

s. 22(1)(a)(ii)

From: s22
Sent: Wednesday, 6 March 2024 10:41 AM
To: s22
Subject: RE: Nature positive reforms - meeting request [SEC=OFFICIAL]

Thanks s22 I will send out the meeting invite now.

From: s22 @edo.org.au>
Sent: Wednesday, March 6, 2024 10:23 AM
To: s22 @dcceew.gov.au>
Cc: s22
Subject: RE: Nature positive reforms - meeting request [SEC=OFFICIAL]

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Thanks s22

Along with myself, s22 (all CC'd) will be attending from EDO.

Kind regards
s22



Environmental Defenders Office

s22
Commonwealth and Government Liaison
Naarm/Melbourne

s22

I use she/her pronouns.

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From: s22 dcceew.gov.au>
Sent: Tuesday, March 5, 2024 2:52 PM
To: s22
Subject: RE: Nature positive reforms - meeting request [SEC=OFFICIAL]

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Hi Frances,

Released under the FOI Act 1982

Thanks for confirming.

Once you send through the EDO attendees I will send out the Teams link.

For this meeting it will just be s22 attending.

Warm regards,

s22

From: s22 @edo.org.au>
Sent: Tuesday, March 5, 2024 1:32 PM
To: s22 dcceew.gov.au>
Cc: s22 @edo.org.au>
Subject: RE: Nature positive reforms - meeting request [SEC=OFFICIAL]

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Hi s22

Thank you for getting back to us so promptly. 3pm Thursday 7 March via Teams works well. Are you aware if Mr Tregurtha is available to join us at this time as well?

I will send through confirmed EDO attendees shortly.

Kind regards

s22



Environmental Defenders Office

s22

Commonwealth and Government Liaison
Naarm/Melbourne

s22
s22 @edo.org.au

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From: s22 dcceew.gov.au>
Sent: Tuesday, March 5, 2024 11:09 AM
To: s22 @edo.org.au>
Cc: s22 @edo.org.au>
Subject: RE: Nature positive reforms - meeting request [SEC=OFFICIAL]

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Hi s22

I assist in managing s22 diary and s22 is happy to meet with you to discuss these issues.

Does 3pm Thursday 7 March work for you?

Additionally, this meeting would be online via Teams as s22 is Canberra based.

Warm regards,

s22

s22

OFFICE OF THE HON TANYA PLIBERSEK MP
MINISTER FOR THE ENVIRONMENT AND WATER
FEDERAL MEMBER FOR SYDNEY
PARLIAMENT OF AUSTRALIA

s22

Minister.Plibersek@dcceew.gov.au

I recognise the First Peoples of this nation and their ongoing connection to culture and country. I acknowledge First Nations Peoples as the Traditional Owners and Custodians of the world's oldest living culture and pay respects to their Elders past, present and emerging.

From: s22 @edo.org.au>
Sent: Tuesday, March 5, 2024 9:58 AM
To: s22 @dcceew.gov.au>; s22 @dcceew.gov.au>;
Tregurtha, James <James.Tregurtha@dcceew.gov.au>
Cc: Ra s22 @edo.org.au>
Subject: Nature positive reforms - meeting request

Dear s22 James,

Thank you for facilitating the three stakeholder 'lock-in' consultations so far.

EDO has attended all three and provided feedback on the draft materials. It has been useful to work closely with Department staff in these sessions, and to have the ability to provide on-the-spot feedback. We have also recently published a [legal update](#) on our website, setting out our priorities for nature law reform this year.

However, as communicated in the February session, we continue to hold significant concern about parts of the materials, including whether the package as whole will truly secure nature positive outcomes as the Government intends. To discuss these concerns in more detail, including our recommendations for how to ensure the laws work for community, nature, and the climate, **we are seeking an urgent meeting.**

Is there a time this week or early next week we can meet to discuss the materials in more detail?

Kind regards

s22



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s22 k@edo.org.au

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s. 22(1)(a)(ii)

From: s22 @edo.org.au <[redacted]@edo.org.au>
Sent: Thursday, 7 December 2023 11:51 AM
To: Minister Plibersek
Cc: Minister.King@mo.infrastructure.gov.au; Kate GOWLAND; s22 R s22
Subject: Urgent - Action funded by Commonwealth likely to have a significant impact on the endangered koala - Appin Road Upgrade
Attachments: 231207 EDO to Minister Plibersek re Appin Rd Koalas.pdf; 231010 EDO to Ministers Plibersek and King re Appin Rd Koalas.pdf; 231129 EDO to TfNSW re Appin Rd Addendum Report.pdf; 231117 Steve Phillips Addendum advice.pdf; 231024 DCCEEW to EDO - Response re Appin Rd - MC23-032569.pdf

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Dear Minister Plibersek

Please see **attached** letter dated 7 December 2023 and enclosures thereto.

Please don't hesitate to contact me at s22 @edo.org.au if you have any questions or wish to discuss.

Thank you
 Kind regards

s22



Environmental
 Defenders Office

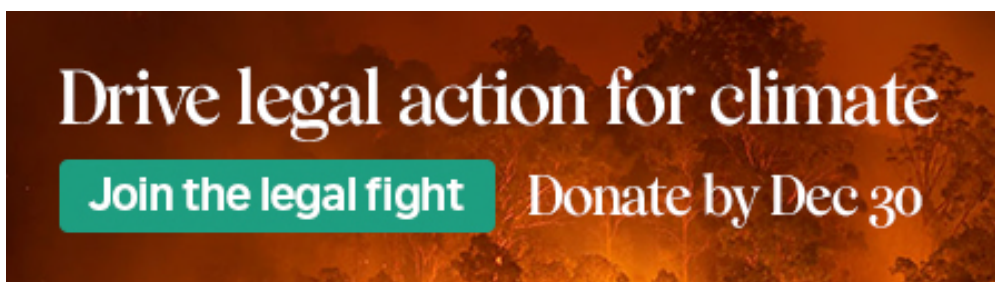
s22

(Wed, Thu, Fri)
 Suite 8.02, 6 O'Connell Street, Gadi/Sydney
 NSW 2000
 P: 1800 626 239

s22

edo.org.au

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Environmental Defenders Office

Our Ref: RK:NV:S189
Your Ref: MC23-032569

7 December 2023

The Hon Tanya Plibersek MP
Minister for the Environment
PO Box 6022
Parliament House
Canberra ACT 2600

By email only: Minister.Plibersek@dcceew.gov.au

Cc: The Hon Catherine King MP
Minister for Infrastructure, Transport, Regional Development and Local Government

By email only: Minister.King@mo.infrastructure.gov.au

Cc: Kate Gowland
Branch Head, Environment Assessments (NSW and ACT) Branch
Department of Climate Change, Energy, the Environment and Water

By email only: kate.gowland@dcceew.gov.au

URGENT

Dear Minister Plibersek

Action funded by Commonwealth likely to have a significant impact on the endangered koala - Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade

1. We act for the International Fund for Animal Welfare (**IFAW**) in respect of the above matter. We refer to the undated and unsigned letter we received from Ms Kate Gowland, from the Department of Climate Change, Energy, the Environment and Water (**the Department**) on 24 October 2023 in response to our letter to you dated 10 October 2023. For ease of reference, we **enclose** both letters.
2. The letter we received from the Department does not engage substantively with any of the significant issues raised in our 10 October 2023 letter. The Department's response states:

As you note in your correspondence, the Australian Government and the New South Wales Government Roads and Maritime Services (now Transport for NSW) have undertaken a Strategic Assessment of transport infrastructure and management works. This Strategic Assessment outlines a series of works which do not require further regulation under the *Environment Protection and Biodiversity Conservation Act 1999*.

3. Transport for NSW (**TfNSW**) purports to rely on the approval granted on 24 September 2015 by the then Minister under s 146B of the *Environment Protection Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**) for the class of actions set out in the program *Environmental Assessment and Decision-Making by NSW Roads and Maritime Services* (**Program**), endorsed on 7 September 2015.¹ However, as detailed in our 10 October 2023 letter, the Activities as proposed **do not** fall within the approved class of actions because they will not be undertaken in accordance with the Program. Accordingly, in the terms of the instrument of endorsement for the Program, the Activities “are not covered by the approval and therefore may not be taken without further approval under the EPBC Act”.² Accordingly, we respectfully repeat our request that you exercise your power under s 70 of the EPBC Act to request TfNSW to refer the Activities for assessment under the EPBC Act. We note that Ms Gowland’s letter did not respond to this request.
4. Further, since our 10 October 2023 letter to you, Dr Phillips has prepared an addendum report to his 4 April 2023 report, dated 17 November 2023 (**Addendum Report**), a copy of which is **enclosed**. The Addendum Report provides further information regarding the use of underpass structures by koalas by utilising publicly available data that was not included in his 4 April 2023 report. Dr Phillips concludes in the Addendum Report that “opinions expressed in my earlier advice dated 4th April 2023 in relation to the potential for a significant impact on koalas of the Activities remain not only unchanged but are strongly supported by available data relating to the successful use of underpass structures by koalas.” Accordingly, Dr Phillips’ Addendum Report confirms that a significant impact on koalas **will** result from the Activities.
5. In the Addendum Report, Dr Phillips also provides further detail on the ameliorative measures that must be implemented by TfNSW, so that the Activities would no longer be likely to significantly affect the koala. TfNSW is on notice of the ameliorative measures required as they are summarised in our letter of 29 November 2023 to TfNSW at paragraph [5], which is **enclosed**. Further, as you are aware, our client has been engaging with TfNSW on this issue since 2019. However, to date, TfNSW has not addressed the serious issues raised by Dr Phillips or adopted the ameliorative measures identified by Dr Phillips so that the Activities would no longer be likely to significantly affect the Koala.
6. You have an opportunity to protect the critically important Campbelltown koala population through simply ensuring that the Activities do not proceed without the suite of ameliorative measures set out in paragraph [5] of our letter 29 November 2023 to TfNSW. This could be achieved simply by requiring the adoption of these ameliorative engineering measures, as a condition of the provision of the significant Commonwealth funding for the Appin Road project.
7. If the Activities are constructed as planned, there is a very real risk of extinction of a critically important koala population and devastating impact on the species. Commonwealth funded

¹ Endorsement, approval, and program available at <https://www.dcceew.gov.au/environment/epbc/approvals/strategic-assessments/nsw-roads-and-traffic-management>.

² See Annexure 1 to the approval, available at <https://www.dcceew.gov.au/sites/default/files/env/pages/d776c7d9-05cc-4e27-a6aa-8a981cd7faf9/files/approval-decision-notice-nsw-roads.pdf>.

infrastructure should not contribute to the further decline of the koala, especially where there are engineering and construction conditions which could be attached to this project.

Thank you for your consideration of this matter. We respectfully request a response to the above by 21 December 2023. Please contact **s22** edo.org.au if you have any questions or wish to discuss.

Yours faithfully
Environmental Defenders Office

s22

s22

s22

Enclosures:

- A** EDO letter to Minister Plibersek dated 10 October 2023
- B** Undated Letter from the Department to the EDO received on 24 October 2023
- C** Addendum Report of Dr Stephen Phillips dated 17 November 2023
- D** Letter from EDO to TfNSW dated 29 November 2023



Environmental Defenders Office

Our Ref: RK:NV:S189

10 October 2023

The Hon Tanya Plibersek MP
Minister for the Environment
PO Box 6022
Parliament House
Canberra ACT 2600

By email only: Minister.Plibersek@dceew.gov.au

Cc: The Hon Catherine King MP
Minister for Infrastructure, Transport, Regional Development and Local Government

By email only: Minister.King@mo.infrastructure.gov.au

URGENT

Dear Minister

Action funded by Commonwealth likely to have a significant impact on the endangered koala - Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade

1. We act for the International Fund for Animal Welfare (**IFAW**). IFAW is a global non-profit helping animals and people thrive together. IFAW rescue, rehabilitate and release animals and restore and protect their natural habitats. IFAW is also focused on addressing the many threats facing the koala.
2. We write with respect to proposed Commonwealth-funded road infrastructure activities in Western Sydney: the Appin Road Upgrade, the Appin Road Safety Improvements and the Brian Road Intersection Upgrade (collectively, the **Activities**),¹ and their likely impacts on the koala, a listed endangered species. Transport for NSW (**TfNSW**) proposes to undertake the Activities,

¹ As described in the: Appin Road Upgrade, Mount Gilead to Ambarvale, Addendum Review of Environmental Factors, November 2022 (**Addendum REF**); Appin Road Safety Improvements from Brian Road to Gilead, Review of Environmental Factors, November 2018 (**Safety Improvements REF**); and Brian Road Intersection Upgrade, Review of Environmental Factors, January 2023 (**Brian Rd REF**), available at <https://www.transport.nsw.gov.au/projects/current-projects/project-documents-appin-road-improvements>.

and under NSW planning law is both the determining authority and the proponent for the Activities.² The Commonwealth has granted \$72 million in funding for the Activities.³

3. In February 2023, you observed that “[w]e actually have to turn the Titanic around and get it on to another course... If you want your kids and grandkids to be able to see koalas in the wild, we have to change what we’re doing.”⁴
4. If the Activities are constructed as planned, there is a very real risk of extinction of a critically important koala population and devastating impact on the species. Commonwealth funded infrastructure should not contribute to the further decline of the koala.
5. You have an opportunity to make a course correction through simply ensuring that the Activities do not proceed without the suite of ameliorative measures set out in the expert reports described further below at paragraph [5] and in the **Appendix** to this letter at paragraphs [23]-[25] and [38].

