



Clearing Permit Decision Report

1. Application details and outcome

1.1. Permit application details

Permit number:	8101/4
Permit type:	Purpose permit
Applicant name:	B & J Catalano Pty Ltd
Application received:	24 July 2023
Application area:	13.84 hectares
Purpose of clearing:	Gravel extraction
Method of clearing:	Mechanical removal
Tenure:	Mining Lease 70/733
Location (LGA area/s):	City of Kalamunda
Colloquial name:	Pickering Brook Project – Gravel Quarry

1.2. Description of clearing activities

B & J Catalano Pty Ltd proposes to clear up to 13.84 hectares of native vegetation within a boundary of approximately 13.87 hectares, for the purpose of gravel extraction. The project is located approximately 12 kilometres southeast of Kalamunda, within the City of Kalamunda.

The application is to allow for continued gravel extraction at their Pickering Brook quarry.

Clearing permit CPS 8101/1 was granted by the Department of Mines, Industry Regulation and Safety on 19 September 2019 and was valid from 12 October 2019 to 11 October 2024. The permit authorised the clearing of up to 2.9 hectares of native vegetation within a boundary of approximately 2.9 hectares, for the purpose of gravel extraction.

CPS 8101/2 was granted on 19 October 2020, amending the permit to increase the amount of clearing authorised and increase the size of the permit boundary to approximately 12.91 hectares.

CPS 8101/3 was granted on 27 June 2023, amending the permit to increase the amount of clearing authorised and the permit boundary by one hectare.

On 24 July 2023, the Permit Holder applied to amend CPS 8101/3 to extend the duration of the permit by one year, amend the permit boundary, and reduce the amount of clearing by approximately 0.066 hectares.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	28 September 2023
Decision area:	13.84 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51KA(1) of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 24 July 2023. DMIRS advertised the application for public comment for a period of 21 days, and one submission was received.

In making this decision, the Delegated Officer had regard for the site characteristics, relevant datasets, supporting information provided by the applicant including the results of a fauna survey, the clearing principles set out in Schedule 5 of the EP Act, and any other matters considered relevant to the assessment.

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- direct impacts to fauna during clearing activities;
- the loss of native vegetation that is suitable foraging habitat for black cockatoo species; and

- potential land degradation in the form of wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 2.1), the Delegated Officer determined the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise and to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion;
- staged clearing to minimise wind erosion; and
- undertake fauna inspections prior to clearing to ensure that chuditch and brush-tailed Phascogale are not directly impacted during clearing activities.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures, the Delegated Officer determined that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

1.5. Site map

A site map of proposed clearing is provided in Figure 1 below.

