoulder. To be suitable, this road is required to be upgraded include a 6.1m trafficable surface with a 100mm re-sheet to ensure the road is suitable for all weather conditions.

Authenticity of figures supplied for cost of development

- The estimated development cost provided equals approximately $15 per cubic metre (excluding haulage) and costs associated with obtaining landowner permission. Haulage is estimated to be 0.59c per kilometre (based on Rawlinsons 2023 Perth rates). Depending on retail product prices, this would be a marginal site if the figures supplied have been calculated in good faith.

Proximity to sensitive land uses (dwellings – closest being 106m and home schooling);

- Impacts on amenity for sand extraction fall under two main elements: noise and dust.

- Another element relates to a proposed reduced side setbacks along sections of the western and eastern boundaries. A 20m setback is required. A nil setback is proposed when including the bund structure. No planning justification has been provided for the reduced setback. Rationale provided relates to access to material.

For a comprehensive summary of concerns raised, please refer to Attachment 2.

The Land Conservation District Committee raised objections to the proposal. These points are summarised in the table below.

Land Conservation District Committee (LCDC)	Does not support the proposal on the grounds that: o Insufficient separation distances from groundwater and inconsistencies with Local Law that requires a 2m separation. o Lack of data and limited timeframes for monitoring groundwater conditions. o Lack of relevant local weather data that supports Dust Management. o Proximity to nearby dwellings. o Impacts on multiple use wetlands. o Health concerns from dust. Concerns were also raised regarding:

	○ How costs of the development were calculated; ○ Lack of local accountability and local knowledge in the decision making process.

These issues have been addressed in the points above, except for comments regarding accountability of the decision-making process. The decision making process is consistent with the established legislative framework.

For a comprehensive summary of concerns raised, please refer to Attachment 2

Referrals/consultation with Government/Service Agencies

The proposal was also referred to relevant local and state government agencies for a period of 42 days. In total, six (6) submissions were provided by agencies (see Attachment 3). The following provides a summary of submissions.

Main Roads WA (MRWA), DPLH Aboriginal Heritage and Department Biodiversity Conservation and Attractions (DBCA), Department of Mines Industry Regulation and Safety (DMIRS) and the Department of Health all provided the following advice:

Agency	Summary of issues
Department of Primary Industries and Regional Development	does not support the proposal on the grounds that: ○ Separation distances to sensitive land uses are below that recommended by Guidance Statement No.3 (EPA 2005). ○ The proposed reduced boundary setback (20m recommended). ○ Groundwater separation of 0.5 metres (after rehabilitation) will not provide suitable separation during extraction. ○ No weed management plan has been provided.
Department of Biodiversity, Conservation and Attractions	Advises that: ○ Need for a clearing permit with DWER to be established. ○ Surface water runoff impacts on the multiple use wetlands need to be considered. ○ Consider that DWER will consider wetland buffer requirements as part of clearing permit process.
Department of Health	Advises that: ○ Dust from sand extraction can be controlled and health risks from extraction is generally low. ○ Need to ensure proposal does not generate additional mosquito breeding habitat. ○ Need to comply with water supply and wastewater disposal.

	○ Need to ensure all drinking water provided on-site meets health related requirements.
Department of Water and Environment Regulations (DWER)	The Department advises that the proposal will impact on the environment and water resource values and these matters require addressing. Key issues and requirements are: ○ The proposal may be categorised as Prescribed Premises under the Environmental Protection Regulations 1987 ○ Clearing of vegetation will require a clearing permit. ○ Require a 0.8m separation to groundwater. ○ Need to demonstrate water requirements for the extraction operation and how they will secure water supply. ○ Need to manage water quality. ○ Ensure a 0.8m separation to groundwater as an end landform (rehabilitation plan). ○ Need to comply with staging plan. ○ Need for a stormwater management plan. ○ Fuel and chemical management condition. ○ Need to prepare a dieback management plan. ○ Need to address Acid Sulfate Soils during site management. ○ Noise associated with Stages 2 and 8 to require additional measures (including location of stockpiles around plant). ○ Need to undertake additional dust treatment and monitoring measures associated with stages 2, 3 and 8 .

Please refer to Attachment 3 for further details on issues raised and recommended responses.

The Shire also requested independent third-party advice from an environmental consultant regarding:

- suitability of separation distances to wetlands and groundwater;
- sufficiency of groundwater data; and
- suitability of end landform and groundwater conditions for long term pasture.

Advice provided is summarised as follows:

- The data appears to be of a sufficient timeframe to capture seasonal fluctuations in groundwater levels;
- Pre-development groundwater and surface water quality has not been tested. On this basis, risk to nutrient enrichment (via fertilisation of pasture or grazing), acidification or salinization post extraction cannot be predicted;
- There are no details of current drainage and his development will impact the environment locally or downstream in terms of turbidity/sediment, nutrient loads or changes in water chemistry;
- There is no detail on managing perched water (evident on site) during stages of extraction;
- While the wetlands are degraded, they retain hydrological and water quality functions;

- Management and determining a wetlands edge should be determined by a robust method which includes soil analysis (when vegetation is not present);
- Note that a proposed 0.5m groundwater separation will not improve pasture (noting that pasture grasses have a roots between 10-30cm)
- Notes that if soils become waterlogged, a decline in root growth followed by a subsequent decline in shoot growth occurs as roots normally require oxygen for the optimal production of energy from sugars. This will result in an overall reduction in the quality of pasture with plants more suited to these conditions will take over (ie: sedges) which do not support livestock.
- Reducing the distance to groundwater enables entry of nutrients and possibly pesticides into the groundwater;
- Limited justification is provided for a 0.5m groundwater separation;
- The signoff completion of 12 months post seeding is too short to determine if the pasture is self-sustaining. A minimum two-year establishment period is recommended.

For additional detail on this submission, please refer to Attachment 3 – last submission).

The applicant has been provided an opportunity to review submissions and advises that they support:

a) DWER's recommendation to increase groundwater separation to 0.8m MGL;
b) a traffic management plan to be prepared to the Shire's satisfaction for the use of Skippings Road;
c) a stormwater management plan condition for sediment control;
d) a standard condition for haulage vehicles per hour;
e) advice regarding Acid Sulphate Soils, screening of material and clearing of native vegetation;
f) dust management arrangements recommended by Department of Health; and
g) DWER comments on noise modelling.

It is considered that all the concerns or issues raised by relevant external agencies, or the Shire's engaged consultant, can be adequately addressed through the imposition of planning conditions.

Planning Assessment:

Greater Bunbury Region Scheme (GBRS)

The GBRS identifies Lot 148 Skippings Road as Rural. The purpose of the Rural zone is: 'to provide for the sustainable use of land for agriculture, assist in the conservation and wise use of natural resources including water, flora, fauna and minerals, provide a distinctive rural landscape setting for the urban areas and accommodate carefully planned rural living developments.'

Clause 6 (h) of the GBRS Scheme identifies its purpose is to: '(h) protect strategic minerals and basic raw materials of State and regional importance and provide for the efficient and timely extraction of minerals and raw materials and subsequent rehabilitation of affected land.'

Shire of Capel Local Planning Scheme No.8 (Scheme 8)
The subject land is zoned "Rural" under Local Planning Scheme 8 – (gazetted 17 July 2023). The Rural zone has the following objectives:

- *To provide for the maintenance or enhancement of specific local rural character.*
- *To protect extensive agricultural activities such as cropping and grazing and intensive uses such as horticulture as primary uses, with other rural pursuits and rural industries as secondary uses in circumstances where they demonstrate compatibility with the primary use.*
- *To maintain and enhance the environmental qualities of the landscape, vegetation, soils and water bodies, in order to protect sensitive areas especially the natural valley and watercourse systems from damage.*
- *To provide for the operation and development of existing, future and potential rural land uses by limiting the introduction of sensitive land uses in the Rural zone.*
- *To provide for a range of non-rural land uses where they have demonstrated benefit and are compatible with surrounding rural uses.*

It is noted that the land falls outside proposed Special Control Area SCA6 – Strategic Minerals and Basic Raw Materials.

Land Use
Extractive Industry is listed as an 'A' use under LPS8 (discretionary following advertising). Therefore, the use is capable of approval, subject to consistency with other provisions within the Scheme.

To ensure consistency with LPS8, development of this land will need to demonstrate that extraction of basic raw materials protects the future agricultural and productive use of the land, as per the objectives of the zone.

End Land Use considerations
Based on independent advice provided by the Shire's environmental consultant, the original proposal did not provide sufficient certainty to ensure the long-term viability of the land for pasture, nor certainty that it avoids the potential for adverse impacts on the water environment.

It is noted that DWER have requested that the groundwater separation be increased to 0.8m (from 0.5m proposed). With the additional groundwater separation, the potential for water logged land is reduced and there is a reasonable prospect that the end landform will have long term utility for grazing.

As per the above, this recommendation was supported by the applicant and as such, a condition of planning approval has been imposed as part of the Officer's Recommendation.

Planning and Development (Local Planning Scheme) Regulations 2015 – Schedule 2 Part 7 (the Regulations)

Clause 67 - Matters to be considered by local government:

1. In considering an application for development approval the local government is to have due regard to the following matters to the extent that, in the opinion of the local government, those matters are relevant to the development the subject of the application

    a. The aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area;
    b. The requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that

has been advertised under the *Planning and Development (Local Planning Schemes) Regulations 2015* or any other proposed planning instrument that the local government is seriously considering adopting or approving;

c. Any approved State planning policy;
d. Any environmental protection policy approved under the Environmental Protection Act 1986 section 31(d);
e. Any policy of the Commission;
f. Any policy of the State;
g. Any local planning policy for the Scheme area;
h. Any structure plan, activity centre plan or local development plan that relates to the development;
i. Any report of the review of the local planning scheme that has been published under the *Planning and Development (Local Planning Schemes) Regulations 2015.*

Local Planning Policy 6.2 Extractive Industries (LPP6.2)

The intent of this policy is to provide guidance in assessing proposals for extractive industry and provide operators and the community more certainty around the outcomes of such proposals. The policy has undergone extensive consultation with the community and operators and was considered for final approval at the Shire's Ordinary Council Meeting in June 2023.

LPP6.2 sets out acceptable development and performance criteria for the assessment of development applications. In the event that a development application does not meet the 'Acceptable Development' provisions, a performance based assessment will be undertaken against the criteria listed in 'Performance Criteria' to determine the proposal's suitability.

An assessment of the proposal against the Acceptable Development / Performance Criteria of draft LPP6.2 is as follows:

Performance Criteria	Acceptable Development	Assessment of Proposal
Element: Amenity		
PC1.1.1 Development is to demonstrate a negligible impact on the amenity of residential areas by way of vehicular traffic, noise, dust, blasting and vibration.	AD1.1.1 Hours of operation are limited to 7am to 7pm Monday to Friday and 7am to 1pm on Saturday. No operation on Sundays or recognised public holiday days.	The proposed hours of operation will be in accordance with AD1.1.1 **CONSISTENT**
PC1.1.2. Development does not result in land degradation, or a landform that prejudices the productive end use of the site in accordance with the objectives of the zone.	AD 1.1.2 Development is located, designed and rehabilitated compatible with long-term planning and environmental protection.	Subject to modifying the groundwater separation to 0.8m, the proposal can be rehabilitated to ensure the long-term utility of the site for pasture. This is consistent with the advice provided by the Shire's environmental consultant that is engaged to review aspects of select proposals. **CONSISTENT (SUBJECT TO CONDITIONS)**
Element: Environmental		

PC1.2.1 With advice from relevant state government departments, development is located to minimise the impact upon native flora and fauna; groundwater quality, quantity and use; surface drainage and surface water quality including discharge of sediment and sites of cultural and/or historic significance on or near the land.	AD1.2.1 Development does not prejudicially affect native flora and fauna; groundwater quality, quantity and use; surface drainage and surface water quality including discharge of sediment and sites of cultural and/or historic significance on or near the land.	Subject to increasing the groundwater separation distance to 800mm and boundary setbacks to 20m the proposal will not adversely impact groundwater or native vegetation. **CONSISTENT (SUBJECT TO CONDITIONS)**
PC1.2.2 Development is located and managed to minimise the spread of Phytophthora (Dieback).	AD1.2.2 Dieback is managed in accordance with Best Practice Guidelines – Management of Phytophthora Dieback in Extractive Industries (2005 – Dieback Working Group) as detailed within an agreed Dieback Management Plan.	Dieback on the site cannot be confirmed due to lack of indicator species. A condition can be imposed to address dieback management. **CONSISTENT (SUBJECT TO CONDITIONS)**
PC1.2.3 Development is located and managed to achieve a high level of surface and groundwater resource protection to provide soil depth for rehabilitation, future land use and a buffer against groundwater contamination and exposing groundwater.	AD1.2.3 Excavation shall not occur within 2 metres of the estimated maximum ground water level.	Subject to increasing the groundwater separation distance to 800mm, the proposal will not impact groundwater resources. **CONSISTENT (SUBJECT TO CONDITIONS)**
PC1.2.4 Final excavation batters to achieve rehabilitated slopes compatible with future land use, existing soil structure, topography, and positive environmental outcomes.	AD1.2.4 Batter slopes with gradients up to 1:6 when rehabilitated to pasture for agricultural land uses and/or native revegetation.	Batter slopes will be at least 1:6. **CONSISTENT**
PC1.2.5 Development is located and managed to a achieve a high level of staged rehabilitation.	AD1.2.5 Sites to be rehabilitated in accordance with an agreed Environmental Management Plan and Rehabilitation Implementation Plan prepared and implemented in accordance with application and bonding requirements as specified in Appendix 1 of this Policy. For hard rock extraction sites, an end-of-life pit plan is to be provided and agreed upon between the Shire and applicant at least 5 years prior to the expiration of the approval's validity.	The increased separation distance for groundwater to 0.8m will assist in ensuring the long term suitability of the end land form being suitable for pasture. **CONSISTENT (SUBJECT TO CONDITIONS)**

Element: Buffers		
PC1.3 Development to demonstrate satisfactory mitigation and management measures in accordance with SPP4.1 Industrial Interface and Guidance Note 3 – Separation Distances Between Industrial and Sensitive Land Uses (EPA – 2005	AD1.3.1 Buffer distances to be in accordance with Guidance Note 3 – Separation Distances Between Industrial and Sensitive Land Uses (EPA – 2005).	The nearest sensitive land use is 106.2m from the extraction boundary. Impacts can be mitigated as demonstrated in supporting Environmental Acoustic Report (Appendix E) subject to restricting hours of operation and constructing noise barriers (bunds). **CONSISTENT**
Element: Visual Impact		
PC1.4 Through Development of an adopted Rehabilitation Plan, the final landform shall not have a significant detrimental impact on visual amenity of the landscape when viewed from surrounding sites.	AD1.4.1 Visual screening to be provided through retention of existing vegetation and /or provision of an appropriate landscaping screen/bund to the satisfaction of the Shire. No walls or solid fences will be considered.	Visual screening (bunds) will be provided to screen development from Brookdale Road and the neighbouring property to the west. **CONSISTENT**
Element: Transport		
PC1.5.1 The proposed haulage route is not to have a detrimental impact on safety and amenity of residents, and local road users.	AD1.5.1 Haulage is to be wholly contained to the 'Tandem Drive 4' Network route, as identified by Main Roads Western Australia.	The proposal seeks to use Skppings Road. Skippings Road will require upgrading, including widening, construction of a shoulder and additional 100mm of seal to ensure amenity of residential and safety of local road users is maintained. Conditions are required to ensure upgrading and maintenance of Skippings Road is undertaken. **CONSISTENT (SUBJECT TO CONDITIONS)**
PC1.5.2 The application is accompanied by a Traffic Management Plan to demonstrate that haulage periods that conflict with school pick and drop off times are acceptable in their impact to the safety of the road network.	AD1.5.2 Haulage traffic is to be proposed at times of the day which will minimise conflict with school pick up and drop off hours (7:30am-9am and 2:30pm-4pm Mondays to Fridays)	The proposed haulage routes do not pass local schools, and are planned to minimise such conflicts. Boyanup West Road is part of the RAV network. **CONSISTENT**

PC1.5.3 The applicant is to demonstrate that the haulage traffic will not have adverse impacts on the locality by virtue of noise, dust pollution, and safety, and that suitable arrangements be made by the developer to ensure the road is maintained to an appropriate standard.	AD1.5.3 Where available, haulage traffic is to utilise road networks which have a sealed surface, and appropriate designed to accommodate the proposed vehicle types.	Skippings Road is not a sealed road (gravel surface). Skippings Road will require upgrading and maintenance to ensure safety and amenity. Conditions on speed and movements will ensure dust, noise and safety standards are achieved. **CONSISTENT (SUBJECT TO CONDITIONS)**
PC1.5.4 Development does not create hazards to other road users, impact on sustainability of the transport network, nor negatively impact on the amenity of the residences along the route, in terms of: • Access points to the operation site. • Existence of any other extractive industry or heavy haulage in the vicinity and cumulative effects on the transport network.	AD1.5.4 Development application is accompanied by a Traffic Impact Assessment that demonstrates the local road network capacity is sufficient to accommodate the additional traffic and proposed truck volumes generated by the development.	Skippings Road can be upgraded to ensure safe access points and ensure that amenity impacts are minimised. **CONSISTENT (SUBJECT TO CONDITIONS)**

Conclusion:
The applicant seeks approval for the extraction of sand from the subject site. The assessment of the proposal recognises that the land use is discretionary.

The applicant has agreed to changes to the proposal to reflect advice from referral agencies in relation to key issues associated with dust, noise, and groundwater separation.

On this basis, approval is recommended subject to reflecting modifications to the minimum groundwater separation of 0.8m being achieved and conditions being incorporated to address traffic, drainage, setbacks, noise and dust management.

Alternatives

It is acknowledged that the land use can be supported under the Zoning Table of LPS8, and that a majority of the concerns raised in this report can be addressed through the imposition of conditions on a development approval. The Shire believes that the development in its proposed form is not considered acceptable due to the level of inconsistency with the State and Local Planning Framework.

However, the Panel may take the view that the development should be refused on the grounds that negative impacts of the development cannot be reasonably managed or mitigated appropriately.

As such, the Shire has provided an alternative recommendation for refusal is provided as follows, should the RJDAP be of the opinion that the development is not supportable:

It is recommended that the Regional Joint Development Assessment Panel resolves to:

Refuse DAP Application reference DAP/23/02479 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of the Shire of Capel Planning Scheme No.8, for the following reasons:

Reasons:

1. The proposed development does not meet clause 16 (2) for the Objectives of the Rural Zone in the Shire of Capel Local Planning Scheme No. 8.

2. The proposed development does not meet the policy provisions of the Shire of Capel Local Planning Policy 6.2 - Extractive Industries with respect to development criteria:

    - AD1.2.1
    - AD1.2.3
    - AD1.3.1
    - AD1.4.1

3. The proposed development does not satisfactorily address the requirements of the *Planning and Development (Local Planning Schemes) Regulations 2015* Clause 67(2) sub clauses (b), (c), (g), (n), (o), (p), (q), (y) and (za).

In accordance with section 6.2 and 6.3 of the DAP Standing Orders 2020, the Presiding Member determined that the member listed above, who had disclosed a impartiality interest, was permitted to participate in the discussion and voting on the item.

7. Deputations and Presentations

7.1 Robert Horsfall addressed the DAP against the recommendation for the application at Item 8.1.

7.2 Penny David addressed the DAP against the recommendation for the application at Item 8.1 and responded to questions from the panel.

7.3 Donna Brown addressed the DAP against the recommendation for the application at Item 8.1.

7.4 Michael Tichbon provided a written submission against the recommendation for the application at Item 8.1.

7.5 Daniel Lewis (Element Advisory Pty Ltd) addressed the DAP in support of the recommendation for the application at Item 8.1 and responded to questions from the panel.

7.6 Shire of Capel addressed the DAP in relation to the application at Item 8.1 and responded to questions from the panel.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1 Lot 148 (No.168) Skippings Road, Boyanup

Development Description:	Extractive Industry Development Proposal
Applicant:	Element Advisory Pty Ltd
Owner:	Mr Campbell & Ewen Nettleton
Responsible Authority:	Shire of Capel
DAP File No:	DAP/23/02479

REPORT RECOMMENDATION

Moved by: Lindsay Baxter **Seconded by:** Tony Arias

Accept that the DAP Application reference DAP/23/02479 is appropriate for consideration as the "Industry-Extractive" land use is compatible with the objectives of the Rural zone in accordance with Clause 16 (2) of the Shire of Capel Local Planning Scheme No. 8.

Approve DAP Application reference RJDAP/23/02448 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the Shire of Capel Local Planning Scheme No. 8, subject to the following conditions:

Tony Arias

Tony Arias
Presiding Member, Regional JDAP

2. Apologies

Kanella Hope (Deputy Presiding Member)
Justin Page (Third Specialist Member)
Cr Peter McCleery (Local Government Member, Shire of Capel)
Cr Christine Terrantroy (Local Government Member, Shire of Capel)

3. Members on Leave of Absence

Nil.

4. Noting of Minutes

DAP members noted that signed minutes of previous meetings are available on the DAP website.

5. Declaration of Due Consideration

All members declared that they had duly considered the documents.

6. Disclosure of Interests

DAP Member, Kanella Hope, declared an indirect pecuniary interest in item 8.1. Ms Hope is familiar with one of the landowners, Campbell Nettleton, and represents his parents in separate planning matters.

DAP Member, Justin Page, declared an impartiality interest in item 8.1. Mr Page works for Element, who is the applicant in this matter.

In accordance with section 6.2 and 6.3 of the DAP Standing Orders 2020, the Presiding Member determined that the members listed above, who have disclosed an indirect pecuniary interest and impartiality interest, are not permitted to participate in the discussion and voting on the item.

DAP Member, Cr Peter McCleery, declared an impartiality interest in item 8.1. Cr McCleery has received several emails from the community objecting to the application. Cr McCleery has not responded to these emails and the contents of these emails have been included in the RAR.

In accordance with section 6.2 and 6.3 of the DAP Standing Orders 2020, the Presiding Member determined that the member listed above, who has disclosed an impartiality interest, was permitted to participate in the discussion and voting on the item, however, was unable to attend the rescheduled meeting.

DAP Member, Cr Sebastian Schiano, declared an impartiality interest in item 8.1. Cr Schiano has received several emails from the community objecting to the application. Cr Schiano has not responded to these emails and the contents of these emails have been included in the RAR. Cr Schiano also responded to questions during public question time at the May Ordinary Council Meeting, these responses were prepared by the Shire of Capel staff.

Tony Arias

Tony Arias
Presiding Member, Regional JDAP

Conditions

1. This decision constitutes planning approval only and is valid for a period of 8 years from the date of approval. If the subject development is not substantially commenced within 2 years of the licence being issued, the approval shall lapse and be of no further effect.

2. Resource extraction is only permitted for a maximum of 5 years after the issue of the Extractive Industry Licence.

3. Rehabilitation of the land may occur at any time within the term of this approval.

4. Extraction must be undertaken in accordance with the agreed staging plan, as approved by the local government. Commencement of the subsequent extraction stage shall be subject to the previous extraction site having substantially commenced rehabilitation.

5. Unless otherwise approved in writing by the Shire, the development may only proceed generally in accordance with the attached approved plans, as dated, marked and stamped by the Shire, subject to any amendments required as a consequence of the conditions of this approval or any subsequent Extractive Industry Licence issued by the Shire.

6. The maximum pit floor depth shall be a minimum 0.8m above the current maximum groundwater level (MGL) and no dewatering works are to be undertaken without prior Department of Water and Environmental Regulation consultation. The Local Government is to be notified within 24 hours if the water table is intercepted.

   Such exposure or interception of the groundwater shall be remedied to the satisfaction of the Shire in consultation with the Department of Water and Environmental Regulation.

7. All works associated with the extractive industry be setback at least 20m from any boundary, include the location of bunds.

Prior to the commencement of development/issuing of an Extractive Industry Licence

8. Prior to the commencement of development, a Rehabilitation Management and Monitoring Plan shall be submitted for approval by the Shire. The Rehabilitation Management and Monitoring Plan shall be consistent with Water Quality Protection Note 15 (WQPN 15) and the Guidelines for Preparing Mine Closure Plans[1], and covering the intended staging, final landform (including separation to groundwater), proposed post extraction land use and successful rehabilitation criteria and include a finished rehabilitated level at least 0.8m above the highest groundwater level.

9. Prior to commencement of development, the condition of Skippings Road shall be upgraded to the satisfaction of the Shire of Capel.

Tony Arias

Tony Arias
Presiding Member, Regional JDAP

10. Prior to the commencement of development, suitable arrangements being made with the Shire of Capel for the payment of a road reinstatement co-contribution for road deterioration purposes associated with Restricted Access Vehicle(s) in accordance with the WALGA co-contribution rates specified within the User Guide, estimating the incremental cost impact on sealed roads from additional freight tasks. Road Deterioration Co-contribution is to be made in arrears on the submission of the annual compliance report as required by the Extractive Industry License in accordance with the Shire of Capel Extractive Industry Local Law 2016.

11. Prior to the issue of an Extractive Industry Licence, the following Management Plans shall be submitted for approval by the Shire:
    a) Weed Management Plan; and
    b) Dieback Management Plan.

12. Prior to the issue of an Extractive Industry Licence, the approved pit boundaries shall be surveyed by a suitably qualified surveyor, with the location of such pegs being to the satisfaction of the Shire.

13. Prior to the issue of an Extractive Industry Licence, the assigned rehabilitation bond for Stages 1 and 2 shall be provided to the Shire in the form of a bond or bank guarantee in pursuant the Shire's Schedule of Fees and Charges.

14. Prior to issue of an Extractive Industry Licence, suitable arrangement shall be undertaken to quantify water requirements for all aspects of the proposed extraction and provide evidence of a secure water source, to the satisfaction of the Shire.

15. Prior to issue of an Extractive Industry Licence, a Stormwater Management Plan is to be prepared and approved to the satisfaction of the Shire, consistent with WQPN 15, such as but not limited to details on how sediment mobilisation can be mitigated from activities crossing the drainage line to Stages 7 and 8.

16. Prior to issue of an Extractive Industry License, a 20m long asphalt cement seal apron be constructed at the intersection of Skippings Road and Boyanup West Road.

17. Prior to issue of an Extractive Industry License, a Dust Management Plan which shall include but is not limited to:

    1. Incorporating baseline and ongoing monitoring;
    2. Details management measures to minimise dust;
    3. Demonstrates best practice and details the methods to be used for all air borne particulate attenuation;
    4. Incorporates monitoring to determine the size and composition of particulates;
    5. Provides for continuous improvements in dust management; and
    6. Details complaint response procedures; to the satisfaction of the Shire of Capel.

Tony Arias

Tony Arias
Presiding Member, Regional JDAP

General Conditions of Operations:

18. An Annual Audit of Compliance shall be prepared by a suitably qualified independent expert and submitted to the Shire annually. The Annual Audit of Compliance shall include:
    a) Details to demonstrate compliance with the conditions of this Development Approval;
    b) Tonnage of sand removed from the site and the period within which the sand was removed;
    c) Progress report on the approved Rehabilitation Management and Monitoring Plan including:
        i. Details of completed, ongoing and future rehabilitation areas
        ii. Photos of rehabilitated areas
        iii. Monitoring and reporting details, if available
        iv. Start and completion dates, and expected start dates, if applicable, and
        v. A map depicting the rehabilitation areas and their completion progress.

19. The maximum number to truck movements to and from the site per hour is limited to 8 movements (to and from site). Consideration by the Shire will be given for granting additional numbers to the stated hourly movements per day, with any variation to be approved in writing by the Shire's Chief Executive Officer.

20. Haulage of material is to be restricted to Skippings Road for access/entry.

21. The Extractive Industry license holder is to maintain (eg. Grading and watering) the section of Skippings Road that extends south from the existing cross over to the sealed portion of Boyanup West Road, to the satisfaction of the Shire and at the licence holder's expense.

22. There shall be no storage of hydrocarbons on-site. On-site refuelling of equipment will be from a mobile service vehicle carrying appropriate spill prevention and clean-up equipment. No major repairs or maintenance shall take place on site.

23. The hours of operation shall be from 7.00am to 7.00pm Monday to Friday, and 7:00am to 12:00pm Saturday. No operations shall be permitted on Sundays or Public Holidays.

24. Maximum batter slopes of 1:6 shall be applied to all rehabilitation slopes.

25. The pit boundary survey pegs shall remain in place for the duration of the operation to the satisfaction of the Shire.

26. The maximum volume of material to be stockpiled on site at any one time is 5,000m^3.

27. All stockpiles shall be removed prior to the expiry of this approval.

28. A minimum 0.8-metre separation distance to the groundwater shall be maintained for the life of the extraction activities.

Tony Arias

Tony Arias
Presiding Member, Regional JDAP

Advice Notes

1. Any proposed clearing of native vegetation is prohibited unless done under a clearing permit issued in accordance with the Environmental Protection Act 1986, or the clearing is exempt from the need for a clearing permit.

2. Groundwater shall not be exposed, extracted or dewatered during the operation of the extraction activities unless the appropriate approval has been obtained from the Department of Water and Environmental Regulation.

3. The proponent is advised of their obligations under the *Environmental Protection (Noise) Regulations 1997.*

4. In relation to Condition 9, the upgrading of Skippings Road will require:

   a) Widening the pavement to 6.1m; and
   b) A re-seal of 100mm gravel.

5. In relation to Condition 13, the calculation of bonds will be in accordance with the Shire's Local Planning Policy 6.2 – Extractive Industries.

6. The applicant is advised to liaise with the Department of Water and Environmental Regulation regarding approvals required for any proposed screening related to extraction activity. Further information is available regarding Industry Regulation Guide to Licensing at http://www.der.wa.gov.au/our-work/licences-and-works-approvals or by contacting DWER regarding works approvals and licenses at info@dwer.wa.gov.au or 6364 7000

7. The applicant is advised to liaise with the Department of Water and Environmental Regulation prior to clearing vegetation. For further information and applying, please use the following link https://www.der.wa.gov.au/our-work/clearing-permits/46-clearing-permit-application-forms For further information please contact DWER by email at admin.nvp@dwer.wa.gov.au or by telephone (6364 7098)

8. The applicant is advised that if it is intended to use licensed groundwater to support the proposed extraction, they contact DWER's Bunbury water licensing branch on 97264111 to amend their existing licence under the *Rights in Water and Irrigation Act 1914.* It is further advised that if additional water is required over and above their current licensed allocation, the proponent should note that no additional water is available other than via a trade/agreement with another licensee.

9. In relation to Condition 11, a Dieback Management Plan is to be prepared, approved, and implemented to the satisfaction of the Shire, in consultation with DBCA, consistent with the *Best Practice Guidelines for Management of Phytophthora Dieback in the Basic Raw Materials Industries*

Tony Arias

Tony Arias
Presiding Member, Regional JDAP

10. The applicant is advised that "Acid sulfate soils (ASS) risk mapping indicates that a portion of 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."

11. In respect of Condition 15, the applicant is advised that proposed extraction is to be implemented in accordance with DWER's Water quality protection note (WQPN) no. 15 '*Basic raw materials extraction*' (July 2019) where appropriate to the site situation to ensure environmental risks are appropriately mitigated.

12. In respect to Condition 28, the applicant is advised that pit level and groundwater monitoring will be required to ensure separation distances to groundwater are maintained.

The Report Recommendation was put and LOST (2/3).

For: Tony Arias
Lindsay Baxter

Against: John Syme
Cr Kaara Andrew
Cr Sebastian Schiano

ALTERNATE MOTION

Moved by: Cr Kaara Andrew **Seconded by:** Cr Sebastian Schiano

It is recommended that the Regional Joint Development Assessment Panel resolves to:

Refuse DAP Application reference DAP/23/02479 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of the Shire of Capel Planning Scheme No.8, for the following reasons:

Reasons:

1. The proposed development does not meet clause 16 (2) for the Objectives of the Rural Zone in the Shire of Capel Local Planning Scheme No. 8.

Tony Arias

Tony Arias
Presiding Member, Regional JDAP

2. The proposed development does not meet the policy provisions of the Shire of Capel Local Planning Policy 6.2 - Extractive Industries with respect to development criteria:

   - AD1.2.1
   - AD1.2.3
   - AD1.3.1
   - AD1.4.1

3. The proposed development does not satisfactorily address the requirements of the *Planning and Development (Local Planning Schemes) Regulations 2015* Clause 67(2) sub clauses (b), (c), (g), (n), (o), (p), (q), (y) and (za).

The Alternate Motion was put and CARRIED (3/2).

For: John Syme
Cr Kaara Andrew
Cr Sebastian Schiano

Against: Tony Arias
Lindsay Baxter

REASON: The Panel by majority vote having considered the Responsible Authority Report (RAR), all materials and information presented during the meeting determined it was not satisfied to approve the proposed development.

It did not believe the proposal met the objectives of the Rural Zone under the Shire's Scheme and that the sand extraction process was capable of being managed to minimise impacts on the character of the rural area and the surrounding properties Further, it had not been adequately demonstrated that the proposed development will not potentially negatively impact on the environmental values of the wetlands in close proximity to the site or adjoining lots in the future.

It was noted that there was to be an increase in traffic on Skippings Road and that the safety issues had not been adequately addressed.

9. Form 2 – Responsible Authority Reports – DAP Amendment or Cancellation of Approval

Nil.

Tony Arias

Tony Arias
Presiding Member, Regional JDAP

STATE ADMINISTRATIVE TRIBUNAL

Jurisdiction:	*Planning and Development (Development Assessment Panels) Regulations 2011*
Application:	Review of a decision of a Development Assessment Panel
Parties:	**BCP Materials Pty Ltd** (Applicant) **PRESIDING MEMBER OF THE REGIONAL JOINT DEVELOPMENT ASSESSMENT PANEL** (Respondent)
Matter Number:	DR 146/2023
Application Lodged:	30 August 2023
Date of Decision:	18 December 2023
Decision of:	Member Ross Povey

The Tribunal orders:

1. The applicant is to provide an amended application as discussed at the mediation to the respondent on or before 12 January 2024.

2. Pursuant to s 31(1) of the State Administrative Tribunal Act 2004 (WA) the respondent is invited to reconsider its decision on or before 15 April 2024.

3. The matter is listed to directions hearing, commencing at 9.30 am on 26 April 2024 at 565 Hay Street, Perth and the parties may attend by teleconference.

4. A copy of these orders is to be provided to Mr R D and Mrs T Horsfall and Ms D Brown.

STATE ADMINISTRATIVE TRIBUNAL Western Australia

Our Ref: 22-337

1 December 2023

State Administrative Tribunal
Level 6, State Administrative Tribunal Building
PERTH WA 6000

Dear Sir / Madam

DR 146/2023 – BCP MATERIALS PTY LTD V PRESIDING MEMBER OF THE REGIONAL JOINT DEVELOPMENT ASSESSMENT PANEL
LOT 148 (NO. 168) SKIPPINGS ROAD, BOYANUP

element acts on behalf of BCP Materials Pty Ltd, the applicant in the matter DR 146/2023.

The following advice has been prepared following mediation at the State Administrative Tribunal (SAT) with the Presiding Member of the Regional Joint Development Assessment Panel (RJDAP) in relation to matter DR/2023 BCP Materials Pty Ltd V Presiding Member of the Regional Joint Development Assessment Panel.

Following mediation, the Presiding Member of the RJDAP consented to the Order 2 of DR 146/2023 for the applicant to provide further information as discussed at mediation.

element provides the following additional information for the Presiding Member's consideration prior to further mediation scheduled on the 18th of December, 2023:

1. An updated Acoustic Report, incorporating ambient noise levels for the subject site;
2. An updated Dust Management Plan to address operations within stage 2 during winter months;
3. A Traffic Management Plan, prepared by SJ Traffic detailing the signage and traffic management required on Skippings Road during haulage for road safety purposes;
4. An updated groundwater monitoring report, incorporating a third year of groundwater monitoring;
5. A technical note from MBS Environmental, providing clarity surrounding the value of the Multiple Use Weltand;
6. Updated operational plans to clearly define the distances to the nearest sensitive landuses;
7. Clarification for native vegetation clearing proposed and associated proposed rehabilitation to pasture.

Following a further review of the nearest sensitive land use within Lot 379, the applicant found that the structure originally identified as the nearest dwelling is in fact not a habitable structure but a stable with associated rainwater tanks. The dwelling onsite is located a further 29m north-west of the subject site, and screened by the existing shed onsite. The nearest dwelling is now identified to be 135m north-west of the extraction area, further reducing potential amenity impacts.

Whadjuk Country, Level 18,191 St Georges Terrace, Perth WA 6000
PO Box 7375 Cloisters Square, Perth WA 6850
T. (08) 9289 8300 E. hello@elementwa.com.au W. elementwa.com.au

Schedule of Modifications:

1. <u>Acoustic Report</u>

Additional acoustic modelling was requested by the RJDAP, specifically concerning the inclusion of ambient noise of the locality. Ambient noise monitoring was conducted with the installation of a noise monitoring logger within the proposed extraction area and in proximity to neighbouring dwelling.

The Noise Management Plan (NMP), prepared by Herring Storer, has subsequently been updated to include on-site ambient noise monitoring, with levels shown in section 5 of the NMP.

The findings of the ambient noise monitoring confirm that the average ambient noise experienced on the subject site fluctuates between approximately 35 and 45 decibels during the hours of proposed operations. The proposed noise mitigation measures will ensure operations during extraction to not exceed the ambient noise level experienced within the locality.

The updated NMP confirms that any noise impacts by operations are appropriately managed.

Refer to Attachment 1 – Updated Acoustic Report

2. <u>Dust Management Plan</u>

The respondent sought additional information through mediation regarding the potential impacts of

dust in relation to the dwelling at Lot 379. Specific clarification was sought on the mitigation measures used, time of operations and methods of monitoring potential dust impacts.

Section 5 of the Dust Management Plan (DMP), prepared by MBS Environmental, includes updated management measures regarding special treatment of operations in proximity to Lot 379. The following dust mitigation measures are to be implemented:

- Vegetation and topsoil removal, sand extraction, recontouring and topsoil respread in Stage 2 will be limited to the wetter months of the year (between May and October);
- Operations in Stages 1 and 2 will be completed within the first year of operations;
- A continuous earthen bund (windrow) of 2 m high (topsoil) will be placed along the northern and western boundaries of Stage 2. This bund will be seeded with a pasture grass mix (and watered as necessary) to stabilise the soil. A temporary 2-m-high bund will also be in place for northern and eastern boundaries of Stage 8 and eastern boundary of Stage 7 (these will also be seeded or sprayed with soil binding agent).

Section 5.2 of the DMP has also been updated to clarify that dust emissions of Stages 2 will be closely monitored during extraction of that stage. If dust emissions are visibly seen to cross the lot boundary, additional measures such as chemical suppressants (hudromulch) and dust fencing may be implemented during operations to manage any dust generation onsite.

Refer to Attachment 2 –Dust Management Plan

3. Wetland Audit and Management

The respondent sought additional information relating the Multiple-Use Wetland identified on the subject site, within the extraction area. MBS Environmental have conducted a subsequent audit of the multiple use wetland to confirm its environmental value and appropriate treatment of the wetland.

The wetland audit makes the following conclusions:

- The wetlands mapped onsite are confirmed to be multiple-use wetlands.
- The proposed extraction is to have minimal impact on the quality of the mapped wetlands.
- The multiple-use wetlands onsite are located in low-lying agricultural areas, highly degraded and of low environmental value.
- Conservation category wetlands located east of the subject site will not be impacted as natural groundwater flows are from east to west, away from high-quality wetlands.

Therefore, the proposed operations are considered appropriate as proposed within the mapped multiple use wetland.

Refer to Attachment 3 – Review of Multiple Use Wetland

4. Groundwater Monitoring

The respondent sought additional groundwater monitoring information to include findings from the 2023 winter season to provide confirmation of initially reported Maximum Groundwater Levels (MGL).

Due to electrical faults, the 2023 MGL monitoring results yielded minimal additional information and did not provide certainty that the proposed 0.5m groundwater separation would avoid interception with the groundwater table.

Pursuant to the advice provided from DWER during assessment, the proposed separation of the extraction depth to MGL is to be increased to 0.8m and appropriately conditioned.

Refer to Attachment 4 – Updated Groundwater Monitoring Report

5. Traffic Impact

The respondent requested that more detail on the safety and volume of proposed traffic movements for the unsealed portion of Skippings Road be provided.

SJ Traffic Management have prepared a comprehensive Traffic Management Plan (TMP) report to further support the proposed Extractive Industry.

The TMP outlines the following traffic considerations for the development:

- Register and assessment of potential traffic and safety risks;
- Traffic management procedures to mitigate risk;
- Analysis of traffic flows;
- Procedure in case of emergency, and;
- Protocol for regular inspection and monitoring of traffic safety.

The TMP provides a framework allowing the safe use of the unsealed portion of Skippings Road for the haulage of material.

Refer to Attachment 5 – Traffic Management Plan

Updated Development Plans

In addition to the above, the proposed development plans have been updated as requested .The plans show updated setbacks, distances from dwellings and location of bunds and screening devices to ensure operations are completed appropriately.

Refer to Attachment 6 – Updated Development Plans

6. Native Vegetation and Rehabilitation

Clarification was also sought regarding the degraded quality of the native vegetation onsite as originally stated in the Environmental Site Inspection, prepared by MBS Environmental.

The audit of native vegetation remains unchanged and existing vegetation is still classified as degraded as per the original audit.

The extraction area has been reduced to comply with site boundary setbacks of LPS 8 which reduces the regetation required to be cleared.

Rehabilitation of each stage to pasture is requested to be a conditioned, to allow for the Shire's environmental consultant to peer review the rehabilitation plan prior to the issue of an Extractive Industry License.

Refer to Attachment 7 – Environmental Site Inspection

Conclusion

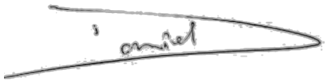
The information provided above adequately responds to the requests of the RJDAP following mediation for additional information to support the development.

Should you have any queries or require clarification on the above matter, please do not hesitate to contact the undersigned on 0458 241 874.

Yours sincerely

element

element.



Daniel Lewis

Senior Consultant

element acknowledges the Whadjuk people of the Noongar nation as Traditional Owners of the land on which we live and work. We acknowledge and respect their enduring culture, their contribution to the life of this city, and Elders, past and present.

ATTACHMENT 1 – UPDATED NOISE MANAGEMENT PLAN

BCP MATERIALS PTY LTD

EXTRACTIVE INDUSTRY
LOT 148 (No 168) SKIPPINGS ROAD, BOYANUP

ACOUSTIC ASSESSMENT

DECEMBER 2022

OUR REFERENCE: 30435-5-22200

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
HERRING STORER ACOUSTICS
P.O. Box 219, Como, W.A. 6952
(08) 9367 6200
hsa@hsacoustics.com.au

DOCUMENT CONTROL PAGE

ACOUSTIC ASSESSMENT
LOT 148 (No 168) SKIPPINGS ROAD, BOYANUP

Job No: 22200

Document Reference: 30435-5-22200

FOR

BCP MATERIALS PTY LTD

DOCUMENT INFORMATION			
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1	Client Comments	16/01/2023	PLD	
2	Client Comments	24/02/2023	PLD	
3	Updated for ambient monitoring and latest plans	17/11/2023	PLD	
4	Client Comments	30/11/2023	PLD	

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1	5	Element WA Att: Daniel Lewis Email: daniel.lewis@elementwa.com.au		✓

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APPENDICIES

1. INTRODUCTION

Herring Storer Acoustics have been commissioned by Element WA on behalf of BCP Materials Pty Ltd to undertake an acoustic assessment of noise emissions from the proposed sand extraction operations located at Lot 148 Skippings Road Boyanup.

The proposed extraction operations will operate from 0700 – 1700 Monday to Friday and 0700 – 13:00 on Saturdays. No operations would occur on Sundays or Public Holidays. The nearest residential premises are located to the west and south of the proposed operations.

The main access road is via Skippings Road as shown in Figure 1.1 along with the proposed operations.

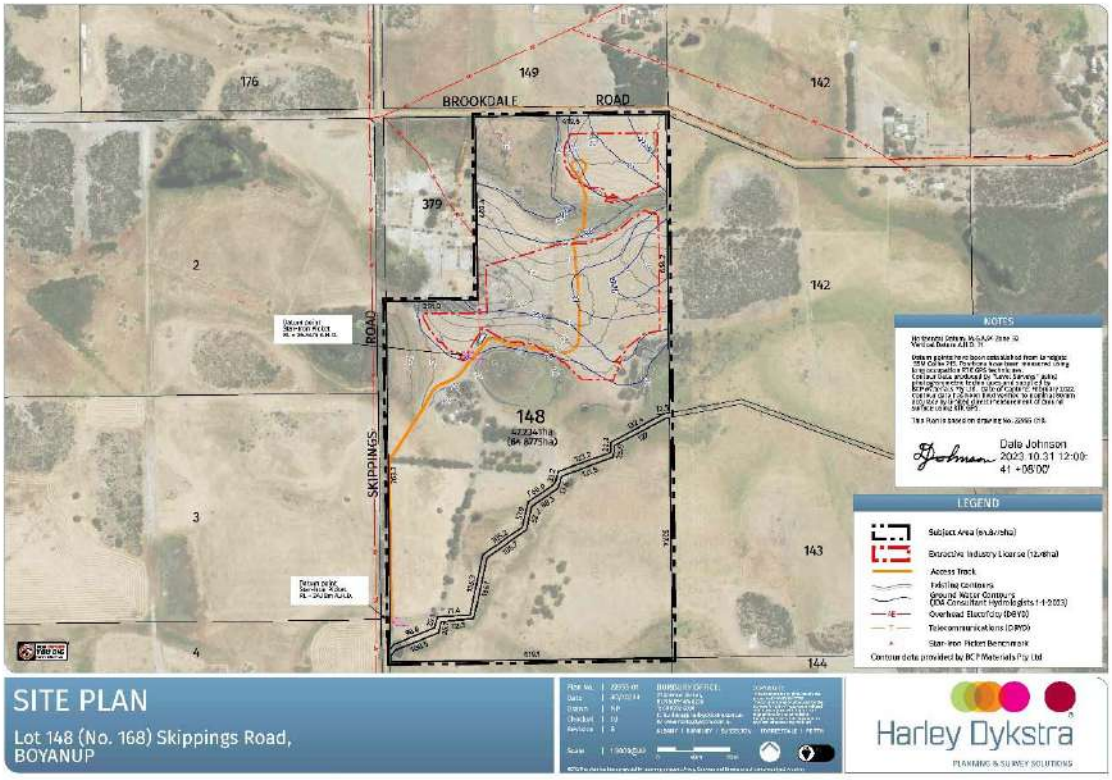


FIGURE 1.1 – EXTRACTION OPERATIONS

This assessment is provided to support the regulatory approvals processes and show that compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997* can be achieved.