The Campbelltown koala population is of critical importance to the species

6. Koalas are one of Australia’s most iconic species, but tragically are in decline. The 2019-20 Black Summer bushfires across vast swathes of eastern Australia were unprecedented in their scale and intensity and devastated a significant area of koala habitat.
7. The Campbelltown koala population, which will be impacted by the Activities, is **critically important** in terms of the long-term recovery of the koala and sustainable koala management generally because it is one of the few NSW koala populations that appears to be growing. The Campbelltown koala population is also notable for being perhaps the only population in the Sydney basin that escaped the impact of the 2019-2020 Black Summer bushfires, the consequences of which at both the NSW and national level was a primary consideration in the uplisting of the species from vulnerable to endangered.

The Activities will have a significant impact on the koala

8. We have engaged an expert ecologist on behalf of IFAW, Dr Stephen Phillips, to consider whether the Activities are likely to have a significant impact on the koala and/or its habitat. Dr Phillips’ advice, set out in reports dated 19 August 2019 and 4 April 2023, is that the Activities **will** have a significant impact⁵ on the koala. The impacts arise through, for example, habitat

² Addendum REF at p 6; Safety Improvements REF at p 13; and Brian Rd REF at pp 4 and 47

³ See <https://investment.infrastructure.gov.au/projects/065996-16nsw-np>

⁴ <https://www.smh.com.au/politics/federal/we-have-to-turn-the-titanic-around-on-environment-plibersek-20230216-p5cl0w.html>

⁵ The *Significant Impact Guidelines* at p 9 provide that for endangered species, an action is likely to have a significant impact if there is a real chance or possibility that it will: **lead to a long-term decrease in the size of a population**; reduce the area of occupancy of the species; fragment an existing population into two or more populations; **adversely affect habitat critical to the survival of a species**; disrupt the breeding cycle of a population; **modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline**; result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species’ habitat; introduce disease that may cause the species to decline; or **interfere with the recovery of the species**. See https://www.dcceew.gov.au/sites/default/files/documents/nsg-guidelines_1.pdf.

fragmentation and isolation, impediments to safe movement, disruption of population processes, and vehicle strike.⁶

9. However, Dr Phillips advises that there are a suite of specific measures that could be taken in the design of the Activities to ameliorate their impacts to a level below significant. Our client has been advocating for these measures to be taken since 2019, but TfNSW has not incorporated them and has not provided our client with a substantive response to its concerns.

The Activities are not covered by the extant Part 10 approval for minor road works

10. TfNSW seeks to rely on the approval granted on 24 September 2015 by the then Minister under s 146B of the *Environment Protection Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**) for the class of actions set out in the program *Environmental Assessment and Decision-Making by NSW Roads and Maritime Services* (**Program**), endorsed on 7 September 2015.⁷

11. However, as is set out in the attached **Appendix** at paragraphs [26] to [44], the Activities as proposed do not fall within the approved class of actions because they will not be undertaken in accordance with the Program. Accordingly, in the terms of the instrument of endorsement for the Program, the Activities “are not covered by the approval and therefore may not be taken without further approval under the EPBC Act”.⁸

12. In particular

- i) The Activities, if conducted as currently proposed, without the ameliorative measures set out by Dr Phillips, will not be consistent with the principles of ecologically sustainable development (**ESD**) (**Appendix**, paragraphs [33]-[35]).
- ii) TfNSW’s failure to incorporate the suite of ameliorative measures necessary to minimise the impacts of the Activities on the koala is plainly not in accordance with the requirements of the Program in applying the avoid, mitigate, offset hierarchy (**Appendix**, paragraphs [36]-[38]).
- iii) The impacts of the Activities on biodiversity were not subject to best practice and rigorous assessment (**Appendix**, paragraphs [39]-[42]).
- iv) The Review of Environmental Factors for the Activities do not deal with all relevant consequences that are likely to arise from the Activities as proposed for the koala (**Appendix**, paragraphs [43]-[44]).

Request to call in the Activities under s 70 of the EPBC Act

13. Accordingly, we respectfully request that you exercise your power under s 70 of the EPBC Act to request TfNSW to refer the Activities for assessment under the EPBC Act.

⁶ All discussed in the March 2022 *National Recovery Plan for the Koala*, available at

<https://www.dcceew.gov.au/environment/biodiversity/threatened/publications/recovery/koala-2022>

⁷ Endorsement, approval, and program available at <https://www.dcceew.gov.au/environment/epbc/approvals/strategic-assessments/nsw-roads-and-traffic-management>.

⁸ See Annexure 1 to the approval, available at <https://www.dcceew.gov.au/sites/default/files/env/pages/d776c7d9-05cc-4e27-a6aa-8a981cd7faf9/files/approval-decision-notice-nsw-roads.pdf>.

Request to require suite of ameliorative measures as condition of Commonwealth funding

14. Further, as noted above, the Commonwealth government, through its Investment Road and Rail Program, is providing \$72million of funding for the Activities.⁹ Accordingly, the Commonwealth has the opportunity to require, as a condition of the funding, the suite of ameliorative measures that Dr Phillips has advised are necessary to prevent the Activities from having a significant impact on the koala.
15. We have therefore copied in the Minister with responsibility for these projects, the Hon Catherine King MP, and request that the Commonwealth ensures that its funding is contingent on the Activities incorporating the ameliorative measures set out in Dr Phillips' reports.
16. Our client would be pleased to meet with you to further discuss the impact of the Activities and the eminently practicable ameliorative measures that must be taken in order to preserve this critical population of the koala.
17. Despite repeated requests we have not had a substantive response from TfNSW to our correspondence and are concerned that it may proceed with the Activities, which present a significant direct threat to the koala. Accordingly, we respectfully request an urgent response to this correspondence by **Wednesday, 25 October 2023**. Please contact s22 at s22@edo.org.au if you have any questions.

Yours faithfully

Environmental Defenders Office

s22

s22

Senior Solicitor

Appendix: The impact of the Activities on the koala and relevance to the Commonwealth

Enclosures:

- A Letter from EDO to RMS dated 27 August 2019 attaching the 2019 Advice; and
- B Letter from EDO to TfNSW dated 17 April 2023 attaching the 2023 Advice.

⁹ See <https://investment.infrastructure.gov.au/projects/065996-16nsw-np>

APPENDIX**The impact of the Activities on the koala and relevance to the Commonwealth****Koalas are in decline**

18. The report of the Koala Independent Expert Panel chaired by the Deputy NSW Chief Scientist and Engineer (**Chief Scientist Report**),¹⁰ noted that a 2020 report that analysed koala records and the extent of the bushfires, found that over the preceding three koala generations the NSW koala population has declined by at least 28.52% and possibly as much as 65.95%. Further, the ongoing threat of climate change and its associated impacts will severely affect koala populations and increase the risk of localised extinction events.¹¹ Further, the impact of the Black Summer bushfires of 2019-20 has increased the comparative importance of the Campbelltown koala population, which will be directly impacted by the Activities, one of the only koala populations in NSW that is thought to be growing and chlamydia free.¹²
19. In 2022, in recognition of the decline of koalas, they were up-listed at both the NSW and Commonwealth level. In February 2022, koalas in NSW, Qld and the ACT were up-listed from vulnerable to endangered under the EPBC Act. In May 2022, koalas were up-listed at the state level from vulnerable to endangered under the *Biodiversity Conservation Act 2016* (NSW) (**BC Act**).

The Activities will have a significant impact on the koala

20. On 27 August 2019, we provided what was then known as the Roads and Maritime Services (**RMS**) with a copy of the expert report of Dr Stephen Phillips dated 19 August 2019 (**2019 Advice**) prepared on behalf of IFAW. A copy of our 27 August 2019 letter and the 2019 Advice are **attached**.
21. In the 2019 Advice, Dr Phillips concluded that the Appin Road Upgrade (as proposed at that time) and the Appin Road Safety Improvements had a strong likelihood of a significant impact on the Campbelltown koala population. Dr Phillips set out ameliorative measures that could be taken by RMS so that the Appin Road Upgrade and the Appin Road Safety Improvements would no longer be likely to significantly affect the koala.
22. Since the preparation of Dr Phillips' 2019 Advice, the koala has been up-listed. The koala is now identified as an endangered species under both the EPBC Act and the NSW BC Act. In November 2022, TfNSW released an addendum REF for the Appin Road Upgrade works. Further, in January 2023, TfNSW released a REF for additional works to Appin Rd at the Brian Rd Intersection. Accordingly, we requested Dr Phillips prepare an updated advice that considered the impact of these new works together with the Appin Road Safety Improvements.
23. On 17 April 2023, we provided Dr Phillips' updated advice dated 4 April 2023 (**2023 Advice**) to TfNSW. A copy of our 17 April 2023 letter to TfNSW and the 2023 Advice are **attached**. Dr

¹⁰ *Advice on the protection of the Campbelltown Koala population, Koala Independent Expert Panel* dated 30 April 2020, accessed at: https://www.chiefscientist.nsw.gov.au/_data/assets/pdf_file/0005/318830/Koalas-Advice-Final.pdf

¹¹ Chief Scientist Report at p 28 referring to Lane, Wallis and Phillips (2020).

¹² Chief Scientist Report at pp iv. and vi.

Phillips' 2023 advice states that the Activities **will** have a significant impact on the koala for the purposes of the EPBC Act.¹³

24. In Dr Phillips' opinion, "the area between Rosemeadow on the southern outskirts of Campbelltown and the village of Appin has become critically important in terms of long-term, koala recovery and sustainable koala management generally."¹⁴
25. To date, our client has not received a substantive response to the 2019 or 2023 Advice or the letters that accompanied them.

Ameliorative measures must be adopted by TfNSW to prevent the Activities significantly affecting the koala

26. As noted above, Dr Phillips' 2023 Advice states that the Activities will have a significant impact on the koala.
27. Dr Phillips' 2023 Advice states that if certain ameliorative measures are undertaken, the Activities would no longer be likely to significantly affect the koala. Accordingly, on behalf of our client, we requested by letter dated 17 April 2023 that specific ameliorative measures identified by Dr Phillips in the 2023 Advice be included as part of the Activities.¹⁵
28. If TfNSW does proceed with the Activities as currently proposed, the Activities will place the critically important Campbelltown koala population at risk of decline and extinction, and will thereby have a significant impact on the koala.

The Activities are not covered by the Part 10 Approval

29. TfNSW has not sought approval for the Activities under the EPBC Act, because it considers that the Activities fall within the approval granted under Part 10 of the EPBC Act by the then Minister in 2015, for "small-scale road works, as described in the program, if done so in accordance with the environmental requirements set out in the program"¹⁶.
30. On 7 September 2015, the then Minister endorsed, pursuant to s 146 of the EPBC Act, the Program described in the *Program Report - Environmental assessment and decision making by NSW Roads and Maritime Services Strategic Assessment under Part 10, Environment Protection and Biodiversity Conservation Act 1999*.¹⁷ The endorsed Program includes actions associated with traffic and road management activities.
31. Annexure 1 to the Final Approval Decision notes that (emphasis added):

Actions covered by this approval must be taken in accordance with the endorsed Program. **Actions not taken in accordance with the endorsed Program are not covered by the approval** and therefore may not be taken without further approval under the EPBC Act if they have, will have or are likely to have a significant impact on

¹³ 2023 Advice, pp 3-4.

¹⁴ 2023 Advice, p 2.

¹⁵ We note that we have requested Dr Phillips prepare an addendum advice providing his opinion in relation to TfNSW's proposal in the executive summary of the Brian Road REF to use a 2.4m diameter, 36m long concrete round pipe at the Brian's Road Intersection. This will be provided once prepared by Dr Phillips.

¹⁶ <https://www.dccew.gov.au/environment/epbc/approvals/strategic-assessments/nsw-roads-and-traffic-management>

¹⁷ The Program is available at <https://roads-waterways.transport.nsw.gov.au/documents/about/environment/planning-and-assessment/strategic-assessment-program-report.pdf>

a matter of national environmental significance (protected by a provision of Division 1 of Part 3 of the EPBC Act), subject to any other relevant exceptions applying.

32. We contend that the Activities as proposed will not be taken in accordance with the endorsed Program and as such require approval under the EPBC Act because they are likely to have a significant impact on a matter of national environmental significance (the Queensland/NSW/ACT koala population).
33. The Activities, if undertaken as currently proposed, will violate several of the fundamental commitments made in the Program and therefore cannot reasonably be considered to be “in accordance with the endorsed Program”.
34. At the outset, the Program commits that “the Program will ensure that any impacts on Specified Protected Matters will not be unacceptable or unsustainable, and will support achievement of the objects of the EPBC Act and Australia’s international obligations.”¹⁸
35. It states that the Program will achieve this through:
- Implementation of the Program consistent with the principles of ESD
 - Application of the avoid, minimise, mitigate and offset hierarchy during all stages of activity planning and decision-making
 - Comprehensive environmental impact assessment processes that take clear account of the Specified Protected Matters, including relevant policy and conservation guidance
 - Appropriate opportunities for public consultation and input to inform environmental impact assessment and decision-making, tailored to the scale of likely impacts and level of community interest
 - Implementation of appropriate environmental management standards during the undertaking of activities, supported by clear systems for applying targeted safeguards, undertaking inspections and audits, monitoring and adaptive management.¹⁹

The Activities would breach Program Commitment One

36. The Program undertakes that “Roads and Maritime will ensure that road and traffic management activities are planned, assessed and undertaken consistent with the principles of ESD.”²⁰
37. The Program commits to:
- Program commitment one – ecologically sustainable development**
Roads and Maritime will demonstrate due diligence in the provision of its services, manage its road and traffic management activities in a manner which is consistent with the principles of ESD, and continually improve environmental performance.
38. The Activities, if conducted as currently proposed, without the ameliorative measures set out by Dr Phillips, will not be consistent with the principles of ESD, and in particular:
- a. The conservation of biological diversity and ecological integrity “namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration”²¹

¹⁸ Program, p 12.