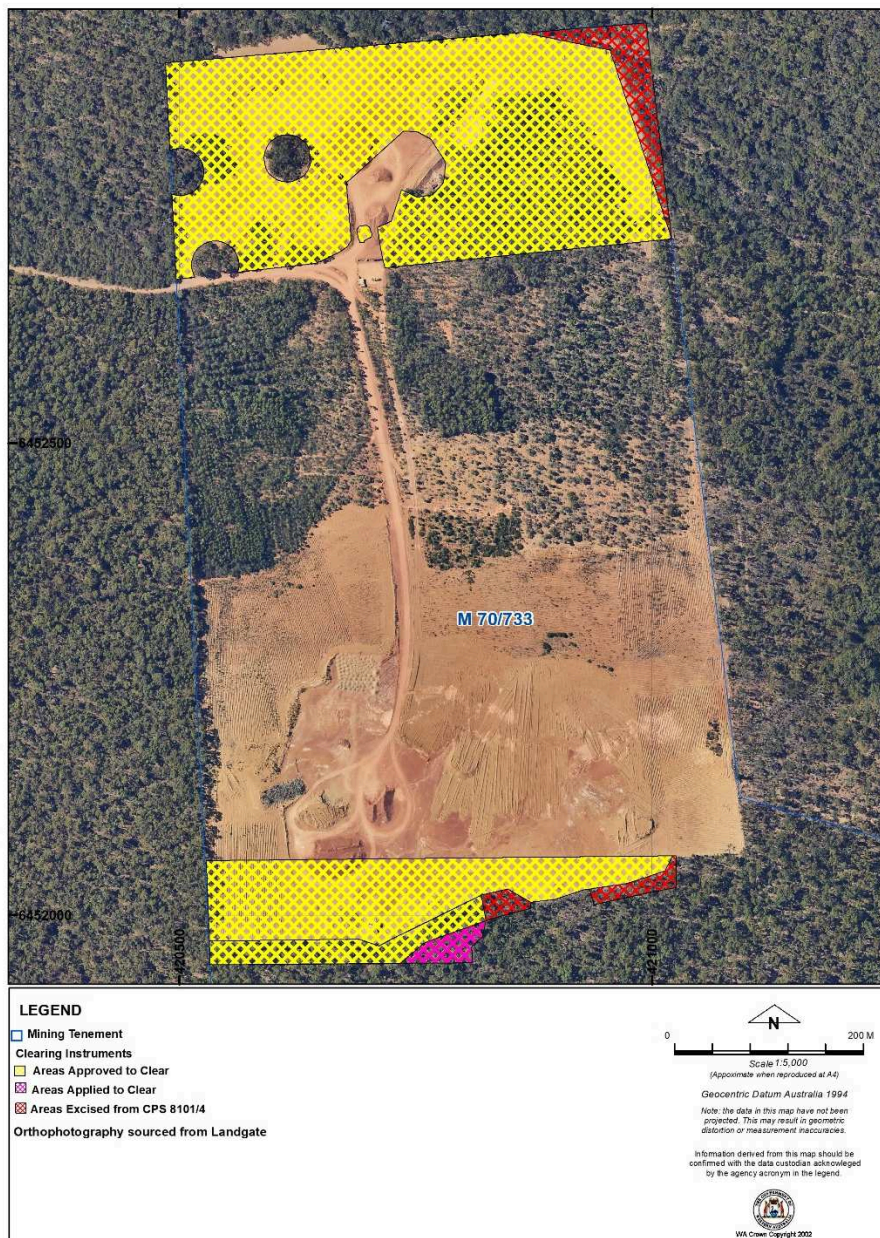


Figure 1. Map of the application area. The yellow and red areas were approved under CPS 8101/3, the red areas will be excised from CPS 8101/4, and the pink are additional areas applied to clear under CPS 8101/4.

2. Assessment of application

2.1. Avoidance and mitigation measures

The applicant reduced the total amount of clearing from 13.91 ha to 13.84 ha (reduction of 0.066 ha) and conducted a black cockatoo habitat tree review in July 2023. The results of this assessment identified that none of the three habitat trees examined contain suitable hollows for black cockatoo species, and therefore, the potential impacts to their breeding habitat were avoided.

Evidence was submitted by the applicant for the previous amendment application (CPS 8101/3), demonstrating that areas of clearing have been minimised as much as practicable. During the assessment of CPS 8101/3, the proponent reduced the additional area proposed to be included in the permit from 2.6 hectares area to one hectare. The area was reduced to avoid the clearing of any habitat trees which have potentially suitable hollows for black cockatoo species. The additional area also allowed for a 25 metre buffer to these particular habitat trees. As the proponent submitted new information regarding the suitability of habitat trees, some of these trees are no longer considered suitable for black cockatoo nesting, whilst other suitable trees will remain within the reduced area not included in the clearing permit (Appendix E).

The applicant will undertake progressive rehabilitation of cleared areas at the Pickering Brook quarry to limit the amount of areas that remain cleared at any one time. The most recent area of rehabilitation at the quarry was a 10.7 hectares area outside of the application area which was seeded in winter 2021 and 2022. This area was previously cleared under clearing permit 4359/1 which expired on 31 August 2016. Considering the last clearing permit (CPS 8101/3), a total of 4.61 hectares of vegetation was remaining to be cleared. However, as the current amendment relocated the areas to be cleared and reduced the amount to clear, the remaining vegetation to be cleared totals 4.54 hectares.