As part of the study the following was carried out:

- Identification of individual operations and the associated noise levels.
- Monitor ambient noise levels at the proposed site.
- Assess the predicted noise levels at the nearest surrounding highly noise sensitive premises for compliance with the appropriate criteria.
- If exceedances are predicted comment on possible noise amelioration options for compliance with the appropriate criteria.

For information a locality plan is shown in Appendix A.

2. SUMMARY

Assessment has been conducted on the proposed sand extraction operations for Lot 148 Skippings Road, Boyanup.

The facility would only operate during the day period (being Monday to Friday 0700 to 1700 hours and 0700 to 1300 on Saturdays). Therefore, at the neighbouring residences, the applicable acoustic criteria for this assessment is the assigned L_{A10} day period noise level of 45 dB(A).

Noise received at the nearest residential premises has the potential to exceed the assigned noise level criteria without the implementation of noise control, such as an earthen bunding.

Therefore, to comply with the criteria, fixed plant need to be operated behind a barrier (earth bund) for Stage 2 operations. For other stages, compliance is achieved with open (ground level) operations.

Given these operating parameters, noise levels received at the nearest premises has been calculated to comply with the Environmental Protection (Noise) Regulations 1997 for the operating times as outlined in this assessment.

3. CRITERIA

The allowable noise level for noise sensitive premises in the vicinity of the proposed site is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 and 8 stipulate maximum allowable external noise levels or assigned noise levels that can be received at a premise from another premises. For residential premises, this noise level is determined by the calculation of an influencing factor, which is then added to the base levels shown below. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. The base noise levels for residential premises are listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Noise sensitive premises	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day Period)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax\ Slow}$ is more than 15 dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

(a) is more than 3dB $L_{A\ Fast}$ or is more than 3 dB $L_{A\ Fast}$ in any one-third octave band;
(b) is present for more at least 10% of the representative assessment period; and
(c) is regular, cyclic and audible;

"tonality" means 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.

The nearest potential noise sensitive premises to the proposed development have been identified using the area map in Figure 3.1.

The usage of the surrounding land use varies from intensive horticulture and residential land use. Therefore, the assigned noise levels for operational times are as noted in Table 3.2.

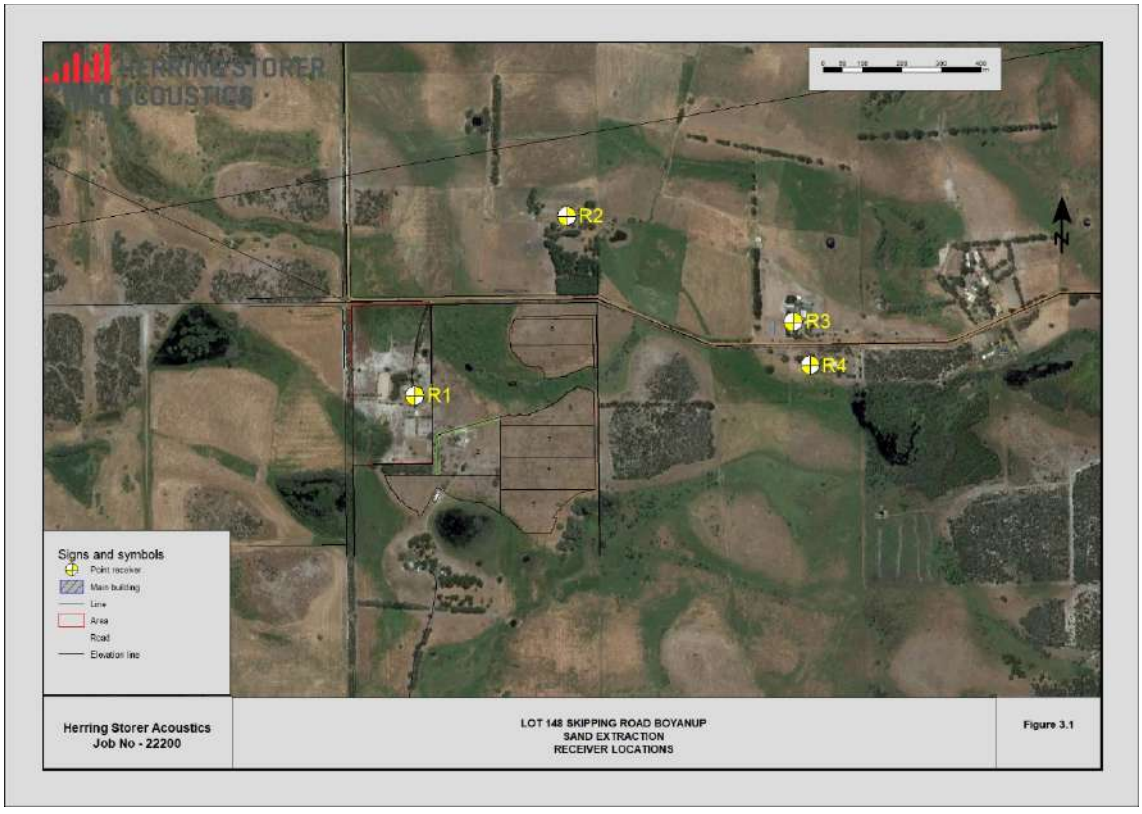


FIGURE 3.1 – RECEIVER LOCATION MAP

TABLE 3.2 – ASSIGNED NOISE LEVELS

Premises Receiving Noise	IF dB	Time of Day	Assigned Level (dB)		
			$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Receiver R1 to R4	0	0700 - 1900 hours Monday to Saturday (Day)	45	55	65

4. PROPOSED OPERATIONS

The proposed extraction operations will operate from 0700 – 1700 Monday to Friday and 0700 – 13:00 on Saturdays. No operations would occur on Sundays or Public Holidays.

Site equipment is as per Table 4.1.

TABLE 4.1 – SITE ACTIVITIES

Activity	Equipment to be used	Comments
Screening and stockpiling of Sand	Finlay Screen CAT Loader	Screening plant will be surrounded by the product stockpiles, thereby, attenuating noise from the plant. Late model equipment will be utilised with reduced noise level outputs.
Loading of trucks from stockpiles.	Standard rigid truck (14 tonnes) CAT Loader	Loading area surrounded by stockpiles. Machine reverse alarms with lower frequency output units will be utilised.

5. MONITORED AMBIENT NOISE

As per the "Draft Guidelines on Environmental Noise for Prescribed Premises" (released in May 2016), continuous noise monitoring has been conducted to establish the ambient noise levels.

The monitoring location was on the northern boundary of the development (Stage 2 area), near to the residential receiver in this direction. Monitoring commenced on the 9th November 2023. Figure 5.1 contains a map of the monitoring location, with Figure 5.2 showing pictures of the monitor in situ.

FIGURE 5.1 – MONITORING LOCATION

FIGURE 5.2 – MONITORING PICTURES – IN SITU

Noise monitoring results are summarised graphically below in Figure 5.3.

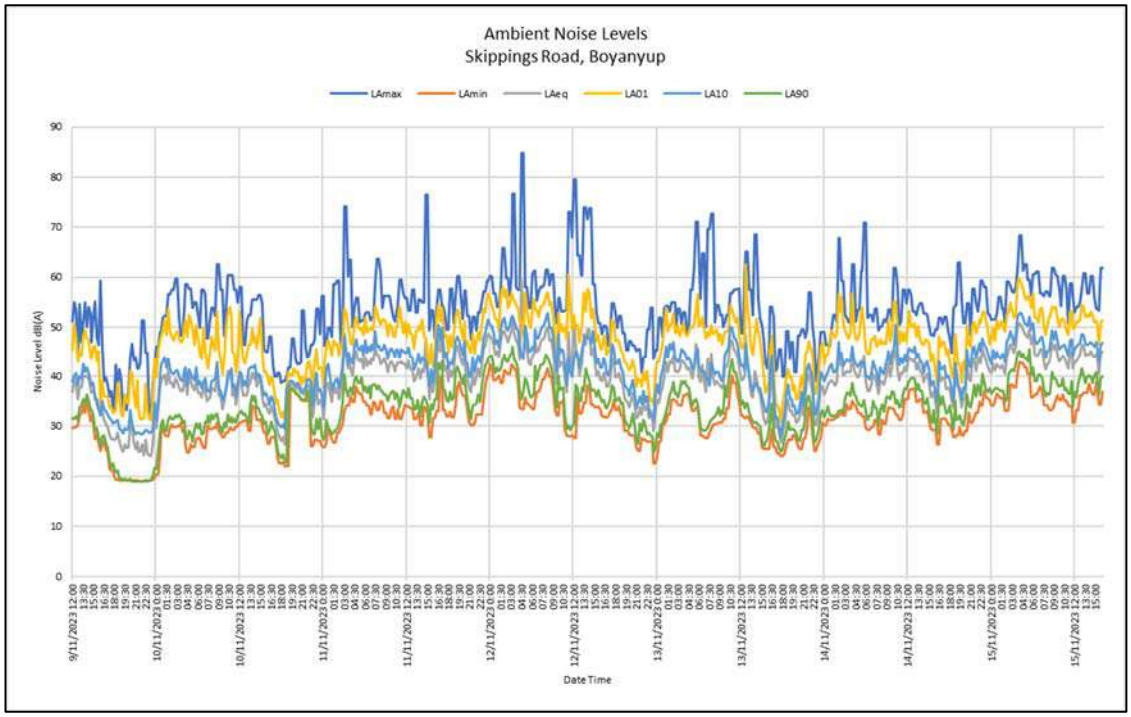


FIGURE 5.3 – MONITORED NOISE LEVELS

Based on the monitoring results, the ambient noise levels are around 40 to 45 dB(A) during the day period. This would be generally consistent with the area, i.e., no major or secondary roads with traffic noise influence.

6. CALCULATED NOISE LEVELS

Noise immissions[1] at the nearest neighbouring residential premises, due to noise associated with the proposed operations, were modelled with the computer programme SoundPlan. Sound power levels used for the calculations are based on measured sound pressure levels of similar equipment proposed for use on site.

The modelling of noise levels has been based on noise sources and sound power levels shown in Table 6.1.

TABLE 6.1 – SOUND POWER LEVEL - NOISE SOURCES dB(A)

Source Name	Quantity	SWL dB(A)
Loaders (Cat 980H or similar)	1	111
Screening Plant (McCloskey S190 Screener or Similar)	1	101
Semi – Tipper Truck	1	98

Note: The above equipment models have been used to provide an indication of the size. Other models may be used although these have been assumed to have a similar sound power level.

Based on noise emissions from the above equipment, an overall operating scenario has been developed. Figure 6.1 details the source locations assumed in the predictive modelling along with the proposed development of the pit.

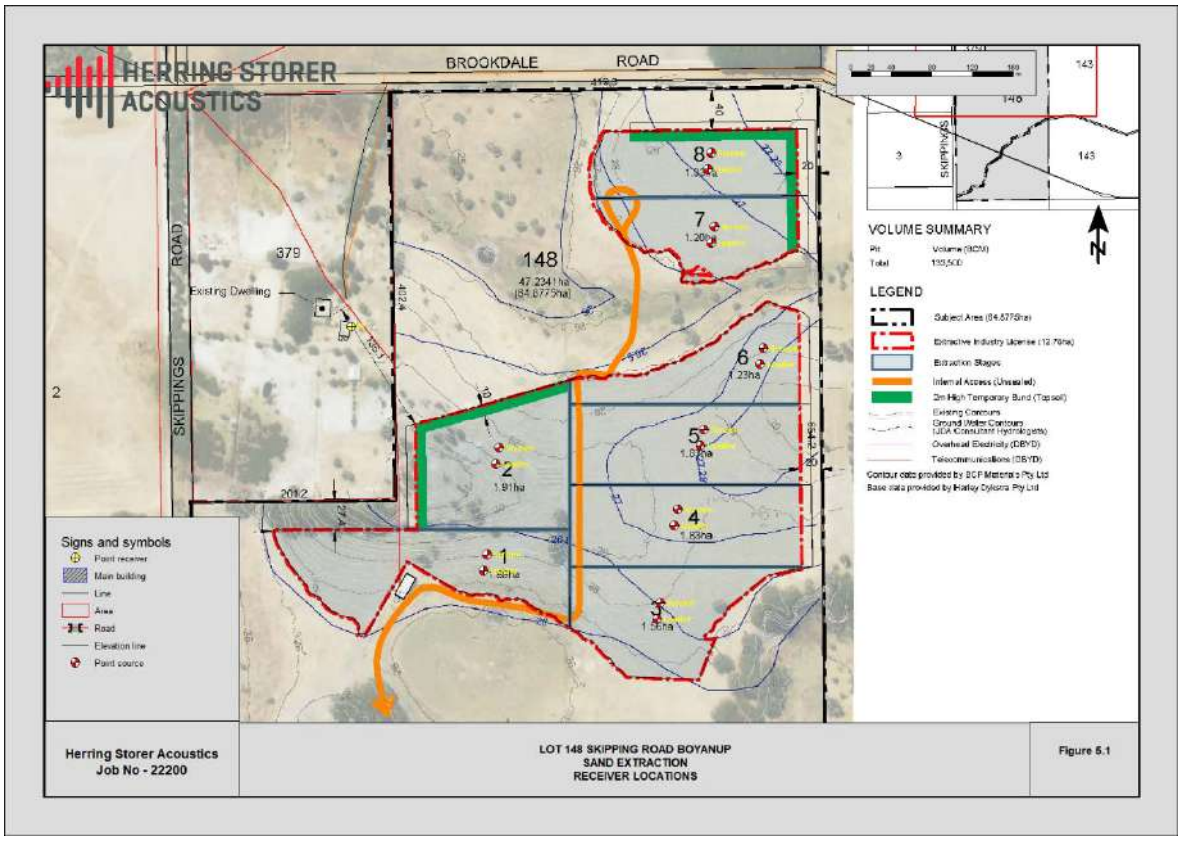


FIGURE 6.1 – SOURCE LOCATION AND PIT PROGRESSION

Based on the initial modelling scenario, the noise sources have been placed at the existing surface level. As the pit is open towards the north/west, additional protection is achieved to barrier noise emissions from the plant.

1 Immissions – noise received at a source
2 Emissions – noise emanating from a source and / or location

Initial noise modelling indicated that without any barriers, noise levels, with equipment operating at the surface ground level, could depending on the location, exceed the criteria within Stage 2. Therefore, a secondary scenario was developed with the inclusion of barriers. Generally, operations would be behind the face of a pit, or behind earth stockpiles, hence an allowance has been made for these sources. Given the location of the fixed plant (screen) earth barriers (bunds) would be required to ensure attention of noise in the directions of the receivers. Figure 6.2 details the bunding used in the noise model, however, this is an indication only with it providing the direction the equipment should be operating in regard to the pit face.

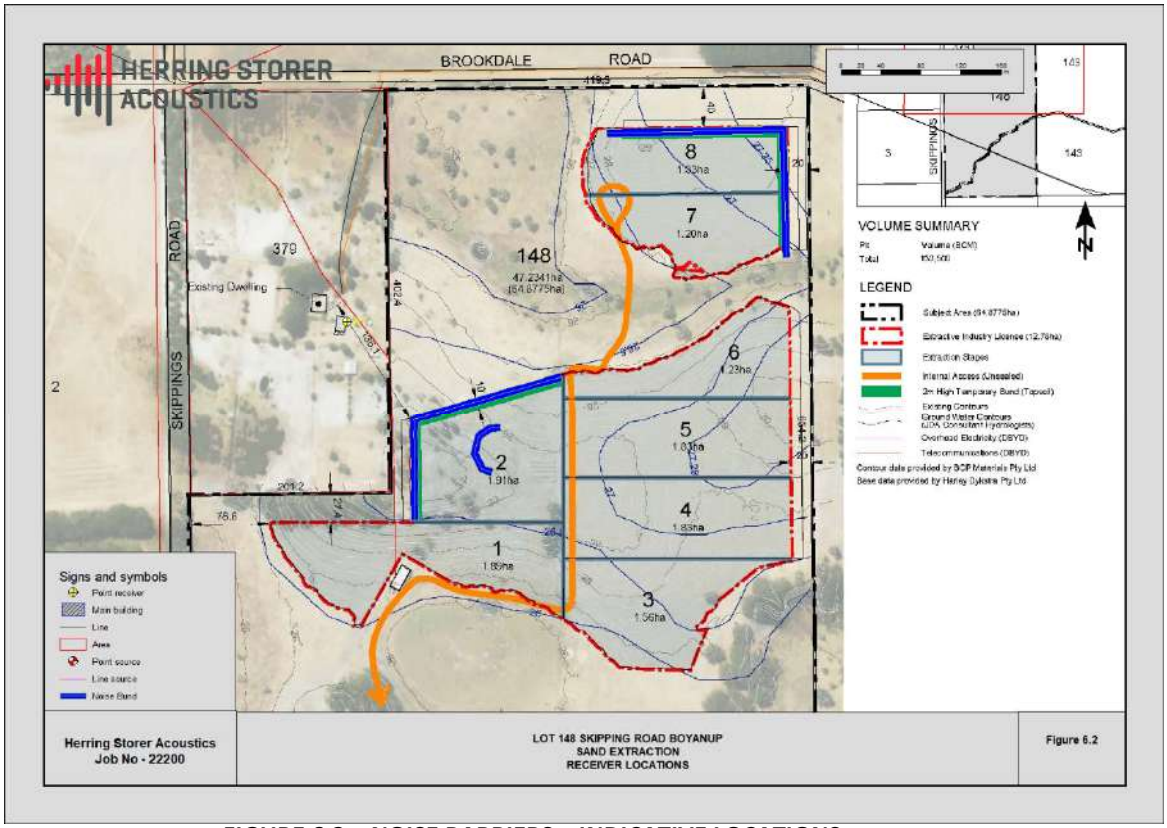


FIGURE 6.2 – NOISE BARRIERS – INDICATIVE LOCATIONS

Based on the above the following scenarios have been considered:

- S1 to S8 Fixed Plant noise source in worst case locations natural ground surface (each stage) including barriers in Stage 2.

- Truck movement on the internal haul route.

The following input data was used in the calculations:

a) Provided area plots.
b) Sound Power Levels listed in Table 4.1.
c) Ground contours and receiver point provided by client (Appendix A).

Weather conditions for modelling were as stipulated in the Environmental Protection Authority's "*Draft Guidelines on Environmental Noise for Prescribed Premises"* and for the day period are as listed in Table 6.2.

TABLE 6.2 – WEATHER CONDITIONS

Condition	Day
Temperature	20°C
Relative humidity	50%
Pasquill Stability Class	E
Wind speed	4 m/s*

* From sources, towards receivers.

7. RESULTS

Calculated noise levels associated with the noise emissions from the proposed operations for the assumed scenarios, are summarised below in Table 7.1. Appendix B contains the overall noise contour plots.

TABLE 7.1 – CALCULATED NOISE LEVEL – FIXED PLANT AND TRUCK

Stage	Receiver Noise Level dB(A)			
	R1	R2	R3	R4
S1	36	33	30	30
S2	37	33	31	31
S3	40	33	32	33
S4	40	35	33	33
S5	40	37	34	34
S6	40	39	36	36
S7	40	40	36	35
S8	40	38	36	35

8. ASSESSMENT

For the day time operations, based on calculated noise levels at the nearest premises, noise levels have been considered as being tonal in characteristics. Whilst the noise monitoring shows that the ambient noise levels are the same as the calculated noise emissions from the proposed operations, to provide a conservative assessment, a +5dB penalty has been included to allow for a tonal component for the residence.

Based on the site information for the various activities (Section 4), the noise levels listed in Table 7.1 are the cumulative noise from all sources. Hence, to provide a level of conservatism, the truck movements have been included as a cumulative noise source in conjunction with the fixed plant operations.

Hence, Table 8.1 summarises the applicable Assigned Noise Levels, and assessable noise level emissions, for the scenarios considered.

For ease of assessment, the highest noise level at any of the stages has been used for the assessment.

TABLE 8.1 – ASSESSMENT OF NOISE LEVELS – FIXED PLANT AND TRUCK MOVEMENT

Receiver	Premises Receiving Noise Assessable Noise Level dB(A)	Time of Day	Assigned Level (dB)	Compliance
R1	40[45]	0700 - 1900 hours Monday to Saturday (Day)	45	Complies
R2	40[45]			Complies
R3	36[41]			Complies
R4	36[41]			Complies

[ ] Denotes inclusion of +5 dB penalty for annoying characteristics

9. CONCLUSION

Assessment has been conducted on the proposed sand extraction operations for Lot 148 Skippings Road, Boyanup.

The facility would only operate during the day period (being Monday to Friday 0700 to 1700 hours and 0700 to 1300 on Saturdays). Therefore, at the neighbouring residences, the applicable acoustic criteria for this assessment is the assigned L_{A10} day period noise level of 45 dB(A).

Whilst the noise monitoring shows that the ambient noise levels are the same as the calculated noise emissions from the proposed operations, i.e. around 40 to 45 dB(A), to provide a conservative assessment, the +5dB penalty has been included in the assessable noise level to allow for a tonal component for the residence.

Noise received at the nearest residential premises has the potential to exceed the assigned noise level criteria if no noise control in the form of earthen bunding is implemented.

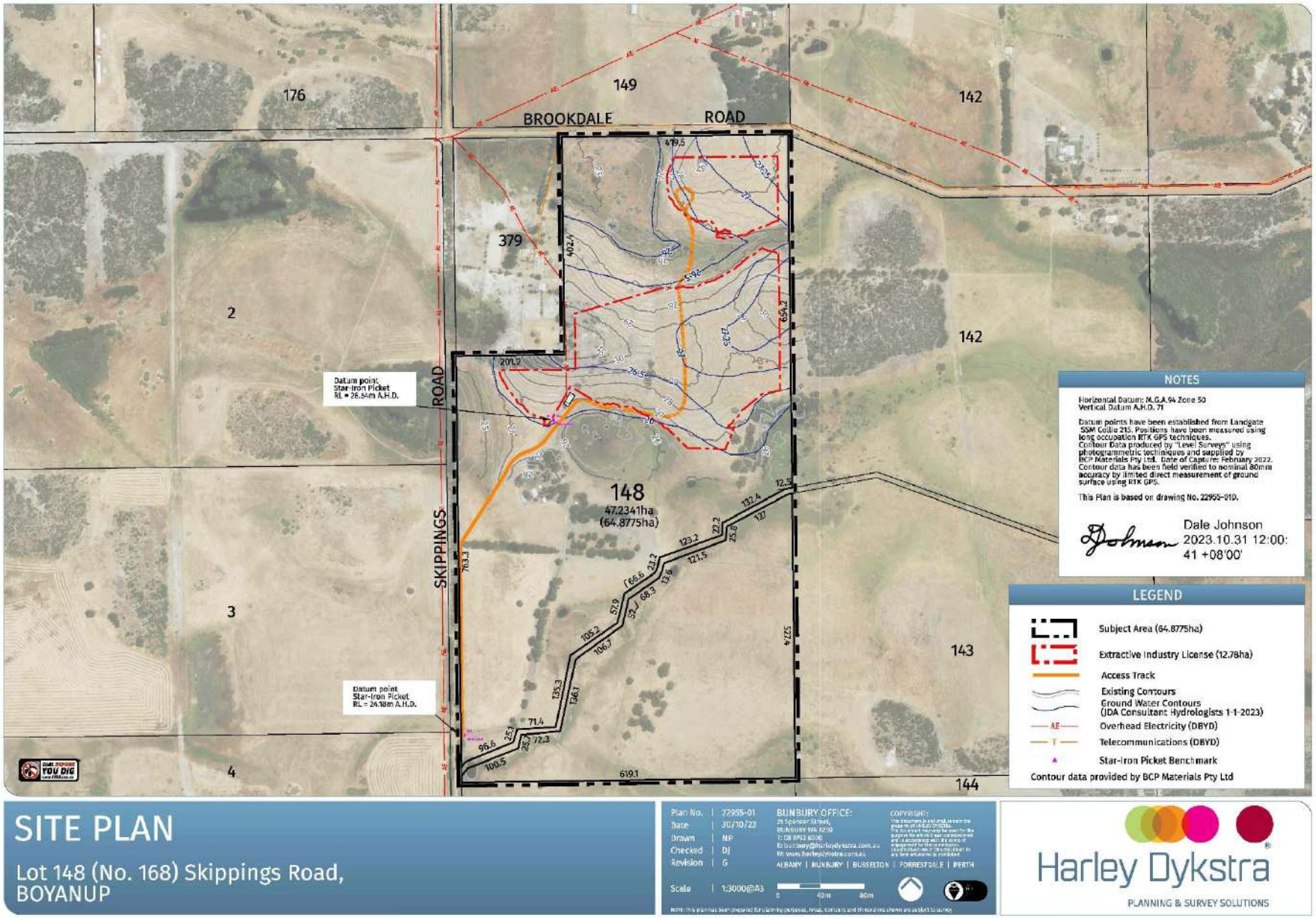
Therefore, to comply with the criteria, fixed plant noise levels require operations behind a barrier (earth bund) for Stage 2 operations. For other stages, compliance is achieved with open (ground level) operations.

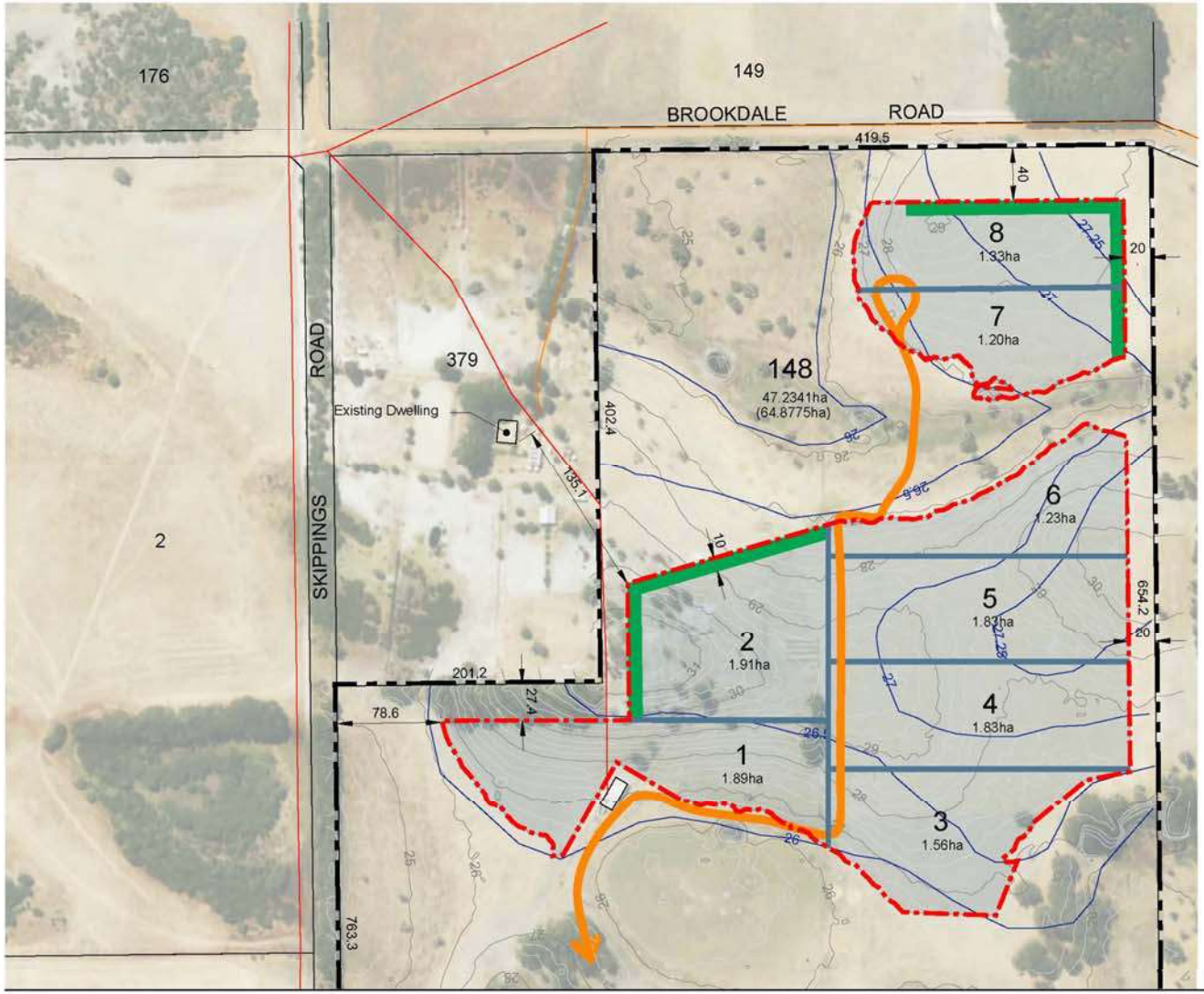
Given these operating parameters, noise levels received at the nearest premises has been calculated to comply with the Environmental Protection (Noise) Regulations 1997 for the operating times as outlined in this assessment.

APPENDIX A

FIGURE A1 – LOCATION MAP

FIGURE A1 – SITE LAYOUT





LOCATION MAP

VOLUME SUMMARY

Pit	Volume (BCM)
Total	133,500

LEGEND

- Subject Area (64.8775ha)
- Extractive Industry License (12.78ha)
- Extraction Stages
- Internal Access (Unsealed)
- 2m High Temporary Bund (Topsoil)
- Existing Contours
- Ground Water Contours (JDA Consultant Hydrologists)
- Overhead Electricity (DBYD)
- Telecommunications (DBYD)

Contour data provided by BCP Materials Pty Ltd
Base data provided by Harley Dykstra Pty Ltd

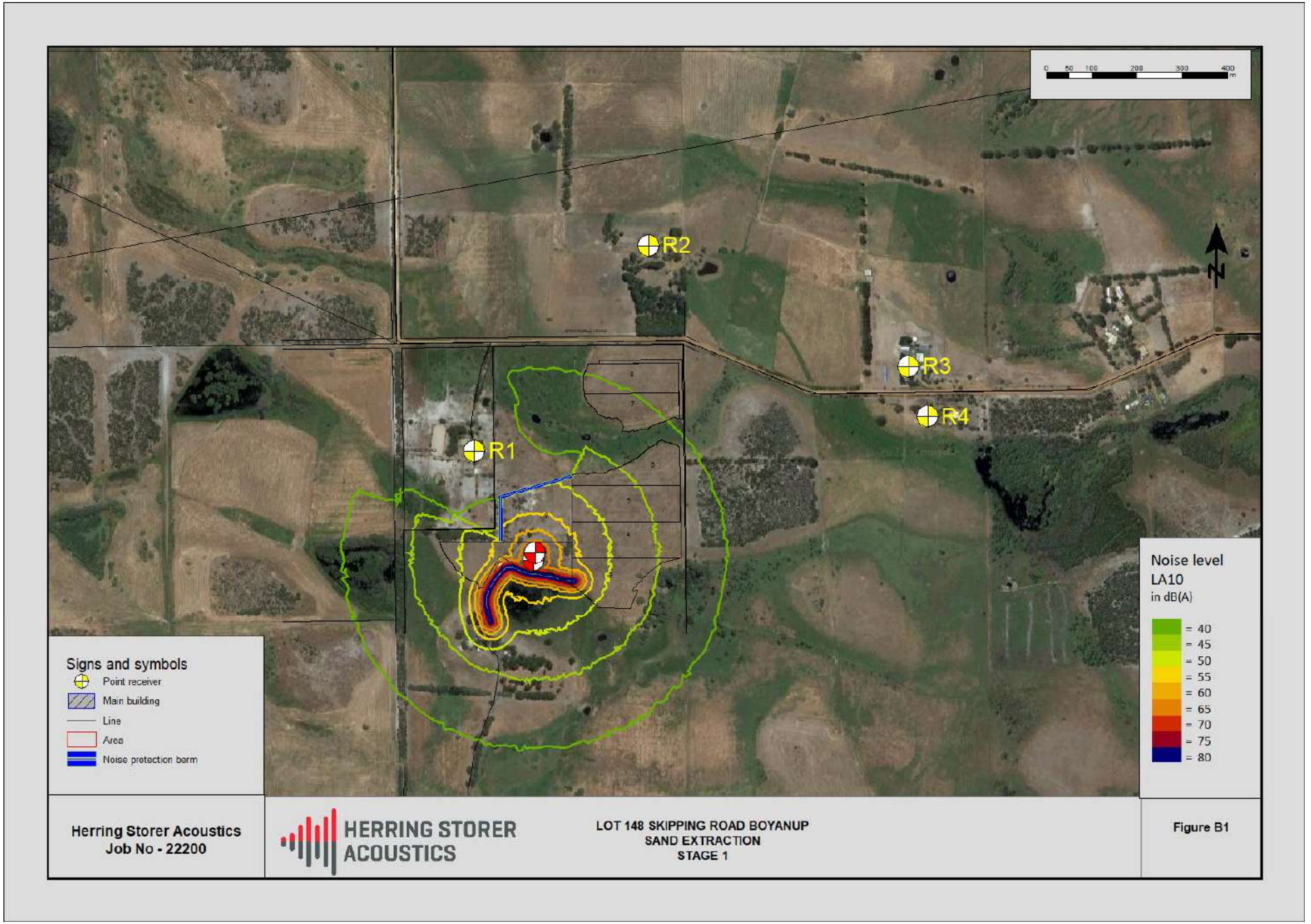
Excavation Works Plan

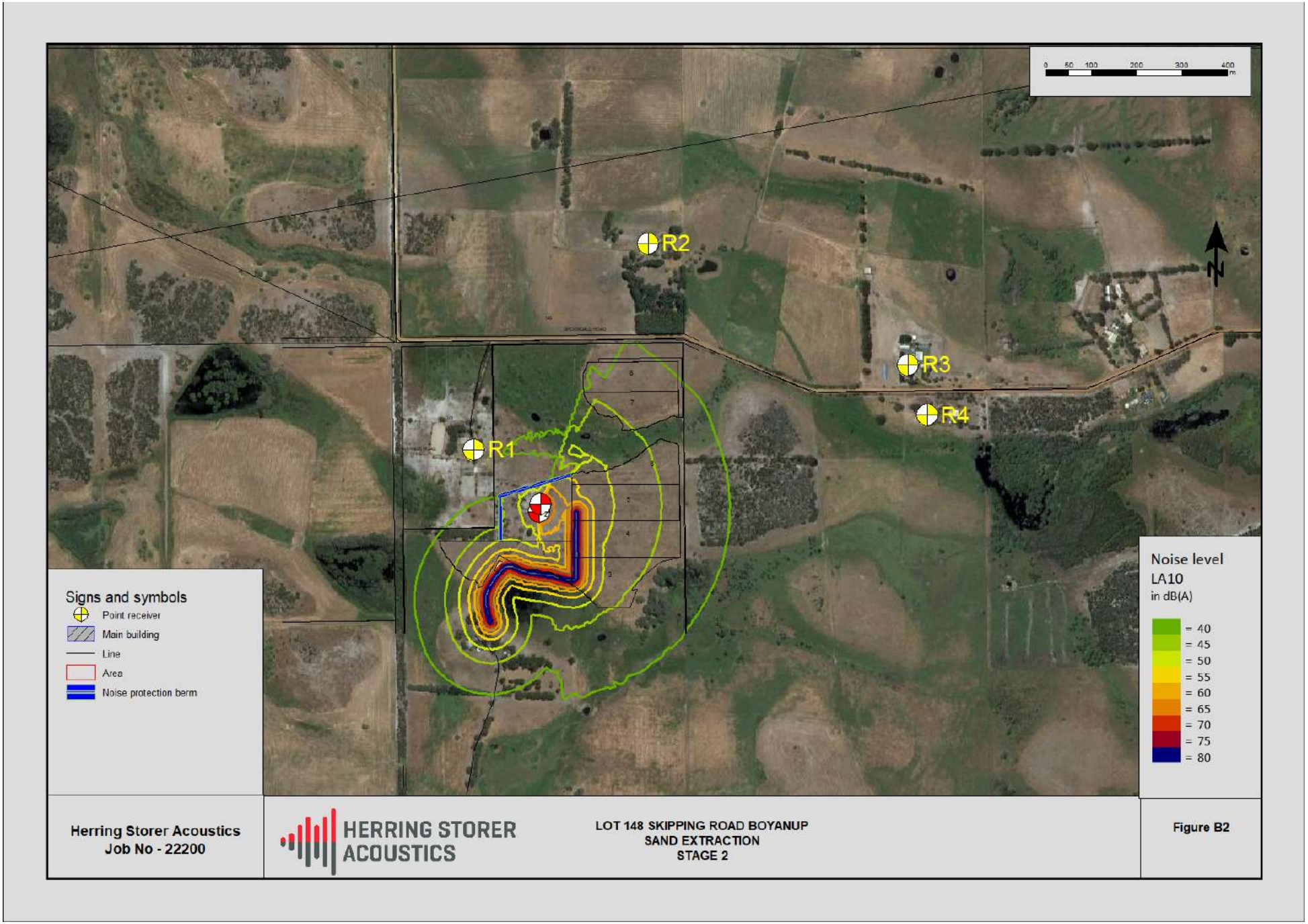
Lot 148 (168) Skippings Road, Boyanup

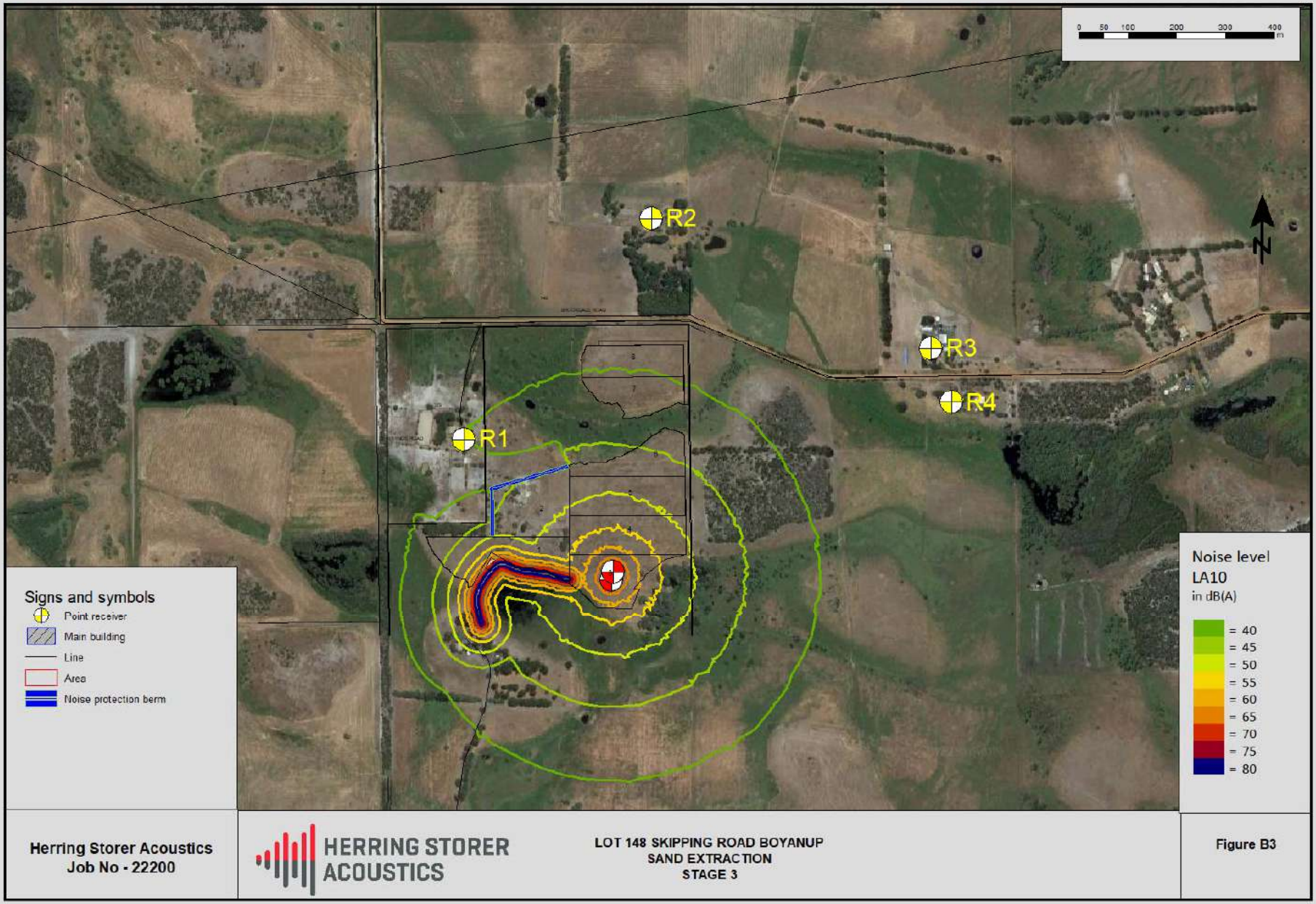
element.