¹⁹ Program, p 12.

²⁰ Program, p 14.

²¹ Program, Box 2-1.

It is clear that the conservation of biological diversity and ecological integrity have not been a fundamental consideration in the assessment, design, and proposed undertaking of the Activities. This is because the proponent, RMS (now TfNSW), have been on notice since at least 2019 that the Activities, without very specific design changes, place the Campbelltown koala population at real risk of extinction.

Even following the Black Summer bushfires of 2019/2020, which increased the importance of the Campbelltown population of the koala for the survival of the species, and the up-listing of the koala to **endangered** at both the State and Federal levels, TfNSW has still not amended the design of the Activities to include the **evidence-based** suite of ameliorative measures necessary to reduce the impact of the Activities. There are no insurmountable engineering impediments to the ameliorative measures, nor would they require any significant land use change.

It is apparent that the key consideration for not including the ameliorative measures is to seek to keep the cost of the Activities as low as possible, and to avoid any inconvenience or delay arising out of adjusting the design. This is clearly stated in the REF for the Brian Rd Intersection Upgrade, which found that reinforced concrete box culverts (**RCBC**) were the preferred underpass construction option for koala movement. Despite this, the design decided upon in that REF is the inferior reinforced concrete pipe (**RCP**) option, because (emphasis added):

- **The installation of an RCP is notably faster than a RCBC** given no base slab construction and potentially reduced excavation depth. RCP solution removed the need to form up and pour a **costly and time-consuming** base slab – requiring 28 days curing time before the crown units could be installed
- Reduced clearing requirements
- **Reduced construction costs and program implications** to the proposal. **RCPs are much easier** in terms of staging **and are less expensive**
- RCP as a design solution not only minimised excavation but also allowed for delivery in a **timely manner** and at a **significantly reduced cost**
- If any soft soil/settlement issues are encountered, then RCPs are a much better option with flexibility of joints whilst RCBC may even require pile foundations in soft soils²²

The conservation of biological diversity and ecological integrity has therefore demonstrably **not** been a fundamental consideration for the Activities.

- b. The precautionary principle “namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation”²³

There is a risk that the Activities will result in irreversible population decline in the critically important Campbelltown koala population and therefore the health and sustainability of the species. TfNSW seeks to postpone evidence-based measures to prevent harm arising from the Activities (being the Ameliorative Measures specified by Dr Phillips) on the basis that the extent of the impact on the koala is not certain.

²² Transport for NSW, January 2023, *Brian Road Intersection Upgrade Review of Environmental Factors*, <https://www.transport.nsw.gov.au/system/files/media/documents/2023/brian-road-intersection-ref-2023-01.pdf>, p 26

²³ Program, Box 2-1.

- c. Inter-generational equity – “namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations”²⁴

As set out above, the Activities, if undertaken without the ameliorative measures proposed by Dr Phillips, risk the extinction of the critically important Campbelltown koala population and therefore the health and sustainability of the species.

As you noted yourself, for the next generation and those following to be able to see a koala in the wild, we have to change what we are doing. The Activities do not do this, but rather proceed with business-as-usual. Koalas are endangered. Proactive measures must be taken by the present generation to ensure their survival in the wild for the benefit of future generations. The implementation of the suite of ameliorative measures recommended by Dr Phillips is a very modest measure that would make a significant difference to the sustainability of the population.

The Activities would breach Program Commitment Two

39. The Program commits to implementing the avoid, mitigate, offset hierarchy:

Program commitment two – protection hierarchy

Roads and Maritime will apply the ‘avoid, minimise, mitigate and offset’ hierarchy in undertaking its road and traffic management activities to ensure protection and avoid unacceptable impacts on the Specified Protected Matters. This will include:

- Seeking to avoid impacts as the highest priority
- Minimising and mitigating actions to reduce the extent and intensity of likely impacts
- Providing offsets where residual significant impacts occur for a Specified Protected Matter, with the appropriate offset for that Specified Protected Matter determined in accordance with a method identified in a Bilateral Agreement between the NSW and Australian Governments or otherwise agreed with, or endorsed by, the Australian Government Minister for the Environment.
- Assessment documentation for the activity provided to the RMS decision-maker will identify proposed offsets and include arrangements and timeframes for the securing of offsets.

40. Importantly, the Program requires that (emphasis added):

A fundamental component of implementing the principles of ESD is to ensure that assessment and decision-making processes are focussed on firstly avoiding environmental impacts, consistent with the precautionary principle. Impacts that cannot feasibly or reasonably be avoided should then be minimised and mitigated as far as practicable.”

...

- Minimise – where an activity cannot feasibly or practicably avoid impacts on the Specified Protected Matters, **Roads and Maritime seeks to ensure these are minimised as far as possible. That includes the application of measures such as road design refinements to reduce the scope of overall impact where feasible. For example, by using retaining walls rather than embankments, and bridges rather than culverts**

- Mitigate – these are measures taken **once all practicable steps to avoid or minimise impacts have been implemented**. Mitigation or safeguard measures are detailed during the environmental impact assessment process and undertaken during construction and operation. Roads and Maritime guidelines and procedures identify a range of mitigation techniques to be applied, including re-establishment of native vegetation at the end of a project, weed management, provision of

²⁴ Program, Box 2-1.

supplementary fauna habitat (such as nest boxes for appropriate species), and installation of erosion and sediment controls²⁵

41. TfNSW's failure to incorporate the suite of ameliorative measures that Dr Phillips advises are necessary to minimise the impacts of the Activities on the koala is plainly not in accordance with the requirements of the Program to:
- a. Minimise impacts on specified protected matters (such as the koala) as far as possible. The examples cited in the Program are directly relevant to the ameliorative measures required for the Activities, which are road design refinements and which include using land bridges rather than pipes and culverts. The Activities, despite expert advice and advocacy since 2019, still do not incorporate these modest measures to minimise impacts on the endangered koala; and
 - b. Implement **all practicable steps** to avoid or minimise impacts on specified protected matters (such as the koala). The Activities as currently proposed do not implement all practicable steps to avoid or minimise impacts on the koala. Dr Phillips has set out a number of eminently practicable steps, such as specifically designed overpasses at specified locations (see below²⁶, for example), appropriate koala exclusion fencing, and koala grids, to minimise the impacts - habitat fragmentation and vehicle strike (both key threatening processes for the koala) – that the Activities are likely to significantly increase.



Figure 1. Dedicated fauna overpass across the Pacific Motorway in northern NSW. Once established, koalas (and other wildlife) are known to make regular use of such structures.

The Activities would breach Program Commitment Five

42. The Program also requires (emphasis added):

Program commitment five – biodiversity assessment

Roads and Maritime **will undertake best practice and rigorous assessment of the potential impacts of its activities on biodiversity, as an integral part of project environmental impact assessment, and taking into account current and up-to-date information on species and communities listed under the EPBC Act.** To that end, Roads and Maritime will maintain and continually improve its guidelines and procedures for biodiversity assessment, ensuring that consideration of the Specified Protected Matters are clearly addressed, using appropriately qualified and experienced ecologists and taking account of up-to-date information from

²⁵ Program, p 15.

²⁶ From 2023 Advice, p 7.

available sources and targeted field surveys. Roads and Maritime will ensure its assessment processes reflect accepted methodologies that are robust and repeatable. Roads and Maritime will also maintain and continually improve its procedures with respect to management of biodiversity during the construction, operation and maintenance phases of an activity.

43. This requirement is not complied with for the Activities. The impacts of the Activities on biodiversity were not subject to best practice and rigorous assessment. The Activities were not subject to a full environmental impact statement (**EIS**) or a species impact statement (**SIS**), but rather only a review of environmental factors (**REF**) for each individual component project, with no consideration of cumulative impacts. This is an inadequate level of assessment in light of the potential for the Activities to have a significant impact on an iconic and now endangered species. As Dr Phillips found:

I am strongly of the opinion that a significant impact on koalas will result if the Activities as currently proposed are implemented. Because neither the AREF or the REF have considered the potential for cumulative impacts, addressed matters of landscape connectivity for koalas, examined issues of longer-term population viability or provided any baseline data against which the efficacy of the proposed measures to be undertaken by the Activities could be objectively assessed, the current measures of environmental assessment embodied in the REFs do not, in my opinion, qualify as satisfactory for the purposes of either a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR).²⁷

44. Nor did the assessment of the impacts of the Activities on biodiversity take into account current and up-to-date information on species, and in particular the koala, listed under the EPBC Act. The assessment of the level of impact of the Activities on the koala for the Appin Road Upgrade and Appin Road Safety Improvement Works did not materially change to account for the Black Summer bushfires, nor the uplisting of the koala. TfNSW's continuing stance, despite the uplisting of the koala, that the impact of the Activities on the koala will not be significant and do not require a full EIS or SIS is also inconsistent with the *Referral guidance for the endangered koala* prepared by Commonwealth Department of Climate Change, Energy, Environment, and Water following the uplisting of the koala, which states that (**emphasis added**):

It is the department's expectation that you refer any proposed project that is likely to impact the koala and/or its habitat. This includes disturbance and/or creation of barriers on areas of land that either contains locally important koala trees, or is land that provides the means for koalas to move between patches of habitat. **As an endangered species, even small areas of habitat loss (as little as 1 Ha) can have a significant impact.**

45. Further, assessment of the impacts of the Activities has not taken into account the advice given by Dr Phillips in both 2019 and 2023, the preeminent expert on koalas in NSW, on the impact of the Activities on the koala.

The Activities would breach Program Commitment Eight

46. The Program requires decision-making on whether to proceed with an activity to take into account all relevant consequences for specified protected matters (emphasis added):

Program commitment eight – decision-making

Consistent with statutory requirements and assessment guidelines, Roads and Maritime will ensure that decision-making on whether to proceed with an **activity takes into account all relevant consequences for the Specified Protected Matters, including from direct and indirect impacts.**

Decision-making will be made by appropriately senior level delegates and on the basis of detailed information contained in the REF, supporting technical information and giving consideration to the outcomes from community consultation.

²⁷ 2023 Advice, p 11.

Roads and Maritime will make determined REFs and submissions reports publicly available.

47. As is apparent from paragraphs [40] and [41] above, the REFs for the Activities do not deal with all relevant consequences that are likely to arise from the Activities as proposed for the koala, thereby breaching Program Commitment Eight.

The Minister must call in the Activities under s 70 of the EPBC Act

48. As is apparent from the above, the Activities do not comply with the requirements of the Program and as such are not covered by the s 146 approval for the Program.
49. Expert advice from Dr Phillips makes clear that the Activities as currently designed will have a significant impact on a matter of national environmental significance, the endangered koala.
50. We therefore request that you exercise your power under s 70 of the EPBC Act to request TfNSW to refer the Activities to you for assessment under s 75 of the EPBC Act.

Commonwealth funding should not contribute to the further decline of the koala

51. The Commonwealth government, through its Investment Road and Rail Program, is providing \$72million of funding for the Activities. At present, that funding will be used for infrastructure that will directly put a critical koala population at risk of extinction through, for example, habitat fragmentation and isolation, impediments to safe movement, disruption of population processes, and vehicle strike.²⁸
52. However, the Commonwealth has the opportunity to require, as a condition of the funding, the ameliorative measures that Dr Phillips has advised are necessary to prevent the Activities from having a significant impact on the koala.
53. We have therefore copied in the Minister with responsibility for these projects, the Hon Catherine King MP, and request that the Commonwealth ensures that its funding is contingent on the Activities incorporating the ameliorative measures set out in Dr Phillips' reports.

²⁸ All discussed in the March 2022 *National Recovery Plan for the Koala*, available at <https://www.dcceew.gov.au/environment/biodiversity/threatened/publications/recovery/koala-2022>



Environmental Defenders Office

Our Ref: RK:NV:S189

Your Ref: LEC:LEN010/4026

29 November 2023

s22

Senior Associate

Corrs Chambers Westgarth

By email: s22@corrs.com.au

cc: s22

Partner

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URGENT

Dear s22

Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade – activities likely to have a significant impact on the koala

1. We refer to our previous correspondence on the Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade (**Activities**)¹ with your client and with your office. In particular, we refer to our letter to Transport for NSW (**TfNSW**) dated 17 April 2023, which enclosed the expert reports of Dr Stephen Phillips dated 4 April 2023 and 19 August 2019.
2. Dr Phillips has prepared an addendum report to his 4 April 2023 report, dated 17 November 2023 (**Addendum Report**), a copy of which is **enclosed**. The Addendum Report provides further information regarding the use of underpass structures by koalas by utilising publicly available data that was not included in his 4 April 2023 report. The Addendum Report also provides clarification in relation to Dr Phillips' opinion in relation to the under-road structures

¹ As described in the: Appin Road Upgrade, Mount Gilead to Ambarvale, Addendum Review of Environmental Factor, November 2022 (**Addendum REF**); Appin Road Safety Improvements from Brian Road to Gilead, Review of Environmental Factors, November 2018 (**Safety Improvements REF**); and Brian Road Intersection Upgrade, Review of Environmental Factors, January 2023 (**Brian Rd REF**).

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proposed by TfNSW in the Brian Road REF and Addendum REF. The Addendum Report is to be read in conjunction with Dr Phillips' reports dated 19 August 2019 and 4 April 2023.