Following determinations from the previous amendment (CPS 8101/3) it was considered that whilst the revegetation is not directly considered an offset, the application of the offsets metric was employed to demonstrate that the impact to the clearing of the previously remaining 4.61 hectares of black cockatoo foraging habitat is adequately mitigated by the rehabilitation program (Appendix D). As the current amendment reduced the amount of impact to 4.54 hectares, the offsets metric and the rehabilitation program previously approved is suitable to adequately mitigate these impacts.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

2.2. Assessment of impacts on environmental values

The proponent has reported that 9.3 hectares have been cleared to date, and no clearing was undertaken in the reporting period of 1 January 2022 and 31 December 2022 (Lundstrom, 2023a).

Since the approval of the clearing permit CPS 8101/3, the proponent conducted a dieback survey within the “pink and red areas” of the permit (see 1.5 Site Map) and discovered that part of these areas are dieback infected and would be unsuitable for gravel mining extraction. Therefore, the proponent proposed to amend the permit boundary to include an alternative location on the southern section to avoid the dieback infected area (Appendix E).

Additionally, to assist in determining the impacts to black cockatoo species, a more detailed habitat tree assessment of three of the previously identified hollow bearing trees has been conducted by Lundstrom in July 2023. The results of the assessment revealed that none of the hollow bearing trees examined were found to contain hollows that were suitable for black cockatoos nesting (Lundstrom, 2023b). The results were based on the hollows being either non-existent or being too shallow, small, or open (Lundstrom, 2023b).

Therefore, the proposed new area reallocated in the southern section (Appendix E) will not impact critical breeding habitat for black cockatoo species nor will it increase the potential environmental impacts assessed in the previous clearing permit CPS 8101/3. Impacts to foraging habitat for black cockatoos were mitigated and described in decision report CPS 8101/3.

The application area is located within the Canning River Catchment Area Public Drinking Water Source Area (PDWSA) (GIS Database). Advice was sought from the Department of Water and Environmental Regulation, in relation to this clearing permit application. No concerns were raised by DWER in relation to the proposed clearing within the PDWSA (DWER, 2022).

The environmental values of the application area are described in the previous decision report CPS 8101/3, based on biological studies undertaken by Lundstrom (2020; 2023b), and Western Wildlife (2011; 2020; 2021). The environmental impacts of the proposed clearing have been previously assessed and conditionally approved via clearing permit CPS 8101/3.

The amendment application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*. Environmental information has been reviewed, and the assessment of the proposed clearing against the clearing principles remains consistent with the assessment contained within previous versions of the decision report: principles (b) and (h) are at variance, principles (a) and (g) may be at variance, principles (c), (d), (i) and (j) are not likely to be at variance, and principles (e) and (f) are not at variance.

2.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 22 August 2023 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. One public submission was received in relation to this application.

The permit area is within the South West Native Title Settlement area (DPLH, 2023). This settlement resolves Native Title rights and interests over an area of approximately 200,000 square kilometres within the south west of Western Australia. The mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e., the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2023). It is the proponent's responsibility to comply with the *Aboriginal Cultural Heritage Act 2021* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan approved under the *Mining Act 1978*.

It is noted that the proposed clearing may impact on Black Cockatoos, which are a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of Agriculture, Water and the Environment for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of Agriculture, Water and the Environment for further information regarding notification and referral responsibilities under the EPBC Act.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

Appendix A. Details of public submissions

Summary of comments	Consideration of comment
One direct interest party submission was received requesting that appropriate measures to mitigate environmental impacts were implemented, including weed and dieback control, wind erosion control, and fauna management conditions.	DMIRS has contacted the party and addressed the requested measures via this decision report and permit, implementing the conditions accordingly. The previous permit CPS 8101/3 contains a detailed explanation of the assessment of the ten clearing principles of clearing native vegetation, which addressed all potential environmental impacts and measures to minimising them. It is noted that some of the requests are not assessed under the <i>Environmental Protection Act 1986</i> , and therefore, cannot be incorporated into the permit.