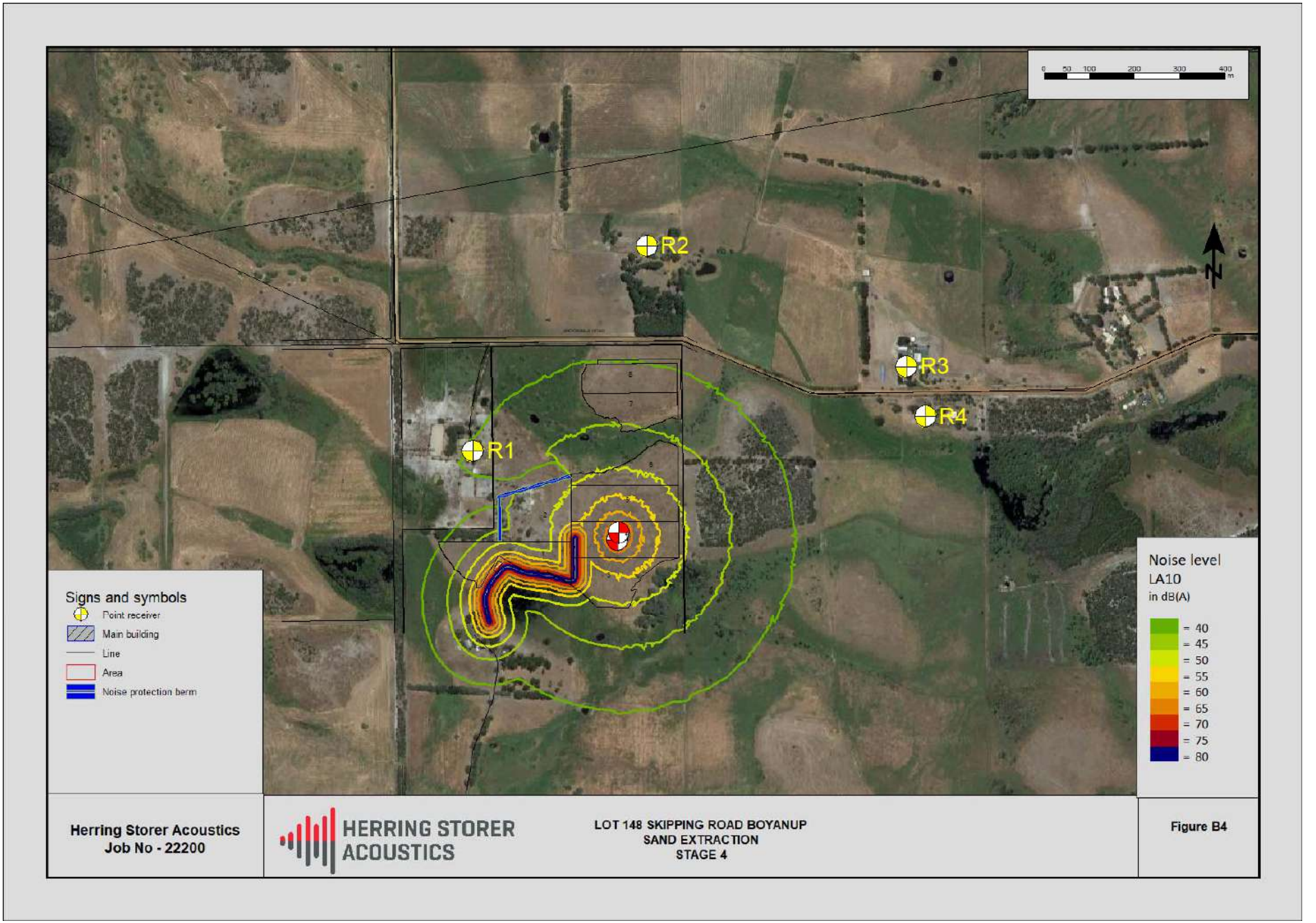
APPENDIX B

Noise Contours


0 50 100 200 300 400 m
R1
R2
R3
R4
N
Noise level
LA10
in dB(A)
= 40
= 45
= 50
= 55
= 60
= 65
= 70
= 75
= 80
Signs and symbols
Point receiver
Main building
Line
Area
Noise protection berm
Herring Storer Acoustics
Job No - 22200
HERRING STORER
ACOUSTICS
LOT 148 SKIPPING ROAD BOYANUP
SAND EXTRACTION
STAGE 1
Figure B1


R1
R2
R3
R4
N
0 50 100 200 300 400 m
Signs and symbols
Point receiver
Main building
Line
Area
Noise protection berm
Noise level
LA10
in dB(A)
= 40
= 45
= 50
= 55
= 60
= 65
= 70
= 75
= 80
Herring Storer Acoustics
Job No - 22200
HERRING STORER ACOUSTICS
LOT 148 SKIPPING ROAD BOYANUP
SAND EXTRACTION
STAGE 2
Figure B2


0 50 100 200 300 400 m
N
R1
R2
R3
R4
Signs and symbols
Point receiver
Main building
Line
Area
Noise protection berm
Noise level
LA10
in dB(A)
= 40
= 45
= 50
= 55
= 60
= 65
= 70
= 75
= 80
Herring Storer Acoustics
Job No - 22200
HERRING STORER ACOUSTICS
LOT 148 SKIPPING ROAD BOYANUP
SAND EXTRACTION
STAGE 3
Figure B3


0 50 100 200 300 400 m
R1
R2
R3
R4
N
Signs and symbols
Point receiver
Main building
Line
Area
Noise protection berm
Noise level
LA10
in dB(A)
= 40
= 45
= 50
= 55
= 60
= 65
= 70
= 75
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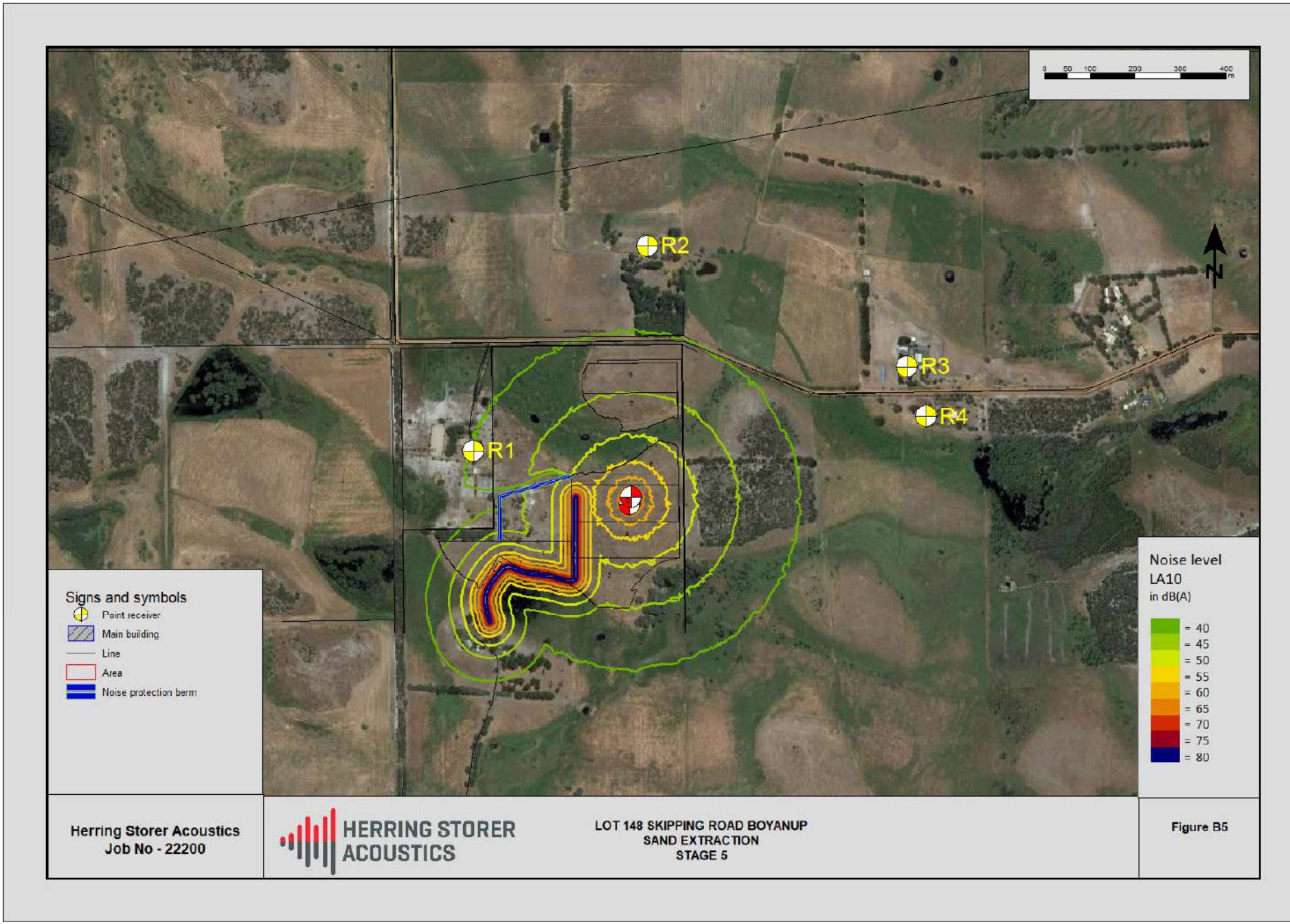
Herring Storer Acoustics
Job No - 22200
HERRING STORER ACOUSTICS
LOT 148 SKIPPING ROAD BOYANUP
SAND EXTRACTION
STAGE 4
Figure B4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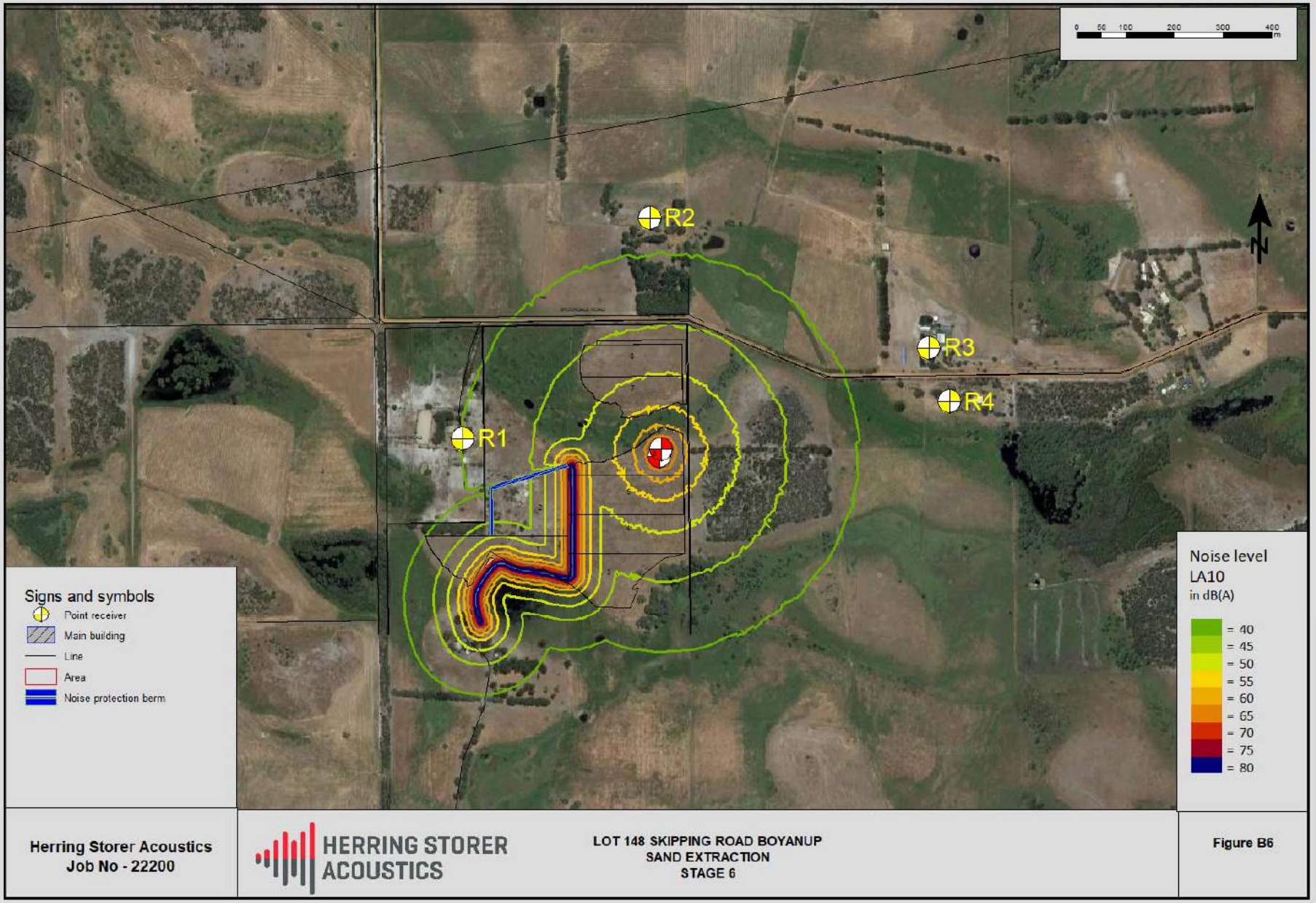
R1
R2
R3
R4
N
Signs and symbols
Point receiver
Main building
Line
Area
Noise protection berm
Noise level
LA10
in dB(A)
= 40
= 45
= 50
= 55
= 60
= 65
= 70
= 75
= 80
Herring Storer Acoustics
Job No - 22200
HERRING STORER ACOUSTICS
LOT 148 SKIPPING ROAD BOYANUP
SAND EXTRACTION
STAGE 5
Figure B5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R1
R2
R3
R4
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Signs and symbols
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Main building
Line
Area
Noise protection berm
Noise level
LA10
in dB(A)
= 40
= 45
= 50
= 55
= 60
= 65
= 70
= 75
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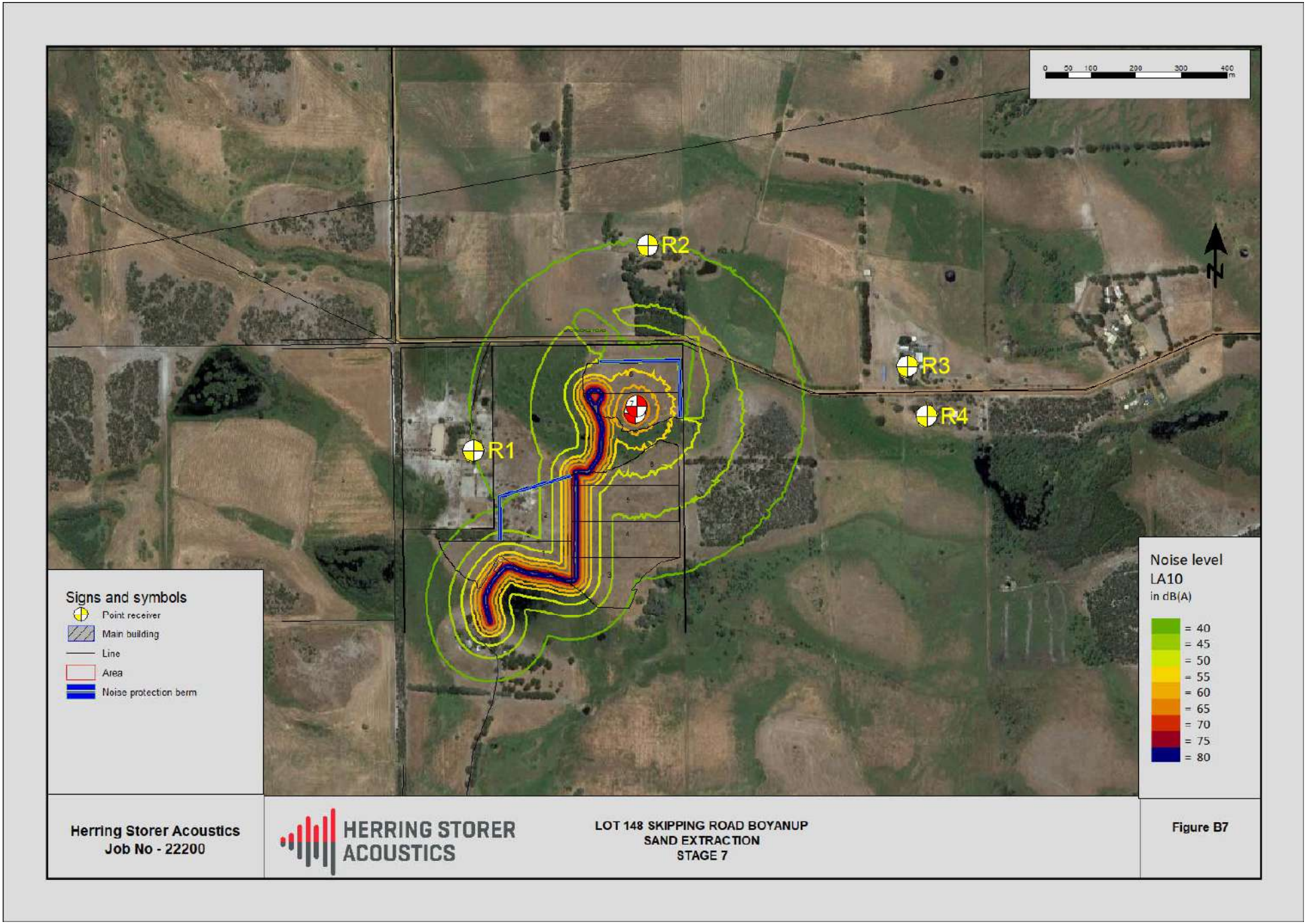
Herring Storer Acoustics
Job No - 22200
HERRING STORER ACOUSTICS
LOT 148 SKIPPING ROAD BOYANUP
SAND EXTRACTION
STAGE 6
Figure B6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R1
R2
R3
R4
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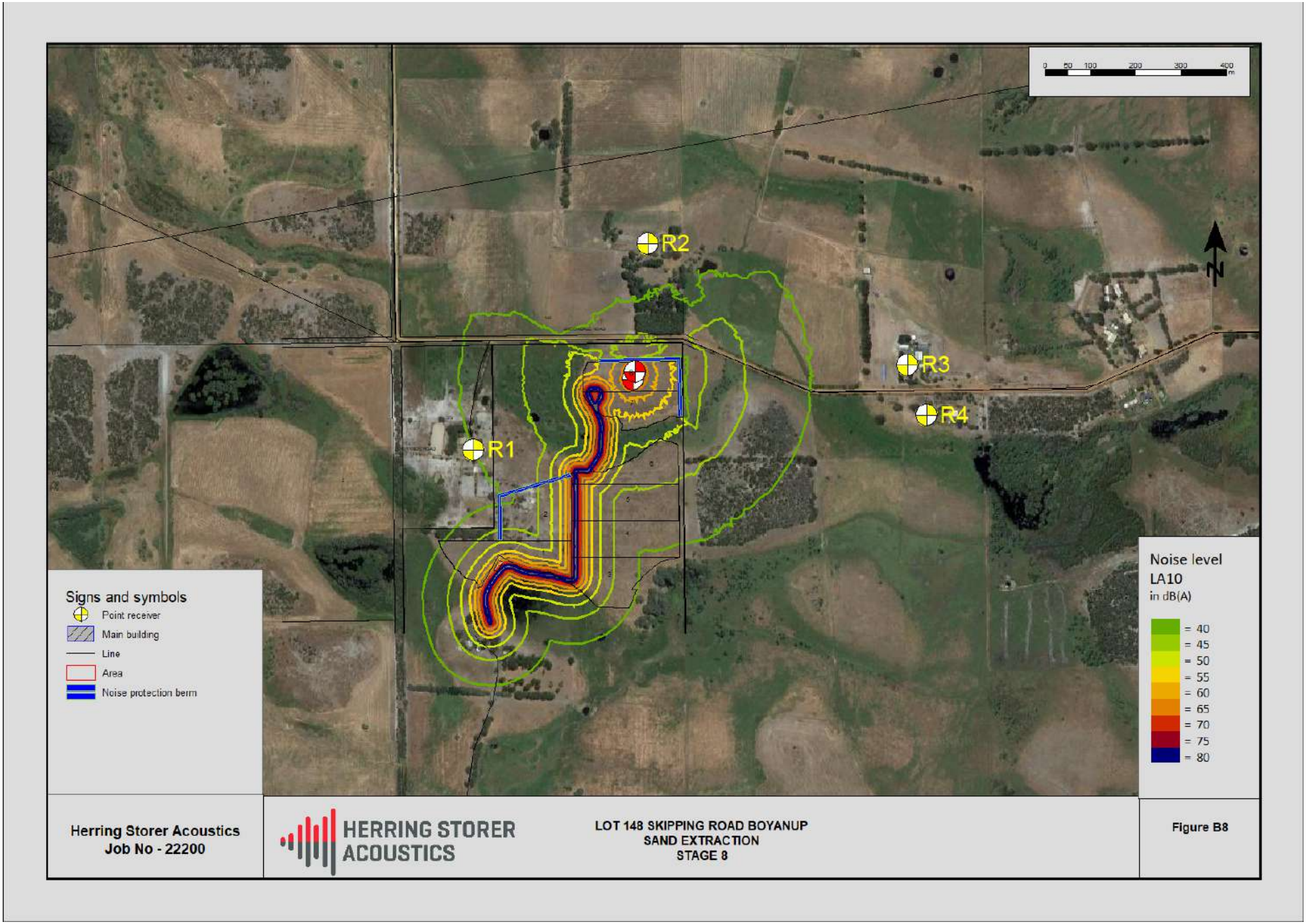
Signs and symbols
Point receiver
Main building
Line
Area
Noise protection berm
Noise level
LA10
in dB(A)
= 40
= 45
= 50
= 55
= 60
= 65
= 70
= 75
= 80
Herring Storer Acoustics
Job No - 22200
HERRING STORER ACOUSTICS
LOT 148 SKIPPING ROAD BOYANUP
SAND EXTRACTION
STAGE 7
Figure B7


0 50 100 200 300 400 m
R1
R2
R3
R4
N
Signs and symbols
Point receiver
Main building
Line
Area
Noise protection berm
Noise level
LA10
in dB(A)
= 40
= 45
= 50
= 55
= 60
= 65
= 70
= 75
= 80
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Job No - 22200
HERRING STORER ACOUSTICS
LOT 148 SKIPPING ROAD BOYANUP
SAND EXTRACTION
STAGE 8
Figure B8

ATTACHMENT 2 – UPDATED DUST MANAGEMENT PLAN

LOT 148 (NO. 168) SKIPPINGS ROAD, BOYANUP

DUST MANAGEMENT PLAN
REVISION 1

PREPARED FOR:

BCP MATERIALS PTY LTD

NOVEMBER 2023

PREPARED BY:

Martinick Bosch Sell Pty Ltd
4 Cook Street
West Perth WA 6005
Ph: (08) 9226 3166
Email: info@mbsenvironmental.com.au
Web: www.mbsenvironmental.com.au

MBS ENVIRONMENTAL

MARTINICK BOSCH SELL PTY LTD
ABN 60 102 614 479
MBS ENVIRONMENTAL
environmental and geoscience consultants

LOT 148 (NO. 168) SKIPPINGS ROAD, BOYANUP
DUST MANAGEMENT PLAN REV1

Distribution List:

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Document Control for Job Number: BCPBDMP

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Draft Report	Darcey Shepherd Kirsi Kauhanen	Sue Brand	23 June 2022
Final Report	Kirsi Kauhanen	Sue Brand	15 December 2022
Draft Report	Sharon Rose	Kirsi Kauhanen	9 November 2023
Final Report	Sharon Rose	Kirsi Kauhanen	10 November 2023

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FIGURES

APPENDICES

1. INTRODUCTION

1.1 PURPOSE

On behalf of the landowners, BCP Materials Pty Ltd are applying for a Development Application (DA) and Extractive Industry Licence (EIL) for the extraction of sand on Lot 148 (No. 168) Skippings Road in Boyanup, within the Shire of Capel (Figure 1). The Shire of Capel requires that a Dust Management Plan (DMP) is prepared as a part of the DA/EIL application.

This DMP was prepared in accordance with the Department of Environment and Conservation's (DEC) *"A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities"* (DEC 2011).

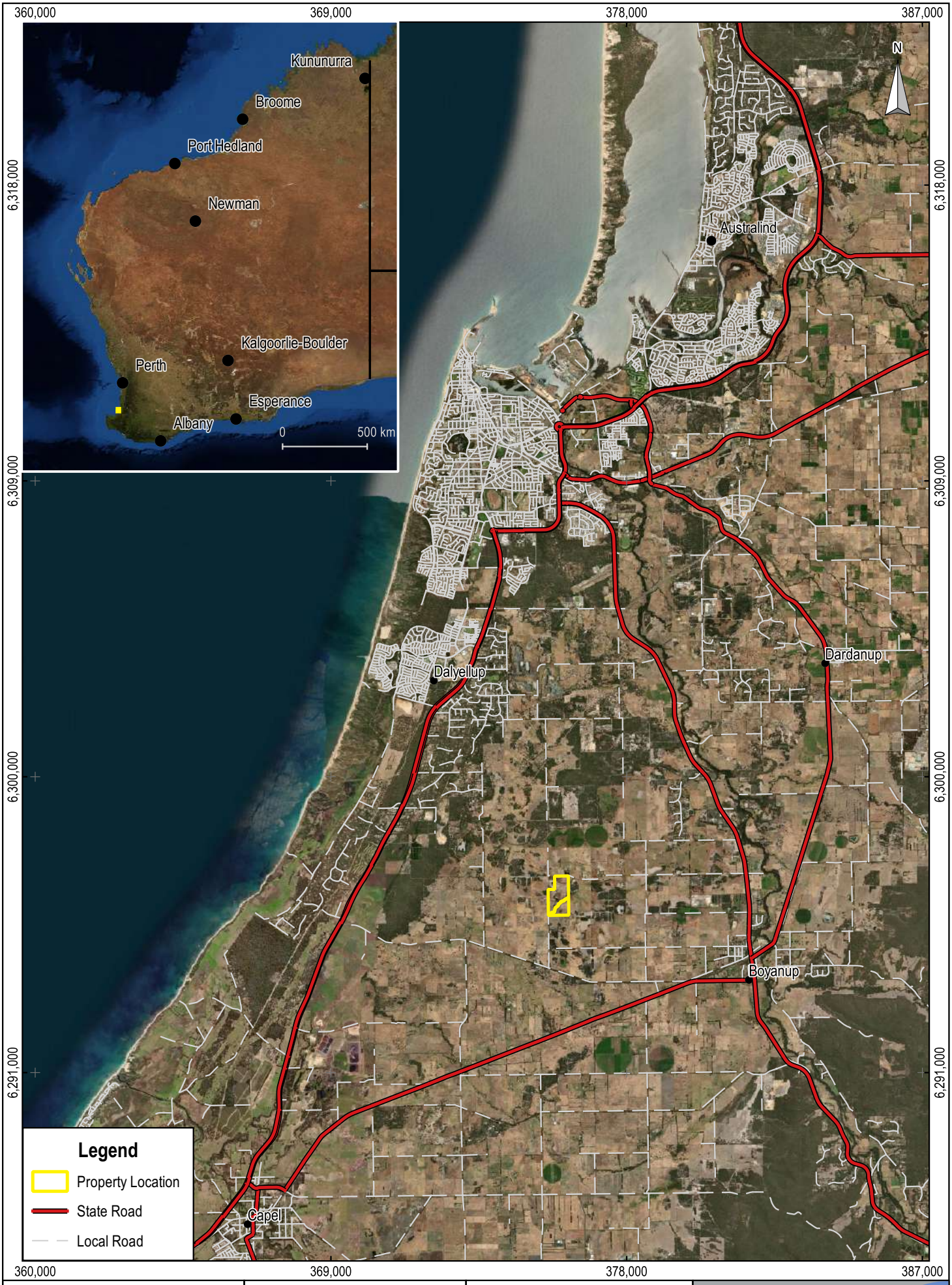
1.2 SCOPE

The scope of this DMP includes the following:

- Describe the existing environment and identify sensitive receptors.
- Identify potential sources of dust associated with the operations.
- Undertake a site risk assessment for dust.
- Describe appropriate dust prevention, monitoring, and mitigation measures.
- Describe the dust complaints process.
- Identify roles and responsibilities.

1.3 OBJECTIVE

The objective of this DMP is to minimise offsite dust emissions from the sand extraction operations.



Scale: 1: 150,000
Original Size: A4

Grid: GDA94 / MGA zone 50

0 2.5 5 km

BCP Materials Pty Ltd
Lot 148 (No. 168) Skippings Road, Boyanup

Figure 1

Project Location

Martinick Bosch Sell Pty Ltd
4 Cook St
West Perth WA 6005
Australia
t: +61 8 9226 3166
info@mbsenvironmental.com.au
www.mbsenvironmental.com.au

MBS ENVIRONMENTAL

W:\BCP\Skippings Rd\Dust MP\GIS\Common_BCP_SkippingsRd.qgz 15/06/2022 F1_Property_Location

2. EXISTING ENVIRONMENT

2.1 CLIMATE

The climate of the project area is Mediterranean, with cool wet winters and hot dry summers. Long-term average climate data for the closest meteorological station (Bunbury, 12 km north of project) is shown in Figure 2. The average annual rainfall is 728.6 mm, mean minimum temperatures between 7°C and 16°C and mean maximum temperatures between 17°C and 30°C (Bureau of Meteorology 2022).

Long-term wind roses for Bunbury (Bureau of Meteorology 2022) indicate prevailing winds comprise morning easterlies and afternoon westerlies (Appendix 1).

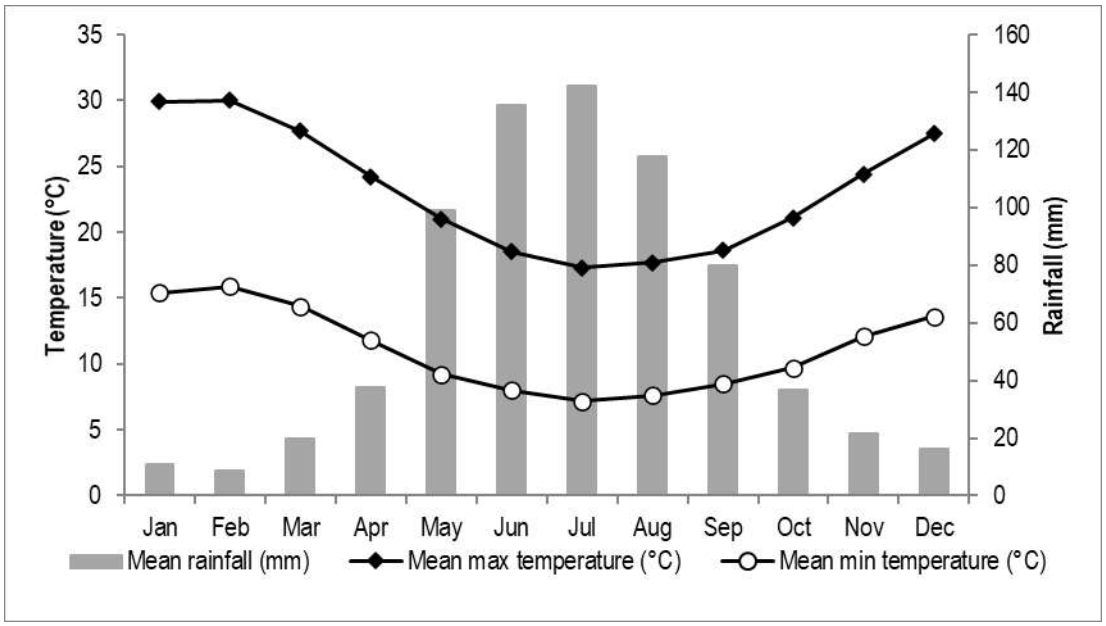


Figure 2: Long-term Rainfall and Temperature Data (1995–2022) for Bunbury Meteorological Station 9965 (Bureau of Meteorology 2022)

2.2 LAND USE

The Project is located on Lot 148 (No. 168) Skippings Road, in Boyanup, approximately 12 km south of Bunbury in the Shire of Capel (Figure 1, Figure 3, Figure 4). The property is zoned rural in the Shire of Capel Town Planning Scheme No. 7 and in the Greater Bunbury Region Scheme. The project envelope and EIL area (approximately 13.24 ha) covers only part of Lot 148 which has a total area of 64.88 ha. The majority of Lot 148 has been cleared. The property also includes a residential dwelling and associated farming outbuildings.

2.3 LANDFORM AND SOILS

The project area within Lot 148 is located predominantly across an east-west aligned raised landform (Figure 3, Figure 4). Ground surface levels peak at 31 mAHD at the west boundary, 30 mAHD at the east boundary and 29 mAHD at the north boundary of the project area and dip to approximately 26 mAHD.

Lot 148 Skippings Road is located in the Bassendean System (212Bs) (DPIRD-064), which has been described as a part of the Swan Coastal Plain which extends from Busselton to Jurien Bay. The Bassendean B3 Phase is characterised by closed depressions and poorly defined stream channels. It has moderately deep, and poorly drained bleached sands and clay or iron-organic pan subsoil. The surface of the soil is comprised of dark grey sand or sandy loam (DPIRD-027). (Department of Primary Industries and Regional Development (DPIRD) 2021).

2.4 VEGETATION

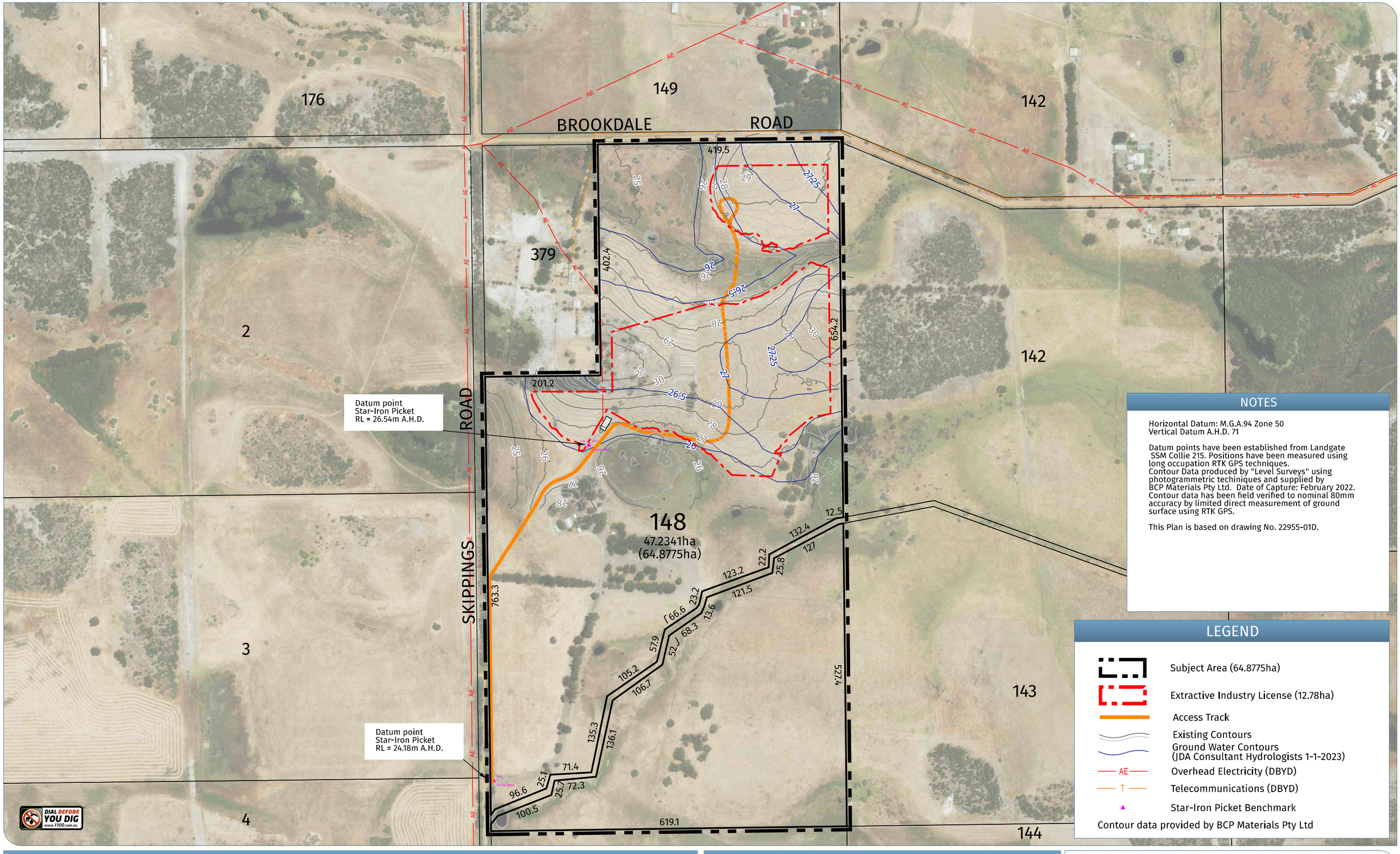
The majority of the property has been cleared in the past for rural purposes, mainly grazing. Remaining vegetation on the property is sporadic with some remnant clusters of native species present including *Eucalyptus marginata* (Jarrah) and *Corymbia calophylla* (Marri).

2.5 SENSITIVE RECEPTORS

Lot 148 and the surrounding properties are zoned rural and are mainly used for grazing. The primary sensitive receptors in the area are residential dwellings on rural properties within 1 km of the extraction area. The closest receptor is a residential dwelling on adjacent Lot 379 which is located 135 m to the west of the proposed operations. The sensitive receptions are summarised in Table 1 and shown in Figure 3.

Table 1: Sensitive Receptors within 1 km of Extractive Operations

Property Details	Distance and Direction from Operations	Type of Receptor
Lot 379 Plan 232768	135 m west	Residential dwelling, horse agistment
Lot 149 Plan 232768	261 m north	Residential dwelling
Lot 142 Plan 232768	513 m east	Residential dwelling



NOTES

Horizontal Datum: M.G.A.94 Zone 50
Vertical Datum A.H.D. 71

Datum points have been established from Landgate SSM Collie 215. Positions have been measured using long occupation RTK GPS techniques.
Contour Data produced by "Level Surveys" using photogrammetric techiniques and supplied by BCP Materials Pty Ltd. Date of Capture: February 2022. Contour data has been field verified to nominal 80mm accuracy by limited direct measurement of ground surface using RTK GPS.

This Plan is based on drawing No. 22955-01D.

LEGEND

- Subject Area (64.8775ha)
- Extractive Industry License (12.78ha)
- Access Track
- Existing Contours
- Ground Water Contours (JDA Consultant Hydrologists 1-1-2023)
- AE — Overhead Electricity (DBYD)
- T — Telecommunications (DBYD)
- Star-Iron Picket Benchmark

Contour data provided by BCP Materials Pty Ltd

SITE PLAN

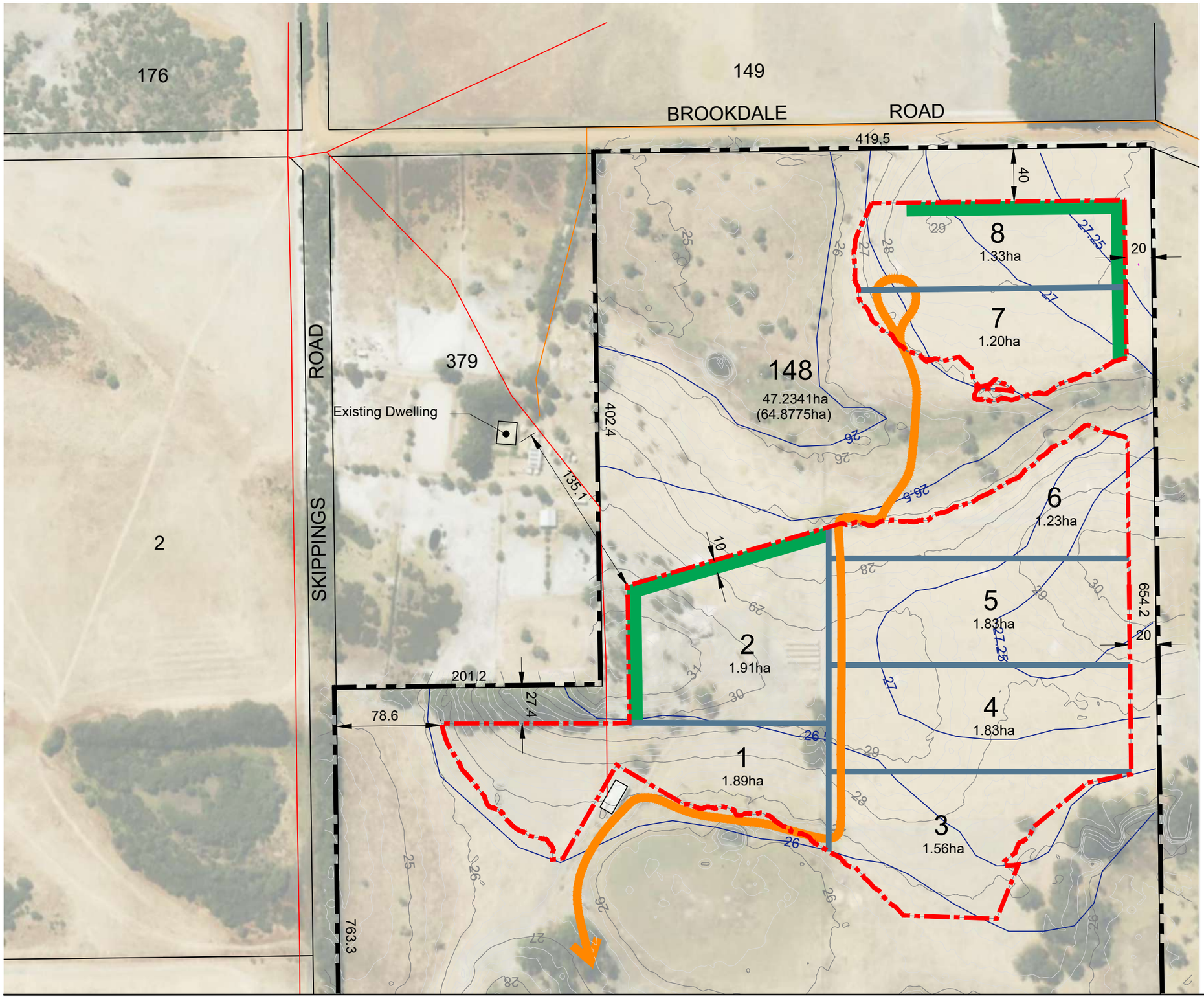
Lot 148 (No. 168) Skippings Road, BOYANUP

Plan No.	22955-01	
Date	30/10/23	
Drawn	NP	
Checked	DJ	
Revision	G	
Scale	1:3000@A3	0 40m 80m

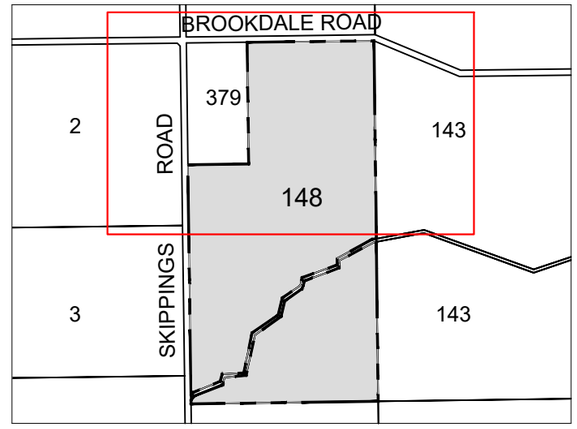
BUNBURY OFFICE:
21 Spencer Street,
BUNBURY WA 6230
T: 08 9792 6000
E: bunbury@harleydykstra.com.au
W: www.harleydykstra.com.au
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

Harley Dykstra
PLANNING & SURVEY SOLUTIONS



LOCATION MAP



VOLUME SUMMARY

Pit	Volume (BCM)
Total	133,500

LEGEND

- Subject Area (64.8775ha)
- Extractive Industry License (12.78ha)
- Extraction Stages
- Internal Access (Unsealed)
- 2m High Temporary Bund (Topsoil)
- Existing Contours
- Ground Water Contours (JDA Consultant Hydrologists)
- Overhead Electricity (DBYD)
- Telecommunications (DBYD)

Contour data provided by BCP Materials Pty Ltd

Base data provided by Harley Dykstra Pty Ltd

Excavation Works Plan

Lot 148 (168) Skippings Road, Boyanup

0 60m

Date: 6 Nov 2023 Scale: 1:3000 @ A3 1:1500 @ A1 File: **22-337 SU01A** Staff: DL GW Checked: DL

element.

Level 18, 191 St Georges Terrace, Perth Western Australia 6000.
PO Box 7375 Cloisters Square, Perth Western Australia 6850.
T. +61 8 9289 8300 | **E.** hello@elementwa.com.au **elementwa.com.au**

3. POTENTIAL SOURCES OF DUST

The proposed project layout is shown in Figure 4. Potential sources of dust associated with the sand extraction operations include the following:

- Vegetation clearing, topsoil stripping and stockpiling.
- Sand extraction, stockpiling and loading activities.
- Windborne dust from exposed surfaces, including cleared land, topsoil and resource stockpiles and roads.
- Vehicle movements on internal unpaved roads.
- Loading of haulage trucks.
- Poorly contained truck loads.
- Rehabilitation works (final contouring, ripping, spreading of topsoil and other materials).

4. SITE RISK ASSESSMENT

Dust potentially generated as part of the sand extraction operations is expected to be free of contaminants and pollutants. The adverse effects of dust generation from the site would typically be 'nuisance dust'.

A risk assessment was prepared based on the DEC's *"A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities"* (DEC 2011). The risk assessment for the proposed extractive operations is provided in Appendix 2. It calculates the risk of dust impacts and the need for management controls based on the nature of the site and the proposed operations, the proximity of sensitive receptors and prevailing winds. Prevailing summer winds are morning easterlies and afternoon westerlies: these have been taken into consideration in the risk assessment.

A site classification score of 504 was calculated for the onsite works placing this development in a Classification 3 (Medium Risk) category (between 400 and 799 points). Based on the Medium Risk classification the following are required (DEC 2011):

- Contingency plan detailing activities to be undertaken should dust impacts occur.
- Monitoring requirements.

These are addressed in the Section 5.

The main sensitive receptor is the closest residence located 135 m to the west of the extraction area. The residence is poorly screened by vegetation, however is not downwind of the site under prevailing summer winds. The highest risk of impacts is from the closest extraction stage, Stage 2. The two other nearby residences are located further away (261 m and 513 m) from the extractive operations and screened by vegetation. Therefore, dust impacts to these residences are less likely.

5. DUST MANAGEMENT ACTIONS

5.1 DUST PREVENTION

The Site operator will implement the following measures to prevent dust generation from site activities:

- Vegetation clearing and topsoil removal will only be undertaken on days of conducive wind strength and conditions to ensure windblown dust is minimised.
- Vegetation clearing and ground disturbance will be gradual in nature and proceed in stages.
- Revegetation to pasture will also be gradual in nature and proceed in stages, closely following the completion of sand extraction to minimise the period of time soil is exposed.
- Topsoil stockpiles will be no greater than 2 m in height and other stockpiles will not exceed 4 m in height.
- A vehicle speed limit of 20 km/h will be implemented across the site.
- A water cart with a capacity greater than 10,000 L will be available for the site when required and will undertake preventative watering of access tracks, working areas and stockpiles during dry periods.
- Trucks leaving the site will be required to have their load covered and tailgates and draw-bars clear of dust producing material prior to entering Skippings Road. Appropriate signage will be erected at the site exit advising truck drivers to cover loads and clean their vehicle as required prior to entering public roads.
- To further prevent dust from impacting the closest residence on Lot 379, the following measures will be implemented:
  - Vegetation and topsoil removal, sand extraction, recontouring and topsoil respread in Stage 2 will be limited to the wetter months of the year (between May and October).
  - Operations in Stages 1 and 2 will be completed within the first year of operations.
  - A continuous earthen bund (windrow) of 2 m high (topsoil) will be placed along the northern and eastern boundaries of Stage 2. This bund will be seeded with pasture grass mix (and watered as necessary) to stabilise the soil. Note that a temporary 2-m-high bund will also be in place for northern and eastern boundaries of Stage 8 and eastern boundary of Stage 7 (these will also be seeded or sprayed with soil binding agent).

5.2 DUST MONITORING AND MITIGATION

The Site operator will implement the following measures to monitor and mitigate dust generation from site activities:

- Visual monitoring of dust generation from the operations will be undertaken on an ongoing basis.
- Should excessive dust generation be observed onsite (and there is a risk of dust being blown offsite), additional watering of dust sources with the water cart will be organised. Alternative dust controls, such as chemical dust suppressants or dust fencing may also be considered for more persistent sources of dust.
- When weather conditions negate the effectiveness of dust prevention and mitigation measures and dust continues to be blown offsite, the dust-generating activities will cease until conditions improve and compliance with this DMP can be achieved.
- Additional dust mitigation measures such as chemical dust suppressants and the installation of dust fencing will be considered on a case by case basis should monitoring indicate that further control measures are necessary.

5.3 DUST COMPLAINTS

The Dust complaints process is outlined as follows:

- A sign will be erected at the entrance to the extraction site to advise the public on the appropriate contact in the event of a complaint.
- In the event of receiving a complaint, the EIL licensee will complete a Dust Complaint Form (Appendix 3), investigate, and resolve complaint within four hours.
- A copy of the completed Dust Complaint Form will be forwarded to the Shire of Capel for their records.
- If required, a review of the DMP will be undertaken to refine dust prevention, monitoring, and mitigation measures.

6. ROLES AND RESPONSIBILITIES

Roles and responsibilities with respect to dust management are outlined in Table 2.