3. Dr Phillips concludes in the Addendum Report that "opinions expressed in my earlier advice dated 4th April 2023 in relation to the potential for a significant impact on koalas of the Activities remain not only unchanged but are strongly supported by available data relating to the successful use of underpass structures by koalas." Accordingly, Dr Phillips' Addendum Report confirms that a significant impact on koalas **will** result from the Activities. In support of this conclusion, he notes the following:
 - a. Examination of publicly available data, the majority of which was obtained from the TfNSW website, confirms the connectivity structures currently proposed by TfNSW in the Addendum REF and the Brian Road REF do not accord with best practice and "there is **clearly no evidence** to support the installation of such structures ...as meaningful koala connectivity measures for the purposes of the proposed Appin Road upgrade" [our emphasis].² This is consistent with the conclusions expressed in Dr Phillips 4 April 2023 report.
 - b. In relation to the Brian Road REF, the 2.4m diameter pipe proposed by TfNSW is "too small to be of utility to koalas."³ Dr Phillips states that a **minimum** of a 2.4 m x 2.4 m culvert is required at this location.
 - c. In relation to the Noorumbah-Glen Lorne connectivity structure proposed in the Addendum REF, Dr Phillips confirmed his earlier opinion, that this structure is not only too small to offer any utility to koalas, but it is also in the wrong location. Dr Phillips confirms that what is required is an overpass centrally located within the currently vegetated area.
 - d. In relation to the Browns Bush connectivity structures proposed in the Addendum REF, Dr Phillips' further analysis confirms his earlier opinion that these structures are too small to offer utility for koalas. Dr Phillips also identifies a further issue with the proposed alignment of these structures. Dr Phillips states that what is required:

... is a diagonal realignment of the proposed connectivity structures so that direct access to vegetated areas of the Beulah bushland to the immediate south is consequently enabled. The diagonal realignment will result in a longer **LURT** [length of the under-road traverse] requirement than what was set out in the [Addendum REF]. Assuming that the diagonal realignment results in a **LURT** of approximately 35 m (rather than 27 m as stated in the [Addendum REF]), then koala connectivity requirements would then need to be met by larger structures such as 2.4 m x 2.4 m culverts, not pipes. The matter of fence end management should be addressed by provision of temporary koala-grids at this location.
4. Dr Phillips' Addendum Report confirms that a significant impact on koalas **will** result from the Activities. Accordingly, we reiterate our client's view, set out in our 17 April 2023 letter, that TfNSW (as the determining authority) must not carry out the Activities without first obtaining, examining and considering an Environmental Impact Statement (**EIS**) that includes or is accompanied by a Species Impact Statement (**SIS**) or Biodiversity Development Assessment Report (**BDAR**). Should TfNSW carry out the Activities in the absence of an EIS and SIS or BDAR, our client is of the view that TfNSW would be breaching s 5.7 of the *Environmental Planning and*

² Addendum Report, p 5.

³ Ibid.

Assessment Act 1979 (NSW) (**EP&A Act**). We note that such a breach may be remedied by way of an application in Class 4 of the NSW Land and Environment Court's (**LEC**) jurisdiction to restrain an apprehended breach of the EP&A Act (ss 9.4 and 9.45, EP&A Act).

Request for ameliorative measures to be included in the Activities

5. In paragraph [11] of our 17 April 2023 letter, we requested that certain ameliorative measures be included as part of the Activities, so the Activities would no longer be likely to significantly affect the koala. The Addendum Report provides further clarification on the ameliorative measures required to be undertaken in relation to the Brian Road intersection and Brown's Bush. Accordingly, on behalf of our client, we request that the following ameliorative measures be included as part of the Activities:
 - a. In relation to the Glen Lorne linkage (refer to page 6 and 7 of Dr Phillips 4 April 2023 Report, confirmed in the conclusion of the Addendum Report):
 - i. Further assessment and more detailed treatment of fence ends within the road corridor at the northern boundary of the linkage (a cursory examination of aerial imagery by Dr Phillips would suggest that the western fence end should be more to the north of the eastern fence end to lock into existing fencing).
 - ii. Installation of 'to specification' koala-grids (see page 4 of Dr Phillips' 4 April 2023 report for specifications) beneath both gates that are proposed to offer vehicular access to Noorumbah and Glen Lorne Reserves respectively to assist in enforcing the exclusion principle by not allowing koalas into the road corridor even if gates are left open.
 - iii. Replacement of the proposed 2.4 m piped underpass at the extreme southern end of the linkage with a dedicated fauna overpass as shown in Figure 1 of Dr Phillips' 4 April 2023 report, that is centrally located within the currently vegetated area.
 - iv. Dr Phillips' notes that koala fencing now extends along the western edge of the road corridor independently of the Figtree Hill Development fencing/noise wall. While the extension of fencing along the western side of the road corridor is supported, there is no indication in the Addendum REF that existing driveways/service roads will receive the necessary fence-end treatments such as the installation of to-specification koala -grids that will be required to effectively seal these potential access points. These considerations are also a requirement along the eastern side of the road but again have not been specifically detailed amongst the Activities to be undertaken.
 - b. In relation to Brown's Bush (refer to page 7 and 8 of Dr Phillips' 4 April 2023 Report and the conclusion of the Addendum Report):
 - i. Diagonal realignment of the proposed connectivity structures is required so that direct access to vegetated areas of the Beulah bushland to the immediate south is consequently enabled.
 - ii. The diagonal realignment will result in a longer length of the under-road traverse (**LURT**) requirement than what was set out in the Addendum REF.

Assuming the diagonal realignment results in a LURT of approximately 35 m (rather than 27 m as stated in the Addendum REF), then koala connectivity requirements would then need to be met by two 2.4 m x 2.4 m culverts. However, we note that if the LURT is longer than 35m this may result in the requirement for larger culverts, see Figure 2 in the Addendum REF.

- iii. Installation of permanent 'to specification' koala-grids (see page 4 of Dr Phillips' 4 April 2023 report for specifications) at all driveways and service roads along both sides of the road corridor to the north.
 - iv. Installation of temporary 'to specification' koala-grids (see page 4 of Dr Phillips' 4 April 2023 report for specifications) at fence ends immediately to the south of the interim underpass, to be removed only when the following stage has been completed and proposed Beulah underpass is functional.
- c. In relation to the Brian Road linkage (refer to page 8 and 9 of Dr Phillips' 4 April 2023 Report and the conclusion of the Addendum Report):
- i. Replacement of the proposed 2.4 m diameter pipe with a **minimum** of a 2.4 x 2.4m culvert.
 - ii. Installation of permanent 'to specification' koala-grids (see page 4 of Dr Phillips' 4 April 2023 report for specifications) at the western fence ends along Brian Road.
 - iii. Install a permanent 'to specification' koala-grid (see page 4 of Dr Phillips' 4 April 2023 report for specifications) across Appin Road at the southernmost fence ends or develop a more detailed treatment whereby fence ends can be tied into existing barriers.

Concurrence of Environment Agency Head

6. We refer to our letter dated 17 April 2023 and note that we have still not been advised as to whether TfNSW has obtained the requisite concurrence of the Environment Agency Head required by s 7.12(3) of the *Biodiversity Conservation Act 2016* (NSW). Please advise if this concurrence has been obtained.

Activities as currently designed require assessment under the EPBC Act

7. We refer to our 19 October 2023 letter, noting that Dr Phillips' 4 April 2023 advice also found that the Activities will have a significant impact on the koala for the purposes of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**). On behalf of our client, we requested that TfNSW immediately refer the Activities for assessment under the EPBC Act. We requested a response by 10 November 2023, however we have not received a response to date. Please provide a response to the issues raised in our 19 October 2023.

Request for undertaking

8. We are instructed to respectfully request that TfNSW provide:

- a. A written undertaking that the ameliorative measures listed in paragraph [5] above will be included as part of the plans for the Activities and re-exhibited and then also implemented in the construction of the Activities; or, in the alternative
 - b. A written undertaking that construction works will not be commenced by TfNSW or its contractors in relation to the Activities, and that it will suspend any authority given to Lendlease or its contractors to commence construction works in relation to the Activities, until TfNSW obtains an EIS including a SIS or BDAR in respect to the impacts of the Activities on the koala.
9. If TfNSW is not prepared to provide either of the above undertakings, we note your existing undertaking dated 3 May 2023 to provide us with at least 7 days' written notice prior to commencement of construction works in relation to the Activities.
10. We are instructed to note that our client reserves all of its rights in relation to this matter, including, without limitation, those in relation to the commencement of proceedings in Class 4 of the LEC to restrain an apprehended breach of the EP&A Act (ss 9.44 and 9.45).

Thank you for your consideration of this matter. We respectfully request a response to the above by 13 December 2023. Please contact s22@edo.org.au if you have any questions or wish to discuss.

Yours faithfully
Environmental Defenders Office

s22

s22

Special Counsel

Enclosure:

A Addendum Report of Dr Stephen Phillips dated 17 November 2023.

The EDO

Attn: s22 Special Counsel
Level 8, 6 O'Connell Street,
Sydney NSW 2000 AUSTRALIA

17th November 2023

Dear s22

Re: Proposed Appin Road upgrades

Please consider this communication as an addendum to my earlier advice dated the 4th April 2023 which addressed matters regarding inadequacies of under-road structures for koalas being proposed by an Addendum Review of Environmental Factors (the **AREF**) for the proposed upgrading of Appin Road between Mt. Gilead and Ambarvale, and the Review of Environmental Factors (the **Brian Road REF**) for the Brian Road Intersection Upgrade to the south.

The purpose of this addendum is to:

- a) provide further information regarding the use of underpass structures by koalas by utilising existing and publicly available data that was not included in my original advice, and to set out whether, considering this data, my opinion of the impact of **the Activities** (as stated in the April 2023 advice) has changed, and
- b) on the basis that the design decided for the Brian Road under-road structure as set out in the Executive Summary of the **Brian Road REF** is the 2.4 m round pipe and **not** the 3 m x 3 m culvert (query in my April advice refers), to set out whether my opinion on the impact of **the Activities** (as stated in my April 2023 advice), has changed.

Consistent with my earlier advice I reiterate that I have read and acknowledge compliance with Division 2 of Part 31 of the *Uniform Civil Procedure Rules 2005* (**UCPR**) and the Expert Witness Code of Conduct contained in Schedule 7 of the UCPR and agree to be bound by it.

Subsequent to my advice dated 4th April, 2023, I have had the opportunity to examine data relating to the successful use of under-road structures by koalas. The data I refer to in the sections that follow have been compiled from publicly available reports available on the TfNSW website (https://www.pacifichighway.nsw.gov.au/document-library?date_from=&date_to=&keyword=koala), other sources, and a scientific publication. Those documents that I have obtained from other sources, and the scientific publication are listed at the conclusion of this document.

Data contained in the reports accessed from the TfNSW website provide information relating to 31 successful structure crossings by koalas. Excluding the 'Infra2' bridge underpass and the Tagget's Hill overpass (both of which were successfully utilised by koalas) because they are not under-road structures *per se*, of the remaining 29 successful koala crossings provided by the TfNSW reports, the key measure of the length of the under-road traverse (**LURT**) is detailed for only 12 structures. However, I was able to locate and measure the length of a further 3 structures referred to in the TfNSW reports for which culvert length was not provided by examining figures in the associated reports and thereafter locating the structures on Google Earth imagery. Structure details (*i.e.*, height, width, and length) relating to a further three successful koala crossings are provided in Table 1 of Goldingay (G'gay) *et al.*, (2022). Data on 3 structures successfully used by koalas was additionally obtained from monitoring reports of underpass use at Skyline Road in the Lismore LGA (Biolink 2004 - 2009) and the upgrading of Old Bogangar Road in the Tweed LGA (Australian Koala Foundation (AKF), 1998) respectively. Based on these reports, I was able to compile useful data for 21 successful under-road structure crossings by koalas.

Standardising structure dimensions

To make sense of information relating to the use of under-road connectivity structures by koalas, it is necessary to consider the **LURT**, as well as a metric that standardises the variables of structure height (**H**) and width (**W**) or (in the case of round pipes) diameter (**D**). While there are several ways of standardising these variables, for graphical purposes I have used headwall dimensions expressed in terms of square meters (sq. m), which for culverts is **H x W**, and for pipes it is $\pi \left(\frac{D}{2}\right)^2$, and the **LURT**. Statistically, there is also some value in considering headwall dimensions, again expressed in sq. m, this time divided by the **LURT**, a measure I have referred to as the '**Q-value**' for the purpose of this advice.

Monitoring data for the 21 structures for which adequate data is available also reveals that some structures were used on more than one occasion by koalas. Because it is not known whether such data reflects re-use by the same koala(s), analyses of successful crossing data utilised for this addendum advice were restricted to one pass / structure / **LURT** only. For example, numerous successful 15 m **LURTs** of the 1.2 m x 1.2 m culverts at Skyline Road were recorded over the course of the 6-year monitoring program, but only a single **H*W / LURT** has been included in the analyses herein because the **LURT** was the same in each instance. Conversely, successful use of 3 m x 3 m culverts by koalas has been recorded for a range of **LURTs**, but only one example for each different **LURT** has been included. These considerations reduce the number of successful crossing metrics I refer to above from 21 to 17 data points. **Table 1** summarises these data in terms of the 10 different structural dimensions (*i.e* **H x W** and $\pi \left(\frac{D}{2}\right)^2$ values) and the associated 17 **LURTs** known to have been successfully traversed by koalas. **Figure 1** provides a simple scatterplot and associated trendline that illustrates the potential relationship between standardised opening dimensions of these structures and the associated **LURTs**. Also of relevance are central tendency measures associated with **Q-values** of structures successfully used by koalas, the mean and associated 95% confidence bounds of which (0.283 ± 0.057) **do not** include the **Q-values** for structures proposed by the REFs, further confirming (in addition to the graphical outcomes implicit in **Figure 2** below) they are too small to offer utility for koalas. I would recommend the mean **Q-value** I refer to in the preceding sentence be adopted as a minimum standard for under-road koala connectivity purposes.