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. It is adjacent to the existing quarry and surrounded by native forest. Aerial imagery indicates the local area (10 kilometre radius) retains approximately 90 per cent of the original native vegetation cover (GIS Database).
Ecological linkage	The application area does not form part of an ecological linkage (GIS Database).
Conservation areas	The application area is located within the Jarrahdale State Forrest (GIS Database)
Vegetation description	The clearing permit application area is broadly mapped as the following Beard vegetation association: 3: Medium Forest; jarrah-marri (GIS Database). A flora and vegetation survey conducted over the original permit area and surrounding areas identified the following vegetation association within the original permit area: Open <i>Eucalyptus marginata</i> / <i>Corymbia calophylla</i> woodland (Ecologia, 1997).

Characteristic	Details
	<p>The Permit Holder amended the original permit to include an additional area, approximately 600 metres north of the original permit area. The majority of the area included in CPS 8101/3 consisted of revegetation following previous gravel extraction activities, with small pockets of uncleared remnant vegetation located mainly around the edges of the amendment application area.</p> <p>A flora and vegetation reconnaissance survey conducted by Lundstrom Environmental Consultants (Lundstrom, 2020) described the vegetation within the northern area as follows:</p> <p>The previously cleared and revegetated sections: <i>Eucalyptus marginata</i> - <i>Corymbia calophylla</i> woodlands. These revegetated areas include <i>Acacia pulchella</i>, <i>Allocasuarina fraseriana</i>, <i>Bossiaea aquifolium</i>, <i>Daviesia decurrens</i>, <i>Corymbia calophylla</i>, <i>Gompholobium scabrum</i>, <i>Kennedia coccinea</i> and <i>Phyllanthus calycinus</i>;</p> <p>The remnant vegetation sections: Open <i>Corymbia calophylla</i>, <i>Eucalyptus marginata</i> over moderately dense mixed shrubs. <i>Corymbia calophylla</i> dominates in the tall tree stratum with <i>Allocasuarina fraseriana</i> and <i>Banksia grandis</i> common subdominant species. Beneath this stratum, a relatively species poor shrub layer occurs. Moderately dense stands of <i>Persoonia longifolia</i>, <i>P. elliptica</i>, <i>Bossiaea aquifolium</i>, <i>Macrozamia riedlei</i> and <i>Xanthorrhoea preissii</i> predominate over smaller shrubs such as <i>Scaevola calliptera</i>, <i>Phyllanthus calycinus</i> and <i>Hibbertia commutata</i> (Lundstrom, 2020).</p> <p>The current amendment application includes one area immediately adjacent to the south of the original permit area. A flora and vegetation reconnaissance survey conducted by Ecoedge (2022) described the vegetation within the amendment area as:</p> <p>Vegetation sub-unit A1: <i>Eucalyptus marginata</i>, <i>Allocasuarina fraseriana</i> medium open forest over <i>Banksia grandis</i>, <i>Persoonia longifolia</i> low very open woodland over <i>Xanthorrhoea preissii</i> tall open shrubland over <i>Adenanthos barbiger</i>, <i>Bossiaea aquifolium</i>, <i>Hibbertia amplexicaulis</i>, <i>H. commutata</i>, <i>Macrozamia riedlei</i>, <i>Philothea spicata</i>, <i>Phyllanthus calycinus</i>, <i>Xanthorrhoea gracilis</i> low/mid open shrubland with <i>Kennedia coccinea</i>, <i>K. prostrata</i> climbers over <i>Burchardia congesta</i>, <i>Lomandra caespitosa</i>, <i>L. sonderi</i>, <i>Opercularia echinocephala</i>, <i>Platysace filiformis</i> very open forbland on dark grey- brown sandy gravel.</p>
Vegetation condition	<p>The vegetation survey indicates the vegetation within the proposed clearing area is in excellent to degraded (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Error! Reference source not found.</p>
Climate and landform	<p>The application area is mapped within elevations of 310-330 metres AHD. The annual average rainfall (Bickley) is 1086.7 millimetres (BoM, 2022).</p>
Soil description	<p>The soils of the application area are mapped as soil type JZ1 (GIS Database). This soil type is characterised by lateritic gravels and block laterite, and chief soils are ironstone gravels with sandy and earthy matrices (Northcote et al., 1960-68).</p>
Land degradation risk	<p>The application area has been mapped as being in an area with a high potential for wind erosion (DPIRD, 2023). The application area does not have a high risk of flooding, water erosion, waterlogging or phosphorus export (DPIRD, 2023).</p>
Waterbodies	<p>There are no watercourses or wetlands within the application area (GIS Database).</p>
Hydrogeography	<p>The application area is located within the Canning River Catchment Area Public Drinking Water Source Area (PDWSA) (GIS Database). The mapped groundwater salinity is 500-1,000 milligrams per litre total dissolved solids which is described as marginal (GIS Database).</p>
Flora	<p>There are records of 9 conservation significant flora within 5 kilometres, the closest of which are approximately 830 metres from the application area.</p>
Ecological communities	<p>There are no records of any Threatened or Priority Ecological Communities in the local area (GIS Database).</p>
Fauna	<p>There are records of 19 fauna of conservation significance within the local area (10 kilometre radius) and a known black cockatoo roost site less than 2 kilometres away.</p>

Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

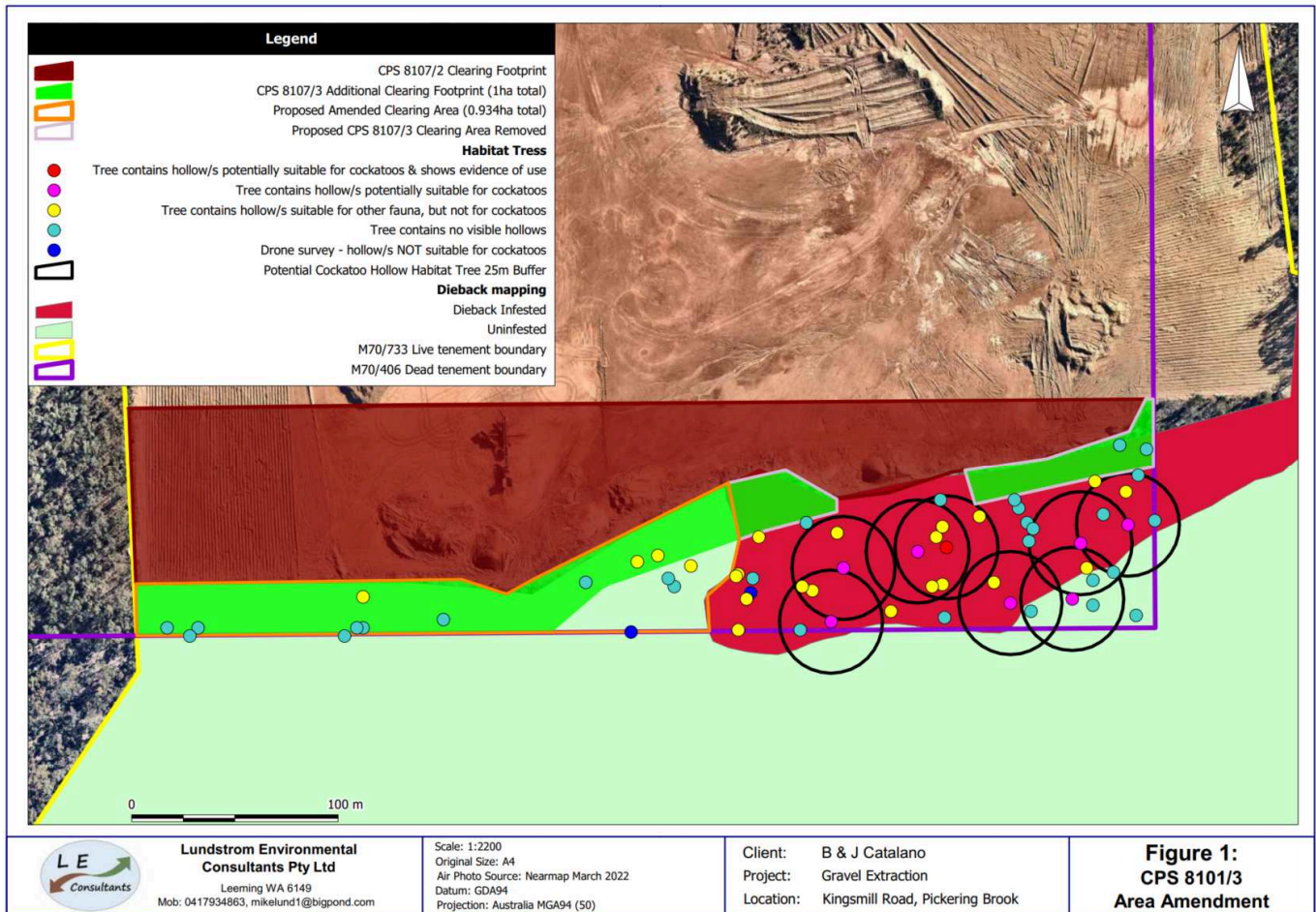
Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix D. Offset metric calculation