Table 2: Roles and Responsibilities

Role	Responsibilities
EIL Licensee	• Will have overall responsibility for the dust management of the operations. • Will provide information for site operators and truck drivers on dust management objectives, and dust management measures to be undertaken on site (prevention, monitoring, and mitigation). • Will be responsible for resolving any persistent dust management issues. • Will be responsible for administering the dust complaints process.
All personnel	• Will be familiar with potential sources of dust associated with own role and how to minimise dust generation. • Will implement the dust prevention, monitoring and mitigation measures as described in this plan and as advised by the EIL Licensee. • Will be responsible for reporting any persistent dust management issues to the EIL Licensee.

7. REFERENCES

Bureau of Meteorology. 2022. Climate Statistics for Australian Locations. http://www.bom.gov.au/climate/averages/tables/cw_009965.shtml. Accessed April 2022.

Department of Environment and Conservation 2011. A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities https://www.der.wa.gov.au/images/documents/your-environment/air/publications/Guideline_for_managing_impacts_of_dust.pdf

Department of Primary Industries and Regional Development (DPIRD). 2021. Soil Landscape Mapping - Systems (DPIRD-064).

Department of Primary Industries and Regional Development (DPIRD). 2021. Soil Landscape Mapping - Best Available (DPIRD-027).

Government of Western Australia. 2020. Government Published Data. https://data.wa.gov.au/. Accessed June 2020.

APPENDICES

APPENDIX 1: WIND ROSES

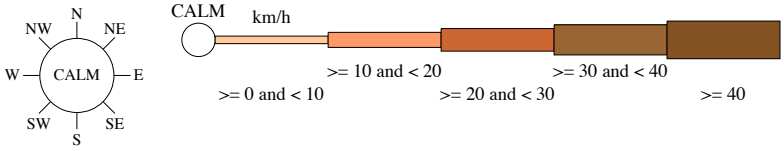
Rose of Wind direction versus Wind speed in km/h (22 Nov 1995 to 10 Aug 2021)

Custom times selected, refer to attached note for details

BUNBURY

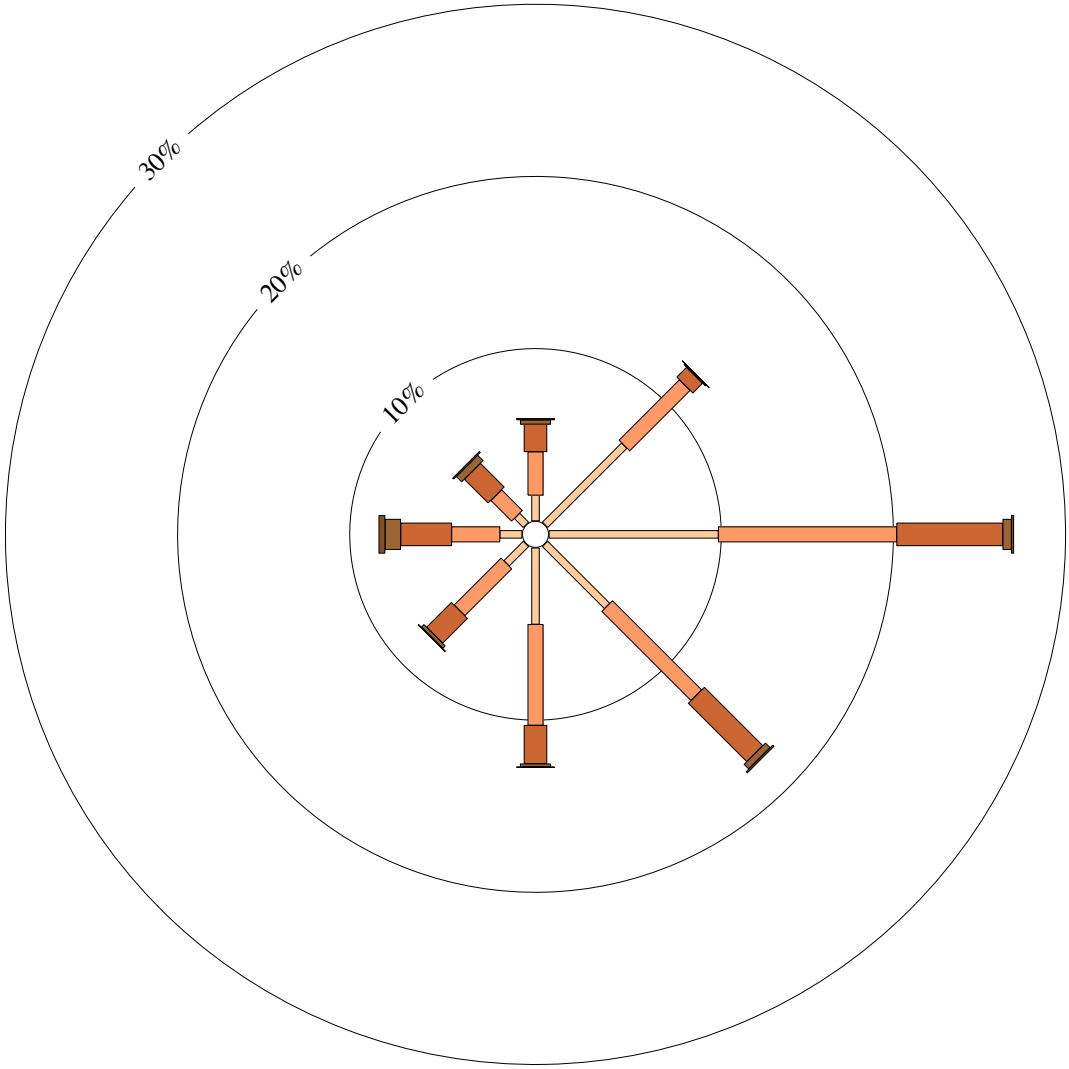
Site No: 009965 • Opened Nov 1995 • Still Open • Latitude: -33.3567° • Longitude: 115.6447° • Elevation 5.m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am
9283 Total Observations

Calm 4%



Rose of Wind direction versus Wind speed in km/h (22 Nov 1995 to 10 Aug 2021)

Custom times selected, refer to attached note for details

BUNBURY

Site No: 009965 • Opened Nov 1995 • Still Open • Latitude: -33.3567° • Longitude: 115.6447° • Elevation 5.m

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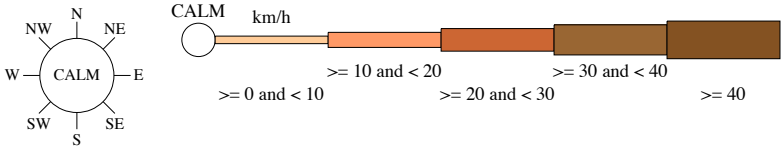
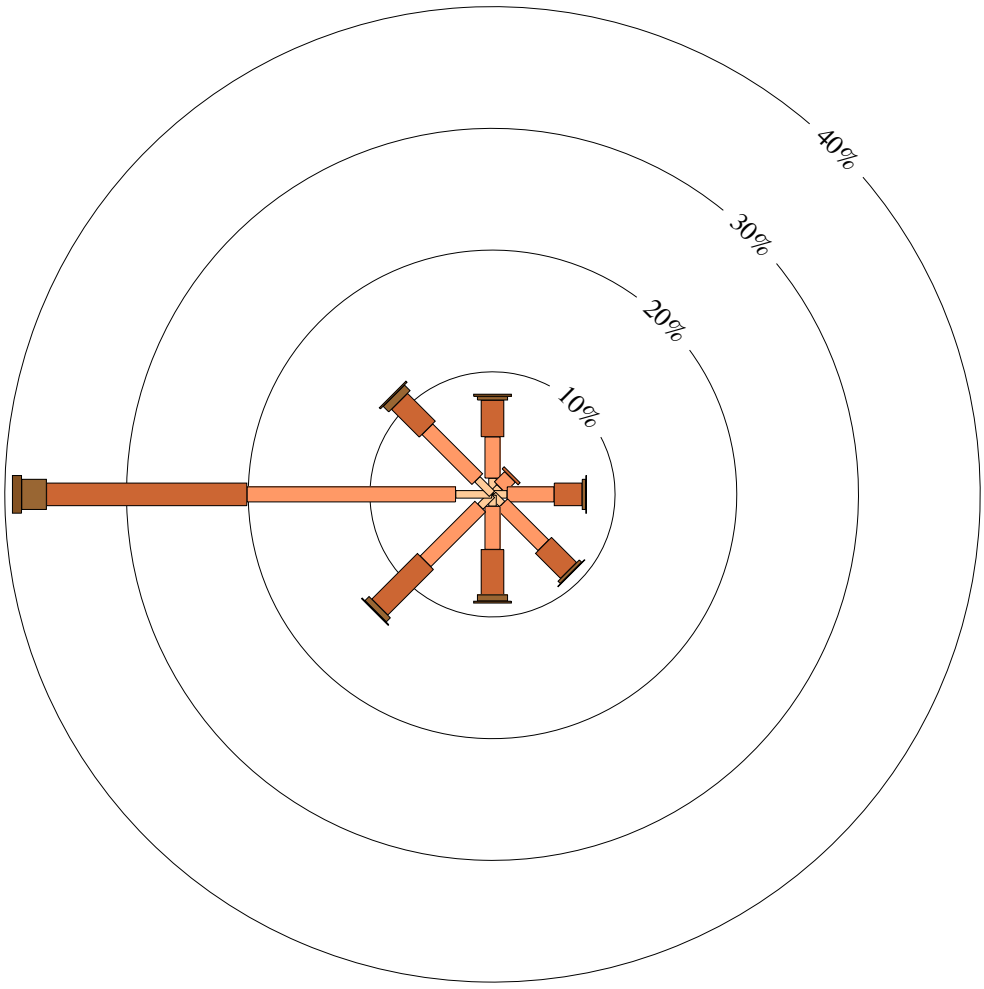


3 pm
9266 Total Observations

Calm *



APPENDIX 2: RISK ASSESSMENT

SITE RISK ASSESSMENT/CLASSIFICATION FOR ACTIVITIES GENERATING UNCONTAMINATED DUST

Sheet 1: Site classification assessment chart

Assessed Location: Proposed Sand Extraction on Lot 148 Skippings Road, Boyanup.

Part A. Nature of site

Item	Score Options								Allocated Score
1. Nuisance potential of soil, when disturbed	Very low	1	Low	2	Medium	4	High	6	4
2. Topography and protection provided by undisturbed vegetation	Sheltered and screened	1	Medium screening	6	Little screening	12	Exposed and wind prone	18	12
3. Area of site disturbed by the works	Less than 1ha	1	Between 1 ha and 5 ha	3	Between 5 ha and 10 ha	6	More than 10 ha	9	3
4. Type of work being done	Roads or shallow trenches	1	Roads, drains and medium depth sewers	3	Roads, drains, sewers and partial earthworks	6	Bulk earthworks and deep trenches	9	9
							Total Score for Part A		28

Part B. Proximity of site to other land uses

Item	Score Options								Allocated Score
1. Distance of other land uses from site	More than 1 km	1	Between 1 km and 500 m	6	Between 100 m and 500 m	12	Less than 100 m	18	12
2. Effect of prevailing wind direction (at time of construction) on other land uses	Not affected	1	Isolated land uses affected by one wind direction	6	Dense land uses affected by one wind direction	9	Dense/sensitive land uses highly affected by prevailing winds	12	6
							Total Score for Part B		18

Site Classification Score (A x B)	504

APPENDIX 3: DUST COMPLAINT FORM

LOT 148 (No. 168) Skippings Road, Boyanup
DUST COMPLAINT FORM

Complaint Date:

Complaint Time:

Received by:

Complainant's Details:

Name:

Address:

Tel:

Complaint Details:

Actions taken:

Actions recorded by:

Date:

Copy to Shire of Capel ☐ (tick)

ATTACHMENT 3 – REVIEW OF MULTIPLE USE WETLAND

MARTINICK BOSCH SELL PTY LTD
ABN 60 102 614 479
MBS ENVIRONMENTAL
environmental and geoscience consultants

4 Cook Street
West Perth WA 6005
Australia

Telephone +61 8 9226 3166
Email: info@mbsenvironmental.com.au

10 November 2023

Element Advisory Pty Ltd
Level 18, 191 St Georges Tce
Perth WA 6000

Attention: Mr Daniel Lewis

Dear Daniel

Re: Review of Multiple Use Wetlands on Lot 148 Skippings Road, Boyanup.

The information contained in this letter is in regard to sand extraction operations proposed to be undertaken by BCP Materials Pty Ltd (BCP) on Lot 148 (Plan 232768) Skippings Road, in Boyanup in Shire of Capel (the property), and any potential impacts that extraction activities could have on wetlands in the local area. This letter has been prepared to inform Development Application (DA) and Extractive Industry Licence (EIL) application processes.

The property is zoned 'Rural' in the Shire of Capel Town Planning Scheme No. 8 and the Greater Bunbury Region Scheme. The proposed extraction area (approximately 12.78 ha) covers only part of Lot 148 (Figure 1) which has a total area of 64.88 ha. The majority of Lot 148, including the proposed extraction area, have been nearly completely cleared of native vegetation. Current vegetation comprises scattered individual trees and small clusters of native vegetation as well as planted local and non-local species. The property includes a residential dwelling and associated farming outbuildings and is used for grazing.

There is a drainage reserve (Reserve 10613, Lot 340 on Plan 232979) bisecting the property from east to west. This drainage reserve also bisects the neighbouring property to the east, and its purpose appears to be to assist with draining water from the low-lying areas of these properties into the open road-side drains running along Skippings Road.

The property is located on sandy soils within two soil systems (the Bassendean System (212Bs) and Pinjarra System (213Pj) (DPIRD-064)), with the proposed extraction area being limited to the Bassendean System. The landform is flat to gently undulating. Sand is proposed to be extracted from minor sand hills in the northern part of the property (Figure 1).

Wetlands have been mapped in the low-lying parts of the property and throughout the local area (DBCA-019); however the proposed extraction area has been delineated to largely avoid intercepting the mapped wetlands (Figure 1). Table 1 shows the wetlands present on the property and the area intercepted by the proposed extraction area. In summary, there is a total of four Multiple Use wetlands on the property totalling 20.86 ha, of which 1.03 ha is intercepted by the proposed extraction area. No remnant native vegetation is present where the proposed extraction area intercepts wetlands: rather these areas contain pasture grasses and are used for grazing. The wetlands on the property are seasonal expressions of the superficial groundwater table and only the sumplands would be expected to have some seasonal surface inundation; dampland and palusplain wetlands have waterlogged soil rather than inundation.

All the wetlands on Lot 148 and the majority of the wetlands in the local area, are assigned to the Multiple Use management category (Figure 1), which is the lowest of the management categories and means that the wetlands have few remaining ecological features and functions remaining. This is reflected by the largely cleared nature of these wetlands and their use for agricultural pursuits in line with zoning. It is noted that the hydrology of these wetlands has been extensively modified through creation of open drains across properties and along roadsides. No setback is commonly applied to Multiple Use wetlands, with activities such as cropping and grazing and also residential and light industrial areas occurring within areas mapped as Multiple Use wetlands. For extractive operations, a setback depth to the maximum groundwater table (discussed later) is typically specified and this results in wetland areas being largely avoided.

Table 1: Geomorphic Wetlands on Lot 148

Management Category	Wetland Type	Unique Feature Identifier (UFI)	Within Proposed Extraction Area (ha)	Within Lot 148 (ha)	Total Wetland Size (ha)
Multiple Use	Dampland (seasonally waterlogged basin)	1127	0.36	5.44	20.04
Multiple Use	Sumpland (seasonally inundated basin)	1136	0.67	4.17	4.17
Multiple Use	Sumpland (seasonally inundated basin)	1129	0	3.27	5.89
Multiple Use	Palusplain (seasonally waterlogged flat)	15809	0	7.98	42,322.21
		Total	**1.03**	**20.86**	**42,352.31**

The proposed operations have been designed to avoid and minimise impacts on the wetlands and the groundwater, so that residual impacts will be nil to negligible. This assessment takes into consideration the site characteristics and the avoidance and management measures put in place that include following:

- The proposed extraction area has been delineated to have minimal intercept with the mapped wetlands.
- The extraction activities will remain at least 0.8 m above maximum groundwater levels, as specified by the Department of Water and Environmental Regulation (DWER). This setback will limit potential water losses through evaporation and minimise risk of groundwater (and wetland) contamination.
- The proposed operations require no abstraction of groundwater or surface water on the property, beyond what is currently abstracted for farming purposes.
- The proposal does not involve construction of impermeable surfaces or other impediments to rainfall infiltration. Rather, rainfall will continue to infiltrate into the sandy soil in the extraction area and there will be no interruption to groundwater recharge.
- Considering the sandy nature of the soil, surface runoff following rainfall is expected to be minimal. Should any runoff occur, this will be retained within the extraction area to settle any sediment. Retained runoff will infiltrate into the soil and will continue recharge the groundwater.
- The proposed operations will not remove any native vegetation growing in association with the wetlands.
- The proposed sand extraction operations do not require the use of herbicides or pesticides that could potentially impact water quality or wetland health. Some fertiliser is expected to be used during the re-

establishment of pasture as part of rehabilitation. The application rates will be in line with current fertiliser practices on the property and will not represent an intensification of activity.

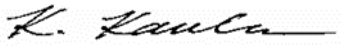
- No chemicals or hydrocarbons will be stored on site as part of the extractive operations, and major repairs and maintenance will occur at an offsite facility. Onsite refuelling will be from a mobile service vehicle carrying appropriate spill prevention and mitigation equipment. Refuelling will be undertaken outside mapped wetland areas.

After the completion of sand extraction activities, it is proposed that the property be returned to a use that aligns with pre-extraction landuses and the Shire of Capel's 'Rural' zoning. Therefore, there will be no intensifying land use post-extraction and local landuse values will be maintained.

It is noted that there are two Conservation category wetlands to the east of Lot 148. Wetland UFI 1128 is 0.70 km and UFI 1281 (Lake Waneragup) is 1.56 km away from the proposed extraction area (Figure 1). Both are classed as Sumplands, meaning they are seasonally inundated basins and usually low-lying areas in floodplains that soak into the groundwater system. General groundwater flow in the local area is from east to west. Within the property, the northern portion drains northwest whereas the southern portion drains southwest (JDA 2023). This means that both of the Conservation category wetlands are located 'upstream' from the proposed extraction area. Considering this and the substantial distance from the extraction activities to these wetlands, there will be no impacts to these wetlands.

In conclusion, the wetlands on Lot 148 are already high degraded and are located in an extensively cleared farming landscape, with modified hydrology. With the specified avoidance and management measures in place, the proposed sand extraction operations are expected to have nil to negligible impacts on the local wetlands.

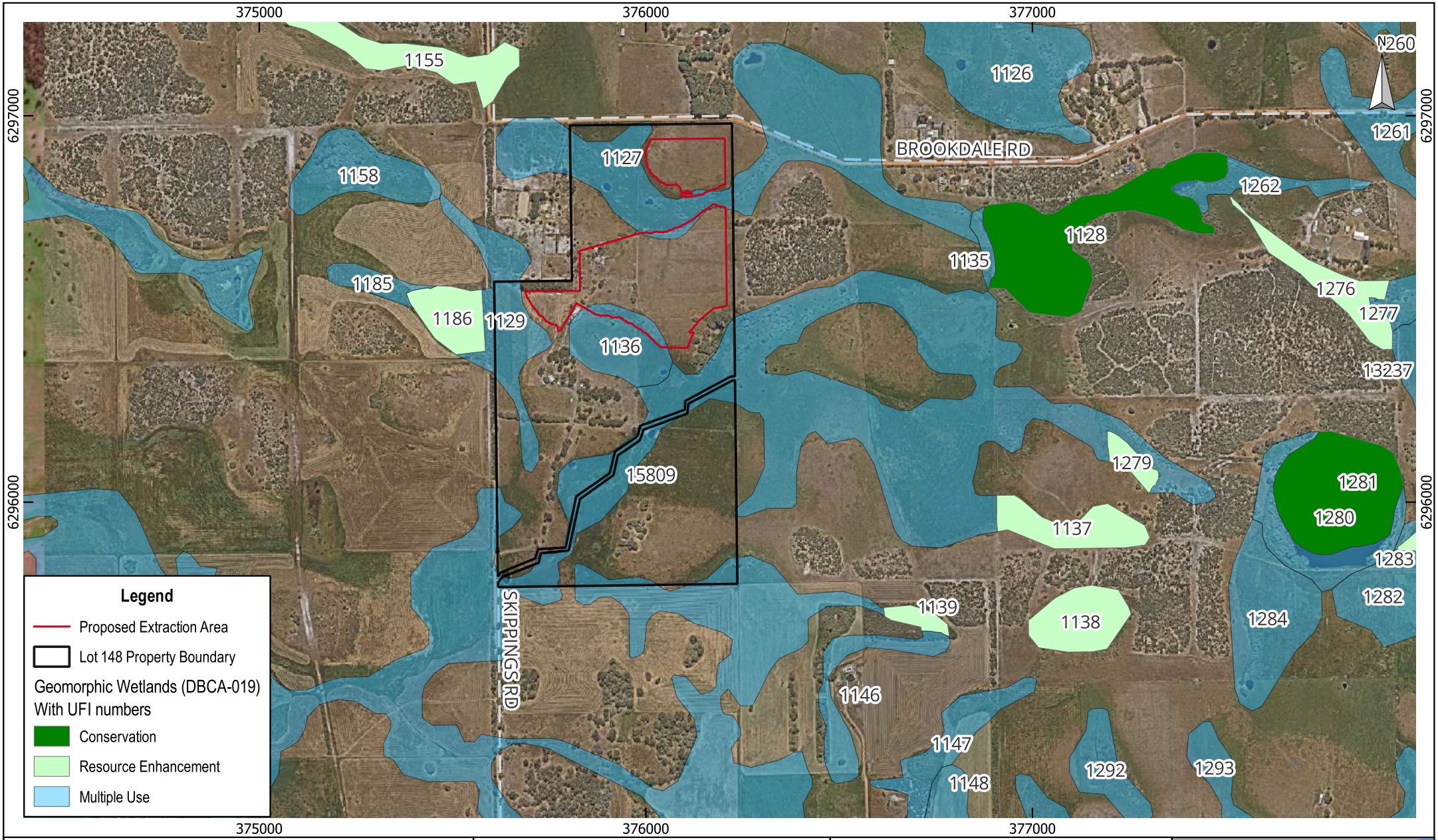
Yours sincerely
MBS Environmental



Kirsi Kauhanen
Senior Environmental Scientist

cc: McDougall Quarries – Attention: Kyle Jackson, Director

Enc. Figure 1 Wetlands



Scale: 1: 13,000
Original Size: A4
Aerial: NearMap 2023
Grid: GDA94 / MGA zone 50 (EPSG:28350)
0 0.5 1 km

BCP Materials Pty Ltd
Lot 148 Skippings Rd Boyanup

Figure 1

Wetlands

Martinick Bosch Sell Pty Ltd
4 Cook St
West Perth WA 6005
Australia
t: +61 8 9226 3166
info@mbsenvironmental.com.au
www.mbsenvironmental.com.au

MBS ENVIRONMENTAL

W:\BCP\Skippings Rd\Wetland\GIS\Common_BCP_SkippingsRd.qgz 10/11/2023 Wetlands

ATTACHMENT 4 – UPDATED GROUNDWATER MONITORING REPORT

Jim Davies & Associates Pty Ltd
ABN 24 067 295 569
Suite 1, 27 York Street, Subiaco WA 6008
PO Box 117, Subiaco WA 6904
Ph: (08) 9388 2436
info@jdahydro.com.au
www.jdahydro.com.au

To :	BCP Materials Pty Ltd (c/o – Element)	**Date :**	16 Nov 23
Attention :	Daniel Lewis (Element)	**Our Ref :**	J7121c
Email :	*daniel.lewis@elementwa.com.au*	**Pages :**	30

LOT 148 SKIPPINGS ROAD, BOYANUP
GROUNDWATER LEVEL MONITORING
SEPTEMBER 2021 TO OCTOBER 2022 AND
JULY 2023 TO OCTOBER 2023

Dear Daniel,

Please find below summary of JDA groundwater level monitoring performed at Lot 148 Skippings Road, Boyanup from September 2021 to October 2022 and July 2023 to October 2023. This report is presented in the following sections:

1. *Introduction*
2. *Study Area Characteristics*
3. *Climate*
4. *Monitoring Layout*
5. *Monitoring Results and Analysis*
6. *Maximum Groundwater Level*
7. *Conclusions*

1. INTRODUCTION

Lot 148 Skippings Road, Boyanup, Figure 1 and herein referenced as the Study Area, is proposed as a potential site for sand extraction and a future application for an Extractive Industries Licence (EIL). The EIL area would potentially cover the northern extent of the Study Area which comprises a prominent sand ridge (Section 2 and Figure 2). Groundwater level monitoring is required to determine the maximum groundwater levels across the potential EIL area.

JDA was appointed by BCP Materials Pty Ltd to supervise the installation of monitoring bores, conduct groundwater level monitoring in September and October 2021 and determine maximum winter groundwater levels across the potential EIL area. This is summarised in JDA (2021).

JDA continued monitoring winter groundwater levels in bores to October 2022 in which the maximum groundwater level contours were revised across the potential EIL area. The additional monitoring result and revised groundwater contours were summarised in JDA (2022).

To capture a third winter across the potential EIL area, groundwater levels were measured for the period July to October 2023.

Presented below is a summary of JDA's groundwater level monitoring and analysis for the potential EIL area across the September 2021 to October 2022 and July to October 2023 monitoring period.

2. STUDY AREA CHARACTERISTICS

The topography of the Study Area is generally characterised by an east-west sand ridge across the northern portion of the Study Area at approximately 30 mAHD which is the potential EIL area for the sand quarry, Figure 2. Lower lying areas are generally around 24 to 26 mAHD. These lower lying areas are generally mapped as wetland (Figure 2) and suggests regional groundwater is either at surface or there is localised perching. Regional groundwater flow direction is generally east to west towards the Ocean (Commander, 1984). Region-scale groundwater contours in Commander (1984) suggest a groundwater level of 22 to 23 mAHD across the Study Area.

The surface geology of the Study Area is generally mapped as clays from the Guildford Formation (Qpa) in the lower lying areas, Figure 2, with the elevated areas comprised of Bassendean Sand (Qpb) defined as "Thin Bassendean Sand over Guildford Formation" (Qpb/Qpa). The Bassendean Sand in the Greater Bunbury area interfingers with the Guildford Formation (Qpa) and underlies small dunes derived from Bassendean Sand (Baddock et al., 2014).

The Study Area is within the Five Mile Brook catchment which discharges north-west of the Study Area. Mapped surface water channels by DWER are shown on Figure 2 *right*. Unmapped local drainage channels, labelled on Figure 1 *right*, may locally influence groundwater levels. The northern Study Area drain flows north-westward whilst the southern drain is located within a Crown land easement and flows south-west.

3. CLIMATE

The Boyanup area is characterised by a Mediterranean climate with warm dry summers and cool wet winters.

Rainfall data is provided by two Bureau of Meteorology (BoM) rainfall gauging stations, namely *Boyanup WA* (009503, 1889-2003); and *Boyanup North* (009990, 2004-2023), Figure 3. The Boyanup rain gauges are located 6 to 7 km south-east of the Study Area. The Thirlmere rain gauge (Site ID. 009648), Figure 3, is located closest to the Study Area, 5.5 km south-west, but is not regularly monitored with few complete rainfall years since 1997. In general, the Thirlmere annual rainfall totals are lower than recorded at Boyanup.

The average annual rainfall, 1898 to 2020, for Boyanup is 935 mm, with 30-year and 10-year averages of 811 mm and 821 mm, respectively. This represents a 13% (30-year average) and 12% (10-year average) decrease from the long-term average annual rainfall. There has been a noticeable decline in annual rainfall since the 1970s which is consistent with the trend across south-west Western Australia (DoW, 2015). The seasonal rainfall distribution has also altered with a reduction of average monthly totals in the winter months, but no reduction in summer months.

Rainfall recorded in 2021 was 1,019 mm at Boyanup North (Site ID. 009990), 84 mm above the long-term average rainfall (1889-2020). Rainfall recorded in 2022 and 2023 (to end-September) was 787.8 mm and 558 mm, respectively, both below the long-term and short-term average annual rainfall for Boyanup. 2023 rainfall was also the third lowest annual rainfall on record for this rainfall station.

Based on current climatic conditions, 2021 would be considered a 'wet' year, 2022 an 'average' year and 2023 a 'dry' year with the rainfall in 2023 to end-October more than 250 mm below the short-term average.

Pan evaporation is provided by the Department of Primary Industries and Regional Development (DPIRD) Donnybrook weather station where annual pan evaporation generally ranged between 1,300 and 1,7000 mm for the 2008 to 2020 period with an average around 1,460 mm. This is slightly higher than the estimated pan evaporation in Luke (1987) of 1,550 mm but within the range of recently recorded pan evaporation (2008 to 2020). Pan evaporation at the Donnybrook weather station in 2021 was 1,605 mm and in 2022 was 1,677 mm; both within the range of the 2008 to 2020 data.

4. MONITORING LAYOUT

4.1 Study Area Groundwater Monitoring Bores

0n 08 September 2021, nine groundwater monitoring bores, BOY1 to BOY8 on Figure 4, were installed across the potential EIL area by Edrill Environmental and supervised by JDA. Drilling continued until an impermeable layer was reached or to a maximum of 6 m depth. A nested bore (shallow and deep) was installed at BOY2 (BOY2S and BOY2D) as a hard caprock layer was encountered approximately 3 m below surface. Bores BOY2S and BOY2D were screened above or below the caprock layer respectively with a bentonite seal placed above the caprock layer for BOY2D.

The bores were constructed with 50 mm Class 18 threaded PVC, screened in the lowest 1.5 to 3 m and finished with a gravel pack and bentonite seal.

Bore details are provided in Table 1 and locations shown on Figure 4.

Odyssey capacitance water level loggers were installed in all 9 bores on 09 September 2021. Static groundwater levels were recorded at 1 hour (winter/spring) and 3 hour intervals (summer/autumn) intervals by the water level loggers and verified on-site via manual still water level measurements using an electrical depth probe. Loggers were downloaded on 22 September and 26 October 2021 and 01 June and 31 October 2022 all with manual water level checks. Bore BOY4 and BOY7 were found destroyed on 26 October 2021 and 24 July 2023, respectively.

Loggers were removed on 31 October 2022 after completion of monitoring over 2 winters and were re-installed on 24 July 2023 to capture 2023 winter and then downloaded on 04 October 2023. However, due to electrical faults, data was only recorded in the BOY3 logger.

The HYDSTRA data management system was used to store, process and analyse water level data recorded by the Odyssey capacitance loggers.

4.2 DWER Long-Term Monitoring Bores

DWER monitoring bore BY22B is located within the Study Area and drilled as part of the Bunbury Shallow-Drilling Groundwater Investigation (1975-1980) (Commander, 1984).

BY22B is located 650 m south-west of the potential EIL area, Figure 4. The bore was drilled in sand with some clay bands to 15 m depth, gravel packed and screened in the lowest 6 m (9 to 15 m) (Commander, 1993). Although described as a superficial aquifer bore in Commander (1984), the bore is screened between 9 m and 15 m and which the bore log describes as the Yarragadee Formation (Commander, 1993). The *Water Information Reporting* (WIR) entry presents conflicting information from Commander (1984 & 1993).

Nearby long-term DWER bores, generally drilled as part of the Bunbury or Busselton shallow-drilling groundwater investigations, are screened within either the Leederville or Yarragadee aquifers. The next closest continuously monitored bore is EW03B, location shown on Figure 5. The Study Area bores and EW03B are approximately 9.2 to 10 km from the ocean. The 'EW' series of bores were installed as part of an ecological water requirements study of wetland vegetation in the south-west. This bore is fitted with a logger (owned and operated by DWER and has been processed up to 16 September 2021.

JDA requested and was granted permission to access both DWER bores BY22B and EW03B with manual still water level measurements taken during site visits. In addition, manual water level measurements for BY22B were extracted from DWER's WIR platform. No manual measurements were shown on WIR for EW03B since 2010. It is likely manual measurements would have been conducted during logger downloads to verify the logger data, however, no such record was shown on WIR. Details of the bores are shown in Table 1.

4.3 Surface Water

Surface water was encountered in the northern drain and a groundwater expression in the central wetland during bore and logger installation on the 08 and 09 September 2021. Surface water levels at 3 locations were surveyed on 09 September 2021 and were used in the derivation of the Study Area MGL in JDA (2021).

TABLE 1: GROUNDWATER MONITORING BORE DETAILS

Bore ID	GDA 1994 Coordinates		Natural Surface (mAHD)	Top of Casing (mAHD)	Stick-up (m)	Depth (m)	Date Constructed
	Easting	Northing					
BOY1	376186	6296932	28.19	28.54	0.35	3.30	08 September 2021
BOY2D	376052	6296931	28.93	29.25	0.32	6.50	08 September 2021
BOY2S	376052	6296929	29.01	29.36	0.35	3.15	08 September 2021
BOY3	376087	6296864	27.82	28.08	0.26	3.02	08 September 2021
BOY4	376189	6296661	30.15	30.51	0.36	3.68	08 September 2021 (*Destroyed*)
BOY5	376211	6296547	27.75	28.09	0.34	3.70	08 September 2021
BOY6	376092	6296575	28.35	28.745	0.4	4.03	08 September 2021
BOY7	375862	6296506	27.50	27.81	0.31	4.84	08 September 2021 (*Destroyed*)
BOY8	375884	6296640	29.84	28.99[1]	0.43	6.26	08 September 2021
BY22B	375637	6295917	24.36	25.04	-	15	10 February 1978
EW03B	378754	6300895	26.30	-	-	-	13 February 2007

Note: 1 – Top of Casing pre July 2023 was 30.27 mAHD.

5. MONITORING RESULTS AND ANALYSIS

Recorded fluctuations in logged groundwater levels are presented on Figures 6 and 7. Manually recorded groundwater levels by JDA are presented in Table 2, with peak recorded groundwater levels in 2021 to 2023 summarised in Table 3. Note that peak levels shown for 2023 are based on manual water level measurements, except for BOY3 which is from the data logger which is described further below.

TABLE 2: MANUALLY RECORDED GROUNDWATER LEVELS – 2021, 2022 AND 2023

Bore ID	Groundwater Level (mAHD)						
	09-Sep 21	22-Sep 21	26-Oct 21	01-Jun 22	31-Oct 22	24-Jul-23	04-Oct-23
BOY1	27.13	27.10	26.86	26.51	26.87	26.65	26.78
BOY2D	26.75	26.71	26.60	26.57	26.42	26.45	26.51
BOY2S	26.75	26.68	26.59	26.56	26.67	26.59	26.53
BOY3	26.67	26.63	26.50	26.10	26.39	26.28	26.32
BOY4	27.25	27.16	27.24	-[1]	-[1]	-[1]	-[1]
BOY5	26.79	26.78	26.69	26.20	26.57	26.22	26.39
BOY6	26.98	26.92	26.80	26.34	26.72	26.37	26.53
BOY7	26.24	26.20	26.13	25.37	25.93	-[1]	-[1]
BOY8	26.52	26.47	26.33	25.66	26.25	25.74	26.07

Note: 1. Bore destroyed.

TABLE 3: PEAK RECORDED GROUNDWATER LEVELS – 2021 TO 2023

Bore ID	2021 (September to December)			2022 (January to October)			2023 (July to October)[4]		
	Date Recorded	Water Level (mAHD)	Separation to Natural Surface (m)	Date Recorded	Water Level (mAHD)	Separation to Natural Surface (m)	Date Recorded	Water Level (mAHD)	Separation to Natural Surface (m)
BOY1	09 September	27.13	1.06	19 August	27.30	0.89	04 October	26.78	1.41
BOY2D	09 September	26.76	2.17	-[1]	-[1]	-[1]	04 October	26.51	2.42
BOY2S	10 September	26.75	2.26	17 August	27.08	1.93	24 July	26.59	2.42
BOY3	10 September	26.68	1.14	14 August	26.87	0.95	05 August	26.58	1.24
BOY4	09 September	27.24	2.90	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]
BOY5	15 September	26.82	0.93	18 August	26.84	0.91	04 October	26.39	1.36
BOY6	09 September	26.99	1.36	20 August	27.08	1.27	04 October	26.53	1.82
BOY7	09 September	26.25	1.25	05 October[3]	26.15[3]	1.35	-[2]	-[2]	-[2]
BOY8	10 September	26.53	3.31	27 August	26.46	3.38	04 October	26.07	3.77

Notes: 1. BOY2D logger failure – June to October 2022.
2. Bore destroyed.
3. BOY7 peaked on 05 October in response to rainfall on 04 October. Groundwater level of 26.13 mAHD recorded in mid-August.
4. 2023 Peak water levels based on manual water level measurements, except for BOY3 which is from data logger.

Local groundwater flow direction is east to west across the southern sand ridge and from north-east to north-west across the northern sand mound. Groundwater was significantly influenced by adjacent surface water drains. Generally, the local groundwater flow direction was similar to regional groundwater flow (Commander, 1984) albeit with local influences.

Peak groundwater levels recorded in 2021 were generally at the commencement of monitoring on 09 September 2021. Groundwater levels were highest in bores furthest from the drainage channels within the Study Area, 27.24 mAHD at BOY4 on the southern sand ridge and 27.13 mAHD at BOY1 on the north sand mound, Tables 2 and 3 and Figures 6 and 7. Groundwater likely peaked in 2021 in August, prior to the commencement of monitoring.

In 2022, peak groundwater levels in the southern sand ridge ranged from 26.46 mAHD at BOY8 to 27.08 mAHD at BOY6, Table 3. Groundwater levels would have likely been highest at BOY4 but this bore was destroyed in October 2021. Compared to September 2021, groundwater peaked in 2022 0.02 m and 0.09 m higher in BOY5 and BOY6, respectively, and 0.1 m and 0.07 m lower in BOY7 and BOY8, respectively, Table 3.

Peak groundwater levels in the northern sand mound in 2022 ranged from 26.87 mAHD at BOY3 to 27.30 mAHD at BOY1 and were 0.22 to 0.33 m higher than in September 2021, Table 3.

In the nested BOY2 bores, there was no significant difference in groundwater levels at the commencement of monitoring in September 2021. The 31 October 2022 and 24 July 2023 manual groundwater level measurements, Table 2, suggest there is some perching occurring with the BOY2S groundwater level 0.15 to 0.25 m higher than BOY2D.

Groundwater levels in September 2022 were relatively similar to those in September 2021 at the commencement of monitoring, Figures 6 and 7, and groundwater levels would have peaked in 2021 at a similar level to 2022 with the surrounding Guildford Formation at surface, Figure 2, acting as a control on groundwater levels within the potential EIL areas.

Across the monitoring period at the Study Area bores, the seasonal variation ranged from 0.92 m at BOY5 to 1.15 m at BOY1 and averaged 1.04 m, and the separation to the peak groundwater levels ranged from 0.89 m at BOY1 to 3.31 m at BOY8.

Due to electrical faults in re-installed loggers, data was only recorded on the BOY3 logger during 2023 as shown in Figure 7. The groundwater level in BOY3 peaked at 26.58 mAHD on 05 August 2023 following 65.4 mm recorded over 02 & 03 August 2023 at the Boyanup North rain gauge.

The 2023 peak at BOY3 was 0.29 m below the 2022 peak and 0.10 m lower than the 10 September 2021 groundwater level as expected with the reduced rainfall.

Based on logged data at BOY3, 2023 peak groundwater levels across the site are likely to be 0.2 m to 0.3 m higher than the 04 October manual measurement, and about 0.3 m below the 2022 peak.

6. MAXIMUM GROUNDWATER LEVEL (MGL)

Water level time series for DWER bores BY22B and EW03B are presented on Figures 8 and 9.

Groundwater levels in BY22B have declined by 1.5 to 2m since the late-1990s with the downward trend continuing, Figure 8. The calculated Average Annual Maximum Groundwater Level (AAMGL) thus generally represents a higher annual maximum than present-day groundwater levels and a much lower annual maximum than pre-1997 groundwater levels. The decline is likely due to a combination of reduced rainfall and groundwater abstraction within the underlying Yarragadee Formation aquifer. As the bore appears to be screened within the upper portion of the Yarragadee aquifer, water levels may not be representative of the water table aquifer and therefore is not an appropriate comparison bore for the Study Area.

Figure 9 shows the available logged groundwater levels for EW03B for the period 2009 to 30 June 2022. The calculated AAMGL for EW03B, 2011 to 2020, is 24.67 mAHD. Due to operational issues, the logger is unlikely to have recorded the groundwater peaks in 2009 and 2010 thus the maximum levels recorded within these years were excluded from the calculation of AAMGL.

The Maximum Groundwater Level (MGL) of 25.07 mAHD, 0.40 m above the AAMGL, was recorded on 30 August 2018 and followed approximately 97 mm of rainfall, recorded at the Boyanup rainfall gauge in the prior 72 hours.

In 2022, JDA's groundwater level measurements at EW03B of 24.70 mAHD on 29 July and 24.72 mAHD on 01 November 2022 were both just above the bore AAMGL and likely captured the rising and falling groundwater levels at the bore in 2022, rather than the peak.

In 2023, JDA's groundwater level measurement at EW03 of 24.65 mAHD on 04 October 2023 was similar to the bore AAMGL. It is likely the 2023 peak water level would have occurred prior to this reading and would have been slightly above the bore AAMGL.

Estimated MGL contours for the potential EIL area were estimated in JDA (2021) by applying a correction of +0.18 m to groundwater levels recorded within Study Area bores on 09 September 2021, Table 4. The logger recorded groundwater level at EW03B on 10 September 2021 was 24.89 mAHD, 0.22 m above the bore AAMGL and 0.18 m below the bore MGL. Following further data collection in winter 2022, the MGL contours were updated in JDA (2022) to account for higher groundwater levels recorded within the northern sand mound in 2022. Groundwater levels within the southern sand ridge and northern sand mound appear to be controlled by the adjacent local drainage channels and surrounding lower-lying Guildford Formation, Figure 2.

Given the low rainfall recorded in 2023 (to end-September) and electrical failures at all loggers except BOY3, a revised MGL based on available 2023 data would be lower than previously estimated. The previous MGL estimate therefore remains valid.

Figure 11 shows depth to MGL from natural surface across the potential EIL from JDA (2022). Elevated sand ridge areas with >1.5 m separation to natural surface from MGL occur between the local drainage channels. The maximum separation from MGL to natural surface at the ridge is approximately 5 m to the west of BOY8.

TABLE 4: JDA (2021) MGL VALUES AND 2022 PEAK GROUNDWATER LEVELS

Bore ID	2021 MGL Values (JDA, 2021)			2022 Peak Groundwater Levels			Revised MGL JDA, 2022)
	Groundwater Level 09 Sep 2022	Correction	MGL (mAHD)	Groundwater Level (mAHD)	Date Recorded	Separation to Natural Surface (m)	MGL (mAHD)
BOY1	27.13	+0.18	27.31	27.30	19 August	0.89	27.31
BOY2S	26.75	+0.18	26.93	27.08	17 August	1.93	27.08
BOY3	26.67	+0.18	26.85	26.87	14 August	0.95	26.87
BOY4	27.25	+0.18	27.43	-[1]	-[1]	-[1]	27.43
BOY5	26.79	+0.18	26.97	26.84	18 August	0.91	26.97
BOY6	26.98	+0.18	27.16	27.08	20 August	1.27	27.16
BOY7	26.24	+0.18	26.42	26.15[3]	05 October	1.35	26.42
BOY8	26.52	+0.18	26.70	26.46	27 August	3.38	26.70

Notes: 1. Bore destroyed.

7. CONCLUSIONS

JDA concludes that:

- Rainfall in 2021 was 1,019 mm at BoM's Boyanup North rain gauge, 84 mm above the long-term average (1889-2020). Rainfall in 2022 was 787.8 mm, 147 mm lower than the long-term average and 23 mm lower than the 30-year average (1991-2020) for Boyanup. Rainfall in 2023 to end-September was 558 mm, well below the long-term and short-term average annual rainfall for Boyanup.
- Regional groundwater flow direction is east to west, modified locally by unmapped surface water drains.
- Peak groundwater levels recorded in 2021 were generally at the commencement of monitoring on 09 September 2021, although groundwater levels likely peaked prior to monitoring in August. Peak groundwater levels recorded in 2022 were generally recorded in mid-August. In 2023 an electrical fault with the loggers resulted in data only recorded in the BOY3 logger which peaked on 05 August 2023 following 65.4 mm recorded over 02 & 03 August 2023 at the Boyanup North rain gauge.
- The single nested bore within the Study Area, BOY2, showed no significant difference in recorded water levels between the shallow and deep bore in 2021 but a 0.25 m difference on 31 October 2022 and 0.14 m difference on 24 July 2023, suggests localised perching can occur at times on the underlying sandy clay/clayey sand and caprock but not always.
- Separation to groundwater from surface elevation within the proposed EIL areas increased with distance from the drainage channels.
- Separation to groundwater ranged from 0.9 to 1.4 m at most bores.
- Seasonal variation averaged 1.04 m and was generally consistent across the monitoring bores.
- The logged groundwater level in DWER bore EW03B on 09 September 2021 of 24.89 mAHD was 0.22 m above AAMGL (2009-2020) but 0.18 m lower than MGL of 25.07 mAHD. The MGL for the bore was recorded subsequent to approximately 97 mm of rainfall in the 72 hours prior on 30 August 2018.
- MGL contours were estimated in JDA (2021) from September 2021 groundwater levels and then updated in JDA (2022) following further data collection in winter 2022 to account for higher groundwater levels recorded in the northern sand mound. Groundwater levels within both potential EIL areas are controlled by both surface water drainages and surrounding lower-lying Guildford Formation clays at surface. Given the low rainfall in 2023, an estimated MGL was not computed from monitoring conducted in 2023. The 2022 MGL estimate remains valid.
- Elevated sand ridge areas generally have a minimum 1.5 m separation to MGL with the highest separation of approximately 5 m to the west of BOY8.