Table 1. Details of connectivity structures known to have been successfully traversed by koalas. Also included for reference purposes are dimensions, **Q-values** and associated calculations for the three round-pipe crossing structures proposed for koalas in association with the Appin Road upgrade between Noorumbah and Brian Road, adjusted to accommodate the reduction in opening size due to the ~ 30 cm of fill proposed by the **AREF** and **Brian Road REF** (0.326, 0.221 and 0.326 sq. m respectively).

Structure	H x W or D (m)	H x W (sq.m.)	$\pi \left(\frac{D}{2}\right)^2$ (sq. m)	LURT (m)	Q-value	Data source
Culvert	3 x 3	9	na	35	.257	TfNSW
Culvert	3 x 3	9	na	32	.281	G'gay et al (2022)
Culvert	3 x 3	9	na	25	.360	TfNSW
Culvert	3 x 3	9	na	20	.450	TfNSW
Culvert	3 x 3	9	na	100	.090	TfNSW
Culvert	3 x 3	9	na	49	.184	TfNSW
Culvert	3 x 3	9	na	54.4	.165	TfNSW
Culvert	2.4 x 3	7.2	na	38	.189	TfNSW
Culvert	2.1 x 3	6.3	na	27	.233	TfNSW
Culvert	1.8 x 3	5.4	na	32	.169	G'gay et al (2022)
Culvert	2.4 x 2.4	5.76	na	66	.087	TfNSW
Culvert	2.4 x 2.4	5.76	na	15	.384	TfNSW
Culvert	1.8 x 2.4	4.32	na	32	.135	G'gay et al (2022)
Culvert	1.5 x 2.1	3.15	na	15	.210	AKF (1998)
Culvert	1.2 x 2.4	2.88	na	15	.192	TfNSW
Culvert	1.2 x 1.2	1.44	na	15	.096	Biolink (2004 - 09)
Pipe	1.05	na	0.87	15	.058	TfNSW
REF Proposals						
<i>Noorumbah</i>						
Pipe	2.4	na	4.19	57	.073	TfNSW
<i>Brown's Bush</i>						

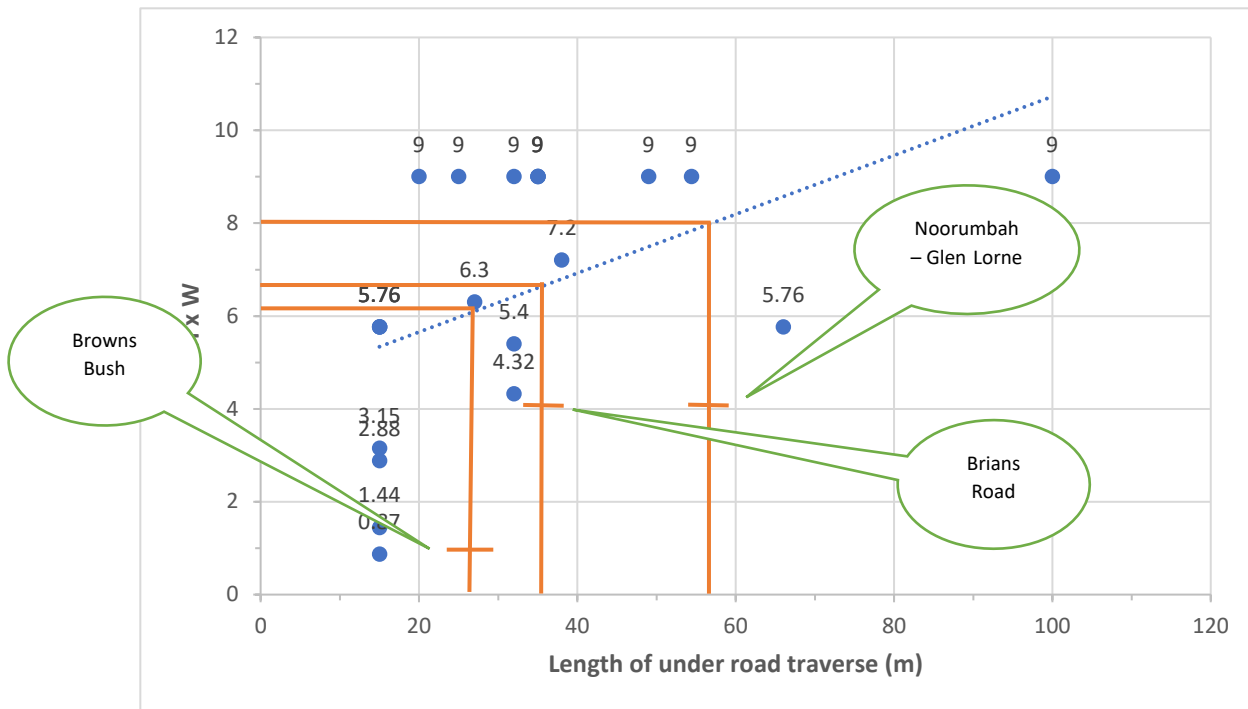


Figure 2. The same scatterplot in **Figure 1**. Adopting the trendline (dotted line) as indicative of a minimum guideline to best practice, the intersecting horizontal and vertical red lines indicate (left to right) appropriate H x W values for underpass structures at Browns Bush, Brian Road and Noorumbah – Glen Lorne respectively; small horizontal red lines at these locations reflect unsatisfactory $\pi \left(\frac{D}{2}\right)^2$ values of the pipe connectivity structures proposed by the REFs (**Table 1** refers).

Outcomes

Available data provides useful information on the successful utilisation of under-road structures by koalas. The primary trend is that of an association between successful crossings by koalas and large structure size. By example, the data confirms successful crossings by koalas using 3 m x 3 m culverts at distances of between 20 – 100 m, but the same cannot be concluded for smaller structures generally. That said, it could be argued that successful crossings by koalas using 2.4 m x 2.4 m culverts at distances of between 15 m – 66 m. are supported by the data. This is useful information given that the range of 15 m – 66 m encompasses the range of under-road traverses proposed by the **AREF** for Noorumbah – Glen Lorne (57 m) and Brown’s Bush (27 m) and the **Brian Road REF** (36 m) respectively. However, given that the proposals in their current form relate to the use of round pipes only, I confirm the need to additionally consider the proposed provision of fill in such structures which in all instances will further reduce the potential for use by koalas because the opening dimensions are further reduced below limits known to be used by koalas based on available data. Moreover, it must also be recognised that round pipes **do not** offer the same exposure interface at the headwall than do culverts of similar dimensions. By example, a 2.4 m x 2.4 m culvert offers an exposed opening interface of 5.76 sq. m, whereas a 2.4 m diameter pipe offers an exposed interface of 4.52 sq. m., less if (as currently proposed by the **AREF** and the **Brian Road REF**) fill is being used to provide a level surface for koalas to walk on. This disparity increases as pipe diameter increases. Because of this relationship, it would be incorrect to argue that round pipes offer equitable opportunities for utility when compared to culverts where height and / or width is similar to that of pipe diameter.

The inability of the connectivity provisions as proposed by the **AREF** and the **Brian Road REF** to support use by koalas is strongly supported by the **Q-values**. As is evident in Table 1, **Q-values** fall into a discrete variable range which – in a statistical sense - are approximately normally distributed and so lend themselves to basic analysis such as calculation of central tendency measures. The fact that the **Q-values** for the connectivity

proposals for all three locations (*i.e.* Noorumbah – Glen Lorne, Browns Bush and Brian Road) fall well outside the 95% (and even the 99%) confidence interval for this particular measure (the range of the **Q-value** 95% confidence interval is 0.152 - 0.265, while the 99% confidence interval is 0.130 - 0.286) further demonstrate that the measures proposed by the **AREF** and the **Brian Road REF** for these locations are manifestly unsuitable.

Conclusions

- A considered examination of publicly available data relating to successful underpass use by koalas, the bulk of which can be accessed from the TfNSW website, enables identification of trends and preliminary guiding metrics about what does and doesn't work for koalas over **LURTs** that range from 15 m – 100m.
- Consistent with opinions expressed in my earlier advice dated 4th April 2023, examination of the available data further confirms that structures as currently proposed by the **AREF** and the **Brian Road REF** fall short of notional best practice measures implied by available monitoring data relating to successful use of such structures by koalas. Given this outcome, there is clearly no evidence to support the installation of such structures as are being proposed by the **AREF** and **Brian Road REF** as meaningful koala connectivity measures for purposes of the proposed Appin Road upgrade.
- In addition to the graphical trends, analysis of **Q-values** offers statistical support to a conclusion that connectivity measures currently proposed in the **AREF** and **Brian Road REF** fall well outside of 95% & 99% confidence expectations of potential use by koalas.
- Upon review of the **Brian Road REF**, the proposed connectivity structure is confirmed in the Executive Summary as a 2.4 m diameter pipe, which – based on the analyses herein – is too small to be of utility to koalas based on available information. Moreover, of the required **LURTs** mooted for the connectivity structures beneath Appin Road, analyses mandates use of a minimum 2.4 m x 2.4 m culvert at this location, rather than a 2.4 m diameter round pipe.
- In addition to being too small to offer any utility to koalas, the Noorumbah – Glen Lorne connectivity structure remains problematical because of its proposed location in mostly cleared land located beyond the southern boundary of the vegetated corridor; an overpass centrally located within the currently vegetated area remains, in my opinion, the most appropriate and ecologically viable alternative.
- The interim connectivity structures proposed for Browns Bush are also confirmed by analysis to be too small to offer utility for koalas and the issue of fence-end management at this key location also remains to be resolved. In my opinion, what is required here is a diagonal realignment of the proposed connectivity structures so that direct access to vegetated areas of the Beulah bushland to the immediate south is consequently enabled. The diagonal realignment will result in a longer **LURT** requirement than what was set out in the **AREF**. Assuming that the diagonal realignment results in a **LURT** of approximately 35 m (rather than 27 m as stated in the **AREF**), then koala connectivity requirements would then need to be met by larger structures such as 2.4 m x 2.4 m culverts, not pipes. The matter of fence end management should be addressed by provision of temporary koala-grids at this location.
- Given the preceding dot point conclusions, opinions expressed in my earlier advice dated 4th April 2023 in relation to the potential for a significant impact on koalas of **the Activities** remain not only unchanged but are strongly supported by available data relating to the successful use of underpass structures by koalas.

Yours sincerely

s22

s22

References

Australian Koala Foundation. (1998). *Monitoring of impacts on koalas associated with the upgrading and part realignment of Old Bogangar Road (2nd report)*. Report to Tweed Shire Council. Australian Koala Foundation.

Biolink. (2004 – 09). *Skyline Road Upgrade, Lismore NSW (annual monitoring reports)*. Reports to Lismore City Council / OEH.

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Australian Government

Department of Climate Change, Energy,
the Environment and Water

MC23-032569

Ms s22
SENIOR SOLICITOR
ENVIRONMENTAL DEFENDERS OFFICE
Suite 8.02
6 O'Connell Street
SYDNEY NSW 2000

s22@edo.org.au

Dear s22

Thank you for your correspondence to the Minister for the Environment and Water, the Hon Tanya Plibersek MP, concerning the upgrades to Appin Road in Western Sydney and the potential significant impacts on the koala. Minister Plibersek has asked me to thank you for your correspondence and to reply on her behalf.

Minister Plibersek has referred your correspondence to the department for review. As you note in your correspondence, the Australian Government and the New South Wales Government Roads and Maritime Services (now Transport for NSW) have undertaken a Strategic Assessment of transport infrastructure and management works. This Strategic Assessment outlines a series of works which do not require further regulation under the *Environment Protection and Biodiversity Conservation Act 1999*.

Thank you again for bringing your concerns to the Government's attention.

Yours sincerely

Kate Gowland
Branch Head
Environment Assessments (NSW and ACT) Branch
October 2023

s. 22(1)(a)(ii)

From: s22 @edo.org.au>
Sent: Thursday, 21 December 2023 5:13 PM
To: Minister Plibersek
Cc: s22
Subject: Referral request under the EPBC Act – Commercial Groundwater Extraction at Springbrook - S6191
Attachments: 231221 Letter to Minister Plibersek - EPBC Referral.pdf; Annexure 1 - Judgment of Kefford DCJ 10.11.23.pdf; Annexure 2 - Protected Matters Report.pdf

You don't often get email from s22 edo.org.au. [Learn why this is important](#)

Dear Minister Plibersek,

Kindly see **attached** correspondence for your attention.

We look forward to your response in due course.

Very best,

s22



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I use she/her or they/them pronouns.

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EDO recognises the traditional owners and custodians of the land, seas and rivers of Australia. We pay our respects to Aboriginal and Torres Strait Islander elders past and present, and aspire to learn from traditional knowledge and customs so that, together, we can protect our environment and cultural heritage through law.

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Environmental Defenders Office

21 December 2023

Hon Tanya Plibersek MP
Federal Minister for the Environment and Water

By email: Minister.Plibersek@dcceew.gov.au

Dear Minister Plibersek,

Referral request under the EPBC Act – Commercial Groundwater Extraction at Springbrook

- 1 We act for the Australian Rainforest Conservation Society (**ARCS**) in relation to a material change of use application made by Hoffmann Drilling Pty Ltd Superannuation Fund (**Hoffman Drilling**) to facilitate commercial groundwater extraction (**the Project**) at 263 Repeater Station Road, Springbrook, Queensland.
- 2 ARCS holds concerns that the Project will have a significant impact on matters of national environmental significance (**MNES**) and accordingly is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**).
- 3 The Project proposes high levels of groundwater extraction adjacent to, and upstream from, the World Heritage listed Gondwana Rainforests of Australia and national parks, which are highly water dependent ecosystems. This area and the subject site are home to numerous endangered threatened species, including the recently listed *Euastacus madae* – the Hinterland Spiny Crayfish. These ecosystems and species are at particular risk already from climate change induced drought, increasing annual moisture seasonality, higher evaporative demand (increasing atmospheric vapour pressure deficit), and a rising basal altitude of the orographic cloud layer^{1,2,3} which will be further exacerbated by high levels of groundwater being removed from the ecosystems.
- 4 To date, the Project has not been referred to you as required under s 68(1) of the EPBC Act. Given the significant threat of this project to MNES, we request you exercise your powers under s 70 of the EPBC Act and request Hoffman Drilling have the Project referred to you for assessment.