Environmental value to be offset		
Calculation	Score (Area)	Rationale
Conservation significance		
Description	Camaby's Cockatoo Foraging Habitat	The application area will clear 4.61 ha of significant foraging habitat for black cockatoos.
Type of environmental value	Species (flora/fauna)	All three species of threatened black cockatoo species (Camaby's Cockatoo, Baudin's Cockatoo, Forest Red-tailed Black Cockatoo) have the potential utilise the application area as foraging habitat.
Conservation significance of environmental value	Rare/threatened species - endangered	Camaby's Cockatoo and Baudin's Cockatoo are listed as Endangered and Forest Red-tailed Cockatoo is listed as Vulnerable.
Landscape-level value impacted	yes/no	No
Significant impact		
Description	Clearing of 4.61 ha of excellent quality foraging habitat	
Significant impact (hectares) / Type of feature	4.61	
Quality (scale) / Number	9.00	The area of foraging habitat is mostly in an excellent condition and contains suitable species for black cockatoo feeding. Evidence of foraging has been observed in the local area and there are known breeding sites within 12 km
Rehabilitation credit		
Description	Rehabilitation of cleared areas.	The cleared areas will be rehabilitated following mining.
Proposed rehabilitation (area in hectares)	4.61	
Current quality of rehabilitation site / Start number (of type of feature)	0.00	The entire area will be cleared and cleared areas will have no value following mining.
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	1.00	It is assumed that there will be some natural recruitment of native vegetation without any revegetation being undertaken.
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	5.00	It is expected that the revegetation would achieve this quality as a minimum.
Time until ecological benefit (years)	20.00	Taking into account the time for mining to occur, it is expected that the foraging values of revegetation would be present after 20 years.
Confidence in rehabilitation result (%)	0.9	Rehabilitation has been successfully undertaken at the site.
Offset		
Description	Revegetation of a previously cleared area.	
Proposed offset (area in hectares)	10.70	This value represents more than 100% of the significant residual impact.
Current quality of offset site / Start number (of type of feature)	0.00	The entire area was cleared and have no value following mining.
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	1.00	It is assumed that there will be some natural recruitment of native vegetation without any revegetation being undertaken.
Future quality WITH offset (scale) / Future number WITH offset	5.00	It is expected that the revegetation would achieve this quality as a minimum.
Time until ecological benefit (years)	15.00	It is expected that the foraging values of revegetation would be present after 15 years.
Confidence in offset result (%)	0.9	Rehabilitation has been previously successfully undertaken at the site.
Duration of offset implementation (maximum 20 years)	20.00	The revegetation site is located within State Forest and would be protected in perpetuity and therefore the maximum value of 20 years has been selected.
Time until offset site secured (years)	0.00	The site is already located within State Forest.
Risk of future loss WITHOUT offset (%)	10.0%	Given the land is located within State Forest it is expected that there is a low risk of future clearing.
Risk of future loss WITH offset (%)	10.0%	Given the land is located within State Forest it is expected that there is a low risk of future clearing.
Offset ratio (Conservation area only)	N/A	