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JDA (2022) *Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring – September 2021 to October 2022*. Doc Ref: J7121b. Prepared for BCP Materials Pty Ltd, 19 December 2022.

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Attachments:

Figure 1: Location Plan

Figure 2: Existing Study Area Characteristics

Figure 3: Rainfall and Evaporation

Figure 4: Study Area Bore Locations

Figure 5: DWER Bore EW03B Location

Figure 6: Logged Groundwater Levels, BOY1 to BOY4

Figure 7: Logged Groundwater Levels - BOY2S, BOY2D, BOY3, BOY7 and BOY8

Figure 8: DWER Bore BY22B Groundwater Level Time-Series, AAMGL and MGL

Figure 9: DWER Bore EW03B Groundwater Level Time-Series, AAMGL and MGL

Figure 10: Estimated Maximum Groundwater Level (MGL) Contours

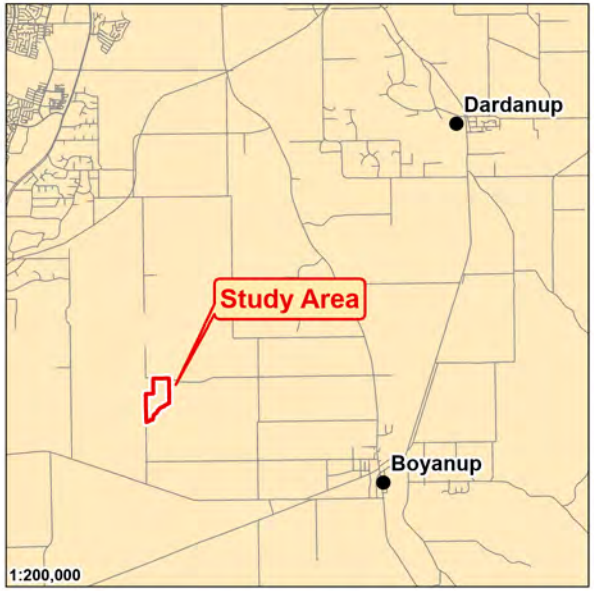
Figure 11: Depth to Estimated MGL

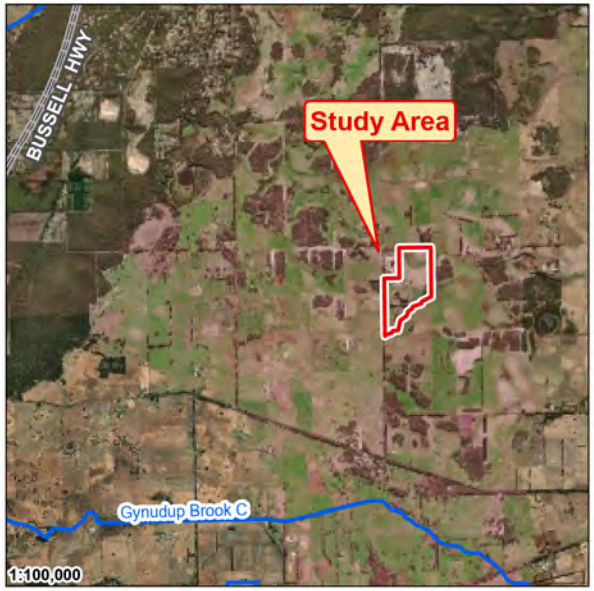
Appendix A: Bore Lithological Logs

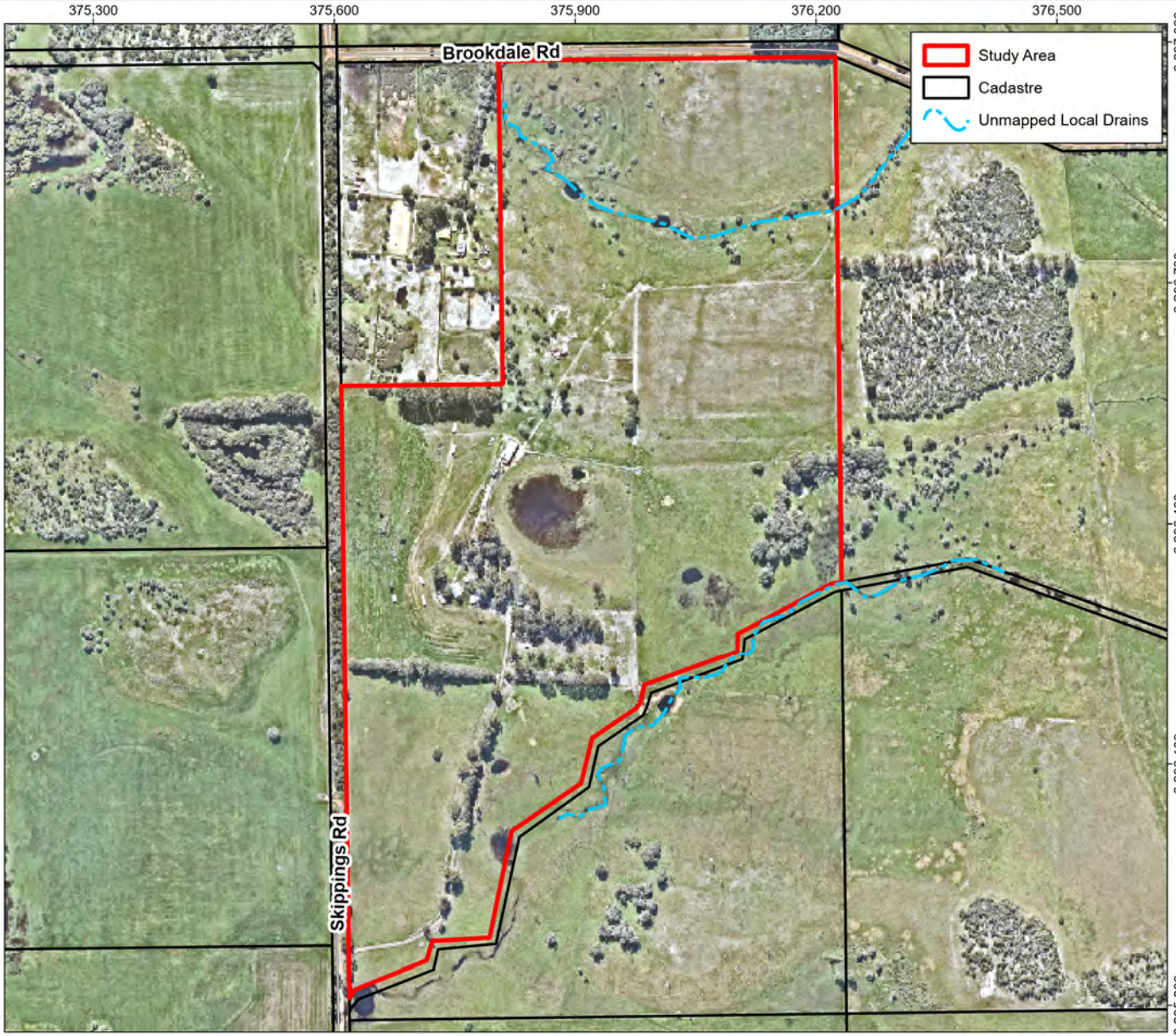
If you have any queries on this report, please contact Matthew Yan or Michael Ioannidis.

Regards,

JDA CONSULTANT HYDROLOGISTS







Data Source: Nearmap Digital Imagery (2023), 06 August 2023

Coordinate System: GDA 1994, Zone 50

JDA Consultant Hydrologists

Job No. J7121

Scale: 1:8,000 @A4

0 100 200 300 400 Metres

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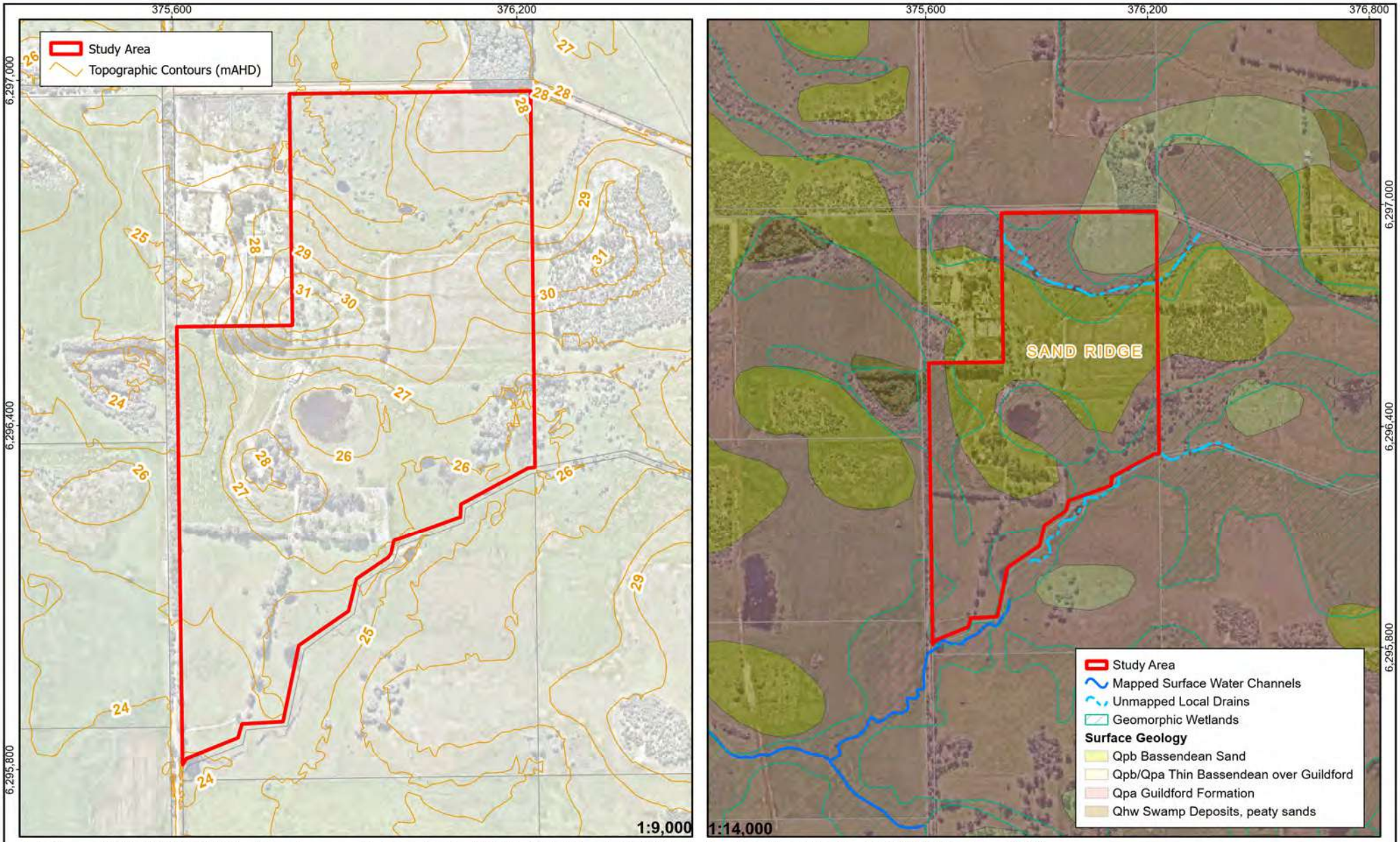
BCP Materials Pty Ltd

Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 1: Location Plan



Data Source: GSWA (1982) *1: 50 000 urban geology map - Bunbury - Burekup (2031 III - 2031 II)*. Landgate (2019) *Medium Scale Topo Water Line (LGATE-018)*; NearMaps (2023)

Coordinate System: GDA 1994, Zone 50

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Job No. J7121

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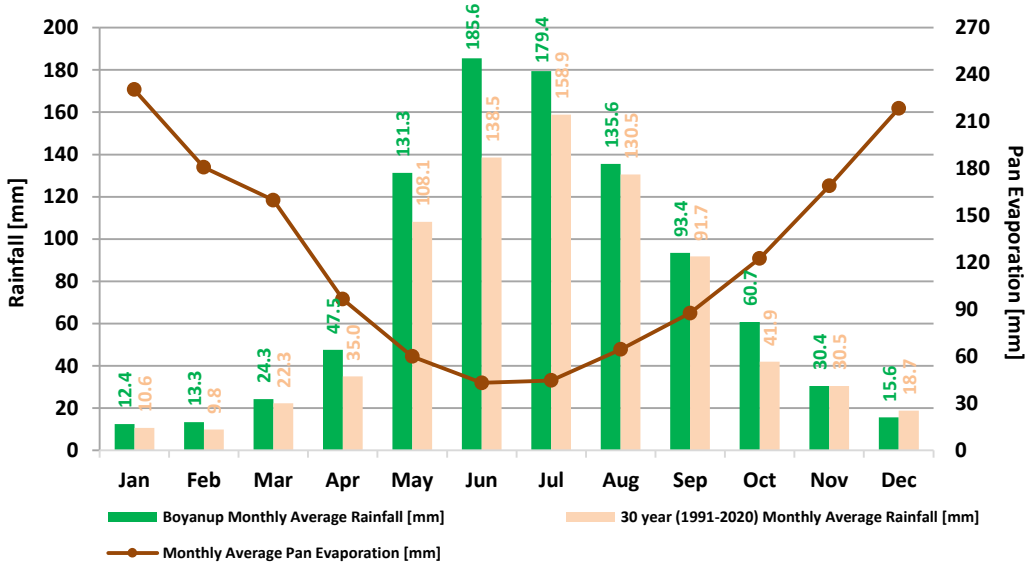
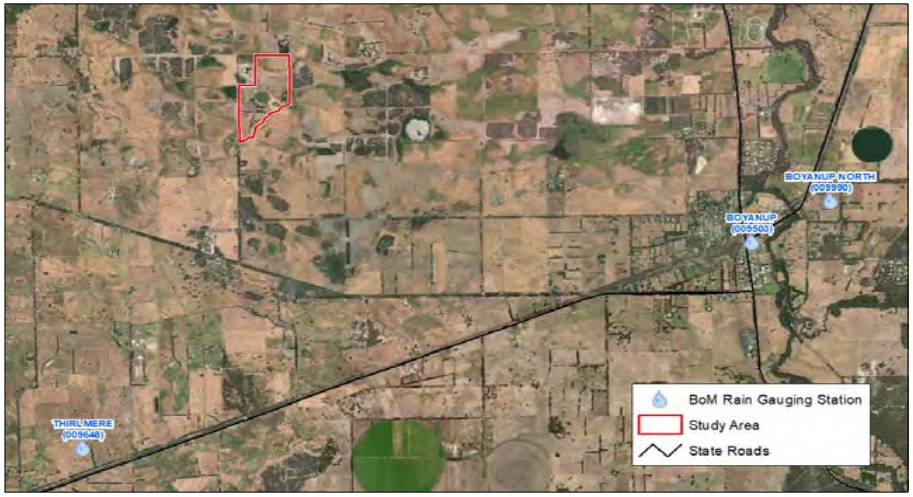
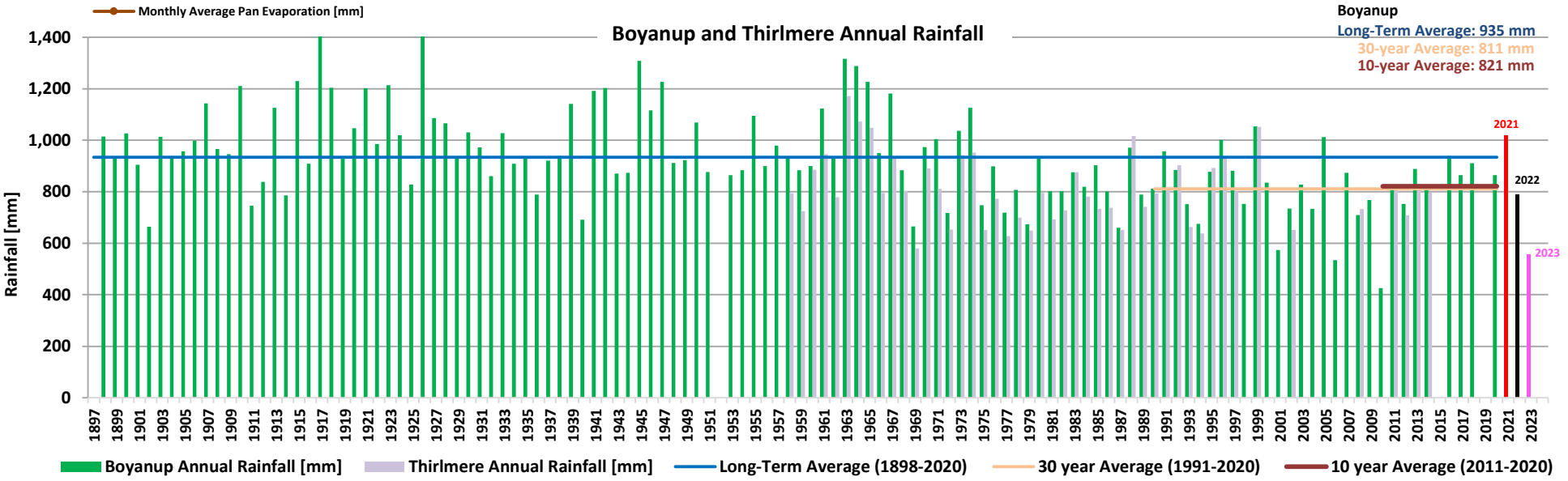
Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 2: Study Area Characteristics







Data Source: BoM (2023) Climate Data Online Boyanup *WA (009503; 1903-2002), Boyanup North (009990; 2003-2023) and Thirlmere (009648) Rain Gauges* ; DPIRD (2023) *Donnybrook Weather Station*

Job No. J7121

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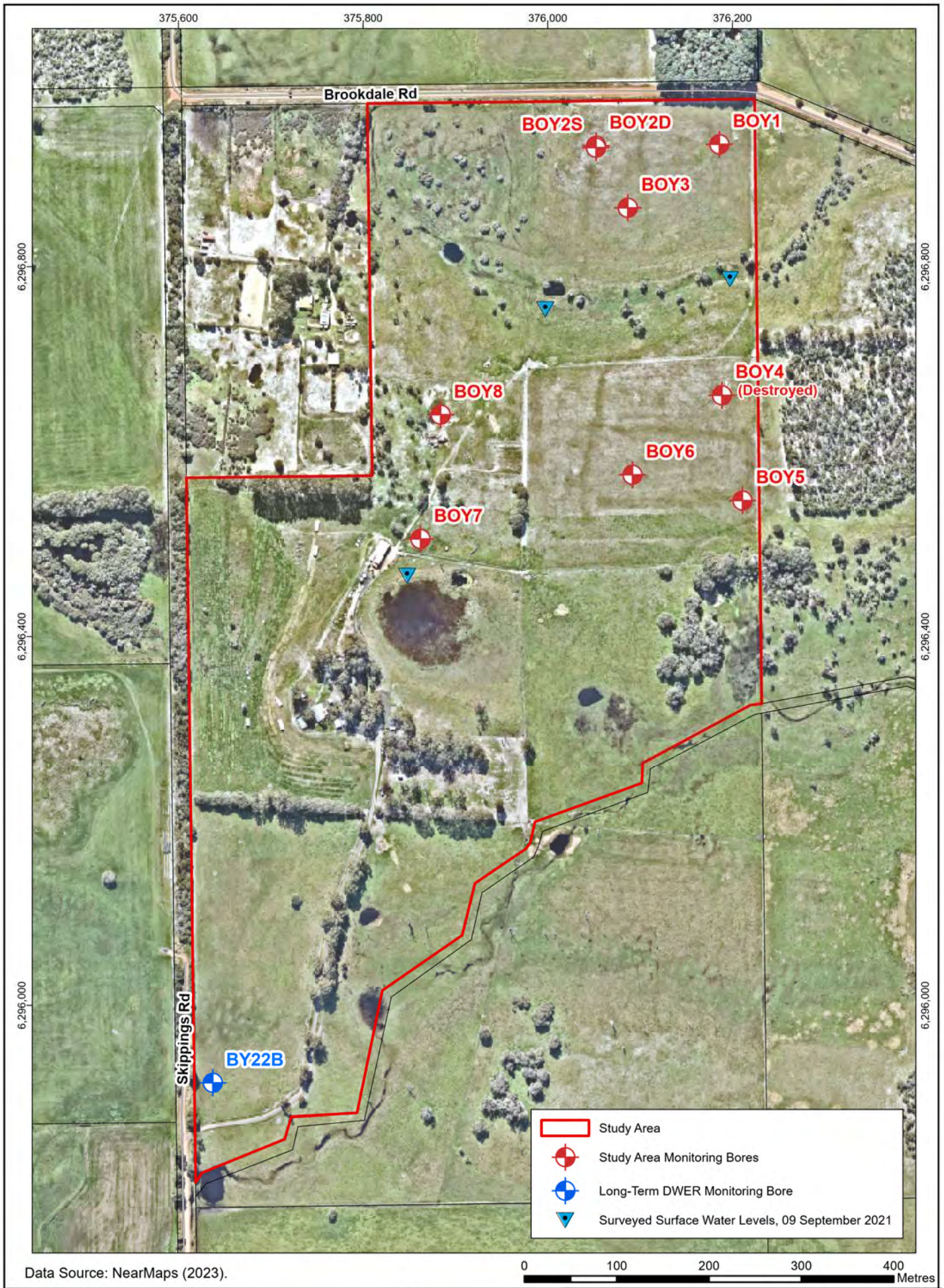
Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 3: Rainfall and Evaporation



Data Source: NearMaps (2023).

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Coordinate System: GDA 1994, Zone 50

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Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 4: Study Area and DWER Monitoring Bore Locations

Data Source: NearMaps (2021).

Job No. J7121
Scale: 1:25,000 @A4
Coordinate System: GDA 1994, Zone 50

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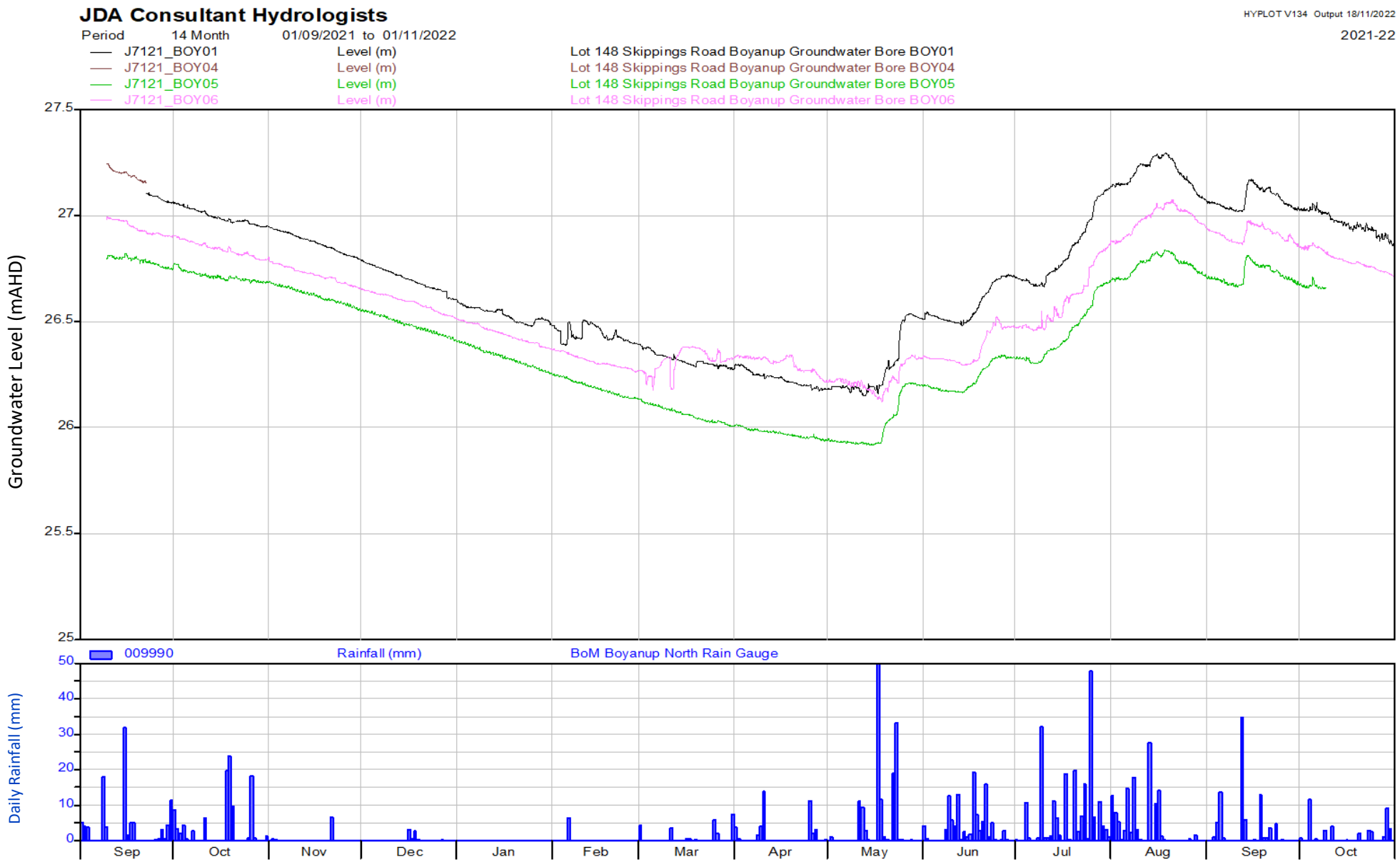
BCP Materials Pty Ltd
Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 5: DWER Bore EW03B Location



Data Source:

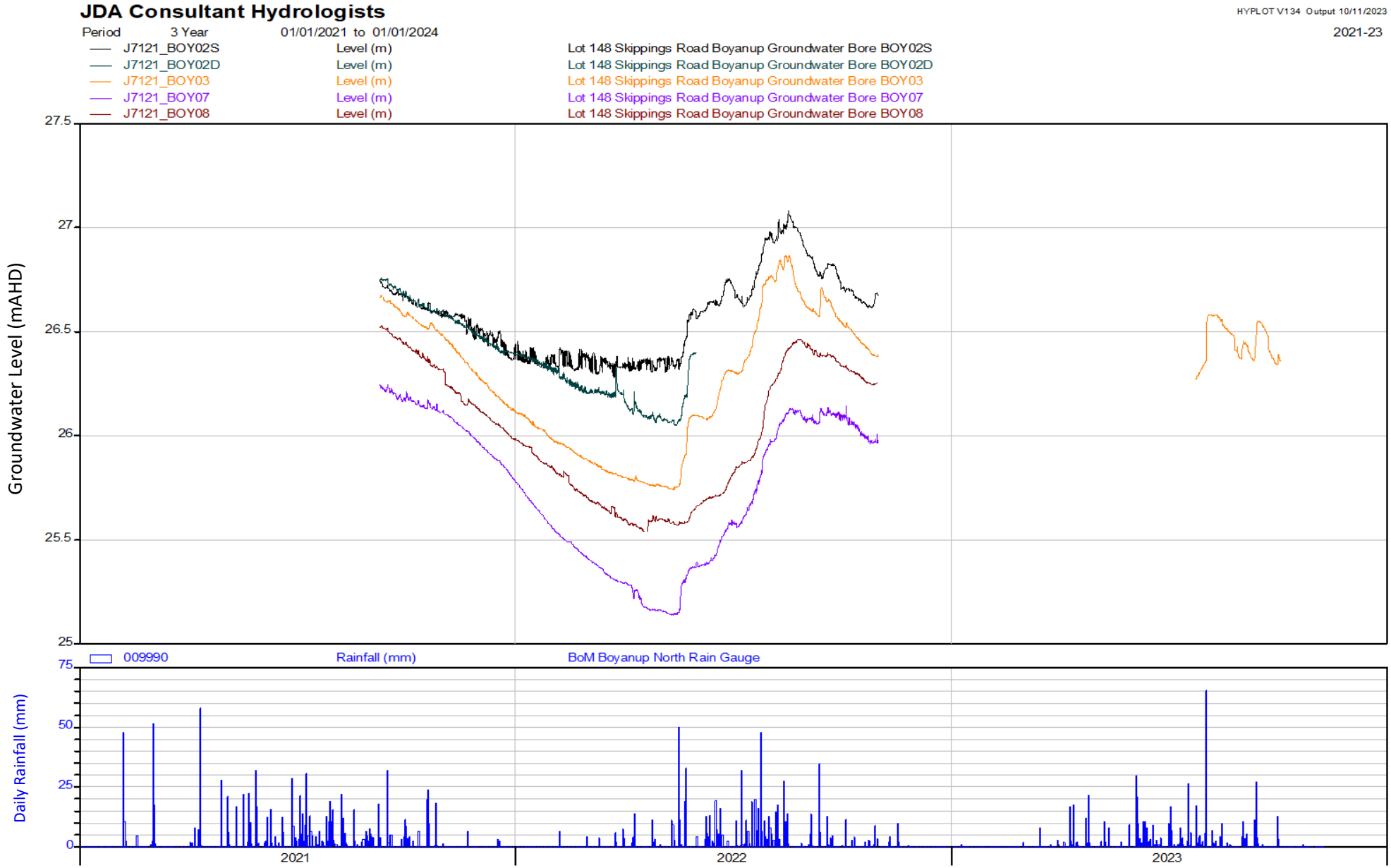
Note: Not monitored Oct 2022 to Jul 2023; Logger electrical fault Jul to October 2023.

Job No. J7121

BCP Materials Pty Ltd

Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 6: Logged Groundwater Levels - BOY1, BOY4, BOY5 and BOY6



Data Source:

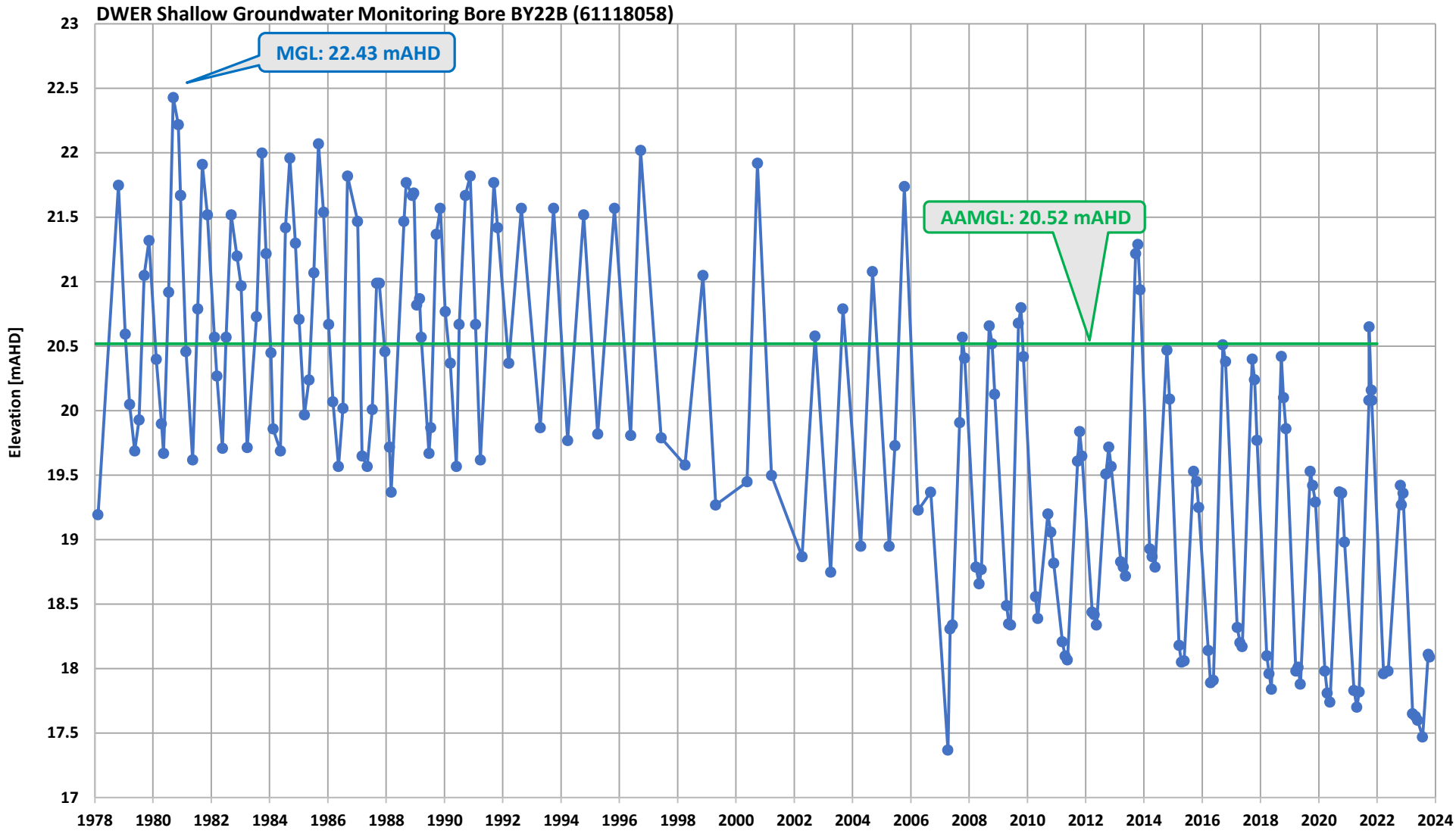
Note: Not monitored Oct 2022 to Jul 2023; Logger electrical fault Jul to October 2023 (except BOY03)

Job No. J7121

BCP Materials Pty Ltd

Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 7: Logged Groundwater Levels - BOY2S, BOY2D, BOY3, BOY7 and BOY8



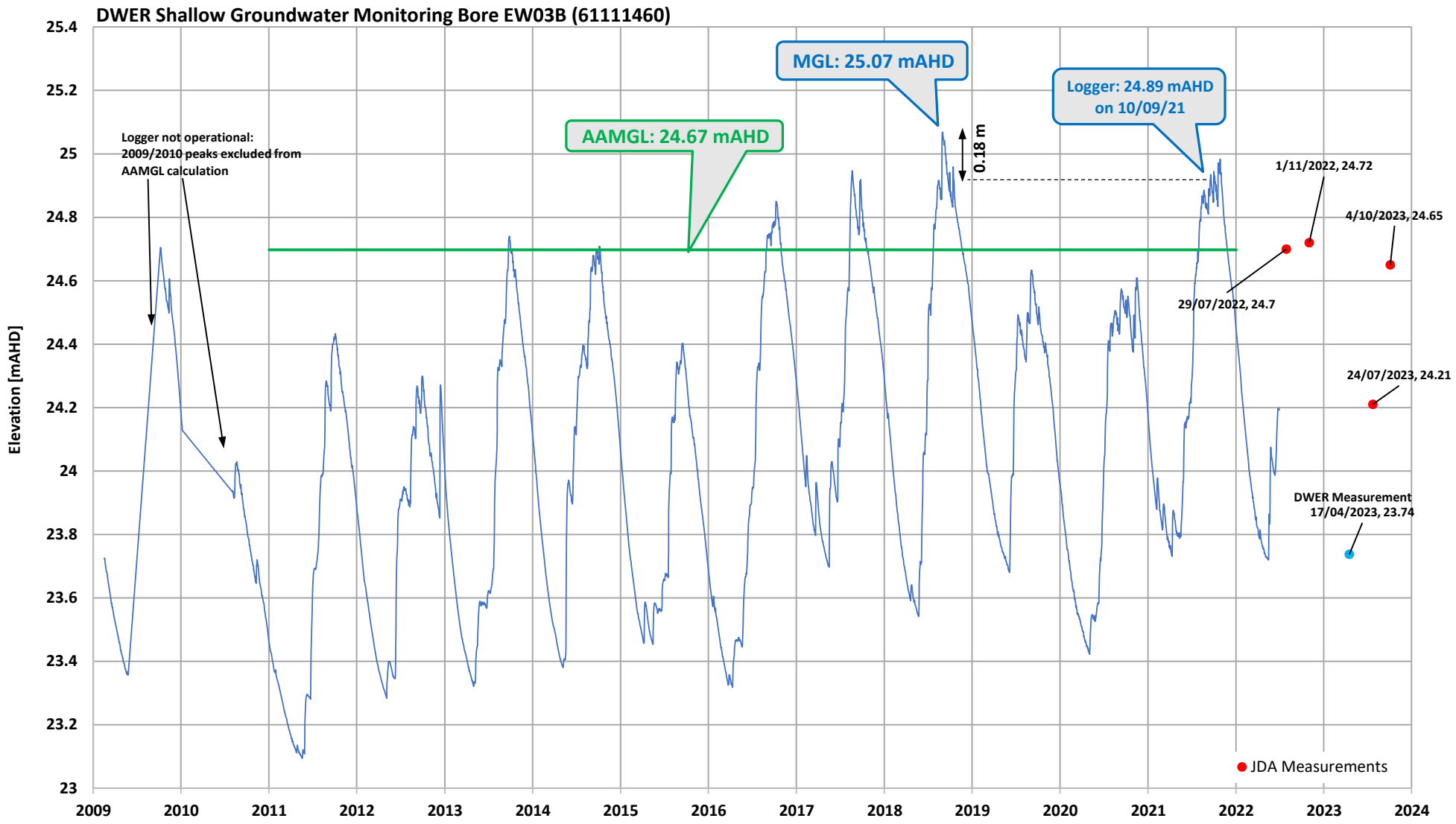
Data Source: Department of Water and Environmental Regulation Online Water Information Reporting (WIR) (DWER, 2023)

Job No. J7121

BCP Materials Pty Ltd

Lot 148 (No. 168) Skippings Road, Boyanup: Groundwater Monitoring

Figure 8: DWER Bore BY22B Groundwater Level Time-Series, AAMGL and MGL



Data Source: Department of Water and Environmental Regulation Online Water Information Reporting (WIR) (DWER, 2023)

Job No. J7121

BCP Materials Pty Ltd

Lot 148 (No. 168) Skippings Road, Boyanup: Groundwater Monitoring

Figure 9: DWER Bore EW03B Groundwater Level Time-Series, AAMGL and MGL

Data Source: JDA (2022); NearMaps (2023).

Coordinate System: GDA 1994, Zone 50

JDA Consultant Hydrologists

Job No. J7121

Scale: 1:4,000 @A4

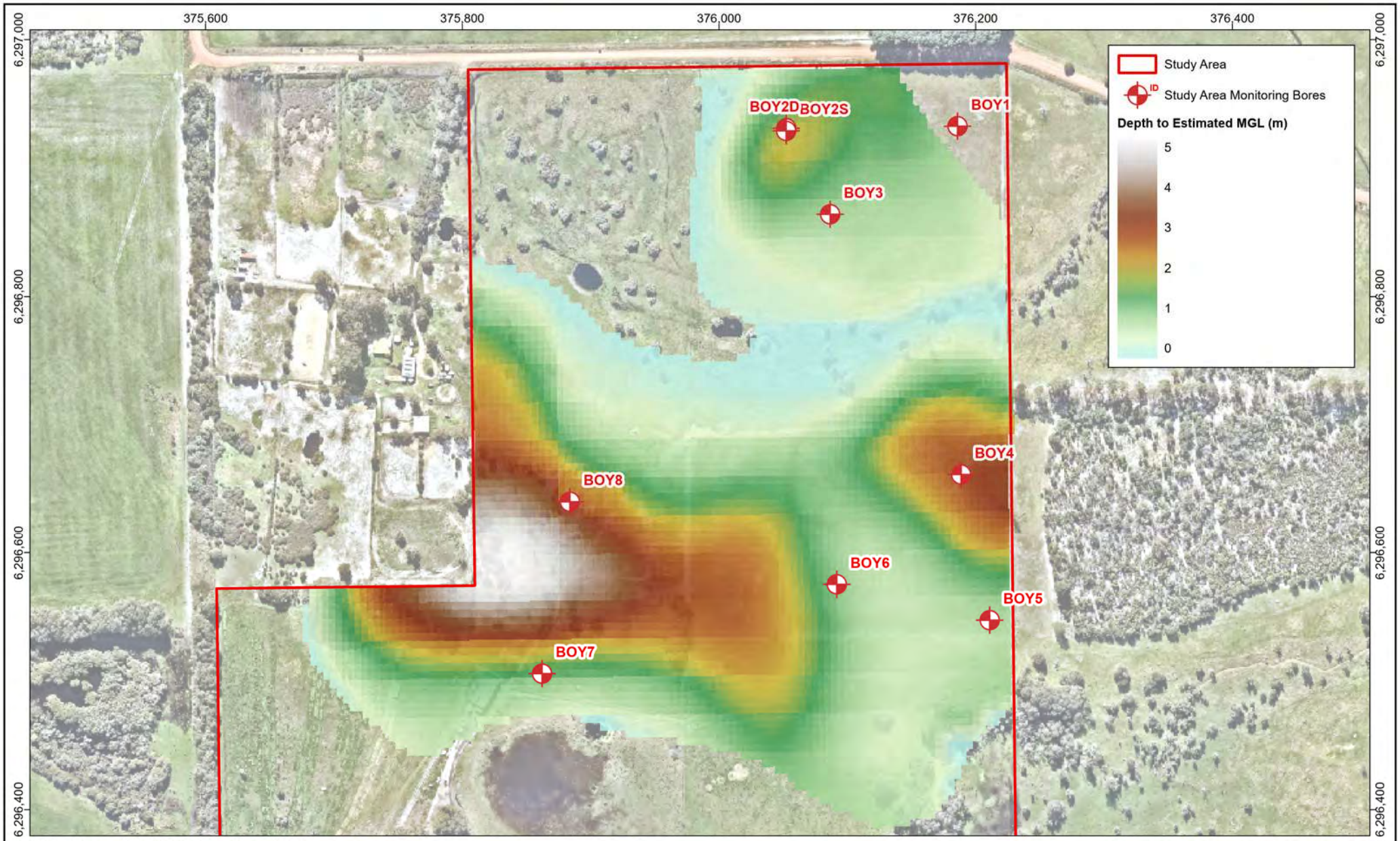
0 50 100 150 200 Metres

N

BCP Materials Pty Ltd

Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 10: Estimated Maximum Groundwater Level (MGL) Contours



Data Source: JDA (2022); NearMaps (2023).