¹ M.J. Laidlaw, W.J.F. McDonald, R. John Hunter, D.A. Putland, and R.L. Kitching (2011). The potential impacts of climate change on Australian subtropical rainforest. *Australian Journal of Botany* 59, 440-449.

² D. Bauman, C. Fortunel, G. Delhaye et. al. (2023). Tropical tree mortality has increased with rising atmospheric water stress. *Nature* 608, 528-532.

³ S. Narsey, M. Laidlaw, R. Colman, K. Pearce, M. Hopkins and A. Dowdy (2020). *Impact of climate change on cloud forests in the Gondwana Rainforests of Australia World Heritage Area*. Earth Systems and Climate Change Hub Report No. 20. NESP Earth Systems and Climate Change Hub, Australia.

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Background to the Project

- 5 The Project proposes a material change of use to enable the commercial groundwater extraction from a property located at 263 Repeater Station Road, Springbrook (**the Site**). Once the groundwater is extracted, it is proposed that it will be stored onsite before being transported by commercial water supply trucks, each with a capacity of up to 14,000L, to spring water suppliers within the region.
- 6 On 10 November 2023, the Planning and Environment Court of Queensland made judgment orders that the Development Application be approved in part subject to conditions. A copy of that judgment including conditions is at **Annexure 1**.
- 7 While these conditions attempt to address some of the risks relating to the Project, they do not go far enough in protecting MNES and, as set out below, the risks of any further groundwater extraction in the region have the potential to have significant impacts on those MNES.

Matters of National Environmental Significance

- 8 The Project may be a controlled action, as it may have significant impacts on the following MNES:
 - a. the world heritage values of declared World Heritage properties (ss 12 and 15A of the EPBC Act);
 - b. the national heritage values of National Heritage places (ss 15B and 15C of the EPBC Act);
 - c. listed threatened species and ecological communities (ss 18 and 18A of the EPBC Act); and
 - d. listed migratory species (ss 20 and 20A of the EPBC Act).

World heritage values of a declared World Heritage property and national heritage values of a National Heritage place

- 9 The Project may have a significant impact on World Heritage values (**WHV**) of a declared World Heritage property and on the national heritage values of a National Heritage place and therefore should be referred as a controlled action under those controlling provisions. As the WHV were used to meet National Heritage criteria, these values are taken to be national heritage values as well. As such, both will be considered together.
- 10 The Site is located near areas declared as part of the Gondwana Rainforests of Australia on the UNESCO World Heritage List.⁴ The inclusion of these areas to the Gondwanan Rainforests of Australia is confirmation of the global significance and importance of these forests.

⁴ Department of Climate Change, Energy, the Environment and Water, *Australian Heritage Database*, available at: <https://www.environment.gov.au/cgi-bin/ahdb/search.pl> (accessed 6 November 2023).

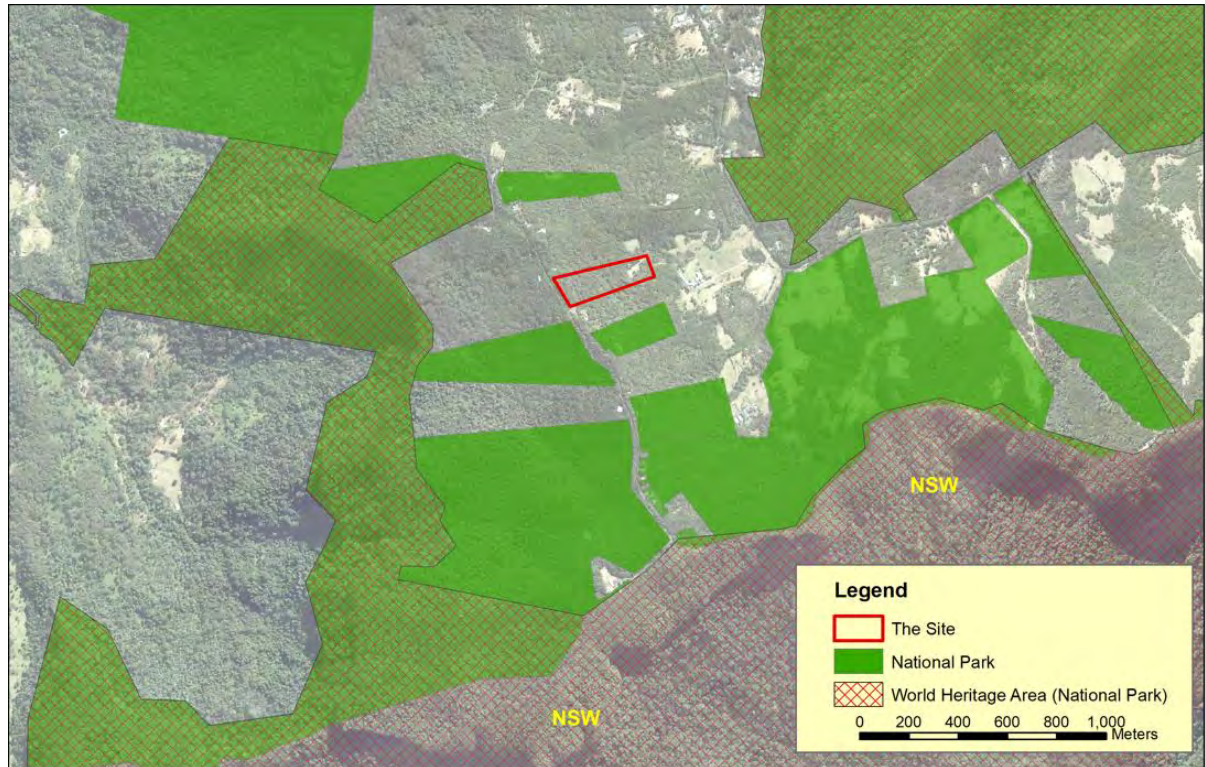


Figure 1 – Map of Springbrook region

- 11 The WHV identified for the Gondwana Rainforests of Australia include that:⁵
- the rainforests are an outstanding example of ecosystems and taxa from which modern biota are derived and are exceptionally rich in primitive and relict species, many of which are similar to fossils from Gondwana;
 - the area includes outstanding geological features associated with the erosion of shield volcanoes;
 - the area contains significant centres of endemism where ongoing evolution of flora and fauna species is taking place; and
 - the rainforests are the principal habitats of a large number of threatened species of plants and animals which are of outstanding universal value from the point of view of science and conservation, including relict and primitive taxa.

Groundwater dependence of WHV

- 12 The WHV values are at risk from the Project as they are groundwater dependent. The Gondwana Rainforests of Australia are only able to survive and flourish in the region due to environmental factors including the groundwater and surface water flow systems which facilitate a complex network of aquifers, seepages, creeks and springs that support the unique and delicate ecosystems.⁶

⁵ John Hunter, *World Heritage and Associative Natural Values of the Central Eastern Rainforest Reserves of Australia* (Report, 2003).

⁶ Queensland Department of Environment and Science, 'Groundwater Dependent Ecosystems: EIS Information Guidelines', *ESR/2020/5301*, available at: https://www.qld.gov.au/data/assets/pdf_file/0016/242314/eis-tm-gde-information-guide.pdf (accessed 6 November 2023).

- 13 The proposed extraction of groundwater may have significant impacts on vegetation function and the persistence of rainforest and forest species. Alteration to water quantity and movement in the landscape impacts on the WHV of the area. Rainforest trees and vegetation have particularly low tolerance to seasonal dryness and therefore any increase in the severity or duration of soil drying is likely to lead to increasing damage to standing forests and large trees during drought.
- 14 The Project is located upstream within the Boy-Ull Creek catchment area including Gondwana Rainforests of Australia, and groundwater which is proposed to be extracted would otherwise flow (including through discharge from seeps and springs) to surface water sites at lower elevations including the iconic Twin Falls and Cave Creek, which are part of the world heritage areas. The forest cover of the areas upstream also plays a role in facilitating and protecting water flows to the world heritage areas.
- 15 Impacts of the Project should be assessed with reference to the Operational Guidelines of the Implementation of the World Heritage Convention (**UNESCO Operational Guidelines**).⁷ In particular, while the property is not directly adjacent to world heritage areas, the effective protection and management of WHV may include instigating 'buffer zones' which have complementary protections.⁸ Effective management also involves management of the wider setting including land use.⁹
- 16 The climate factors which facilitate the development and persistence of Gondwana Rainforests of Australia include the location of the Site upstream and at a high elevation from the world heritage areas. These factors also make the Site an area of critical importance as a future climate refugium for species, particularly in light of the compounding impacts on the region from climate change (discussed below).

Listed threatened species, ecological communities and migratory species

- 17 The Project may have significant impact on listed threatened species, ecological communities and migratory species which are protected under the EPBC Act.
- 18 A Protected Matters Report generated on 7 December 2023 for the Site generated the total number of listed species:
- (a) 76 endangered and vulnerable on-site species;
 - (b) 3 threatened ecological communities; and
 - (c) 14 migratory species.
- 19 A copy of that report is at **Annexure 2**.

⁷ UNESCO, available at: <https://whc.unesco.org/en/guidelines/> (accessed 6 November 2023).

⁸ UNESCO Operational Guidelines, [103]-[107].

⁹ UNESCO Operational Guidelines, [112].

Specific impacts to listed species, ecological communities and migratory species

Euastacus madae – the Hinterland Spiny Crayfish

- 20 The Hinterland Spiny Crayfish is critically endangered and endemic to the Springbrook Plateau region. Its area of occupancy is small (approximately 60km²) and the six creeks where it has been sighted include several which are downstream from the Project.
- 21 The Hinterland Spiny Crayfish is reliant on groundwater for its survival.¹⁰ It requires access to groundwater and soft soils to burrow.¹¹ Conservation advice for the species includes drawdown of local water table through commercial water extraction as a current threat and expresses concern that climate changes forecast for the region, including a predicted reduction in water availability, are likely to exacerbate the impacts that water table drawdown has on this species and its habitat.¹² The advice on this species already articulates concern for activities in Springbrook National Park being conducted during a period when groundwater levels are already thought to be lower than normal due to drought conditions.¹³

Assa darlingtoni – Pouched Frog, or Hip Pocket Frog

- 22 The Pouched Frog is listed as vulnerable, and its habitat is known or likely to occur in the Springbrook region and the Atlas of Living Australia holds records in the Boy-Ull Creek catchment.¹⁴ The Pouched Frog was also recorded in adjacent offsite areas in a fauna and flora survey for the Site.¹⁵ An established layer of damp leaf litter in closed forest communities is a critical habitat for this frog species. Security in groundwater levels is crucial for this species which relies on damp leaf litter for its reproductive cycle. Commercial groundwater operations that reduce water levels may therefore have a detrimental impact on this species.¹⁶

Mixophyes iteratus – Giant Barred frog

- 23 The Giant Barred frog is listed as vulnerable and is a ground dwelling frog found near permanent flowing drainages in lowland wet forests.¹⁷ Conservation advice for this species lists the management of flow regimes to enhance breeding opportunities, not degrading water quality and not substantially affecting current flow regimes as management priorities for this species.¹⁸ Conservation advice provides that water management authorities should ensure stream works do not impact on this species habitat.

Mixophyes fleayi - Fleay's Barred Frog

¹⁰ Conservation Advice *Euastacus madae*, p. 14, available at:

<https://www.environment.gov.au/biodiversity/threatened/species/pubs/86603-conservation-advice-07092023.pdf> (accessed 6 November 2023).

¹¹ Conservation Advice *Euastacus madae*, p. 11.

¹² Conservation Advice *Euastacus madae*, p. 14.

¹³ Conservation Advice *Euastacus madae*, p. 17.

¹⁴ Searches available at: <https://bie.ala.org.au/species/https://biodiversity.org.au/afd/taxa/10cc2d88-1fa5-4197-baf4-7f707a1d08dd>

¹⁵ See Planit Consulting Pty Ltd, Flora and Fauna Assessment 263 Repeater Station Road, Springbrook, available at: <https://integrations.goldcoast.qld.gov.au/pdonline/default.aspx?id=51511208>

¹⁶ Conservation Advice *Assa darlingtoni*, p. 6, available at:

<https://www.environment.gov.au/biodiversity/threatened/species/pubs/1965-conservation-advice-07092023.pdf> (accessed 6 November 2023).

¹⁷ Conservation Advice *Mixophyes iteratus*, p. 3, available at:

<https://www.environment.gov.au/biodiversity/threatened/species/pubs/1944-conservation-advice-13112021.pdf> (accessed 6 November 2023).

¹⁸ Conservation Advice *Mixophyes iteratus*, p. 14.

24 Fleay's Barred Frog is an endangered ground dwelling burrowing frog inhabiting rainforest and adjoining wet sclerophyll forest habitat.¹⁹ Its distribution is patchy across far south-east Queensland and far north-east NSW. Within this narrow range it is known from 30 scattered sites including Springbrook National Park. It is an obligate stream breeding species that relies on permanent and semi-permanent freshwater streams for breeding habitat.²⁰ Changes to water flow in the area may therefore negatively impact the reproductive conditions for this species.