Appendix E. Biological survey information excerpts



Lundstrom Environmental Consultants Pty Ltd
 Leeming WA 6149
 Mob: 0417934863, mikelund1@bigpond.com

Scale: 1:2200
 Original Size: A4
 Air Photo Source: Nearmap March 2022
 Datum: GDA94
 Projection: Australia MGA94 (50)

Client: B & J Catalano
 Project: Gravel Extraction
 Location: Kingsmill Road, Pickering Brook

**Figure 1:
 CPS 8101/3
 Area Amendment**

Z:\Catalano\Pickering Brook_Kingsmill Rd_SoK_Gravel\CP Applications\CP Applications\2023 CP Amendment Application\Drawings\CP Application 2023.map 18/07/2023 Layout 2

Appendix F. References and databases

F.1. GIS datasets

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Bush Forever (Regional Scheme) (DPLH-022)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Interim Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)

- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- Black Cockatoo WTBC Breeding
- Black Cockatoo FRTBC Breeding
- Black Cockatoo BC Roosts
- Black Cockatoo BC Feeding SCP
- Black Cockatoo Feeding JF
- Black Cockatoo Feeding Areas Buffered
- Black Cockatoo *Baudins* Distribution
- Black Cockatoo Forest Red Tail Distribution
- Black Cockatoo *Carnabys* Distribution
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

F.2. References

- Department of Primary Industries and Regional Development (DPIRD) (2023) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (Accessed 18 September 2023).
- Department of Planning, Lands and Heritage (DPLH) (2023) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 18 September 2023).
- Department of Water and Environmental Regulation (DWER) (2022) Advice received in relation to Clearing Permit Application CPS 8101/3. Department of Water and Environmental Regulation, Western Australia, February 2022.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Lundstrom Environmental Consultants (2023a) 2023 Annual Report for CPS 8101/2, M70/733 Kingsmill Road, Pickering Brook. Prepared for B & J Catalano Pty Ltd, Lundstrom Environmental Consultants Pty Ltd, 16 May 2023.
- Lundstrom Environmental Consultants (Lundstrom) (2023b) Black Cockatoo Habitat Tree Review – Pickering Brook Quarry M 70/733. Report prepared for B&J Catalano Pty Ltd by Lundstrom Environmental Consultants, July 2023.
- Lundstrom Environmental Consultants (Lundstrom) (2020) Reconnaissance Survey Report. Kings Mill Rd, Pickering Brook: Gravel Extraction. Report prepared for B&J Catalano Pty Ltd, by Lundstrom Environmental Consultants, February 2020.
- Western Wildlife (2011) Part Tenement M70/733, Kingsmill Rd Pickering Brook, Level 1 Fauna Survey 2011. Report prepared for WA Limestone, by Western Wildlife, May 2011
- Western Wildlife (2020) Kingsmill Road Quarry, Pickering Brook – black-cockatoo habitat tree survey. Report prepared for Lundstrom Environmental Consultants, by Western Wildlife, February 2020.
- Western Wildlife (2021) Pickering Brook Quarry, Kings Mill Road: Basic Vertebrate Fauna Survey and Targeted Black-cockatoo Habitat Survey 2021. Prepared for B & J Catalano, by Western Wildlife, September 2021.

3. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia

DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T **Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of ‘Specially Protected Fauna’ listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of ‘Rare Flora’ listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be “*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**

Threatened species considered to be “*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**

Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX **Extinct species**

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW **Extinct in the wild species**

Species that “is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI

Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD

Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS

Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P

Priority species:

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1

Priority One - Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening

processes. Such species are in urgent need of further survey.

P2 Priority Two - Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 Priority Three - Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 Priority Four - Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.
- (d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.
- (e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
- (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.
- (j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.