Coordinate System: GDA 1994, Zone 50

JDA Consultant Hydrologists

Job No. J7121

Scale: 1:4,000 @A4

0 50 100 150 200 Metres

N

BCP Materials Pty Ltd

Lot 148 Skippings Road, Boyanup: Groundwater Level Monitoring

Figure 11: Depth to Estimated MGL

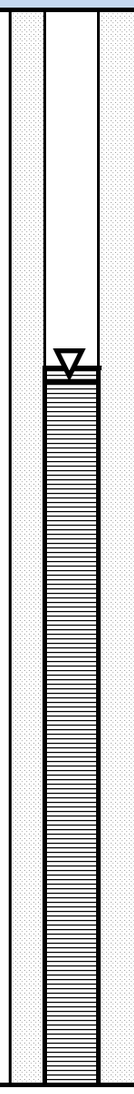
APPENDIX A

Bore Lithological Logs

JDA Consultant Hydrologists
Suite 1, 27 York Street
Subiaco WA 6008
Tel: 9388 2436
Fax: 9381 9279

LITHOLOGICAL LOG

Client:	BCP Materials Pty Ltd					Job No:	J7121
Project:	Lot 148 Skippings Road, Boyanup					Hole commenced:	08/09/2021
Bore location:	BOY01					Hole completed:	08/09/2021
Datum:	GDA 94 MGA Zone 50	E	376186	N	6296932	Logged by:	GW
Bore Name:	BOY01					Total Depth:	2.95 m
Driller and drill type:		Hollow Stem Auger				R.L. TOC:	28.54 mAHD
Hole diameter:		0.15m	Casing Diam:		0.05m	Natural Surface:	28.19 mAHD

Depth (m)	BORE CONSTRUCTION	GRAPHICAL LOG	LITHOLOGICAL LOG						
			LITHOLOGY	COLOUR	GRAIN SIZE	SORTING	GRAIN SHAPE	MOISTURE	COMMENTS
0.5m			Sand	Grey	Medium	Moderate	Sub R	Moist	
1.0m									
1.5m								Saturated	
2.0m									
2.5m									
EOH 2.95m			Coffee Rock *Clayey Sand*	Dark Brown					Thin layer of clayey sand and coffee rock

Gravel
Sand
Clayey Sand
Sandy Clay
Clay
Coffee Rock
Bentonite

Grain Size	Sorting	Grain Shape	Moisture
Very Fine	Poor	Angular	Dry
Fine	Moderate	Subangular	Moist
Medium	Well	Subrounded	Saturated
Coarse	Very well	Rounded	
Very coarse		Well rounded	
Gravel			

NOTES: _____

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Date	08/09/2021
Stick Up	0.35 m
Total Depth	3.3 mBTOC
Water Level	1.41 mBTOC

JDA Consultant Hydrologists
Suite 1, 27 York Street
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Tel: 9388 2436
Fax: 9381 9279

LITHOLOGICAL LOG

Client:	BCP Materials Pty Ltd					Job No:	J7121
Project:	Lot 148 Skippings Road, Boyanup					Hole commenced:	08/09/2021
Bore location:	BOY02D					Hole completed:	08/09/2021
Datum:	GDA 94 MGA Zone 50	E	376052	N	6296931	Logged by:	GW
Bore Name:	BOY02D					Total Depth:	6.3 m
Driller and drill type:		Hollow Stem Auger				R.L. TOC:	29.25 mAHD
Hole diameter:		0.15m	Casing Diam:		0.05m	Natural Surface:	28.93 mAHD

Depth (m)	BORE CONSTRUCTION	GRAPHICAL LOG	LITHOLOGICAL LOG						
			LITHOLOGY	COLOUR	GRAIN SIZE	SORTING	GRAIN SHAPE	MOISTURE	COMMENTS
0.5m			Sand	Light Grey	Medium	Moderate	Sub R	Moist	
1.0m									
1.5m			Cream						
2.0m									
2.5m									
3.0m			Orange						
3.5m									
4.0m								Saturated	
4.5m			Dark Brown						
5.0m									
5.5m									
6.0m									
EOH 6.18m			Clay	Grey Brown	Fine/Medium				

Gravel
Sand
Clayey Sand
Sandy Clay
Clay
Coffee Rock
Bentonite

Grain Size	Sorting	Grain Shape	Moisture
Very Fine	Poor	Angular	Dry
Fine	Moderate	Subangular	Moist
Medium	Well	Subrounded	Saturated
Coarse	Very well	Rounded	
Very coarse		Well rounded	
Gravel			

NOTES: _____

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Date	08/09/2021
Stick Up	0.32 m
Total Depth	6.5 mBTOC
Water Level	2.42 mBTOC

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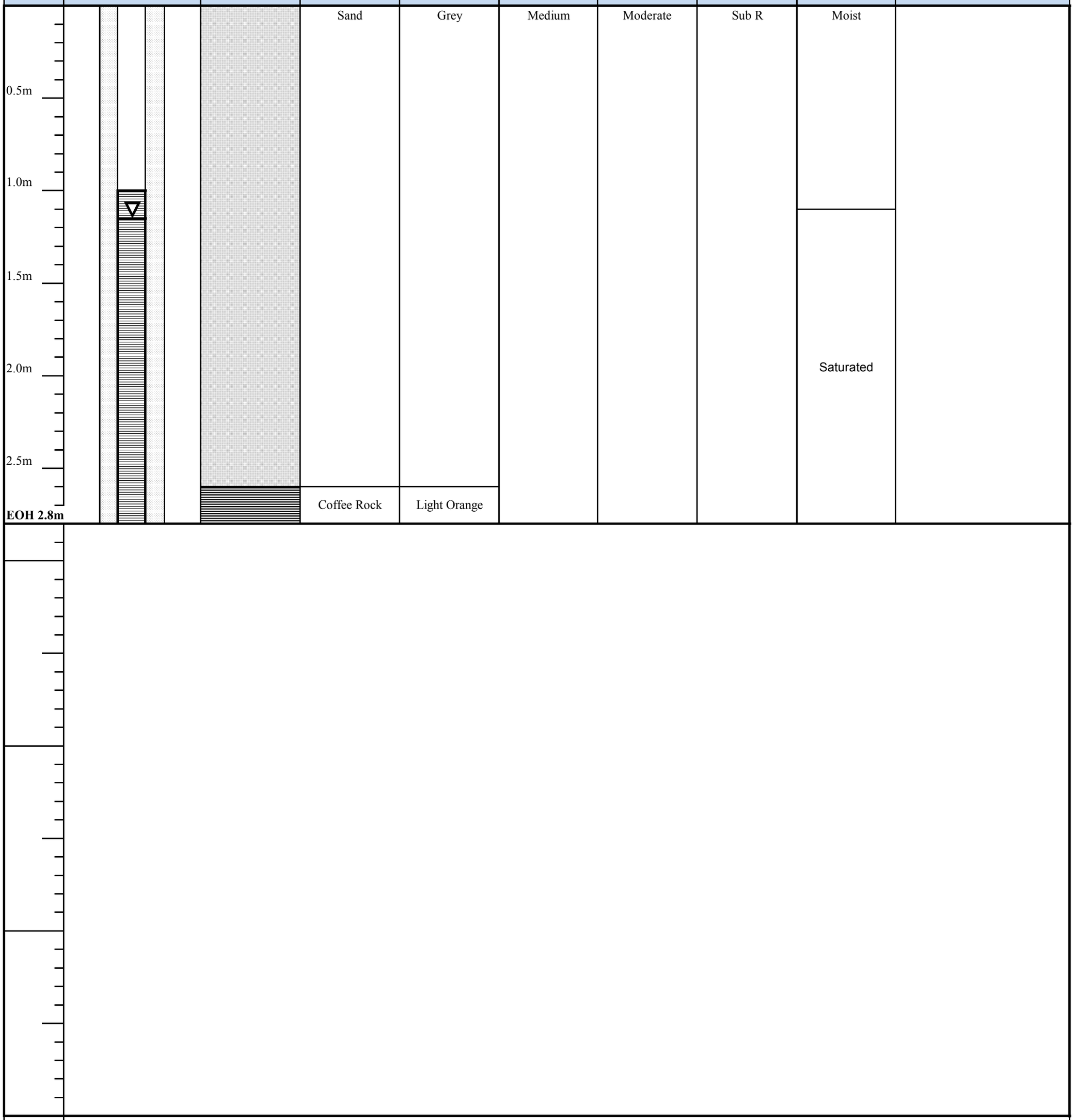
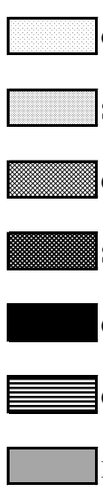
Tel: 9388 2436
Fax: 9381 9279

LITHOLOGICAL LOG

Client:	BCP Materials Pty Ltd					Job No:	J7121
Project:	Lot 148 Skippings Road, Boyanup					Hole commenced:	08/09/2021
Bore location:	BOY03					Hole completed:	08/09/2021
Datum:	GDA 94 MGA Zone 50	E	376087	N	6296864	Logged by:	GW
Bore Name:	BOY03					Total Depth:	2.8 m
Driller and drill type:		Hollow Stem Auger				R.L. TOC:	28.08 mAHD
Hole diameter:		0.15m	Casing Diam:		0.05m	Natural Surface:	27.82 mAHD





Gravel
Sand
Clayey Sand
Sandy Clay
Clay
Coffee Rock
Bentonite

Grain Size	Sorting	Grain Shape	Moisture
Very Fine	Poor	Angular	Dry
Fine	Moderate	Subangular	Moist
Medium	Well	Subrounded	Saturated
Coarse	Very well	Rounded	
Very coarse		Well rounded	
Gravel			

NOTES: _____

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Date	08/09/2021
Stick Up	0.26 m
Total Depth	3.02 mBTOC
Water Level	1.43 mBTOC

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Tel: 9388 2436
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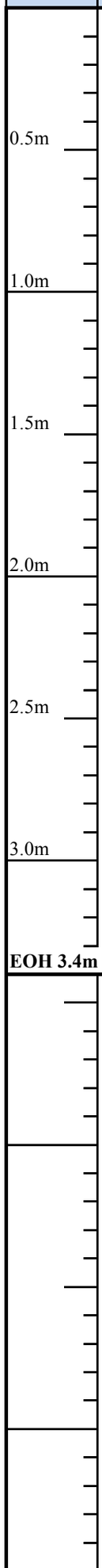
LITHOLOGICAL LOG

Client:	BCP Materials Pty Ltd					Job No:	J7121
Project:	Lot 148 Skippings Road, Boyanup					Hole commenced:	08/09/2021
Bore location:	BOY04					Hole completed:	08/09/2021
Datum:	GDA 94 MGA Zone 50	E	376189	N	6296661	Logged by:	GW
Bore Name:	BOY04					Total Depth:	3.4 m
Driller and drill type:		Hollow Stem Auger				R.L. TOC:	30.5 mAHD
Hole diameter:		0.15m	Casing Diam:		0.05m	Natural Surface:	30.24 mAHD



Depth (m)	BORE CONSTRUCTION	GRAPHICAL LOG	LITHOLOGICAL LOG: LITHOLOGY	COLOUR	GRAIN SIZE	SORTING	GRAIN SHAPE	MOISTURE	COMMENTS
0.0 – 3.0			Sand	Grey	Medium	Moderate	Sub R	Moist	
3.0 – 3.4			Clayey Sand	Light Orange				Saturated	

Gravel
Sand
Clayey Sand
Sandy Clay
Clay
Coffee Rock
Bentonite

Grain Size	Sorting	Grain Shape	Moisture
Very Fine	Poor	Angular	Dry
Fine	Moderate	Subangular	Moist
Medium	Well	Subrounded	Saturated
Coarse	Very well	Rounded	
Very coarse		Well rounded	
Gravel			

NOTES: _____

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Date	08/09/2021
Stick Up	0.26 m
Total Depth	3.68 mBTOC
Water Level	2.69 mBTOC

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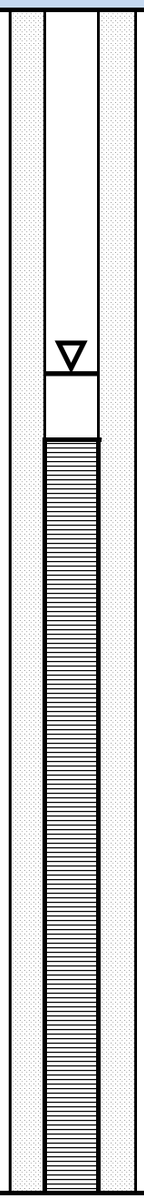
Tel: 9388 2436
Fax: 9381 9279

LITHOLOGICAL LOG

Client:	BCP Materials Pty Ltd					Job No:	J7121
Project:	Lot 148 Skippings Road, Boyanup					Hole commenced:	08/09/2021
Bore location:	BOY05					Hole completed:	08/09/2021
Datum:	GDA 94 MGA Zone 50	E	376211	N	3296547	Logged by:	GW
Bore Name:	BOY05					Total Depth:	3.36 m
Driller and drill type:		Hollow Stem Auger				R.L. TOC:	28.09 mAHD
Hole diameter:		0.15m	Casing Diam:		0.05m	Natural Surface:	27.75 mAHD

Depth (m)	BORE CONSTRUCTION	GRAPHICAL LOG	LITHOLOGICAL LOG						
			LITHOLOGY	COLOUR	GRAIN SIZE	SORTING	GRAIN SHAPE	MOISTURE	COMMENTS
0.5m			Sand	Grey	Medium	Moderate	Sub R	Moist	
1.0m									
1.5m				Cream					
2.0m								Saturated	
2.5m									
3.0m									
EOH 3.36m			Sandy Clay	Brown					Hard coffee rock

Gravel
Sand
Clayey Sand
Sandy Clay
Clay
Coffee Rock
Bentonite

Grain Size	Sorting	Grain Shape	Moisture
Very Fine	Poor	Angular	Dry
Fine	Moderate	Subangular	Moist
Medium	Well	Subrounded	Saturated
Coarse	Very well	Rounded	
Very coarse		Well rounded	
Gravel			

NOTES: _____

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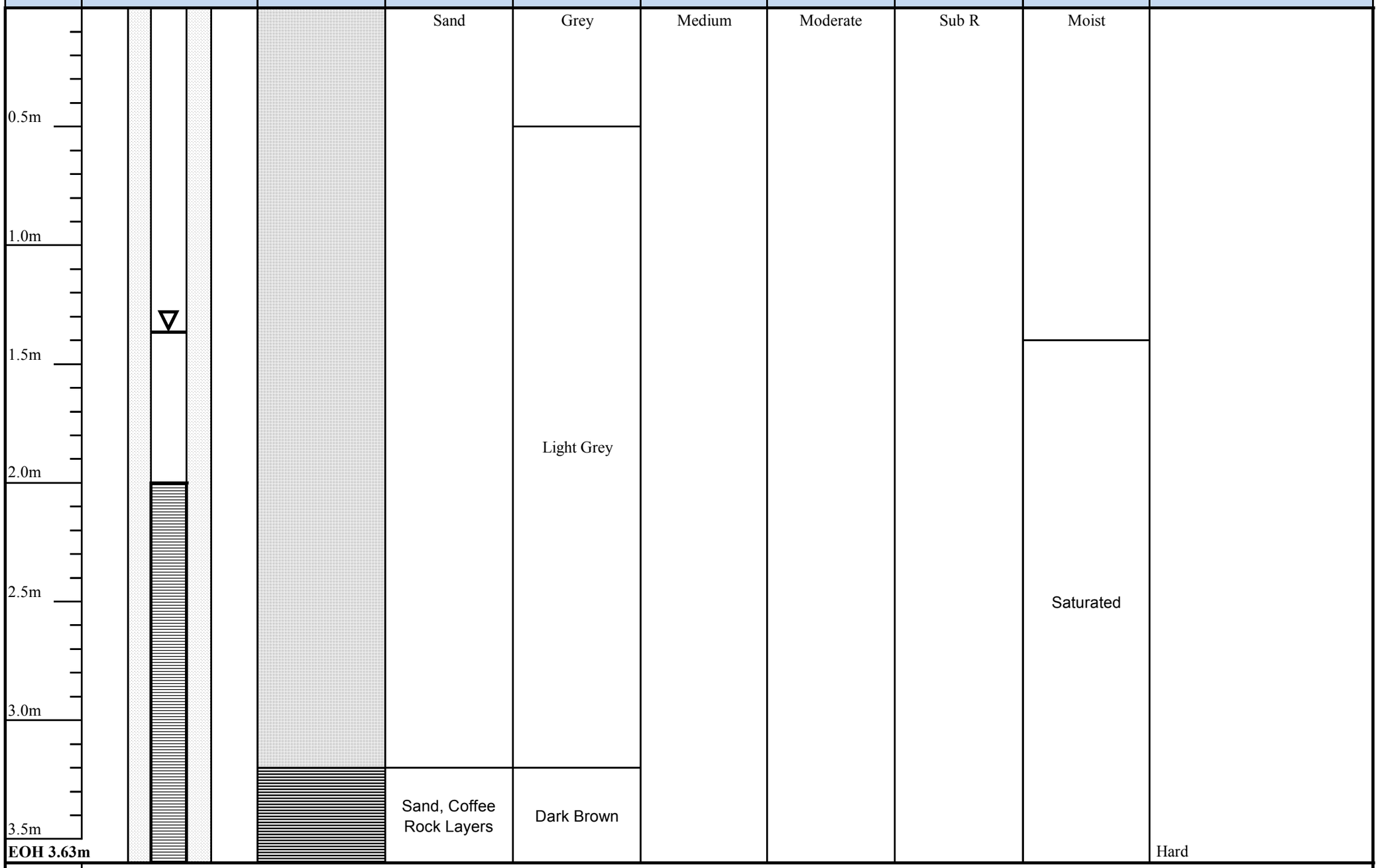
Date	08/09/2021
Stick Up	0.34 m
Total Depth	3.70 mBTOC
Water Level	1.31 mBTOC

JDA Consultant Hydrologists
Suite 1, 27 York Street
Subiaco WA 6008
Tel: 9388 2436
Fax: 9381 9279

LITHOLOGICAL LOG

Client:	BCP Materials Pty Ltd					Job No:	J7121
Project:	Lot 148 Skippings Road, Boyanup					Hole commenced:	08/09/2021
Bore location:	BOY06					Hole completed:	08/09/2021
Datum:	GDA 94 MGA Zone 50	E	376092	N	6296575	Logged by:	GW
Bore Name:	BOY06					Total Depth:	3.63 m
Driller and drill type:		Hollow Stem Auger				R.L. TOC:	28.74 mAHD
Hole diameter:		0.15m	Casing Diam:		0.05m	Natural Surface:	28.34 mAHD



Gravel
Sand
Clayey Sand
Sandy Clay
Clay
Coffee Rock
Bentonite

Grain Size	Sorting	Grain Shape	Moisture
Very Fine	Poor	Angular	Dry
Fine	Moderate	Subangular	Moist
Medium	Well	Subrounded	Saturated
Coarse	Very well	Rounded	
Very coarse		Well rounded	
Gravel			

NOTES: _____

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Date	08/09/2021
Stick Up	0.4 m
Total Depth	4.03 mBTOC
Water Level	1.77 mBTOC

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Suite 1, 27 York Street
Subiaco WA 6008
Tel: 9388 2436
Fax: 9381 9279

LITHOLOGICAL LOG

Client:	BCP Materials Pty Ltd					Job No:	J7121
Project:	Lot 148 Skippings Road, Boyanup					Hole commenced:	08/09/2021
Bore location:	BOY07					Hole completed:	08/09/2021
Datum:	GDA 94 MGA Zone 50	E	375862	N	6296506	Logged by:	GW
Bore Name:	BOY07					Total Depth:	4.53 m
Driller and drill type:		Hollow Stem Auger				R.L. TOC:	27.81 mAHD
Hole diameter:		0.15m	Casing Diam:		0.05m	Natural Surface:	27.5 mAHD

Depth (m)	BORE CONSTRUCTION	GRAPHICAL LOG	LITHOLOGICAL LOG						
			LITHOLOGY	COLOUR	GRAIN SIZE	SORTING	GRAIN SHAPE	MOISTURE	COMMENTS
0.5m			Sand	Dark Grey	Medium	Moderate	Sub R	Moist	
				Grey					
1.0m									
1.5m									
2.0m									
2.5m									
3.0m								Saturated	
3.5m									
4.0m				Dark Grey					
EOH 4.53m			Sandy Clay	Grey	Fine/Medium				

Gravel
Sand
Clayey Sand
Sandy Clay
Clay
Coffee Rock
Bentonite

Grain Size	Sorting	Grain Shape	Moisture
Very Fine	Poor	Angular	Dry
Fine	Moderate	Subangular	Moist
Medium	Well	Subrounded	Saturated
Coarse	Very well	Rounded	
Very coarse		Well rounded	
Gravel			

NOTES: _____

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Date	08/09/2021
Stick Up	0.31 m
Total Depth	4.84 mBTOC
Water Level	1.65 mBTOC

JDA Consultant Hydrologists
Suite 1, 27 York Street
Subiaco WA 6008
Tel: 9388 2436
Fax: 9381 9279

LITHOLOGICAL LOG

Client:	BCP Materials Pty Ltd					Job No:	J7121
Project:	Lot 148 Skippings Road, Boyanup					Hole commenced:	08/09/2021
Bore location:	BOY08					Hole completed:	08/09/2021
Datum:	GDA 94 MGA Zone 50	E	375884	N	6296640	Logged by:	GW
Bore Name:	BOY08					Total Depth:	5.83 m
Driller and drill type:		Hollow Stem Auger				R.L. TOC:	30.27 mAHD
Hole diameter:		0.15m	Casing Diam:		0.05m	Natural Surface:	29.84 mAHD

Depth (m)	BORE CONSTRUCTION	GRAPHICAL LOG	LITHOLOGICAL LOG						
			LITHOLOGY	COLOUR	GRAIN SIZE	SORTING	GRAIN SHAPE	MOISTURE	COMMENTS
0.5m			Sand	Black	Medium	Moderate	Sub R	Moist	Topsoil
1.0m									
1.5m				Grey					
2.0m									
2.5m									
3.0m									
3.5m				Light Grey					
4.0m									
4.5m									
5.0m									
5.5m									
EOH 5.83m			Sandy Clay	Grey/Brown					

Gravel
Sand
Clayey Sand
Sandy Clay
Clay
Coffee Rock
Bentonite

Grain Size	Sorting	Grain Shape	Moisture
Very Fine	Poor	Angular	Dry
Fine	Moderate	Subangular	Moist
Medium	Well	Subrounded	Saturated
Coarse	Very well	Rounded	
Very coarse		Well rounded	
Gravel			

NOTES: _____

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Date	08/09/2021
Stick Up	0.43 m
Total Depth	6.26 mBTOC
Water Level	3.74 mBTOC

Suite 1, 27 York St, Subiaco WA 6008
PO Box 117, Subiaco WA 6904
Ph: +61 8 9388 2436

www.jdahydro.com.au

info@jdahydro.com.au

ATTACHMENT 5 – TRAFFIC MANAGEMENT PLAN

TMP SJTM 2350 BCP Materials
WORKS ON ROADS
TRAFFIC MANAGEMENT PLAN

Prepared by: SJ TRAFFIC MANAGEMENT

Haul Route
Skippings Road, North Boyanup
SJ TRAFFIC MANAGEMENT
Contract No: TBA
10.01.2024-10.01.2025

I Cheryl Johnson (KTS-AWTM-22-47786-02) declare that I have designed this Traffic Management Plan following a site inspection on 13 November 2023. The Traffic Management Plan prepared, subject to the variations approved, is in accordance with the Main Roads Code of Practice, AGTTM 1.1 and AS 1742.3

Signature: *Shane Urbini* Date: 13 November 2023

	Name / Company	Accreditation Details	Date	Signed
TMP Designed by	**Shane Urbini** SJ Traffic Management	KTS-AWTM-20-48861-02	13/11/23	*Shane Urbini*
TMP Reviewed by	**Amy Dixon** SJ Traffic Management	AUS-AWTM-23-8589-02	14/11/23	*Amy Dixon*
RTM Endorsed by	**NA**	**NA**	**NA**	**NA**
Road Authority Authorisation	Road authority authorisation of the implementation of traffic signs and devices is given for Traffic Management Plan No. SJTM-2350 REV0 Signed: Authorised Officer: Date: (Print Name) Position: **The authorisation may be found in Appendix H**.			

TMP No: SJTM- 2350	Rev No: 01	Date: 13/11/23

Revision Register

Revision Number	Revision Date	Comments	Section / Page No.	Revised By
0	13/11/23	Original TMP	ALL	Shane Urbini
01	15/11/23	Client comment	ALL	Shane Urbini

Contents

Glossary

Abbreviation	Definition
AADT	Annual Average Daily Traffic
AGTTM	Austroads Guide to Temporary Traffic Management
AS	Australian Standard
AS/NZ	Australian and New Zealand Standard
AWTM	Advanced Worksite Traffic Manager
BWTM	Basic Worksite Traffic Manager
CoP	Code of Practice (Main Roads WA)
DFES	Department of Fire and Emergency Services
HVS	Heavy Vehicle Services
LGA	Local Government Area
MMS	Multi Message Sign
MRWA	Main Roads Western Australia
OS&H	Occupational Safety and Health
PPE	Personal Protective Equipment
PTCD	Portable Traffic Control Device
PTSS	Portable Traffic Signal System
RAV	Restricted Access Vehicle
RNOC	Road Network Operations Centre
RTM	Roadwork Traffic Manager
TC	Traffic Controller
TTM	Temporary Traffic Management
TMI	Traffic Management Implementer (Traffic Management Team Leader)
TGS	Traffic Guidance Scheme
TMA	Truck Mounted Attenuator
TMP	Traffic Management Plan
VMS	Variable Message Sign
Vpd	Vehicles per day
Vph	Vehicles per hour
WTM	Worksite Traffic Manager

1.0 INTRODUCTION

1.1 Purpose and Scope

The purpose of this Traffic Management Plan (TMP) is to outline the traffic control and traffic management procedures to be implemented by the Project Manager and Project Contractors to manage potential hazards associated with the traffic environment during the project.

The scope of works involves truck access to haul route and associated route maintenance.

Advance warning will be installed to accommodate vehicle movements and provide warning for road users in the vicinity of the project. A speed restriction will be installed along Skippings Road to minimise the impact of heavy vehicle traffic.

1.2 Objective and Strategies

The objectives of the Traffic Management Plan are to ensure:

- The safety of the road workers.
- All road users, including vulnerable road users, are safely guided around, through or past the work site.
- The performance of the road network is not unduly impacted and the disruption and inconvenience to all road users are minimised for the duration of the works.
- Impacts on users of the road reserve and adjacent properties and facilities are minimised.

In an effort to meet these objectives the Traffic Management Plan will incorporate the following strategies:

- Providing a sufficient number of traffic lanes to accommodate vehicle volumes.
- Ensuring delays are minimised.
- Ensuring all road users are managed including motorists, pedestrians, cyclists, people with disabilities and people using public transport.
- Ensuring work activities are carried out sequentially to minimise adverse impacts.
- Provision will be made for works personnel to enter the work area in a safe manner in accordance with safety procedures.
- All entry and exit movements to and from traffic streams must be in accordance with the requirements of safe working practices.

2.0 PROJECT OVERVIEW

2.1 Location

Figure 1 – Site location
(Site photos in Appendix E)

2.2 Project Details, Site Assessment and Site Constraint /Impacts

ITEM	DESCRIPTION
Project	Haul Route
Location	Boyanup North Road and Skippings Road, North Boyanup
Road Classification, Existing Speed Limit	Regional Distributor, Derestricted
Road Authority	Shire of Capel
Local Government	Shire of Capel
Client	BCP Materials
Prime Contractor	TBA
Sub-Contractor	TBA
Scope of Works	BCP Materials and contractors will be hauling from Skippings Road, access and egress from Boyanup West Road.
Staging of Work / Temporary Traffic Management	**Stage 1:** Install the traffic scheme as per the TGS before the work commences. **Stage 2:** Haulage. **Stage 3:** Route maintenance as required. **Stage 4:** Removal of all traffic signs and devices.
Project Date	10.01.2024
Hours / Days of Work	Daylight hours, Monday - Friday
Duration of Work	1 year
Other Constraints	N/A
Concurrent/adjacent Works or Projects	There are no concurrent or adjacent works at the time of preparing the TMP and Shire of Capel will notify if there are any planned works as part of the approvals process.

2.3 Existing Traffic and Road Environment

ITEM	DESCRIPTION
Traffic Volume and Composition	Works will have a minimal effect on the traffic flows. Daily Traffic Counts can be found in 4.1.1.
Existing road configuration	Roads in the area of works are bidirectional single carriage way.
Existing pedestrian / cyclist facilities	Pedestrians and Cyclists will not be affected by these works.

2.4 Overview of Proposed TTM

ITEM	DESCRIPTION
Temporary Traffic Management Descriptions	This Traffic Management plan involves non-complex traffic arrangements as per section 4.2.3 of CoP. Advance warning signage and 40km/h speed restriction will be implemented to accommodate works.
Speed zone dates and times	40km/h speed restriction daylight hours, Monday to Friday for project duration.
Lane Closures dates and times	N/A
Road Closures dates and times	N/A
Signal modifications description	N/A
Proposed lane widths	Lane width will not be altered.
Road Safety Barrier	N/A

2.5 Project Representatives

POSITION	NAME	CONTACT DETAILS
Road Authority Representative	TBA	**Shire of Capel** TEL: (08) 9727 0222 EMAIL: info@capel.wa.gov.au
Local Government	TBA	**As above**
Project Manager	Kyle Jackson	**BCP Materials** TEL: 0438 792 202 E: kyle.jackson@bcpgroup.com.au
Site Supervisor	Kyle Jackson	**As above**
TMP Design	Shane Urbini	**SJ Traffic Management** A: 68/70 Halifax Drive, Davenport WA 6230 P: 08 9731 5299 E: shane.urbini@sjtraffic.com
TMP Implementation	SJ Traffic Management	**SJ Traffic Management** A: 68/70 Halifax Drive, Davenport WA 6230 P: 08 9731 5299 E: operations@sjtraffic.com

BCP Group have engaged SJ Traffic Management to prepare this Traffic Management Plan and associated controls for the works.

The TMP will be implemented by SJ Traffic Management MRWA Registration # 0131.

3.0 RISK MANAGEMENT

The following details the preliminary assessment of site hazards likely to be encountered, the level of risk associated with each, and the control proposed. Note that the risk level is the level of assessed risk *without* the controls in place.

The controls listed have been determined as being appropriate in reducing the risk to a level that is acceptable.

The hierarchy of control has been utilised to ensure that the highest practicable level of protection and safety is selected:

- Elimination
- Substitution
- Isolation
- Engineering
- Administration
- Personal Protection Equipment

In evaluating the options, a key consideration is whether the option takes traffic around, through or past the worksite.

3.1 Risk Classification Tables

QUALITATIVE MEASURES OF CONSEQUENCE OR IMPACT

Level	Consequence	Description
1	Insignificant	Mid-block hourly traffic flow per lane is equal to or less than the allowable lane capacity detailed in AGTTM. No impact to the performance of the network. Affected intersection leg operates at a Level of Service (LoS) of A or B. No property damage.
2	Minor	Mid-block hourly traffic flow per lane is greater than the allowable road capacity and less than 110% of the allowable road capacity as detailed in AGTTM. Minor impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of C. Minor property damage.
3	Moderate	Midblock hourly traffic flow per lane is equal to and greater than 110% and less than 135% of allowable road capacity as detailed in AGTTM. Moderate impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of D. Moderate property damage.
4	Major	Midblock hourly traffic flow per lane is equal to and greater than 135% and less than 170% of allowable road capacity as detailed in AGTTM. Major impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of E. Major property damage.
5	Catastrophic	Midblock hourly traffic flow per lane is equal to and greater than 170% of allowable road capacity as detailed in AGTTM. Unacceptable impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of F. Total property damage.

OSH QUALITATIVE MEASURES OF CONSEQUENCE OR IMPACT

Level	Consequence	Description
1	Insignificant	No treatment required
2	Minor	First aid treatment required.
3	Moderate	Medical treatment required or Lost Time Injury
4	Major	Single fatality or major injuries or severe permanent disablement
5	Catastrophic	Multiple fatalities.

QUALITATIVE MEASURES OF LIKELIHOOD

Level	Likelihood	Description
A	Almost certain	The event or hazard: is expected to occur in most circumstances, will probably occur with a frequency in excess of 10 times per year.
B	Likely	The event or hazard: Will probably occur in most circumstances, will probably occur with a frequency of between 1 and 10 times per year.
C	Possible	The event or hazard: might occur at some time, will probably occur with a frequency of 0.1 to 1 time per year (i.e., once in 1 to 10 years).
D	Unlikely	The event or hazard: could occur at some time, will probably occur with a frequency of 0.02 to 0.1 times per year (i.e., once in 10 to 50 years).
E	Rare	The event or hazard: may occur only in exceptional circumstances, will probably occur with a frequency of less than 0.02 times per year (i.e., less than once in 50 years).

IMPORTANT NOTE: The likelihood of an event or hazard occurring must first be assessed over the duration of the activity (i.e., “period of exposure”). For risk assessment purposes the assessed likelihood must then be proportioned for a “period of exposure” of one year.

Example: An activity has a duration of 6 weeks (i.e., “period of exposure” = 6 weeks). The event or hazard being considered is assessed as likely to occur once every 20 times the activity occurs (i.e., likelihood or frequency = 1 event/20 times activity occurs = 0.05 times per activity). Assessed annual likelihood or frequency = 0.05 times per activity x 52 weeks/6 weeks = 0.4 times per year. Assessed likelihood = Possible.

QUALITATIVE RISK ANALYSIS MATRIX – RISK RATING

	CONSEQUENCE				
Likelihood	**Insignificant (1)**	**Minor (2)**	**Moderate (3)**	**Major (4)**	**Catastrophic (5)**
Almost certain (A)	**Low 5**	**High 10**	**High 15**	**Very High 20**	**Very High 25**
Likely (B)	**Low 4**	**Medium 8**	**High 12**	**Very High 16**	**Very High 20**
Possible (C)	**Low 3**	**Low 6**	**Medium 9**	**High 12**	**High 15**
Unlikely (D)	**Low 2**	**Low 4**	**Low 6**	**Medium 8**	**High 10**
Rare (E)	**Low 1**	**Low 2**	**Low 3**	**Low 4**	**Medium 7**

MANAGEMENT APPROACH FOR RESIDUAL RISK RATING

Residual Risk Rating	Required Treatment
Very High	Unacceptable risk. **HOLD POINT**. Work cannot proceed until risk has been reduced.
High	High priority, OSH MR, and Roadworks Traffic Manager (RTM) must review the risk assessment and approve the treatment and endorse the TGS prior to its implementation.
Medium	Medium Risk, standard traffic control and work practices subject to review by accredited AWTM personnel prior to implementation.
Low	Managed in accordance with the approved management procedures and traffic control practices.

3.2 Risk Register

3.2.1 Generic Risk Identification and Assessment

#	Risk Event	Consequence	Pre-Treatment Risk Rating			RESPONSE	Residual Risk Rating			TMP/TGS Reference
			L	C	RATING		L	C	RATING	
1.	Environmental damage caused by waste left on site by traffic control team.	Environment damage.	C	3	M9	All waste must be taken from site and disposed of in general waste or recycling bins provided at depot or on site. All signs and devices taken to site must be returned to the depot, if damaged they must be disposed of by means if recycling or general waste as appropriate.	D	3	L6	ALL
2.	Dieback spread caused by contaminated vehicle or sand bags taken to site by traffic control team.	Causing significant environmental damage	C	3	M9	Clean yellow sand used to fill sand bags from depot to prevent transport of dieback between sites. Vehicles must be cleaned weekly as a minimum or as required if vehicle becomes soiled.	D	3	L6	ALL
3.	Mobile plant entering and leaving the site will probably results in conflict with through traffic, collision, and injury.	Mobile plant or through traffic damage.	B	3	H12	The TMP has outlined the procedures for construction traffic entering and leaving the worksite. See section 7.4.	E	3	L6	7.4 Site Access for Work Vehicles
4.	Work vehicle completes a U turn manoeuvre and might be hit by vehicle in traffic stream.	Causing serious injury or death to work vehicle or traffic stream vehicle.	C	3	M9	Safe turn locations must be discussed and agreed upon in a pre-start meeting. A lookout person must be used when required.	D	3	L2	ALL
5.	Incorrectly designed and / or installed traffic control.	May results in inadequate protection of the worksite with a subsequent increased	B	4	VH16	Qualified and experienced personnel have been employed in the preparation of the TMP and appropriately qualified and experienced personnel	D	4	M8	ALL

#	Risk Event	Consequence	Pre-Treatment Risk Rating L	C	RATING	RESPONSE	Residual Risk Rating L	C	RATING	TMP/TGS Reference
		potential for crashes and injury				accredited with BWTM must be used for the implementation and dismantling of all temporary signs and devices. The onsite supervisor will inspect the site to ensure that the temporary signs and devices have been erected and maintained on site and are in compliance with the endorsed TMP.				
6.	Workers hit by vehicles during setting up and dismantling of traffic management.	Causing serious injury or death to workers on foot.	B	4	VH16	Shadow vehicle with flashing lights used to protect workers. Workers to wear high visibility garments in accord with the AGTTM. Driver of vehicle to act as lookout person. Lookout person to sound horn to warn worker of approaching vehicle inherent risk. Lookout person to assist at all times. Implementation and inspection of the site conditions.	D	4	M8	4.5 Shadow Vehicles
7.	Moving / setting up signage.	Causing serious injury or death to workers on foot.	C	4	H12	Work personnel protected by vehicle with rotating beacons. Personnel to hold the appropriate traffic management accreditation and experience in order to identify onsite risks prior to and during implementation and inspection of the site conditions.	D	4	M8	ALL
8.	Oversize loads passing through work site.	May cause delays and or congestion.	B	2	M8	Worksite personnel to allow passage for oversize vehicles as soon as possible. This may involve clearing the worksite	D	2	L4	4.2.4 Heavy and Oversized Vehicles

#	Risk Event	Consequence	Pre-Treatment Risk Rating L	C	RATING	RESPONSE	Residual Risk Rating L	C	RATING	TMP/TGS Reference
						temporarily to allow vehicles wider than 3.2 metres to pass. MRWA HVS will be notified of the works via the Notification of Roadworks form.				& TGS
9.	Emergency services needing to pass through work area.	May be delayed through congestion of traffic.	B	3	H12	The TMP details consultation and outlines procedure for Emergency Services.	D	3	L6	4.2.10 Emergency Vehicle Access
10.	Vehicle breakdown/crash in site.	May block the through carriageway leading to unacceptable delays and congestion.	B	2	M8	The TMP contingency plan outlines how the impact of vehicular breakdown or crashes will be managed. Contingency arrangements. See section 8.1.2 of this TMP.	E	2	L2	ALL
11.	Build-up of traffic could affect sight distances on the approach to the worksite.	May result in an accident.	B	3	H12	During the implementation stage of the TMP, Traffic volumes will be reviewed to ensure traffic flows adhere to the requirements of AGTTM Table 2.4: Desirable number of open lanes for each direction of travel. Any excessive traffic builds up or delays occurring will be considered and work suspended until a solution can be found.	D	3	L6	4.1.2 Traffic Flow Analysis 4.1.6 End of Queue Treatment
12.	Traffic follows the work vehicles into the work area.	May result in property damage and/or injury to personnel	C	3	M9	Lookout Persons should guide any traffic that is following work vehicles before they can enter the work site. Operators should be alerted if a vehicle should enter the work site unexpectedly.	E	3	L3	ALL

#	Risk Event	Consequence	Pre-Treatment Risk Rating L	C	RATING	RESPONSE	Residual Risk Rating L	C	RATING	TMP/TGS Reference
13.	Limited access for cyclists, pedestrians and people with disabilities causing confusion. Cyclists, pedestrians, or people with disabilities entering the work area	May be hit by machinery causing serious injury or death.	D	4	M8	Advance warning signage will be provided for pedestrians and cyclists approaching the work area. Pedestrians, cyclists, and people with disabilities will be escorted past the worksite when required.	E	4	L4	ALL
14.	Traffic controller crossing road with heavy sandbags and signage causing traffic controller to move slower.	Causing serious injury or death to workers on foot.	C	4	H12	Signage to be set up as per AGTTM Part 6 section 6.4 placement of Signs and Devices. Removal Order for Signs and Devices to be removed as per section 8.4.	D	4	M8	AGTTM06 Section 6.4
15.	Road users disregard advance warning signs due to the length of the worksite.	This may cause them to increase speed which results in a crash.	C	3	M9	Flashing beacons to be used on all operating plant within the worksite, ensuring road users can see workers for the duration and length of the work area. Repeater speed signs to be used if required.	D	3	L6	ALL
16.	Poor visibility due to rain, fog, smoke etc.	Causes vehicles to crash into other vehicles or work personnel	C	4	H12	Traffic Management Supervisor is able to relocate the approach signs within tolerances as per AGTTM. If visibility is still poor, traffic control must be removed and works cease until safe to continue.	E	4	L4	ALL
17.	Slips, trips and falls.	Causing cuts, bruises, abrasions, broken bones, soft tissue injuries requiring medical treatment.	B	3	H12	Wear lace up steel capped boots, long pants, long sleeve shirt and gloves when handling signs and devices.	C	3	M9	ALL
18.	Reversing or driving into fixed or moving obstructions (bollards/vehicles etc.)	Causing asset damage or injury.	B	3	H12	Driver to get out of vehicle and look around before reversing or driving forward.	C	3	M9	ALL

#	Risk Event	Consequence	Pre-Treatment Risk Rating L	C	RATING	RESPONSE	Residual Risk Rating L	C	RATING	TMP/TGS Reference
						Use mirrors and/or reverse camera (be aware of depth perception differences when using mirrors/reverse camera). Use lookout person where practicable, whilst reversing. Exclusion zones (minimum 30m) must be observed and maintained as per Working Around or Near Mobile Plant and Machinery Policy and Procedure (on the cover of daily diary book). Establish radio contact with plant operators, and nearby work vehicles before reversing or driving.				
19.	Traffic management truck pulling off the road and resulting in blocking part of the traffic lane	Causing serious injury or death to workers on foot.	B	4	VH16	Vehicle to park as far off the road safely, a lookout person to spot the traffic managers put out the signage and devices.	E	4	L4	ALL

3.2.2 Site Specific Risk Identification and Assessment

During the site visit a risk analysis of the proposed works has identified a number of site-specific risk events/items that will be managed by effective traffic management planning and the implementation of this TMP.

A risk analysis table is attached under section 3,1. The assessment process has been undertaken in accordance with Australian Standard AS/NZS ISO 31000, Risk Management.
All identified risks have been treated by development of this TMP. Unforeseen risks arising during the works will be treated in accordance with standard work practices and procedures where appropriate.

#	HAZARD/EVENT	CONSEQUENCE	Pre-Treatment Risk Rating			RESPONSE	Residual Risk Rating			TMP/TGS
			L	C	RATING		L	C	RATING	Reference
20.	Truck access/ egress to Skippings Road resulting in unusual vehicle movement causing traffic collision	Injury to road users	C	4	H 12	Provision of advance warning signage ahead of intersection	D	4	M 8	2350-01/02
21.		Damage to property	C	3	M 9		D	3	L 6	
22.	Truck movement on Skippings Road impact with unaware road user	Injury to road user	C	3	M 9	Provision of advance warning signage and 40km/h speed restriction. Trucks will be directed to maintain 40km/h and contact with other heavy vehicles	D	3	L 6	2350-01
23.		Damage to property	C	2	L 6		D	2	L 4	
24.	Route maintenance works in conflict with road users	Injury to road users	C	3	M 9	Provision of advance warning signage and 40km/h speed restriction while road plant in operation	D	3	L 6	2350-02
25.		Damage to property	C	2	L 6		D	2	L 4	

3.2.3 Additional Risk Identification and Response Table

Unforeseen risks arising during the works will be treated in accordance with standard work practices and procedures where appropriate and recorded on the Additional Risk Identification and Response Table below.

#	HAZARD/EVENT	CONSEQUENCE	Pre-Treatment Risk Rating			RESPONSE	Residual Risk Rating			TMP/TGS
			L	C	RATING		L	C	RATING	Reference
26.										
27.										
28.										
29.										
30.										
31.										

4.0 TRAFFIC MANAGEMENT PLANNING AND ASSESSMENT

4.1 Traffic Assessment and Analysis

4.1.1 Traffic and Speed Data

Traffic/speed data was not available at the time of preparing this traffic management plan.

4.1.2 Traffic Flow Analysis

There is not expected to be any significant impact to traffic flow during this project.

4.1.3 Temporary Speed Zones

Temporary speed zones are not proposed for this project.

4.1.4 Existing Traffic signals

There are no existing traffic signals impacted by this project.

4.1.5 Impact to adjoining network.

There is not expected to be any impact to the adjoining network.

4.1.6 End of Queue Treatment

End of queues treatment is not required for this project.

4.1.7 Portable Traffic Control Devices

Portable Traffic Control Devices are not required for this project.

4.1.8 Speed Management

Traffic speed will be managed by the use of advance warning signage. Compliance will be monitored by personnel on site and reviewed during site inspection.

4.1.9 Excavations or Above Ground Hazards

There are no excavations expected deeper than 250mm within 2.5m of the trafficable lanes.

4.2 Road Users

4.2.1 Pedestrians

There is not expected to be any impact to pedestrians during this project.

4.2.2 Cyclists

There is not expected to be any impact to cyclists during this project.

4.2.3 Public Transport

There is not expected to be any impact to public transport during this project.

4.2.4 Heavy and Oversized Vehicles

There is not expected to be any impact to heavy or oversized vehicles.

4.2.5 Existing Parking Facilities

There are no existing parking facilities affected by these works.

4.2.6 Access to Adjoining Properties / Business

Access will be maintained at all times during the project.

4.2.7 Rail Crossings

There are no rail crossings in the area of works.

4.2.8 School Crossings

There are no school crossings within the vicinity of the work site.

4.2.9 Special Events and Other Works

Special Events

Contact has been made with the Shire of Capel and there are no special events scheduled whilst these works are taking place.

Other Works

There are no other works scheduled in this location during the haulage period.

4.2.10 Emergency Vehicle Access

There is not expected to be any impact to emergency vehicle access during this project.

4.3 Night Work Provisions

Day works only, night works are not planned. However, traffic personnel and workers may be in dark conditions at the start and end of shifts. All personnel are to wear PPE that meets AS/NZS 4602.1:2011 High-Visibility Safety Garments for Day/Night use and take additional caution in semi dark conditions.

All signs used at night are to be Class 1 Retro-reflective material and delineation will be either retro-reflective or be sufficiently illuminated.

4.4 Road Safety Barriers

Temporary Road Safety Barriers are not catered for within the scope of this TMP. When there are existing road barriers, traffic management signs and devices will be minimised adjacent to barriers due to the lack of escape route to traffic management personnel and a Lookout Person will be utilised.

4.5 Shadow Vehicles

Shadow vehicles must be used to protect workers on foot (when not protected by Road Safety Barriers) in the scenarios outlined in the table below on Main Roads roads with the following traffic volumes:

- • All work on roads with traffic volumes that exceed 15,000 vpd (AADT); OR
- • Night works on roads that exceed 2,000 vpd (AADT)

Scenario 1 - Activities / Works within a traffic lane (open or closed)
Scenario 2 - Activities / Works within 2 m of the live traffic lane on roads with a permanent speed limit of 80 km/h or more
Scenario 3 - Implementing or removing traffic management on roads with a speed limit less than 80 km/h. (Refer to scenario 2 for speeds 80 km/h or more)

Table 18 – Shadow vehicle scenarios

Scenario	Shadow Vehicle Requirement	Exceptions: Not meeting these requirements must be supported by a risk assessment as per below
1	Shadow vehicle must be used, the shadow vehicle must: • Be fitted with an arrow board • Be positioned 20-40 m in advance of the workers	Risk assessment undertaken by an RTM as part of the TMP. Mitigating factors, as a minimum, must include the use a dedicated lookout person. The distance of the shadow vehicle to traffic management workers may be extended when implementing or removing signs and devices for a taper based on a risk assessment undertaken by a AWTM as part of the TMP or an onsite documented risk assessment undertaken by a person that holds WTM accreditation.
2	Shadow vehicle must be positioned 20-40 m in advance of the workers. An arrow board may not be required. Crossing the road is not permitted.	Risk assessment undertaken by: • • a AWTM as part of the TMP; or • • an onsite documented risk assessment undertaken by a person that holds WTM accreditation. If a risk assessment supports crossing the road a dedicated lookout person must be used
3	Shadow vehicle may not be required, based on a risk assessment. Crossing the road to implement / remove signs or devices is not permitted.	Risk assessment undertaken by a AWTM as part of the TMP or an onsite documented risk assessment undertaken by a person that holds WTM accreditation. If a risk assessment supports crossing the road a dedicated lookout person must be used

4.6 Consultation and Communication / Notification

4.6.1 Other Agencies

- **Road Authority**
  Approvals for the implementation of this TMP must be in accordance with the Shire of Capel.
- **Service Providers**
  No services are to be affected and as such no approvals necessary.
- **Environmental Protection Agency**
  Not Applicable.
- **Department of Parks and Wildlife**
  Not Applicable.