Antechinus arktos – Black-tailed Antechinus

25 The Black-tailed Antechinus is an endangered species. The Springbrook population in particular is genetically distinct from the nearby Lamington National Park population.²¹ The black-tailed antechinus occurs in humid cool subtropical and cool temperate rainforests where rainfall is augmented by fog drip. As the black-tailed antechinus utilises burrows and tree buttresses for denning and refuge habitat, therefore, changes in groundwater can impact the soil and its habitat.²²

Euastacus binzayedii – Embezee's Crayfish

26 Embezee's Crayfish is listed as critically endangered. While not noted on the Protected Matters Report, Embezee's Crayfish has been recorded within the Boy-Ull Creek catchment approximately 1km from the Site. It is related to similar species in the area but genetically distinct and possibly even rarer.²³ Its habitat is small, montane creeks, shaded by dense subtropical rainforest and it lives in complex burrow networks fed by fresh water, meaning that changes in groundwater can impact its habitat.²⁴ Drought is identified in the conservation advice as a current threat for the species and a driver of habitat and species loss.²⁵

Increased vulnerability of groundwater dependent ecosystems from climate change

27 The impact of risks from groundwater extraction on these ecosystems is exacerbated by the effects of climate change, which increases hot, dry weather patterns in the region. With increased dryness, the vegetation and many species of the area become increasingly dependent on the groundwater resources. The groundwater resources in turn also become

¹⁹ Conservation Advice *Mixophyes fleayi*, p. 3, available at: <https://www.environment.gov.au/biodiversity/threatened/species/pubs/25960-conservation-advice-19102021.pdf> (accessed 6 November 2023).

²⁰ Conservation Advice *Mixophyes fleayi*, p. 3.

²¹ Conservation Advice *Antechinus arktos*, p. 2, available at: <https://www.environment.gov.au/biodiversity/threatened/species/pubs/88217-conservation-advice-11052018.pdf> (accessed 6 November 2023).

²² Conservation Advice *Antechinus arktos*, p. 4.

²³ Conservation Advice *Euastacus binzayedii*, p. 9, available at: <https://www.environment.gov.au/biodiversity/threatened/species/pubs/90755-conservation-advice-07092023.pdf> (accessed 30 November 2023).

²⁴ Conservation Advice *Euastacus binzayedii*, p. 10, available at: <https://www.environment.gov.au/biodiversity/threatened/species/pubs/90755-conservation-advice-07092023.pdf> (accessed 30 November 2023).

²⁵ Conservation Advice *Euastacus binzayedii*, p. 10.

scarcer where recharge is reduced by a decline in rainfall and lifting cloud base.²⁶

- 28 Recent research in tropical forests has raised concerns that a temperature rise within the range that may well result from climate change could lead to a tipping point in metabolic function, shutting down photosynthesis resulting in tree death and potential ecosystem collapse.²⁷
- 29 Climate change is noted as a very significant threat in the conservation advice documents for the Pouched Frog, Hinterland Spiny Crayfish and Embezee's Crayfish.
- 30 The International Union for the Conservation of Nature's World Heritage Outlook 3 (2020) lists the Gondwana Rainforest of Australia as of 'significant concern', which is a decline from its conservation outlook as assessed in 2017.²⁸ The Queensland Department of Environment and Science further recognised the risk of climate change in impacting the WHV of the Gondwana Rainforests of Australia and exacerbating other risks such as fluctuations in rainfall patterns.²⁹

Risks associated with groundwater extraction already recognised in the region

- 31 The risks of commercial groundwater in the region are already recognised. Existing commercial groundwater operations have placed great stress on the limited resources of the groundwater aquifer which has significant environmental consequences, as well as impacts to existing users who are reliant on groundwater for domestic purposes.
- 32 In March 2020, the Queensland Government issued a moratorium preventing the issuing of any further commercial groundwater extraction permits in the Springbrook and Tamborine Mountain regions.³⁰ The purpose of issuing the moratorium notice was to protect natural ecosystems, as well as existing water entitlements. It has since been renewed annually and is due to expire in March 2024.
- 33 However, as the development permit for the Project was made prior to the Moratorium Notice, it is not subject to the moratorium.
- 34 The potential impacts of groundwater extraction on outstanding universal values of the

²⁶ S. Narsey, M. Laidlaw, R. Colman, K. Pearce, M. Hopkins and A. Dowdy (2020). *Impact of climate change on cloud forests in the Gondwana Rainforests of Australia World Heritage Area*. Earth Systems and Climate Change Hub Report No. 20. NESP Earth Systems and Climate Change Hub, Australia.

²⁷ Christopher E. Doughty, Jenna M. Keany, Benjamin C. Wiebe, Camilo Rey-Sanchez, Kelsey R. Carter, Kali B. Middleby, Alexander W. Cheesman, Michael L. Goulden, Humberto R. da Rocha, Scott D. Miller, Yadvinder Malhi, Sophie Fauset, Emanuel Gloor, Martijn Slot, Imma Oliveras Menor, Kristine Y. Crous, Gregory R. Goldsmith1 & Joshua B. Fisher. (2023). Tropical forests are approaching critical temperature thresholds. *Nature* 621, 105–111. <https://doi.org/10.1038/s41586-023-06391-z>

²⁸ International Union for the Conservation of Nature, 'World Heritage Outlook 3 2020, available at: <https://portals.iucn.org/library/sites/library/files/documents/2020-035-En.pdf> (accessed 6 November 2023).

²⁹ Queensland Department of Environment and Science, 'Climate change pressure on the Gondwana Rainforests of Australia', *The State of the Environment Report 2020*, pp. 20 and 27, available at: <https://www.stateoftheenvironment.des.qld.gov.au/heritage/world/climate-change-pressure-on-the-gondwana-rainforests-of-australia> (accessed 6 November 2023).

³⁰ A copy of the Moratorium Notice is available at: https://www.rdmw.qld.gov.au/_data/assets/pdf_file/0017/1531160/tamborine-springbrook-moratorium-notice.pdf (accessed 6 November 2023).

Gondwana Rainforests World Heritage Area have been raised with the World Heritage Committee (**the Committee**) and the World Heritage Centre has written to the Australian Government seeking advice. The Australian Government has advised the Committee that the groundwater extraction proposal had at the time not been referred under the EPBC Act. The Committee has requested the Australian Government to keep it informed on the issue.³¹

Conclusion

35 For the reasons outlined above, we therefore request that you please use your power to request that Hoffman Drilling refer the Project for a decision about whether it is a controlled action, pursuant to section 70 of the EPBC Act.

Yours sincerely,

Environmental Defenders Office

s22

s22

Solicitor – Southern and Central Queensland

Our ref: S6191

³¹ See Intergovernmental Committee for the Protection of the World Cultural and Natural Heritage 'State of Conservation of properties inscribed on the World Heritage List', UNESCO, 31 July 2023, pp. 141-143. Available at: <https://whc.unesco.org/archive/2023/whc23-45com-7B.Add-en.pdf> (accessed 21 December 2023).

PLANNING AND ENVIRONMENT COURT
QUEENSLAND
EX 78180
10 NOV 2023
FILED In the Planning and Environment Court
BRISBANE Held at: Brisbane

Document 3

Attachment B

No. 137 of 2020

Between:	GRAEME ASHLEY HOFFMANN AND CHUDA KAEWMONGKHON ATF HOFFMANN DRILLING PTY LTD SUPERANNUATION FUND 716 001 453	Appellant
And:	GOLD COAST CITY COUNCIL	Respondent
And:	CATHERINE CERIS ASH	First Co- Respondent by Election
And:	AUSTRALIAN RAINFOREST CONSERVATION SOCIETY INC	Second Co- Respondent by Election
And:	GECKO ENVIRONMENT COUNCIL ASSOCIATION INC	Third Co- Respondent by Election
And:	CHARLES COLIN ALEX ORSINI	Sixth Co- Respondent by Election

JUDGMENT

Before Her Honour Judge Kefford

Date of Hearing: 10 November 2023

Date of Order: 10 November 2023

THIS MATTER HAVING on 27 and 28 February 2023, 1, 2, 3, 6, 7 March, 2023, 8 May 2023, 11 October 2023 and this day come on for hearing by way of appeal against the decision of the Respondent to refuse the Appellant's development application for a development permit for a material change of use for Extractive Industry (commercial groundwater extraction) to a maximum of 16 megalitres per annum ("*Development Application*") with respect to land located at 263 Repeater Station Road, Springbrook, and more particularly described as Lot 36 on RP139816

JUDGMENT
Filed on behalf of the Second Co-
Respondent by Election
Form PEC-7

Environmental Defenders Office Limited
Unit 3, 28 Donkin Street, West End, 4101
Phone 07 3211 4466
Email: revel.pointon@edo.org.au
REF:S14



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UPON HEARING the solicitor for the Appellant, counsel for the Respondent, counsel for the Second Co-Respondent by Election, and the First, Third and Sixth Co-Respondents by Election

IT IS ADJUDGED WITH THE CONSENT OF THE PARTIES THAT:

1. The appeal be allowed in part;
2. The Council's decision to refuse all of the Development Application is set aside and replaced with a decision that the Development Application be approved in part, for a maximum extraction of 8 megalitres of groundwater per annum, subject to the conditions and plans attached hereto, contained in pages 1 to 87, and marked "**Annexure "A"**" and the Development Application is otherwise refused; and
3. Each party bear its own costs of the proceeding.

Filed on 10/11/2023

Filed by: Environmental Defenders Office Limited
Service address: Unit 3, 28 Donkin Street, West End. Qld 4104.
Phone: s22
Email: s22 @edo.org.au

Registrar

ANNEXURE A

General																										
1	<p>Timing</p> <p>a All conditions of this development approval must be complied with at no cost to Council at all times unless otherwise stated in another condition.</p> <p>b Where the timing in a condition is prior to commencement of the use and a Building Format Plan is lodged for approval, the timing in the condition changes from being prior to commencement of the use to being prior to the earlier of the commencement of the use and approval of the plan of subdivision. This timing requirement prevails despite any inconsistency with the timing requirement in another condition.</p>																									
2	<p>Approved drawings</p> <p>Undertake and maintain the development generally in accordance with the following drawings:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Drawing Title</th> <th style="text-align: left;">Author</th> <th style="text-align: left;">Date</th> <th style="text-align: left;">Drawing No.</th> <th style="text-align: left;">Ver</th> </tr> </thead> <tbody> <tr> <td>Site Plan of Lot 36 RP139816 263 Repeater Station Road Springbrook</td> <td>Michel Group Services</td> <td>31.01.22</td> <td>17161-1</td> <td>E</td> </tr> <tr> <td>Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway</td> <td>Cambray Consulting</td> <td>23.12.2021</td> <td>SK01</td> <td>A</td> </tr> <tr> <td>Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway</td> <td>Cambray Consulting</td> <td>23.12.2021</td> <td>SK02</td> <td>A</td> </tr> <tr> <td>Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway</td> <td>Cambray Consulting</td> <td>23.12.2021</td> <td>SK03</td> <td>A</td> </tr> </tbody> </table> <p>The conditions of this development approval are to be read in conjunction with the attached approved drawings. Where a conflict occurs between the conditions of this development approval and the approved drawings, the conditions of this development approval shall take precedence.</p>	Drawing Title	Author	Date	Drawing No.	Ver	Site Plan of Lot 36 RP139816 263 Repeater Station Road Springbrook	Michel Group Services	31.01.22	17161-1	E	Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway	Cambray Consulting	23.12.2021	SK01	A	Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway	Cambray Consulting	23.12.2021	SK02	A	Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway	Cambray Consulting	23.12.2021	SK03	A
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3	<p>Scope of approval</p> <p>a The approved use permits the extraction of a maximum of eight megalitres (8ML) of groundwater per each twelve (12) month period.</p> <p>b The use must be undertaken in accordance with the Operational monitoring management plan.</p> <p>c The approved bores for groundwater extraction are Bores 5 and 6 identified in the Site</p>																									

	<p>Plan in the Approved Drawings. No other bores may be used for commercial groundwater extraction.</p> <p>d Combined extraction rates from the two extraction bores must not exceed 0.5 litres per second, at any given time.</p>								
Amenity									
4	<p>Hours of operation</p> <p>Undertake all activities on the land associated with the operation of the land use activity (excluding monitoring, pumping of water from the bore and storage of water pending collection) between the hours of:</p> <p>a Monday to Friday 6:30am to 5:00pm.</p> <p>b Saturday 6:30am to 10:00am.</p> <p>The approved land use activity shall not operate on Sundays or public holidays.</p>								
5	<p>Complaints register</p> <p>A noise complaints register is to be maintained on-site at all times and shall be made available to Council upon request.</p>								
6	<p>Noise Management Plan</p> <p>a Operate the approved land use activity and associated road transport operations in accordance with a Noise Management Plan which is to be submitted to Council for approval prior to the commencement of the use.</p> <p>b The Noise Management Plan must include:</p> <p>i Identification of the responsible persons (for the applicant) and third-party contractor water cartage companies.</p> <p>ii Site monitoring procedures, including driver site logs, CCTV security cameras including monitoring methodology and equipment.</p> <p>iii Procedures for on-site activities to manage noise.</p> <p>iv Truck Driver Training for noise minimisation operations and management for both on-site and off-site activities.</p> <p>v Complaint receipt and response procedures.</p>								
7	<p>Nuisance</p> <p>Undertake and operate the approved land use activity in a manner that does not cause any detrimental effect upon surrounding premises by reason of environmental nuisance, including nuisance caused by aerosols, fumes, light, noise, odour, particles or smoke, lighting nuisance or other such emissions.</p>								
8	<p>Plant and Equipment Noise</p> <p>All plant and equipment installed on site shall be attenuated and/or designed so that operational noise levels shall not exceed the levels in Table 8.1, when measured at any off-site residential dwelling.</p> <p>Table 8.1: Plant and Equipment Noise Limits</p> <table border="1"> <thead> <tr> <th>Time Period</th> <th>Noise at off-site residence (LAeq, dB(A))</th> </tr> </thead> <tbody> <tr> <td>Daytime (7am to 6pm)</td> <td>Background LA90 + 5 dB(A)</td> </tr> <tr> <td>Evening (6pm to 10pm)</td> <td>Background LA90 + 5 dB(A)</td> </tr> <tr> <td>Night (10pm to 7am)</td> <td>Background LA90 + 3 dB(A)</td> </tr> </tbody> </table> <p>The compliance noise limit levels are measured as the average of the maximum A – weighted sound levels adjusted for noise character measured over a 15 minute time interval.</p>	Time Period	Noise at off-site residence (LAeq, dB(A))	Daytime (7am to 6pm)	Background LA90 + 5 dB(A)	Evening (6pm to 10pm)	Background LA90 + 5 dB(A)	Night (10pm to 7am)	Background LA90 + 3 dB(A)
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Environmental and Landscaping									
9	<p>Vegetation clearing</p>								