4.6.2 Public

No notification required for this project due to short term low impact works.

5.0 SITE ASSESSMENT

5.1 Provision to Address Environmental Conditions

5.1.1 Adverse Weather

Weather may be expected to adversely impact on the effectiveness of the traffic control detailed on the attached TGS's. Notwithstanding this, should adverse weather conditions be encountered during the works, the following contingency plans should be activated.

Note: any adjustments to the plan must be risk assessed and approved by someone holding a WTM or AWTM accreditation. Major changes will require road authority approval.

5.1.1.1 Rain

In the event of rain, an on-site assessment must be made and sign spacing, and tapers may be extended by 25% to account for increased stopping distances. Slippery (T3-3) signs may be placed as required and all changes must be recorded in the daily diary.

If rain occurs, Traffic Management Personnel must inspect the site and where signage and / or devices are not clearly visible, signage may need to be adjusted to improve visibility or if necessary, provide additional signage and delineation.

Where stopping distances are adversely affected by wet surfaces, spacing between signs may need to be adjusted to provide increased reaction time for drivers. In cases where it is determined that the rain is so heavy that the risk is considered unacceptable, all work must cease until rain has cleared.

All changes must be noted in the daily diary.

5.1.1.2 Floods

Should works be affected by flooding to the extent that the worksite becomes impassable or risk is considered unacceptable, all work must cease immediately, and Traffic Controllers (and other personnel if necessary) must be deployed immediately to close the site and direct traffic around the flooded area (under the direction of the project manager or traffic manager).

Emergency services and the Road Authority must be notified immediately, and Traffic Controllers must remain onsite until emergency services and the Road Authority personnel arrive and take control of the site.

5.1.1.3 Other adverse weather (strong winds, thunderstorms, etc.)

In the event of expected adverse weather additional sandbags must be utilised to lessen the chance of signs blowing over. Delineation may be double-based (bollards) or cones double-stacked to add additional stability. Should weather conditions deteriorate or be expected to deteriorate such that the risk is considered unacceptable, all work must cease until weather conditions are safe to procced. All changes must be noted in the daily diary.

5.1.2 Sun Glare

Where sun glare is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation and/or traffic control devices provided to address the risk from glare.

Additionally, in the event that traffic control is adversely affected by glare at sunset and sunrise, traffic controllers may need to assist in maintaining low traffic speeds.

All changes are to be noted in the daily diary.

5.1.3 Fog, Dust and Smoke

Where fog, dust or smoke is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation and/or traffic control devices provided to address the risk.

All changes are to be noted in the daily diary.

Should works be affected by fog, dust, or smoke to the extent that risk is considered unacceptable, all work must cease immediately, and Traffic Controllers (and other personnel if necessary) must be deployed immediately to close the site.

5.1.4 Road Geometry, Terrain, Vegetation and Structures

There are no road environment factors that may impact the effectiveness of the proposed traffic management arrangements prescribed herein.

5.2 Existing Traffic and Adverting Signs

There are no contradictory signs applicable to this project.

6.0 SAFETY PLAN

6.1 Work Health and Safety

All persons and organisations undertaking these works or using the roadwork site have a duty of care under statute and common law to provide a safe workplace for all personnel working at the site, accessing the site or who may be impacted by the construction activity including employees, contractors, subcontractors, visitors to the site and the general public.

This TMP forms part of the overall project Safety Management Plan and provides details on how all road users considered likely to pass through, past, or around the worksite will be safely and efficiently managed for the full duration of the site occupancy and works.

All traffic management works, and control devices must be in accordance with:

- Guide to Temporary Traffic Management (AGTTM) - Austroads
- Australian Standard AS1742.3; Traffic Control Devices for Works on Roads
- AS/NZS ISO 31000– Risk Management – Principles and Guidelines
- AS/NZS 4602– High visibility safety garments
- Disability Services Act
- Guide to Preparation of Traffic Management Plans
- Local Government Act 1995
- Main Roads Act 1930
- MRWA Specification 202
- Work Health and Safety Act 2020 (WA)
- Work Health and Safety (General) Regulations 2022 (WA)
- Road Traffic Act 1974
- Road Traffic Code 2000
- Traffic Management for Works on Roads Code of Practice
- Traffic Management Plan Preparation Guidelines

6.2 Roles and Responsibilities

6.2.1 Responsibilities

The Project Manager has the ultimate responsibility to ensure the TMP is implemented for the prevention of injury and property damage to employees, contractors, sub-contractors, road users and all members of the public.

The Project manager will ensure all site personnel are fully aware of their responsibilities, and that Traffic Controllers are appropriately trained and accredited and that sufficient controllers are available to ensure appropriate breaks are taken.

All personnel engaged in the field activities will follow the correct work practices as required by the CoP, AGTTM and AS1742.3.

All personnel will not commence or continue work until all signs, devices and barricades are in place and operational in accordance with the requirements of the TMP.

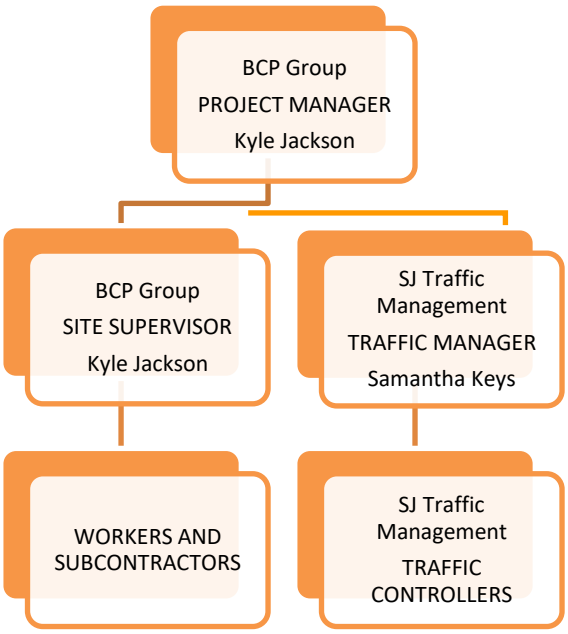
All personnel responsible for temporary traffic management must ensure that the number, type and location of signs, devices and barricades are to a standard not less than Appendix F of this plan, CoP, AGTTM and AS1742.3 (except where specifically detailed in this TMP with reasons for the variations). Should a situation arise that is not covered by this TMP, CoP, AGTTM or AS1742.3, the Road Authority Representative must be notified.

Task	Required Main Roads Accreditation	Austroads role title
On site manual traffic control using a Stop-Slow bat. Operate portable traffic signals systems. Operate portable boom barrier.	Traffic Controller	Traffic Controller
Selection of appropriate generic TGS, within an approved TMP, assess as site suitable and implement. Selection and Implementation of correct approved site specific TGS, required for the stage of works (or event). Monitor and maintain the performance of the implemented TGS. Adjustment of signs and devices within tolerances.	Basic Worksite Traffic Management	Traffic Management Implementer (TMI)
Implement traffic signs and devices from an approved TMP in accordance with AGTTM Part 5 – Short Term Low Impact Works e.g. Worker (symbolic), GRADER AHEAD, ROAD PLANT AHEAD or ROADWORK AHEAD.	Basic Worksite Traffic Management – Non - Practitioner	Traffic Management Implementer –Non-Practitioner (TMI-NP)
Review TMPs prepared by a person holding an AWTM accreditation. Monitoring the effectiveness of, and on-site adjustments to the Traffic Management Plan in accordance with its scope and objectives. This includes adjusting, adding and/or removing signs and devices where the intent/objectives of the TMP and operation of the road network are not adversely impacted. Changes to the TMP/TGS must not involve adding lane or road closures, speed limit changes, or adding any additional regulatory signs that have not been approved (note: WTMs may add repeater signs).	Worksite Traffic Management	Not currently in the Austroads Training Framework, however the WTM accreditation will be retained in WA
Prepare, review, monitor and adjust Traffic Management Plans and Traffic Guidance Scheme.	Advanced Worksite Traffic Management	Traffic Management Designer (TMD)
Review and endorsement of Traffic Management Plans involving ‘complex traffic arrangements’. Suitability and compliance audits of Traffic Management Plans involving ‘complex traffic arrangements’, as may be specified for works undertaken for or on behalf of Main Roads. Undertaking ‘risk management’, and preparation or endorsement of, any Traffic Management Plan proposing to implement a lesser treatment than required by this Code for all works undertaken for or on behalf of Main Roads.	Roadworks Traffic Manager	There is no equivalent in the Austroads framework. RTMs to be retained in WA
The operation of a truck mounted attenuator (TMA) when carrying out traffic management activities.	Operate Truck Mounted Attenuator	TMA operator training is not included.

Table 21 – Tasks Requiring Main Roads Accreditation

6.2.2 Roles

The following diagram outlines the responsibility hierarchy of this contract.



6.2.2.1 Project Manager

The Project Manager must:

- Ensure all traffic control measures of this TMP are placed and maintained in accordance with this plan and the relevant Acts, Codes, Standards and Guidelines
- Ensure suitable communication and consultation with the affected stakeholders is maintained at all times
- Ensure inspections of the temporary traffic management are undertaken in accordance with the TMP, and results recorded. Any variations must be detailed together with reasons.
- Review feedback from field inspections, worksite personnel and members of the public, and take action to amend the traffic control measures as appropriate following approval from the Road Authority's Representative
- Arrange and/or undertake any necessary audits and incident investigations.

6.2.2.2 Site Supervisor

The site supervisor is responsible for overseeing the day-to-day activities, and is therefore responsible for the practical application of the TMP, and must:

- Instruct workers on the relevant safety standards, including the correct wearing of high visibility safety vests
- Ensure traffic control measures are implemented and maintained in accordance with the TMP
- Undertake and submit the required inspection and evaluation reports to management
- Render assistance to road users and stakeholders when incidences arising out of the works affect the network performance or the safety of road users and workers
- Take appropriate action to correct unsafe conditions, including any necessary modifications to the TMP.

6.2.2.3 Traffic Management Personnel

- At least one person on site must be accredited in Basic Worksite Traffic Management and must have the responsibility of ensuring the traffic management devices are set out in accordance with the TMP.
- At least one Person Accredited with either Worksite Traffic Management or Advanced Worksite Traffic Management must be onsite at all times when road workers are present
- At least one person accredited in Advanced Worksite Traffic Management must be available to attend the site at short notice at all times to manage variations, contingencies, and emergencies, and to take overall responsibility for traffic management.

6.2.2.4 Traffic Controllers

Traffic Controllers are not applicable to this project.

6.2.2.5 Workers and Subcontractors

Workers and Subcontractors must

- Correctly wear high visibility vests, in addition to other protective equipment required (e.g., footwear, eye protection, helmet sun protection etc.), at all times whilst on the worksite
- Comply with the requirements of the TMP and ensure no activity is undertaken that will endanger the safety of other workers or the general public.
- Enter and leave the site by approved routes and in accordance with safe work practices.

6.3 PPE

All personnel entering the work site must correctly wear high visibility garments to AS/NZS 4602 High-Visibility Safety Garments for Day/Night use in addition to other protective equipment required on a site-by-site basis at all times whilst on the worksite.

LOCATION	CLOTHING	FOOTWEAR / EYEWEAR	SCOPE
Field	Long Sleeves (buttoned down) & Long pants. High visibility garments meeting AS/NZS 1906 and AS/NZS 4602.	Well maintained and supportive ankle high safety boots with Class 1 Toe Caps as per AS/NZ 2210.3 (preference is lace up). Eyewear is mandatory	Includes network. inspections, worksites and site offices.

In addition to the above clothing standards every person must have the following PPE available to them when in the field or at depots and yards for use as required:

- Protective footwear
- Gloves (to be carried at all times and used for manual handling tasks)
- Hard hats with wide brim attachment
- Sun Protection
- Hearing protection
- Eye protection which conforms to AS/NZ 1067.

If the Safe Work Method Statement (SWMS) or Risk Assessment specifies additional PPE for a project, task, or location then this must become part of the minimum requirements for that situation.

Any project, task or location may have Special Conditions relating to PPE and other safety requirements. These will be specified ahead of time in relevant documentation and are mandatory requirements.

6.4 Plant and Equipment

All plant and equipment at the workplace must meet statutory requirements and have the required registration, licences or certification where required.

All mobile equipment must be fitted with suitable reversing alarms.

All mobile plant and vehicles must be fitted with a pair of rotating flashing yellow lamps in accordance with AS1742.3 clause 4.14.1.

All workers will be made aware of the safe work practice at the time of the site induction.

6.5 Trip Hazards

The worksite and its immediate surroundings must be suitably protected and free of hazards, which could result in tripping by cyclists or pedestrians.

Hazards, which cannot be removed, must be suitably protected to prevent injury to road users, including those with sight impairment.

Where level differences are significant, suitable barriers, which preclude pedestrian access must be used.

Where works extend beyond daylight hours and adjacent lighting is insufficient to illuminate hazards to cyclists or pedestrians, appropriate temporary lighting must be installed.

The worksite must be kept tidy to reduce the risk to workers.

7.0 IMPLEMENTATION

7.1 Traffic Guidance Schemes

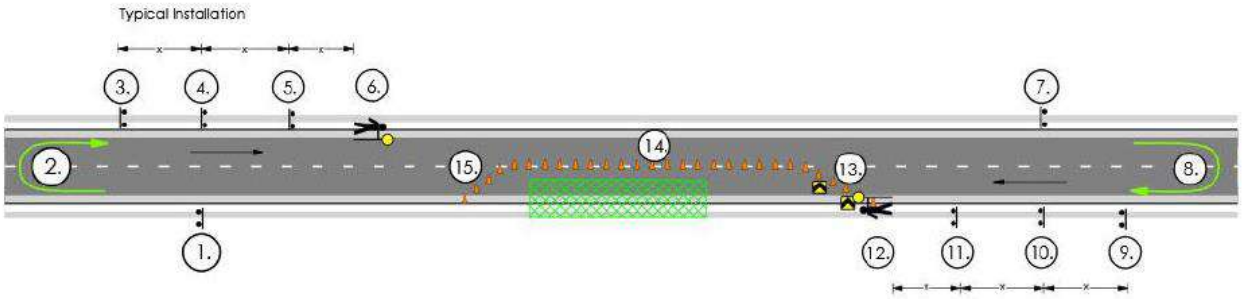
The Traffic Guidance Scheme (TGS) outlined in Appendix F below have been provided for the following stages to demonstrate the type of controls that will be implemented throughout the term of the contract.

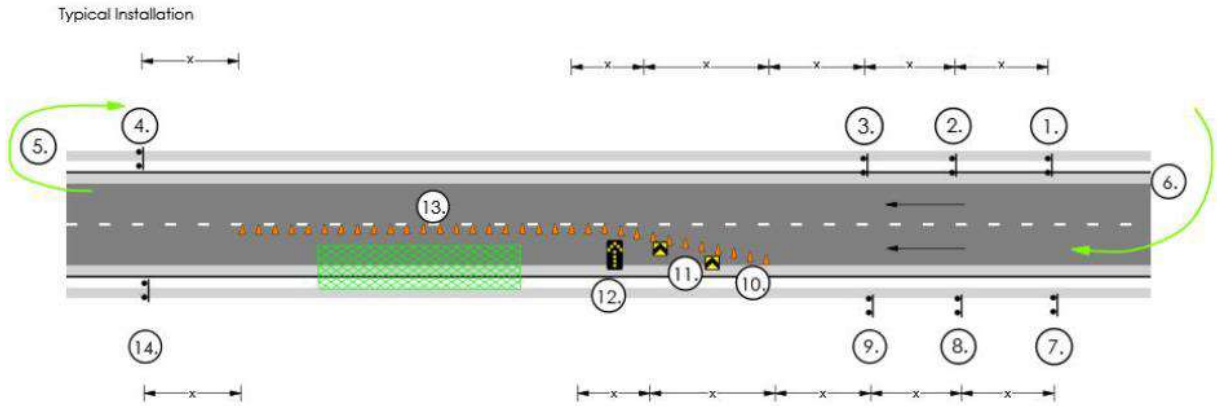
All sign and device requirements are shown on each TGS. Should the use of additional (not shown on the TGS) or reduced number of devices be required due to unforeseen needs, they must be recorded within the Daily Diary as a variation to the TMP, following prior approval.

7.2 Sequence and Staging

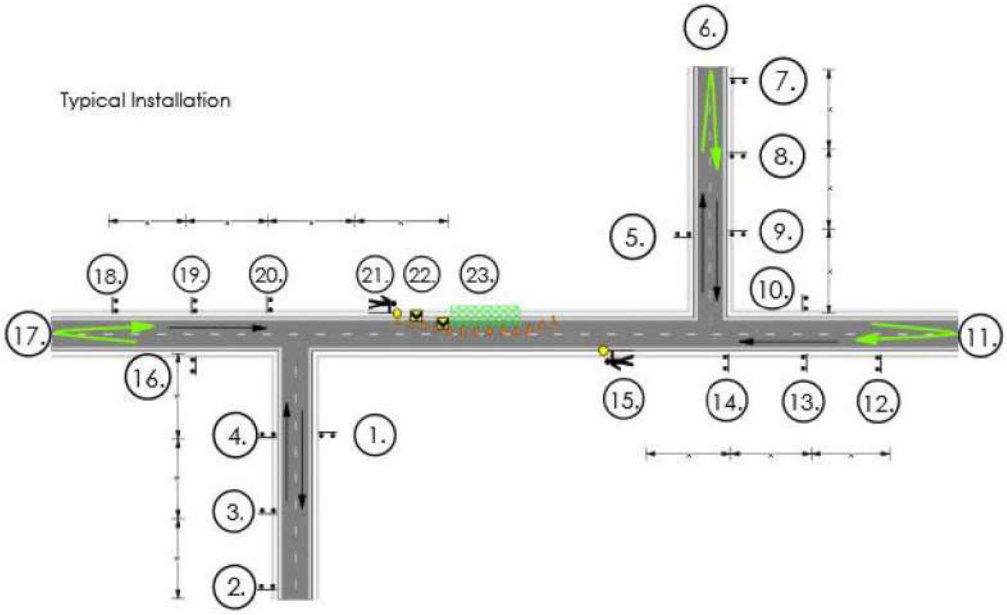
Before work commences, signs and devices at approaches to the work area must be erected in accordance with the adopted TGS, in the following order:

- Advance warning signs.
- All intermediate advance warning and regulatory signs and devices required in advance of the taper or start of the work area.
- All delineating devices required to form a taper including flashing arrow signs or temporary hazard markers where required.
- Delineation past the work area or into a side-track.
- Other warning signs or regulatory signs.





Typical Installation



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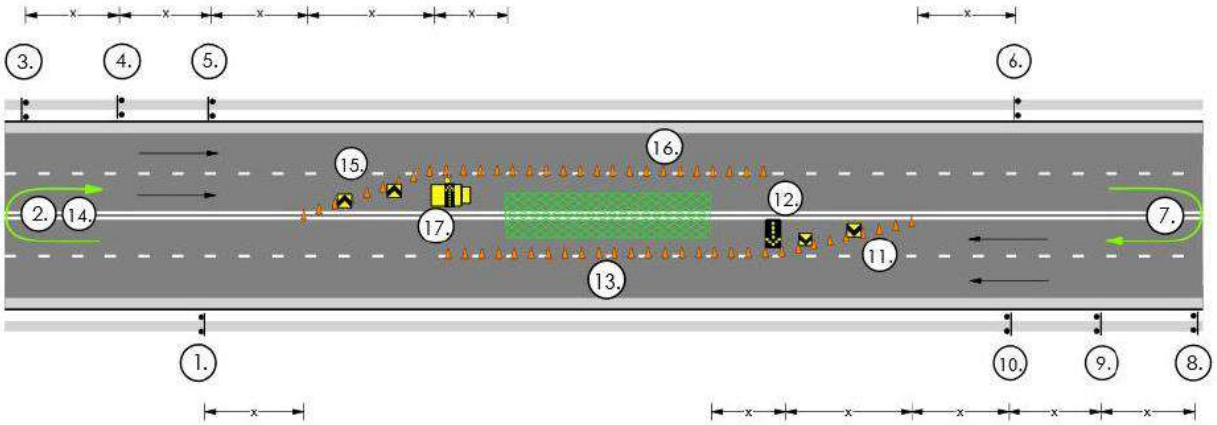
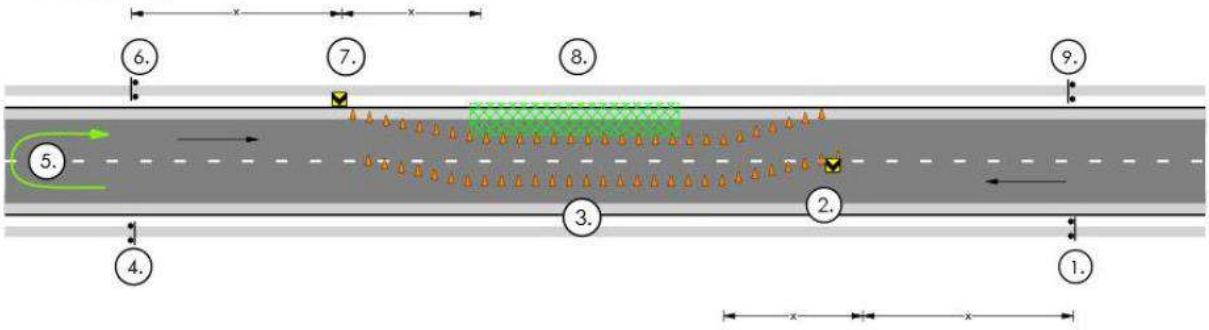


Typical Installation



7.3 Traffic Control Devices

7.3.1 Sign Requirements

All signs used must conform to the designs and dimensions as shown in AS/NZS 1742.3, AGTTM and the CoP.

Prior to installation, all signs and devices must be checked by the Site Supervisor or a suitably qualified person to ensure that they are in good condition and meet the following requirements:

- Mechanical condition - Items that are bent, broken or have surface damage must not be used.
- Cleanliness - Items should be free from accumulated dirt, road grime or other contamination.
- Colour of fluorescent signs - Fluorescent signs whose colour has faded to a point where they have lost their daylight impact must be replaced.
- Retro reflectivity. - Signs used for night-time or in low light conditions whose retro reflectivity is degraded either from long use or surface damage and does not meet the requirements of AS 1906 must be replaced.
- Battery operated devices - must be checked for lamp operation and battery condition.

Where signs do not conform either to the requirements of AGTTM03 2.5.3 Signs or would fail to pass any of the above checks, they must be replaced on notice.

Signs and devices must be positioned and erected in accordance with the locations and spacing's shown on the drawings. All signs must be positioned and erected such that:

- They are properly displayed and securely mounted.
- They are within the driver's line of sight.
- They cannot be obscured from view.
- They do not obscure other devices from the driver's line of sight.
- They do not become a possible hazard to workers or vehicles; and
- They do not deflect traffic into an undesirable path.

Signs and devices that are erected before they are required must be covered by a suitable opaque material. The cover must be removed immediately prior to the commencement of work.

Where there is a potential for conflict of information between existing signage and temporary signage erected for the purpose of traffic control, the existing signs must be covered. The material covering the sign must ensure that the sign cannot be seen under all conditions i.e., day, night, and wet weather. Care will be taken to ensure existing signs are not damaged by the covering material or by adhesive tape.

7.3.2 Tolerances on positioning of signs and devices

Where a specific distance for the longitudinal positioning of signs or devices with respect to other items or features is stated, for the spacing of delineating devices or for the length of tapers or markings, the following tolerances may be applied:

(a) Positioning of signs, length of tapers or markings:
  (i) Minimum, 10% less than the distances or lengths given.
  (ii) Maximum, 25% more than the distances or lengths given.
(b) Spacing of delineating devices:
  (i) Maximum, 10% more than the spacing shown.
  (ii) No minimum.
These tolerances must not apply where a distance, length or spacing is already stated as a maximum, a minimum or a range.

7.3.3 Flashing Arrow Signs

Flashing arrow signs are not required for these works.

7.3.4 Delineation and Edge Clearance

Traffic Cones must be at least 700mm high, fluorescent red and fitted with Class 1 retro-reflective tape. Alternatively, fluorescent red bollards with Class 1 retro-reflective tape may be used. The base of the

cones and bollards must be designed to be stable under reasonably expected wind conditions and air turbulence from passing traffic.

The Supervisor will inspect cones at intervals necessary to ensure any miss-alignment or displacement is identified and corrected prior to this causing disruption to traffic.

7.3.5 Variable Message Sign

Variable Message signs is not required for these works.

7.3.6 Truck Mounted Attenuator

TMA are not required for these works.

7.3.7 Escort Vehicle:

Escort vehicles are not required for these works.

7.3.8 Recommended Maximum Spacing of Cones:

The table below shows the recommended spacing for delineation devices from AGTTM Table 5.3

Purpose and Usage	Speed limit (km/h) *	Recommended maximum spacing (m)
For traffic cones and bollards**		
All purposes	≤ 55	4m
	56 - 75	12m
	>76	18m
Protecting Freshly Painted Lines	51 – 70	24m
	> 70	60m
Centreline on approach to a traffic controller position	All speeds	4m
Crossover for contraflow (e.g. through the median)	All speeds	2m
Taper at traffic control station	All speeds	4m
**Use the speed limit where the cones and bollards are installed **Consider whether cyclists are using the road shoulder or bike lane and whether an appropriate alternative facility be provided before installing traffic cones or bollards in the area. Where possible, place bollards to maintain a safe cycling facility.*		

7.4 Site Access for Work Vehicles

Construction and/or traffic management vehicles entering and exiting the traffic stream must be mindful of the conditions that may affect the safety of these movements.
Access points must be noted on the TGS and traffic controllers, work personnel and suppliers notified.
Traffic Controllers may assist work vehicles enter and exit the work area.
All entry and exit movements will be in accordance with the Road Traffic Code and must be undertaken in the following manner:

Vehicles must:

- Decelerate slowly and signal their intention by indicator to leave the traffic stream.
- Switch on the vehicle hazard lights once the vehicle is stationary.
- Where risks associated with unassisted exit or entry to or from the traffic stream are high, Traffic Controllers should be used to assist entry and exit movements.
- Vehicles fitted with two rotating amber lamps must have the vehicle's rotating lamp activated prior to entering the traffic stream and must undertake the following.
  - Switch off the vehicle hazard lights.
  - Indicate intention to enter the traffic stream using direction indicators.
  - Ensure there is a suitable gap from oncoming traffic to allow for a safe entry manoeuvre; and,

Entry and exit manoeuvres must be avoided in close proximity to intersections. Work personnel must not cross traffic streams on foot unless absolutely necessary. Construction or traffic management vehicles

must only be parked where indicated on the Traffic Guidance Scheme. Vehicles must not obstruct paths and be parked an adequate distance from intersections or driveways to ensure clear sight lines remain for all road users.

7.5 Communicating TMP Requirements

The requirements of the TMP will be communicated to all personnel entering the site through the site induction program.

7.5.1 Onsite Two-Way Communications

There are many channels that have been established by law for two-way communication purposes including the Emergency channel 5 and the data transmission channels 22 and 23.
Certain channels are used as repeater stations and **must not** be used for general conversation these are 1-8 and 31-38.
The supervisor / project manager can select an appropriate channel for communication purposes from channel 12 – 17, 39 & 40 inclusive.

8.0 EMERGENCY ARRANGEMENTS AND CONTINGENCIES

8.1 Traffic Incident Procedures

In the event of an incident or accident, whether or not involving workers, traffic or road users, all work must cease, and traffic must be stopped as necessary to avoid further deterioration of the situation. First Aid must be administered as necessary, and medical assistance must be called for if required. For life threatening injuries an ambulance must be called on telephone number 000. The Police must also be called on 000 for traffic crashes where life threatening injuries are apparent.
Any traffic crash resulting in non-life-threatening injury must immediately be reported to the WA Police Service on 131 444.
Broken down vehicles and vehicles involved in minor non-injury crashes must be temporarily moved to the verge as soon as possible after details of the crash locations have been gathered and noted. Where necessary to maintain traffic flow, vehicles must be temporarily moved into the closed section of the work area behind the cones, providing there is no risk to vehicles and their occupants or workers.
Suitable recovery systems must be used to facilitate prompt removal of broken down or crashed vehicles. Assistance must be rendered to ensure the impact of the incident on the network is minimised.
Details of all incidents and accidents must be reported to the Traffic Supervisor/Crew Leader and Project Manager immediately and subsequently using the incident report form at Appendix C (or similar).

Ensure that the following information is recorded:

- Location, Time, and Date of accident.
- Weather conditions.
- Condition of the travelled path (e.g., lane width and surface condition).
- Details of the accident, including any injuries and vehicle (s) involved.
- Details of emergency services called to the accident.
- Details of type, size and location of signs and devices in use at the time of the accident.
- Details of any traffic management devices damaged as a result of the accident; and
- Details of any witnesses to the accident.

Road plant within the work area that may impact on any services requiring access to a crash site will be cleared from the area quickly as necessary.

8.1.1 Serious Injury or Fatality

In the case of serious injury or fatality occurring within the traffic management site all work must cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) must be deployed immediately to ensure no traffic or other road users approach the area.

An Ambulance and Police must be called on telephone number 000 where life threatening injuries are apparent.

All road workers and traffic management personnel must preserve the scene leaving everything in situ, until Police or WorkSafe gives direction.

DEPT / AGENCY	PHONE
Police	000
WorkSafe WA	1800 678 198

Guidance for Emergency and Unplanned Works is provided in AGTTM 10: Section 5 Emergency Works.

These procedures can be applied in case of a fatality or serious injury at a worksite. However, preserving evidence takes precedence over traffic access. Therefore, additional lane closures or complete road closures may need to be applied to achieve this.

Should this be required, any necessary detours will in the first instance be the responsibility of the WA Police to implement and manage. BCP Group will notify Main Roads network via relevant authorities who will coordinate the impact on the road network on their arrival on site.
All staff are required to remain onsite until released by the Project Manager when all investigations are complete.

A site-specific detour route and/or road closure point will be determined, signed, and controlled by traffic management personnel and advised to the Police, who will take charge of the site upon arrival. Detour routes will be determined to cater to all vehicles required to use them. An example of how to manage an emergency can be found in Section 5 of AGTTM Part 10.

All site personnel must be briefed on control procedures covering incidents and crashes that result in severe injury or fatalities.

8.1.2 Minor Incident or Vehicle Break Down within Site

Broken-down vehicles and vehicles involved in minor non-injury crashes must be temporarily moved to the verge as soon as possible after details of the crash locations have been gathered and noted.

Where necessary to maintain traffic flow, vehicles must be temporarily moved into the closed section of the work area behind the cones, providing there is no risk to vehicles and their occupants or workers. Suitable recovery systems must be used to facilitate prompt removal of broken down or crashed vehicles. Assistance must be rendered to ensure the impact of the incident on the network is minimised.

Any traffic crash resulting in non-life-threatening injury must be reported to the WA Police Service on 131 444.

Details of all incidents and accidents must be reported to the Site Supervisor and Project Manager using the incident report form at Appendix “C” (or similar).

8.2 Emergency Services

Emergency services must be notified of the proposed works nature, location, date, and times as well as contact details for the site supervisor.

On-site traffic controllers will be equipped with mobile communications to advise and/or liaise with emergency services to ensure a prompt response should the need arise.

8.3 Dangerous Goods

Should any incident arise involving vehicles transporting dangerous goods, all work must cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) must be deployed immediately to ensure no traffic or other road users approach the area.

Emergency services must be notified of the proposed works nature, location, date, and times as well as contact details for the site supervisor. All site personnel must be briefed on evacuation and control procedures.

8.4 Damage to Services

In the event that gas services are damaged, all work must cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) must be deployed immediately to ensure no traffic or other road users approach the area.

The Police Service and relevant supply authority must be called immediately.

Damage to any other services must be treated in a similar manner except machinery may remain operational and access may be maintained where it is safe to do so.

All site personnel must be briefed on evacuation and control procedures.

8.5 Failure of Services

8.5.1 Failure of Traffic Signals

There are no existing traffic signals in the area of works.

8.5.2 Failure of Street Lighting

Day works only, street lighting will not affect the works.

8.5.3 Failure of Power

In the event that power infrastructure is damaged and poses a risk through live current, Traffic Controllers (and other personnel if necessary) must be deployed immediately to secure the site and prevent entry to the area affected by live power. Western Power must be notified immediately (phone 13 13 51).

8.6 Emergency Contacts

Before the commencement of works all works personnel are to be briefed during the prestart induction on the need to provide emergency services access if required and the evacuation procedures should an incident occur.

Prior to setup each day at the prestart meeting workers is to discuss what actions will be taken in the case of an emergency event and nominate an appropriate muster point.

Emergency services must at all times have continual access to all properties and the Work site.

At all times when on site workers and subcontractors will take the necessary actions that are practicable to assist emergency vehicles and/or service vehicles entering and/or traveling through to worksite.

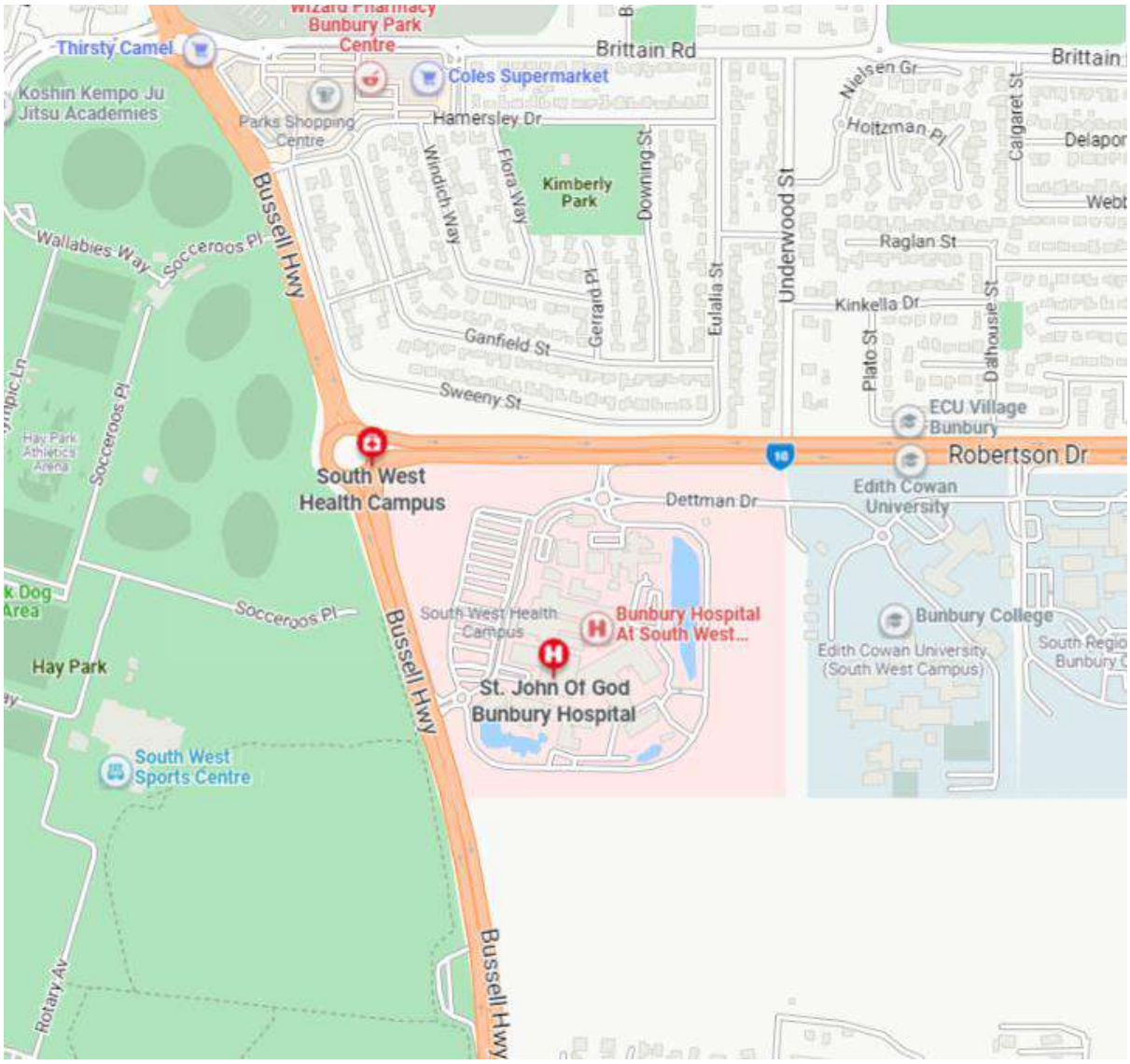
The Project Manager must notify all emergency services of the works before commencement. A Notification of Roadworks Form can be found in Appendix A.

8.6.1 Emergency Services Contacts General

EMERGENCY SERVICE	PHONE NUMBER	TYPE OF EMERGENCY
Fire	000	All fires and hazardous spillages etc.
Ambulance	000	Injury and motor vehicle accidents etc.
Police	000	Motor vehicle accidents, hazardous goods spillage etc.
Alinta Gas	13 13 52	All gas leakage, damage to pipes, no gas supply etc.
Western Power	13 13 51	No power, lines in trees, fallen/broken lines, damage to lines, damage to Western Power property etc.
Water Corporation	13 13 75	Blocked sewerage mains, no water, poor water quality, pipe damage, etc.
RNOC	13 81 38	Failure of traffic signals.

Nearest Medical Assistance

The nearest medical assistance is located at the Bunbury Hospital.
This can be found on the corner of Bussell Highway and Robertson Drive, Bunbury
Contact Phone Number: 08 9722 1000



9.0 MONITORING AND MEASUREMENT

9.1 Daily Inspections

Prior to works commencing the Site Supervisor must communicate the Traffic Management Plan to all key stakeholders and affected parties.

On completion of setting out the traffic control measures, the site is to be monitored for a suitable period of time. If traffic speeds on the approaches to the work site are assessed as being above the temporary posted speed zone for the work site, the Site Supervisor is to initiate action to modify the approach signage and tapers in accordance with the requirements of AGTTM/CoP. All such actions are to be recorded in the Daily Diary. Should road users be observed to continue to travel in excess of the posted speed limit, the police may be requested to attend the site to enforce the temporary posted speed limit.

The Advanced Worksite Traffic Management accredited supervisory person at the worksite may conditionally approve changes made to a complex traffic management plan subject to review and endorsement of the change by an RTM as soon as practicably possible.

The Traffic Management Contractor must ensure that all temporary signs, devices and controls are maintained at all times. To achieve this, procedures in line with the requirements outlined in AGTTM Part 6 will be instituted. The monitoring program must incorporate inspections:

- Before the start of work activities on site,
- During the hours of work
- Closing down at the end of the shift period, and
- After hours.

A daily record of the inspections must be kept indicating.

- When traffic controls where erected,
- When changes to controls occurred and why the changes were undertaken,
- Any significant incidents or observations associated with the traffic controls and their impacts on road users or adjacent properties.

The Traffic Management Contractor must ensure that personnel are assigned to monitor the traffic control scheme. Inspections must at least satisfy the following requirements.

9.1.1 Before works start

- Confirm TMP and TGS are suitable for the day's activities.
- Inspect all signs and devices to ensure they are undamaged, clean and comply with the requirements depicted on the TGS.
- All lamps should be checked and cleaned, as necessary.
- After any adjustments have been made to the signs and devices, conduct a drive through inspection to confirm effectiveness.

9.1.2 During work hours

- Designate and ensure that appropriate work personnel drive through the site periodically to inspect all signs and devices and ensure they are undamaged and comply with the requirements depicted on the Traffic Guidance Schemes.
- Attend to minor problems as they occur.
- Conduct on the spot maintenance/repairs as required.
- When traffic controllers are on the job, ensure they remain in place at all times. Relieve controllers as necessary to ensure attentiveness is retained.
- During breaks or changes in work activities remove or cover any signs that do not apply (e.g., PREPARE TO STOP, Workers symbolic).
- Re-position signs and devices as required by work processes throughout the day and keep records of any changes.

9.1.3 Closing down each day

- Conduct a pre-close down inspection, allowing time for any appropriate maintenance works.
- Remove any unnecessary signage (e.g., Prepare to Stop, Symbolic Workers).
- Replace any unnecessary signage with appropriate delineation.
- Install barriers and lights where required.
- Drive through site and confirm all signs and devices are operating correctly with no misleading visual cues.
- Record details of inspection and any changes made to layout.

9.1.4 After hours

After hours traffic management is not required for this project.

9.2 TMP Audits and Inspections

Suitability Check inspection must be carried out on a regular basis by a suitably competent person.

This inspection should be carried out from within the traffic stream at the normal traffic speed taking in all the signs and devices.

A Suitability Check inspection must be carried out after any change is made to the arrangement. All inspections must be noted on the daily dairy.

9.3 Records

A daily diary recording all inspections including variations to the approved TMP must be kept using the Daily Diary.

The Traffic Supervisor is to record all inspections made on a daily basis and at those times prescribed by the Traffic Management Implementation Standards. Upon completion of each day the Traffic Supervisor must provide copies of the daily diary record to the Project Manager.

The Traffic Supervisor is to record all variations made to the approved Traffic Management Plan on a daily basis and clearly indicate the nature of the variations and the reason for the variations. Upon completion of each day the Traffic Supervisor must provide copies of the variation record to the Project Manager.

9.4 Public Feedback

BCP Group Australia will implement a procedure that ensures comments and complaints received from the public are recorded and managed.

10.0 MANAGEMENT REVIEW AND APPROVALS

10.1 TMP Review and Improvement

The Project Manager will review the TMP's effectiveness as part of the close-out procedure.

10.2 Variations

There are **no departures** from AGTTM or MRWA Traffic Management requirements for the Works on Roads Code of Practice.

10.3 Approvals

- **Road Authority**
  Approvals for implementing this TMP must be in accordance with the Shire of Capel.
- **Service Providers**
  No services are to be affected and as such no approvals are necessary.
- **Environmental Protection Agency**
  Not Applicable.
- **Department of Parks and Wildlife**
  Not Applicable.

APPENDIX A

NOTIFICATION OF ROADWORKS

APPENDIX B

VARIATION TO STANDARDS

(VARIATION TO STANDARDS NOT APPLICABLE FOR THESE WORKS)

APPENDIX C

RECORD FORMS

Daily Diary

SJ TRAFFIC MANAGEMENT
Mobile: 0429 315 299

CLIENT: _____ DEPARTMENT: _____ DATE: _____

LOCATION: _____ SLK: _____ WEATHER CONDITIONS: _____ DIARY SHEET: ___of___

TMP No: _____ TGS No: _____ No. of TRUCKS: _____ No. of UTES: _____ No. OF TC's: _____

REG. OF VEHICLE(s): _____ DRIVER OF VEHICLE(s): _____ START TIME AT DEPOT: _____ FINISH TIME AT DEPOT: _____ TOTAL HOURS: _____

DOCKET NUMBER 1001
PURCHASE ORDER No.: _____

Time Arrive at Site: _____ Attendance at Pre-start Meeting: ☐ Commencement of Site Setup: _____ Site Setup and Operational: _____ Site Setup as per TGS: Yes ☐ No ☐ (IF NO, COMMENT BELOW)

Site Pulled Down at: _____ Time Aftercare Signs Setup (If yes, which TGS No.): _____ Time Left Site: _____ Traffic Counts: _____ VPH HAVE YOU READ EXCLUSION POLICY ON FRONT COVER, YES ☐

Traffic Management Drive Through Site Checks (Checks must be conducted at least every 2 hours)	1	2	3	4	5	6	7	8	9	10
Time										
Are signs upright, clean, visible, level & stable										
Are taper lengths correct										
Are speed limit signs correct and doubled up										
Are sign spacings correct										
Are cone/bollard alignments straight & spaced correctly										
Are devices operating correctly										
Have pedestrians been catered for										
Are lane widths adequate										
Are vehicle queue lengths acceptable										
Is road surface condition adequate										

Additional Items

VMS QTY: _____
Arrow board QTY: _____
Lighting tower QTY: _____
PTCD's (per pair) QTY: _____
Overnight camp: YES or NO
Meal allowance: YES or NO
Day or Night shift: _____
Emergency works: YES or NO
SWMS ☐
Approved TMP ☐

Traffic Management Personnel Names & Accreditations:

Traffic Controller Accreditation Details
(Add Traffic Controller and AWTM/WTM if applicable)

Time of Break from Stop/Slow
Traffic controllers must have a 15-minute break (OFF THE BAT / PTCD's), every 2 hours of constant Traffic Control operations.

Position	Name	On	Off	On	Off	On	Off	On	Off	On	Off
Crew Leader:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:
Traffic Controller:		:	:	:	:	:	:	:	:	:	:

Additional Comments: _____

Signage quantity left onsite: _____

Damaged/Lost/Stolen Equipment: _____

Did an incident occur **(if yes complete Incident Report Form)** Yes ☐ No ☐ **PROTECTIVE UNIFORM/EQUIPMENT BEING WORN & IN GOOD CONDITION:** Yes ☐ No ☐ **Breaks given by:** _____

I confirm that the details contained herein are true and correct: Name (Traffic Management Crew Leader): _____ Signed: _____

I confirm that the details contained herein are true and correct. Name (Site Supervisor): _____ Signed: _____

START OF SHIFT: I declare that I have presented fit for work and that I am not under the influence of drugs or alcohol. I understand that random drug & alcohol testing may be carried out at any time and I will co-operate with such testing.

All Traffic Controllers to Sign: 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____

END OF SHIFT: I declare that I have reported any injury, accident, incident, illness, near miss or safety hazards to my supervisor or safety representative and that I will complete all necessary report forms as required by Management.

All Traffic Controllers to Sign: 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____

Incident Report Form

SECTION 1			
EMPLOYEE TO COMPLETE SECTION 1 & 2 AND SUBMIT WITHIN 24 HOURS			
Incident report completed by		Incident completion date	

INCIDENT TYPE

- ☐ *Near Miss (NM): A dangerous incident that could have caused an injury/illness but fortunately didn't.*
- ☐ *First Aid Injury/Illness (FAI): An injury or illness that only requires first aid.*
- ☐ *Medically Treated Injury/Illness (MTI): An injury or illness that requires treatment from a medical practitioner with no work restrictions.*
- ☐ *Restricted Duties Injury/Illness (RDI): An injury or illness that requires restricted work duties.*
- ☐ *Lost Time Injury/Illness (LTI): An injury or illness that requires days away from work certified by a Medical Practitioner.*
- ☐ *Permanent Disability (PD): A permanent, incurable injury or illness disability.*
- ☐ *Fatality (Fat): A loss of life.*
- ☐ *Environmental Spill (ES): Spill of a chemical that is hazardous to the environment*
- ☐ *Environmental Damage (ED): Damage to the environment*
- ☐ *Asset Damage (AD): Damage to assets where no personnel or the environment were harmed.*

Note: all incidents involving any injury, or damage greater than $5,000 require a witness statement.

Date of incident		Time of incident	
Initially reported to		Date & time initially reported	
Name of witness/es			

Site Supervisor		Crew Leader	
Days since last break *Last full day off.*		Hours since last break *TC break, meal break or start of shift.*	
Person(s) involved		Persons role / occupation	
Plant / equipment involved		Reported to Police (Y/N) *If so, note report number.*	
Location		SLK	

State the event details -
What immediate actions were taken –
Why do you think this incident happened?
What actions do you recommend so this does not happen again?

Sign to confirm this is a true and correct statement of the incident	

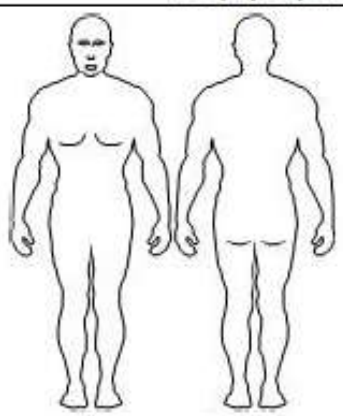
SECTION 2

Please complete diagram to depict incident (as required).

North

INJURY DETAILS

Injuries N/A		Name of injured worker/s:

Injury classification / Mechanism		Injury nature		Part (or parts) of body injured	
	Fall from height		Fracture		Eye
	Fall on same level (trip/slip)		Dislocation		Ear
	Hitting object with body		Sprain / strain		Face
	Excessive mechanical vibration		Intracranial / concussion		Head
	Exposure to sound		Internal injury		Neck
	Repetitive movement		Amputation		Back
	Other muscle stress		Open wound		Trunk (not internal)
	Contact with electricity		Superficial injury		Shoulders / arms
	Exposure to hot / cold		Contusion / crush		Hands / fingers
	Exposure to chemicals		Foreign body		Hips / legs
	Sting & / or bites		Burn		Feet / toes
	Mental stress		Poisoning		Internal organs
	Slide / cave in		Weather exposure		Multiple locations
	Vehicle accident		Multiple	Mark Injury location/s on Diagram	General
	Multiple injuries		Other:		Unspecified

First aid treatment given		**First aid officer name**	
First aid kit stock used			
Name & location of doctor		**Name & suburb of hospital**	

SECTION 2 (OPTIONAL NOTES BY REPORTER)

SECTION 3

*TO BE COMPLETED BY **HSEQ** OR INVESTIGATING MANAGER*

Regulator notification required?		If yes, date reported?	

Regulator

WorkSafe WA

Management call Worksafe for a workplace related death, serious injury or illness, or immediately life-threatening dangerous incident.
These must be reported to WorkSafe immediately after becoming aware of the incident.
Urgent medical assistance where required should be sought prior to contacting WorkSafe.
After phoning through the report, notify online.
Non-life-threatening injuries, illnesses and dangerous incidents should be reported online.
There is a duty to preserve the scene so far as reasonably practicable.

Types of serious Incident/Injury/Illness Treatment/Dangerous Incidents that are notifiable include:

1. **Immediate treatment as an in-patient in a hospital** excluding outpatient/Emergency Department attendances if not admitted and admission for corrective surgery which does not immediately follow the injury.
2. **Immediate treatment for amputation of any part of the body.**
3. **Immediate treatment for a serious head injury including** fractured skull, loss of consciousness, blood clot or bleeding in the brain, damage to the skull to the extent that it is likely to affect organ/face function, Head injuries resulting in temporary or permanent amnesia.
4. **Immediate treatment for a serious eye injury** it does not include eye exposure to a substance that merely causes irritation.
5. **Immediate treatment for a serious burn** it does not include a burn that merely requires washing the wound and applying a dressing.
6. **Immediate treatment for the separation of skin from an underlying tissue (such as de-gloving or scalping).**
7. **Immediate treatment for a spinal injury** does not include acute back strain.
8. **Immediate treatment for the loss of a bodily function** including loss of consciousness, loss of movement of a limb or loss of the sense of smell, taste, sight or hearing, or loss of function of an internal organ.
9. **Immediate treatment for serious lacerations.**
10. **Medical treatment within 48 hours of exposure to a substance in the workplace.**
11. **Injury or illness that a medical practitioner considers likely to prevent the person from being able to do their normal work for at least 10 days.**
12. **Infectious diseases:** tuberculosis, viral hepatitis, Legionnaires' disease and HIV, where these diseases are contracted during work involving exposure to human blood products, body secretions, excretions or other material which may be a source of infection.
13. **PCBU's in general, petroleum and geothermal energy industries must notify WorkSafe when it is confirmed that a person has contracted COVID-19 through carrying out work and:**
    - the person dies; or
    - the person is required to have treatment as an in-patient in a hospital; or
    - the person contracted COVID-19 while carrying out work that involves providing treatment or care to a person; or involves contact with human blood or body substances. In this case, the carrying out of work.
14. **The regulator must be notified of any incident in relation to a workplace that exposes any person to a serious risk** resulting from an immediate or imminent exposure to:
    a. an uncontrolled escape, spillage or leakage of a substance
    b. an uncontrolled implosion, explosion or fire
    c. an uncontrolled escape of gas or steam
    d. an uncontrolled escape of a pressurised substance
    e. electric shock:
        i. excluding shock due to static electricity, 'extra low voltage' shock (i.e. arising from electrical equipment less than or equal to 50V AC and less than or equal to 120V DC), defibrillators are used deliberately to shock a person for first aid or medical reasons
        ii. notifiable electric shocks include minor shock resulting from direct contact with exposed live electrical parts (other than 'extra low voltage') including shock from capacitive discharge
    f. the fall or release from a height of any plant, substance or thing
    g. the collapse, overturning, failure or malfunction of, or damage to, any plant that is required
    h. to be design or item registered under the WHS regulations, for example a collapsing crane
    i. the collapse or partial collapse of a structure
    j. the collapse or failure of an excavation or of any shoring supporting an excavation
    k. the inrush of water, mud or gas in workings, in an underground excavation or tunnel, or
    l. the interruption of the main system of ventilation in an underground excavation or tunnel.
15. **Hazardous materials emissions and major pollution incidents.**

Department of Water and Environmental Regulation

Investigation Required?	

An investigation should be initiated for the following incidents:

- *Restricted duties injury*
- *Lost time injury*
- *Permanent disability*
- *Fatality*
- *Repeat of a previous incident*
- *Any incident deemed necessary at management's discretion*

SECTION 4

POTENTIAL INCIDENT CAUSE (FACTORS TO BE CONSIDERED)				
Organization Factors		Lack of or insufficient procedure		Contract management
		Design		Lack of / poor maintenance
		Training &competencies		Incorrect / unavailability of tools
		Change management		Personnel selection
Site Factors		Site conditions (bad weather)		Time Pressure
		Fitness for work		Job complexity
		Access		Plant / equipment failure
		Workload		Task planning
Personnel Factors		Human error		Procedures not followed
		Communication breakdown		Lack of / no supervision
Control Failures		No / insufficient isolation		Failure or lack of sufficient controls
		No / insufficient guarding		SWMS not followed / not sufficient

ROOT CAUSE ANALYSIS (CAUSE OF FAILURE) - 5 WHY'S	
Why 1 - Why did the incident happen? What caused it to happen?	
Why 2 - Why did the above happen? What caused it to happen?	
Why 3 - Why did the above happen? What caused it to happen?	
Why 4 - Why did the above happen? What caused it to happen?	
Why 5 - Why did the above happen? What caused it to happen?	

TIMELINE OF EVENTS

SECTION 4

INCIDENT INVESTIGATION RECORD

Note: May include details of discussions with persons involved in the incident, references to additional files or images, etc.

Date		Time	
Name & Role		Signature	

CORRECTIVE ACTIONS (MUST ADDRESS ROOT CAUSE)

CORRECTIVE ACTION	HIERARCHY OF CONTROL *Eliminate, Substitute, Isolate, Engineering, Administration, PPE*	RESPONSIBLE PERSON	DUE DATE	CONTINUOUS IMPROVEMENT REGISTER #

CORRECTIVE ACTION CLOSE OUT

Is the action taken effective?		YES Complete the below & return to HSEQ Coordinator.		NO Refer to HSEQ Coordinator for assistance in addressing root cause.	
Reasons /comments:					
Close out complete/ accepted	Name:		Position:		
	Sign:		Date:		

APPENDIX D

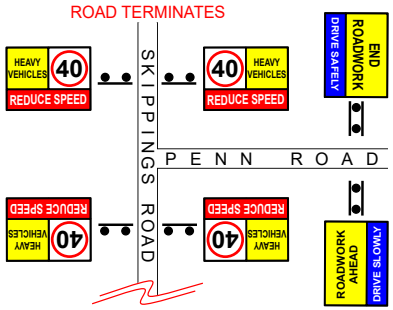
TRAFFIC ANALYSIS AND VOLUME COUNTS

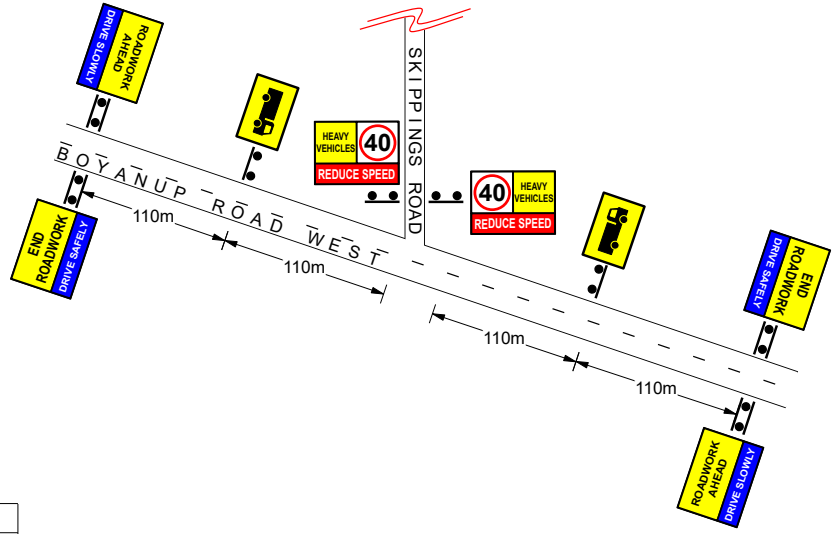
APPENDIX E

SITE VISIT

APPENDIX F

TRAFFIC GUIDANCE SCHEMES





GENERAL NOTES:
1. All sign locations are to be checked prior to setout and positions adjusted to allow for specific site constraints such as vegetation, other signs, roadside furniture and sufficient space on shoulders/emergency lanes.
2. All existing speed zone signage within the temporary speed zone shall be covered with suitable opaque material for the duration of the stage and covers to be removed on completion of works each day. Unless otherwise noted.
3. Minimum traffic lane width of 3.2m is to be maintained past the worksite at all times.
4. The positioning of signs, lengths of tapers or markings shall be:
   a) Minimum 10% less than the distances or lengths given.
   b) Maximum 25% more than the distances or lengths given.
5. Supervisor shall undertake risk assessment to determine appropriate temporary speed restriction.
6. The symbolic worker signs shall be installed only when on-foot personnel will be visible to passing traffic.
7. All vehicles used on site must be fitted with an reverse alarm and flashing beacons.
8. This traffic guidance scheme shall be read in conjunction with the traffic management plan, AS1742.3, Main Roads WA Traffic Management for Works on Roads Code of Practice and AGTTM.

DISCLAIMER:
It is the responsibility of the user of this traffic guidance scheme to confirm the appropriateness or otherwise for the intended work site based on rigorous risk assessment, review of the requirements of AS1742.3, AGTTM and Main Roads WA Code of Practice. All responsibility will remain with the user to ensure compliance with relevant standards and the provision of the necessary level of protection for work personnel and work site.

INVENTORY			
	x 2	HEAVY VEHICLES 40 REDUCE SPEED	x 6
ROADWORK AHEAD DRIVE SLOWLY	x 6	END ROADWORK DRIVE SAFELY	x 6

SJ TRAFFIC MANAGEMENT

Designer Detail:
Drawn: Shane Urbini
Accreditation No.: KTS-AWTM-20-48861-02
Signed: *Shane Urbini*
Date: 13.11.2023

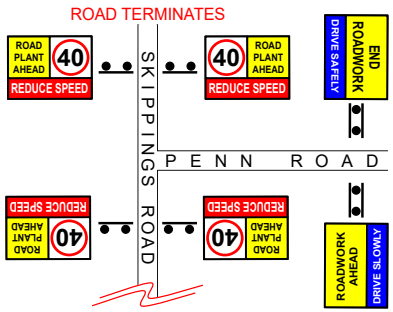
Title:
HAUL ROUTE WORKS
ADVANCE WARNING OF TRUCK MOVEMENTS

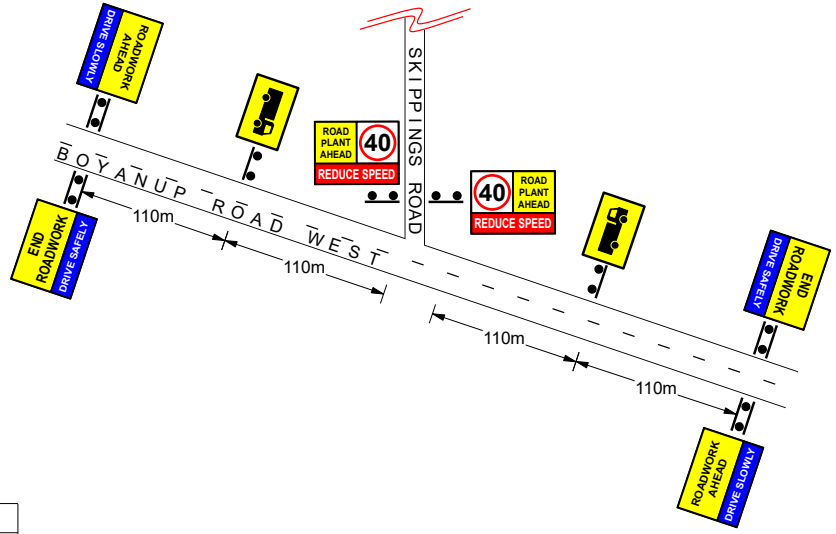
Notes:
Max. cone spacing: 4m
Existing speed: Derestricted
Temporary speed: N/A

Legend

N

TGS SJTM2350-01
REV No: 1





GENERAL NOTES:
1. All sign locations are to be checked prior to setout and positions adjusted to allow for specific site constraints such as vegetation, other signs, roadside furniture and sufficient space on shoulders/emergency lanes.
2. All existing speed zone signage within the temporary speed zone shall be covered with suitable opaque material for the duration of the stage and covers to be removed on completion of works each day. Unless otherwise noted.
3. Minimum traffic lane width of 3.2m is to be maintained past the worksite at all times.
4. The positioning of signs, lengths of tapers or markings shall be:
   a) Minimum 10% less than the distances or lengths given.
   b) Maximum 25% more than the distances or lengths given.
5. Supervisor shall undertake risk assessment to determine appropriate temporary speed restriction.
6. The symbolic worker signs shall be installed only when on-foot personnel will be visible to passing traffic.
7. All vehicles used on site must be fitted with an reverse alarm and flashing beacons.
8. This traffic guidance scheme shall be read in conjunction with the traffic management plan, AS1742.3, Main Roads WA Traffic Management for Works on Roads Code of Practice and AGTTM.

DISCLAIMER:
It is the responsibility of the user of this traffic guidance scheme to confirm the appropriateness or otherwise for the intended work site based on rigorous risk assessment, review of the requirements of AS1742.3, AGTTM and Main Roads WA Code of Practice. All responsibility will remain with the user to ensure compliance with relevant standards and the provision of the necessary level of protection for work personnel and work site.

INVENTORY			
	x 2	ROAD PLANT AHEAD 40 REDUCE SPEED	x 6
ROADWORK AHEAD DRIVE SLOWLY	x 6	END ROADWORK DRIVE SAFELY	x 6

SJ TRAFFIC MANAGEMENT

Designer Detail:
Drawn: Shane Urbini
Accreditation No.: KTS-AWTM-20-48861-02
Signed: *Shane Urbini*
Date: 13.11.2023

Title:
HAUL ROUTE WORKS
ADVANCE WARNING OF TRUCK MOVEMENTS
& HAUL ROUTE MAINTENANCE WORKS

Notes:
Max. cone spacing: 4m
Existing speed: Derestricted
Temporary speed: N/A

Legend

N

TGS SJTM2350-02
REV No: 0

APPENDIX G

RTM REPORT

(RTM REPORT NOT APPLICABLE FOR THESE WORKS)

APPENDIX H

AUTHORISATION

END OF DOCUMENT

ATTACHMENT 6 – UPDATED DEVELOPMENT PLANS

SITE PLAN

Lot 148 (No. 168) Skippings Road, BOYANUP

Plan No.	22955-01	
Date	30/10/23	
Drawn	NP	
Checked	DJ	
Revision	G	
Scale	1:3000@A3	0 40m 80m

BUNBURY OFFICE:
21 Spencer Street,
BUNBURY WA 6230
T: 08 9792 6000
E: bunbury@harleydykstra.com.au
W: www.harleydykstra.com.au
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

Harley Dykstra
PLANNING & SURVEY SOLUTIONS

NOTES

Horizontal Datum: M.G.A.94 Zone 50
Vertical Datum A.H.D. 71

Datum points have been established from Landgate SSM Collie 215. Positions have been measured using long occupation RTK GPS techniques.
Contour Data produced by "Level Surveys" using photogrammetric techiniques and supplied by BCP Materials Pty Ltd. Date of Capture: February 2022.
Contour data has been field verified to nominal 80mm accuracy by limited direct measurement of ground surface using RTK GPS.

This Plan is based on drawing No. 22955-01D.

LEGEND

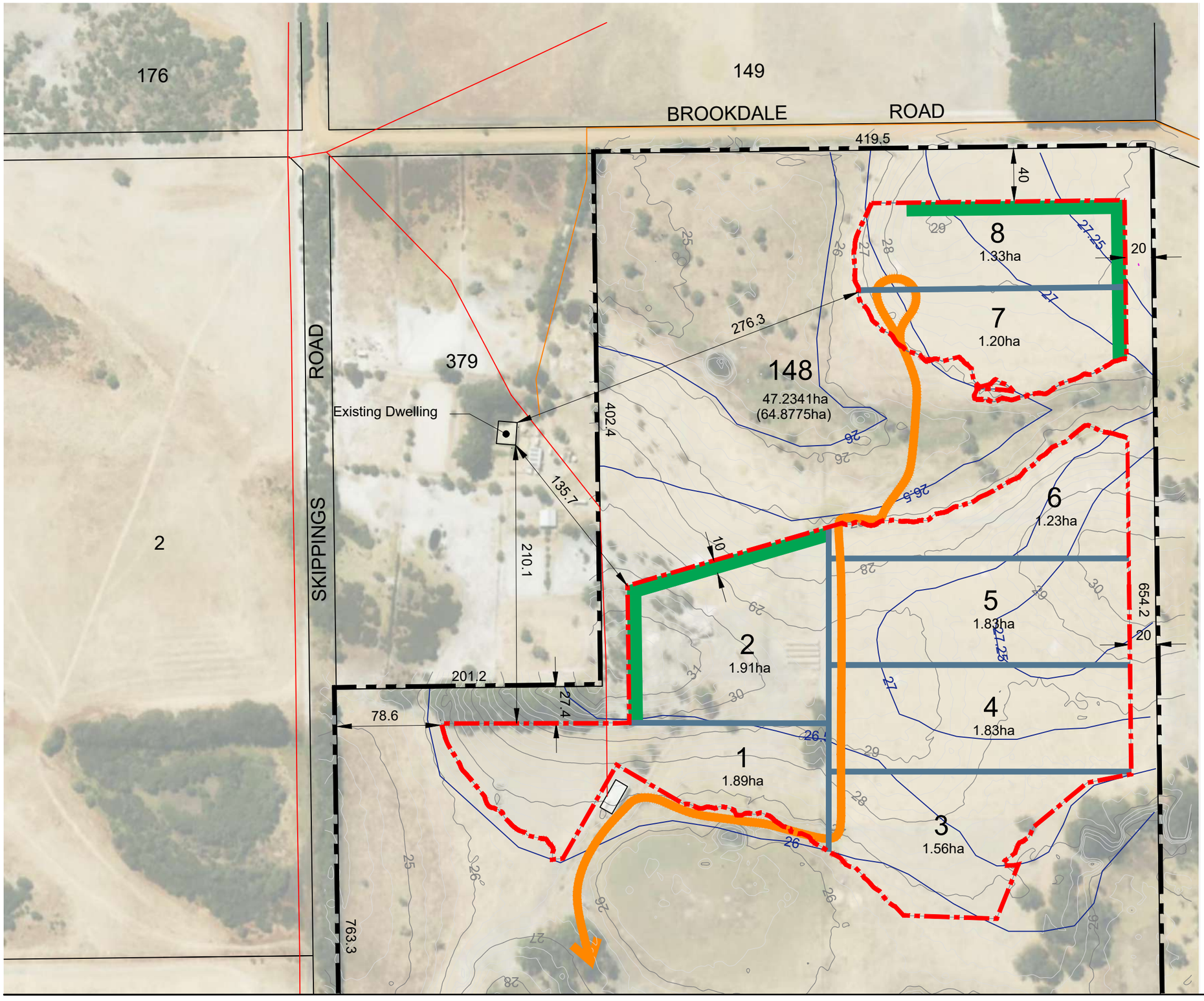
- Subject Area (64.8775ha)
- Extractive Industry License (12.78ha)
- Access Track
- Existing Contours
- Ground Water Contours (JDA Consultant Hydrologists 1-1-2023)
- AE — Overhead Electricity (DBYD)
- T — Telecommunications (DBYD)
- Star-Iron Picket Benchmark

Contour data provided by BCP Materials Pty Ltd

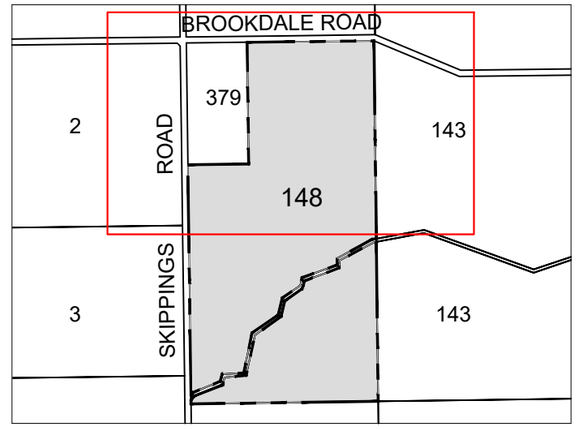
Datum point
Star-Iron Picket
RL = 26.54m A.H.D.

Datum point
Star-Iron Picket
RL = 24.18m A.H.D.

DIAL BEFORE YOU DIG www.1100.com.au



LOCATION MAP



VOLUME SUMMARY

Pit	Volume (BCM)
Total	133,500

LEGEND

- Subject Area (64.8775ha)
- Extractive Industry License (12.78ha)
- Extraction Stages
- Internal Access (Unsealed)
- 2m High Temporary Bund (Topsoil)
- Existing Contours
- Ground Water Contours (JDA Consultant Hydrologists)
- Overhead Electricity (DBYD)
- Telecommunications (DBYD)

Contour data provided by BCP Materials Pty Ltd

Base data provided by Harley Dykstra Pty Ltd

Excavation Works Plan

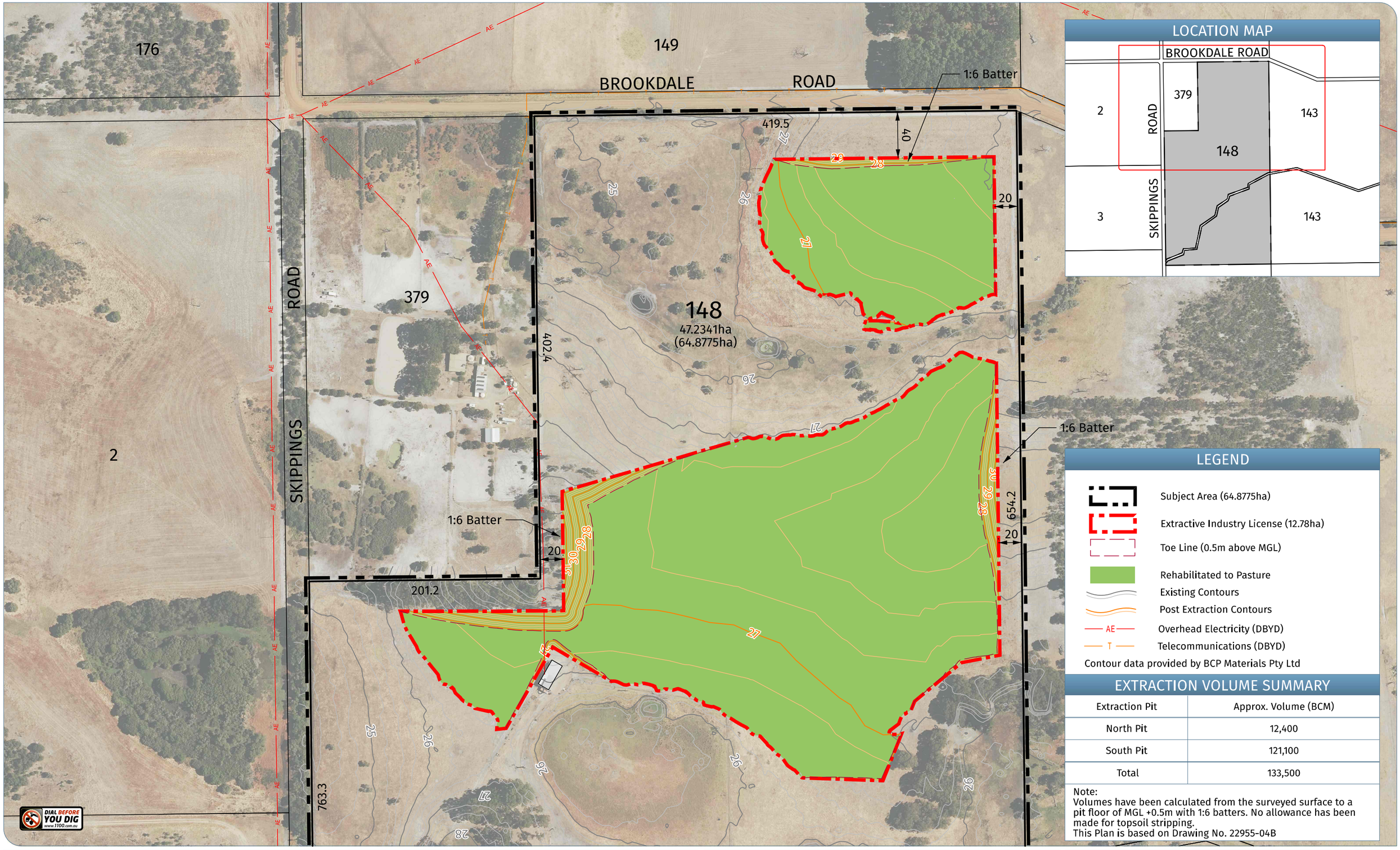
Lot 148 (168) Skippings Road, Boyanup

0 60m

Date: 13 Nov 2023 Scale: 1:3000 @ A3 1:1500 @ A1 File: **22-337 SU01A** Staff: DL GW Checked: DL

element.

Level 18, 191 St Georges Terrace, Perth Western Australia 6000.
PO Box 7375 Cloisters Square, Perth Western Australia 6850.
T. +61 8 9289 8300 | **E.** hello@elementwa.com.au **elementwa.com.au**



LOCATION MAP

LEGEND

- Subject Area (64.8775ha)
- Extractive Industry License (12.78ha)
- Toe Line (0.5m above MGL)
- Rehabilitated to Pasture
- Existing Contours
- Post Extraction Contours
- AE — Overhead Electricity (DBYD)
- T — Telecommunications (DBYD)

Contour data provided by BCP Materials Pty Ltd

EXTRACTION VOLUME SUMMARY

Extraction Pit	Approx. Volume (BCM)
North Pit	12,400
South Pit	121,100
Total	133,500

Note:
Volumes have been calculated from the surveyed surface to a pit floor of MGL +0.5m with 1:6 batters. No allowance has been made for topsoil stripping.
This Plan is based on Drawing No. 22955-04B

POST EXTRACTION PLAN

Lot 148 (No. 168) Skippings Road, BOYANUP

Plan No. | 22955-04
Date | 30/10/23
Drawn | NP
Checked | DJ
Revision | E

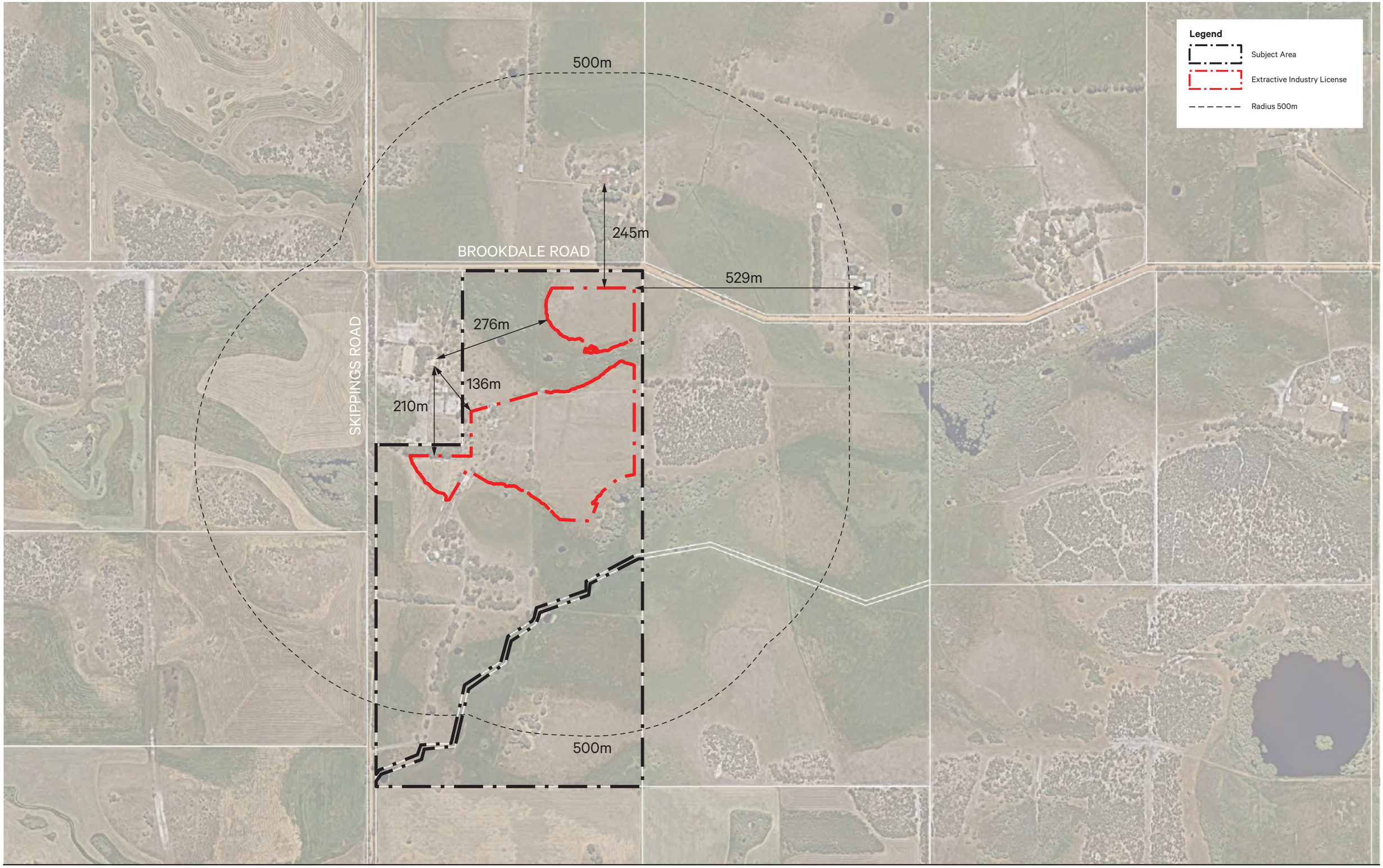
Scale | 1:3000@A3

0 40m 80m

BUNBURY OFFICE:
21 Spencer Street,
BUNBURY WA 6230
T: 08 9792 6000
E: bunbury@harleydykstra.com.au
W: www.harleydykstra.com.au
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

Harley Dykstra
PLANNING & SURVEY SOLUTIONS



Context Plan

Lot 148 (168) Skippings Road, Boyanup

Date: 1 Dec 2023 Scale: 1:8000@ A3 1:4000 @ A1 File: **22-337 CP-1** Staff: JL GW Checked: JW

0 80 160m

element.

Level 18, 191 St Georges Terrace, Perth Western Australia 6000.
PO Box 7375 Cloisters Square, Perth Western Australia 6850.
T. +61 8 9289 8300 | **E.** hello@elementwa.com.au **elementwa.com.au**

ATTACHMENT 7 – MBS ENVIRONMENTAL SITE INSPECTION

MARTINICK BOSCH SELL PTY LTD
ABN 60 102 614 479
MBS ENVIRONMENTAL
environmental and geoscience consultants

4 Cook Street
West Perth WA 6005
Australia

Telephone +61 8 9226 3166
Email: info@mbsenvironmental.com.au

16 December 2022

BCP Materials Pty Ltd
(submitted electronically to Kyle.Jackson@bcpgroup.com)

Attention: Kyle Jackson, Director

Dear Kyle,

Re: Lot 148 (No. 168) Skippings Road, Boyanup - Environmental Site Inspection

Martinick Bosch Sell Pty Ltd (MBS Environmental) was engaged by BCP Materials Pty Ltd (BCP) to undertake an environmental site inspection of the proposed sand extraction area on Lot 148 (No. 168) Skippings Road in Boyanup (Figure 1), within Shire of Capel. The site inspection was undertaken by Senior Environmental Scientist Dr Kirsi Kauhanen on 25 November 2022. The purpose of the inspection was the describe the environmental values and potential constraints of the site. This letter documents the findings of the site inspection. It is understood that BCP, on behalf of the landowners, will be submitting a Development Application and Extractive Industry Licence application to Shire of Capel and this document may be used to accompany such applications.

1. FLORA AND VEGETATION

In broadscale vegetation mapping, the proposed extraction area is mapped as:

- Bassendean vegetation system association (Bassendean_1000) (DPIRD-006), which is broadly described as a mosaic of Medium forest; jarrah-marri / Low woodland; banksia / Low forest; a Melaleuca species.
- Bassendean Complex-Central and South (DBCA-046) which is described as ranging from woodland of *Eucalyptus marginata* (Jarrah) - *Allocasuarina fraseriana* (Sheoak) - Banksia species to low woodland of Melaleuca species, and sedgelands on the moister sites.

The proposed extraction area has been largely cleared of native vegetation in the past for farming purposes (Figure 2, Figure 3) and has been grazed for several decades. There is no native vegetation in the two northern extraction stages and in the other stages native vegetation is limited to isolated trees and small clusters, in Completely Degraded condition (EPA 2016). Dominant species are *Agonis flexuosa* (Peppermint tree, Figure 4) and *Kunzea glabrescens* (Spearwood, Figure 5), with one *Eucalyptus marginata* (Jarrah) and two *Banksia attenuata* (Slender Banksia). Native vegetation remaining in the proposed extraction area totals approximately 0.2 ha. There are also a few individuals of planted non-native vegetation within the extraction area (Figure 6).

Native understorey has been completely removed and replaced with introduced pasture grasses and other weeds. No Threatened species listed at state or commonwealth level or Priority flora species listed by the Department of Biodiversity, Conservation and Attractions (DBCA) were observed and they would not be expected to occur considering the current status and disturbance history of the extraction area. No Declared Pest plants or other significant weed species were observed either.

The vegetation in the proposed extraction area does not comprise a Threatened Ecological Community listed at state or commonwealth level or a Priority Ecological Community listed by DBCA.

The native vegetation remaining within the proposed extraction area does not include wetland type flora species and is not riparian in nature. There are mapped Multiple-Use category wetlands on the property but these are located outside the proposed extraction area and have been largely cleared of native vegetation as well.

Due to the degree of previous clearing and disturbance and the general lack of indicator species, the presence or absence of *Phytophthora* dieback cannot be confirmed.

2. FAUNA

The remaining native vegetation in the proposed extraction area provides very limited habitat for native fauna species and lacks connectivity to larger patches of native vegetation. The trees within the proposed extraction area are less than 50 cm in diameter at breast height and contain no hollows suitable for Black cockatoo nesting. Black cockatoo foraging habitat is largely limited to one Jarrah and two Banksia trees. Western Ringtail Possum is unlikely to utilise the proposed extraction area due to the poor quality of the habitat remaining and the lack of canopy connectivity. Overall, no native fauna species is expected to depend on the vegetation within the proposed extraction area.

3. CONCLUSION

The approximately 0.2 ha of native vegetation remaining in the proposed extraction area is in Completely Degraded condition and limited to individual trees and small clusters. No Threatened or Priority flora or ecological communities are present and fauna habitat quality is poor, and therefore the overall environmental value is considered low.

Removal of the remaining native vegetation within the proposed extraction area will require either:

- A Native Vegetation Clearing Permit (NVCP) Part V of the *Environmental Protection Act 1986* from the Department of Water and Environmental Regulation (DWER) or,
- A referral of the proposed clearing under Part V of the *Environmental Protection Act 1986* to DWER to determine whether a clearing permit is required, and if necessary an application for a NVCP as per above.

In case of any questions, please do not hesitate to contact me on kkauhanen@mbsenvironmental.com.au or 0405 083 765.

Yours sincerely
MBS Environmental

Kirsi Kauhanen
Senior Environmental Scientist

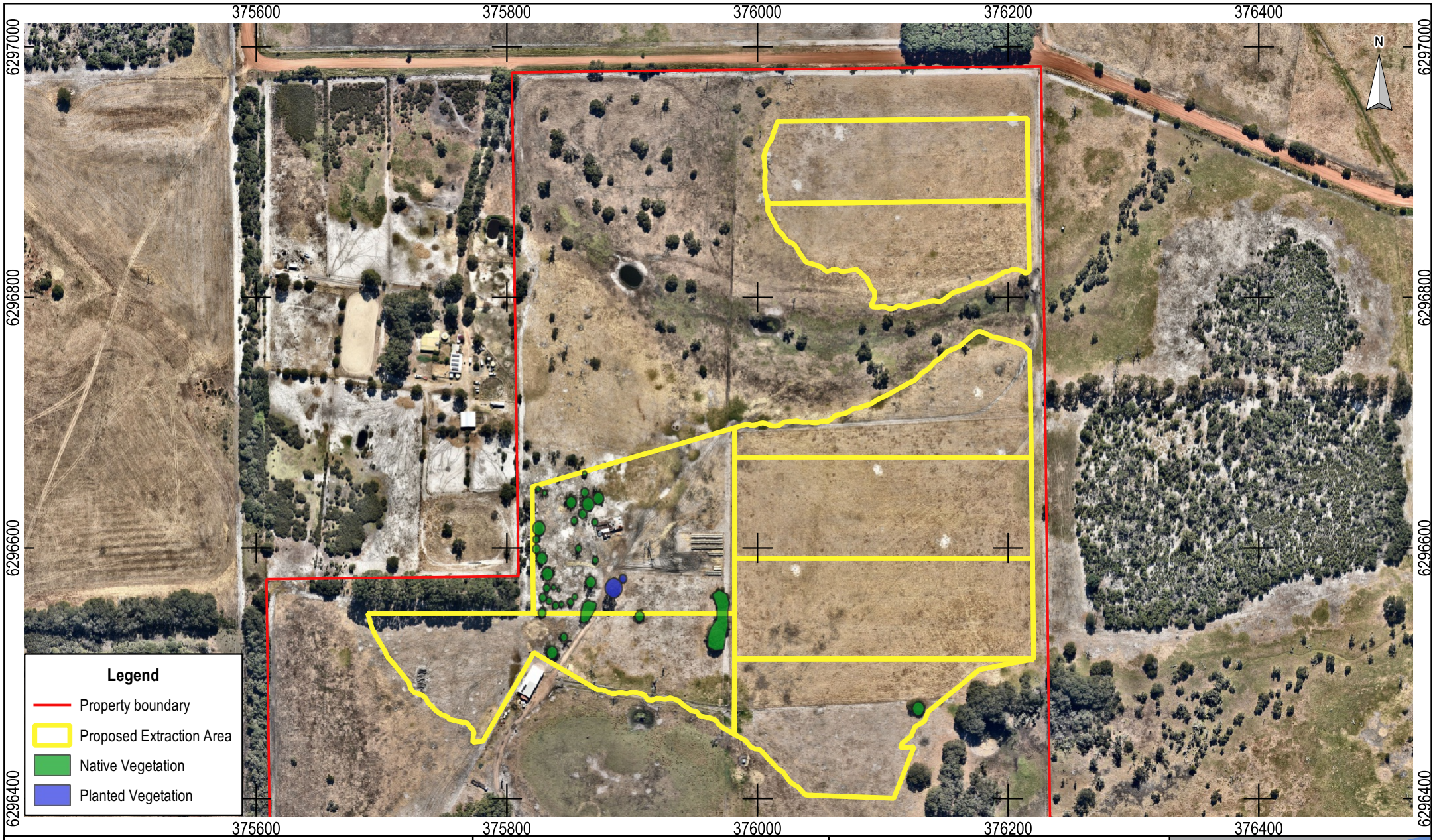
cc: BCP Materials Pty Ltd – Attention: Director Kyle Jackson

References:

Environmental Protection Authority of WA. 2016. Technical Guidance Flora and Vegetation Surveys for Environmental Impact. EPA, Perth, Western Australia. http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA/Technical/Guidance/FloraandVegetationsurvey_Dec13.pdf

Department of Biodiversity, Conservation and Attractions (DBCA). 2018. *Vegetation Complexes - Swan Coastal Plain (DBCA-046)*. https://catalogue.data.wa.gov.au/dataset/vegetation-complexes-swan-coastal-plain (accessed December 2022).

Department of Primary Industries and Regional Development (DPIRD). 2019. *Pre-European Vegetation (DPIRD-006).* https://catalogue.data.wa.gov.au/dataset/pre-european-dpird-006 (accessed December 2022).



Scale: 1: 4,000
Original Size: A4
Grid: GDA2020 / MGA zone 50 (EPSG:4283)

0 100 200 m

BCP Materials Pty Ltd
Lot 148 Skippings Road, Boyanup

Figure 2

Vegetation in Proposed Extraction Area

Martinick Bosch Sell Pty Ltd
4 Cook St
West Perth WA 6005
Australia
t: +61 8 9226 3166
info@mbsenvironmental.com.au
www.mbsenvironmental.com.au

MBS ENVIRONMENTAL

F:\Kirsi\PROJECTS\BCP\Skippings Rd\GIS\Site inspection\Site Inspection.qgz 16/12/2022 Vegetation

Figure 3: Previously Cleared Areas with Proposed Extraction Area

Figure 4: Clusters of Native Vegetation (*Agonis flexuosa*)

Figure 5: Clusters of Native Vegetation (Kunzea glabrescens)

Figure 6: Planted Vegetation within Proposed Extraction Area

PART C – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals

The DAP notes the status of the following State Administrative Tribunal Applications and Supreme Court Appeals:

Current SAT Applications				
File No. & SAT DR No.	**LG Name**	**Property Location**	**Application Description**	**Date Lodged**
DP/14/00039 DR65/2020	Shire of York	Lots 4869 (2256), 5931, 9926 (2948) and 26934 Great Southern Highway, St Ronans	Construction and Use of Allawuna Farm for the purposes of a Class II Landfill	28 July 2020
DAP/21/02063 DR241/2021	Shire of Dardanup	Lot 2 Banksia Road, Crooked Brook	Cleanaway Dardanup Landfill Facility	5 November 2021
DAP/23/02506 DR199/2023	Shire of Augusta-Margaret River	Lot 11 & 12 Fearn Avenue, Margaret River	Proposed Hotel and Restaurant	22 December 2023
DAP/23/02549 DR197/2023	City of Greater Geraldton	Lots 150 - 151 (205 and 181-195) Marine Terrace, Lot 152 (15) Fitzgerald Street and Lot 153 (222-228) Lester Avenue, Geraldton	Proposed Mixed Use Development	3 January 2024
DAP/23/02591 DR26/2024	City of Kalgoorlie-Boulder	Lot 9003, 9004 and 9005 Hart Kerspien Drive, Broadwood	Key workers lifestyle village – 394 grouped dwellings, communal open space, caretaker, office & communal facilities	22 February 2024

2. General Business

3. Meeting Closure

In accordance with Section 7.3 of the DAP Standing Orders 2024 a DAP member must not publicly comment on any action or determination of a DAP.