	Obtain an operational works approval for vegetation clearing in accordance with the Vegetation management code of the City Plan, prior to commencement of the use at no cost to Council.							
10	<p>No damage to retained vegetation</p> <p>a Except as required by the conditions, ensure all other existing vegetation is retained and not disturbed or damaged during implementation of the approved works.</p> <p>b Where disturbance of existing vegetation is required for compliance with any condition, that disturbance will be kept to a minimum, including by the use of plant, equipment and technology appropriate to minimise such impacts.</p>							
11	<p>Obtain a Baseline monitoring management plan approval</p> <p>a Obtain a Management Plan approval for a Baseline monitoring management plan generally in accordance with the Environmental significance overlay code of the City Plan and City Plan Policy SC6.7– Ecological site assessments, prior to the commencement of use.</p> <p>b The baseline monitoring management plan must be prepared by a suitably qualified hydrogeologist and ecologist with experience in rainforest ecosystems.</p> <p>c Once the Baseline monitoring management plan has been approved, the monitoring of each parameter identified below must utilise the current best practice methodology for monitoring that parameter. The methodology must be tailored appropriately to the subject site and be relevant to the proposed use.</p> <p>d Prior to the commencement of the use, and prior to any works other than those in this condition, implement the Baseline monitoring management plan at no cost to Council, in accordance with the following:</p> <p>i the Baseline monitoring parameters in Table 1, Column 1 must be measured in accordance with the requirements in Table 1, Column 2. The results of those measurements must be reported at the frequency listed in Table 1, Column 3;</p> <p>ii the baseline data collected under Table 1 must be collected for a minimum period of 12 months;</p> <p>e At the end of the initial 12-month baseline monitoring period, the applicant must submit a report to Council that:</p> <p>i provides a summary and analyses of the baseline monitoring data and key findings for each of the parameters listed in Table 1; and</p> <p>ii identifies specific values, for each of the parameters listed in Table 1, that will trigger implementation of management actions, including the cessation and recommencement trigger values nominated in Condition 13.</p> <p>f The data and reports produced from the baseline monitoring for this Condition 11 are to be maintained and provided to Council.</p> <p><u>Table 1</u></p> <table border="1"> <thead> <tr> <th>1. Parameter</th> <th>2. Measurement requirements</th> <th>3. Reporting requirements</th> </tr> </thead> <tbody> <tr> <td>Pump tests</td> <td> <p>a. After all monitoring infrastructure referred to below is installed and fully operational, the applicant must undertake three pump tests in accordance with the following requirements:</p> <p>i. for a minimum duration of 7 days;</p> <p>ii. conducted during any of the following months: July, August, September and October;</p> <p>iii. at a combined rate of 0.5 litres per second for Bores 5 and 6; and</p> <p>iv. in a way that ensures that water pumped is not</p> </td> <td>Data and reports to be provided to Council and made downloadable via a suitable web interface within two weeks of</td> </tr> </tbody> </table>		1. Parameter	2. Measurement requirements	3. Reporting requirements	Pump tests	<p>a. After all monitoring infrastructure referred to below is installed and fully operational, the applicant must undertake three pump tests in accordance with the following requirements:</p> <p>i. for a minimum duration of 7 days;</p> <p>ii. conducted during any of the following months: July, August, September and October;</p> <p>iii. at a combined rate of 0.5 litres per second for Bores 5 and 6; and</p> <p>iv. in a way that ensures that water pumped is not</p>	Data and reports to be provided to Council and made downloadable via a suitable web interface within two weeks of
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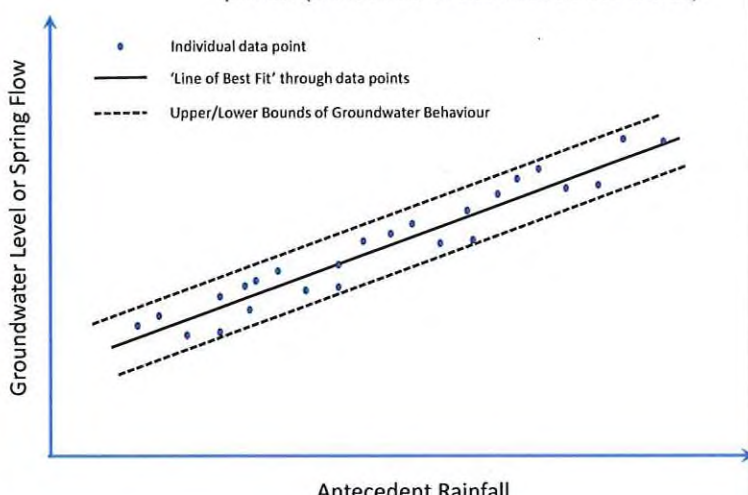
	<p>released in a way that may impact the monitoring, including by not releasing the water on the site during the monitoring period.</p> <p>b. Following completion of all three pump tests, the applicant must obtain a report from a hydrogeologist analysing the pump test, in the context of the following data collected for this condition:</p> <ul style="list-style-type: none"> i. rainfall and barometric pressure; ii. groundwater levels and water quality; iii. stream flow and water quality. 	<p>each test being conducted.</p>															
<p>Rainfall, temperature and barometric pressure</p>	<p>a. The applicant must install calibrated automatic gauges to record rainfall, temperature, and atmospheric pressure in the vicinity of the extraction bores in the upper reaches of the property.</p> <p>b. The construction of the gauges must conform to the <i>Guidelines for the Siting and Exposure of Meteorological Instruments and Observing Facilities</i> (Bureau of Meteorology, 1997; updated 2013).</p> <p>c. The gauge must be telemetered so that data can be recorded daily and reviewed remotely via a suitable web interface to both present data in real time and store data for future evaluation.</p> <p>d. The applicant must include a minimum of 10 years of historical data to assist in establishing an accurate baseline for rainfall, temperature and barometric pressure.</p>	<p>Data to be available live and downloadable via a suitable web interface and a summary report is to be provided at the end of the 12 months of monitoring.</p>															
<p>Groundwater levels and groundwater quality</p>	<p>a. The applicant must install two new groundwater monitoring bores on the site at the locations in Table 1A below:</p> <p><u>Table 1A</u></p> <table border="1"> <thead> <tr> <th></th> <th>Lat.</th> <th>Long.</th> <th>Elevation (m in AHD)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Borehole 11</td> <td>28°13'44.90'S</td> <td>153°15'55.84"E</td> <td>860</td> <td>Intermediate location on existing track</td> </tr> <tr> <td>Borehole 12</td> <td>28°13.723'S</td> <td>153°15.970'E</td> <td>830</td> <td>Right slope of drainage line</td> </tr> </tbody> </table> <p>b. Each bore must be configured appropriately to measure groundwater levels in the fractured basalt aquifer beneath the site every hour.</p> <p>c. The applicant must install automatic water loggers in boreholes 11 and 12, as well as in boreholes 1, 2, 4, 5, 6 and 9 as shown on Site Plan of Lot 36 RP139816 263 Repeater Station Road Springbrook, Ver. E.</p> <p>d. All loggers must be telemetered so that data can be recorded and interrogated remotely via a suitable web interface to both present data in real time and store data for future evaluation.</p>		Lat.	Long.	Elevation (m in AHD)	Notes	Borehole 11	28°13'44.90'S	153°15'55.84"E	860	Intermediate location on existing track	Borehole 12	28°13.723'S	153°15.970'E	830	Right slope of drainage line	<p>Data to be available live and downloadable via a suitable web interface and a summary report is to be provided at the end of the 12 months of monitoring.</p>
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	e. For the purpose of calculating an appropriate baseline, the applicant must consider available historical groundwater level and groundwater quality data for the subject site/Springbrook locality.	
Extraction rates	Extraction rates from the two extraction bores must be measured and reported with flow metering.	Data to be available and downloadable via a suitable web interface, and summary reports are to be provided at the end of 12 months of monitoring.
Bore standards	Prior to and during the conducting of the pumping tests or baseline monitoring program, existing bores to be used for either extraction (in the case of Bores 5 and 6) or monitoring must be made to comply with the <i>Minimum Construction Requirements for Water Bores in Australia</i> (2020), including ensuring that extraction and monitoring bores screen a distinct aquifer horizon and are otherwise cased, grouted, and cemented to prevent crossflow within or external to the bore casing, and not act to connect multiple aquifer horizons.	If works are required to achieve compliance, certified report to be provided to Council within two weeks of completion of works by a water bore driller licenced under the <i>Water Act 2000</i> .
New bores	Any new bores constructed on the site must be constructed in accordance with the <i>Minimum Construction Requirements for Water Bores in Australia</i> (2020), including ensuring that extraction and monitoring bores screen a distinct aquifer horizon and are otherwise cased, grouted, and cemented to prevent crossflow within or external to the bore casing, and not act to connect multiple aquifer horizons.	Certified report to be provided to Council within two weeks of completion of works by a water bore driller licenced under the <i>Water Act 2000</i> .
Stream flow and water quality	<p>a. The applicant must install stream flow monitoring system, comprising a 'v notch' weir.</p> <p>b. The weir must be configured so that there are no downstream controls or backwater impacts.</p> <p>c. The applicant must install an appropriate telemetered water level recorder taking hourly readings in the pool of water</p>	Data to be available and downloadable live via a suitable web interface,

		<p>upstream of the v notch weir and have data from this device made available via a suitable web interface to both present data in real time and store data for future evaluation.</p> <p>d. The stream flow monitoring system must be installed at the location in Table 1B.</p> <p><u>Table 1B</u></p> <table border="1"> <thead> <tr> <th></th> <th>Lat.</th> <th>Long.</th> <th>Elevation (m in AHD)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Weir</td> <td>28°13.722'S</td> <td>153°15.988'E</td> <td>822</td> <td>Bedrock bed, upstream of confluence with drainage line from the right</td> </tr> </tbody> </table> <p>e. Once established, appropriate measurements must be conducted by a qualified hydrogeologist to provide certainty as to the flow-upstream water level relationship. This will take the form of a rating curve and will be used by the web interface to calculate flows.</p> <p>f. The applicant must inspect the stream flow monitoring system on a weekly basis to ensure that there are no blockages or interferences to the operation of the v notch weir.</p> <p>g. The applicant must clear all blockages or interferences to the operation of the v notch weir.</p> <p>h. For the purpose of calculating an appropriate baseline, the applicant must consider all available historical stream flow and water quality data for the subject site.</p>		Lat.	Long.	Elevation (m in AHD)	Notes	Weir	28°13.722'S	153°15.988'E	822	Bedrock bed, upstream of confluence with drainage line from the right	<p>and a summary report is to be provided at the end of the 12 months of monitoring.</p>
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Weir	28°13.722'S	153°15.988'E	822	Bedrock bed, upstream of confluence with drainage line from the right									
<p>Groundwater level and streamflow data interpretation</p>		<p>a. The applicant must collect data for 12 months at the nominated impact monitoring boreholes (1, 9, 11 and 12) and at the V notch weir at the bottom of the site.</p> <p>b. Following the 12 months of data collection, the applicant must provide the data and a summary report prepared by a qualified hydrogeologist.</p> <p>c. The summary report must include analysis of the data that:</p> <ul style="list-style-type: none"> i. includes a representation of the correlation between groundwater levels / spring flows and antecedent rainfall events through appropriate graphs for each borehole and the V notch weir. The graphs must include a line of best fit; (See below example graph) ii. identifies a 10% range above and below the line of best fit, to define the upper and lower bounds of expected natural groundwater and spring flow behaviour. This range should be calculated as 10% of the difference between the maximum and minimum recorded groundwater levels at each site and between 	<p>Data to be available and downloadable live via a suitable web interface, and a summary report is to be provided at the end of the 12 months of monitoring.</p>										

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		<p>the maximum and minimum recorded spring flow at the V notch weir;</p> <ul style="list-style-type: none"> iii. identifies the timeframe of antecedent rainfall events that has the strongest correlation to groundwater levels for each borehole and the V notch weir (eg 7 days, 14 days, 21 days). The purpose of this is identify the timeframe between an antecedent rainfall event and the effect on groundwater. The strength of the correlation is to be measured by the highest r-squared value for the line of best fit; iv. includes an extrapolation of antecedent rainfall events greater than or less than those recorded during the baseline data collection period (measured in millimetres of rainfall). 	
<p>Soil moisture levels</p>		<ul style="list-style-type: none"> a. An on-site east-west soil moisture monitoring transect must be established and maintained within the forested area of the Site to monitor changes in soil moisture between the groundwater extraction bores (in the west of the Site) and the eastern boundary of the Site. b. The on-site east-west soil moisture monitoring transect must be comprised of permanently installed Sentek Enviroscan probes (or equivalent) established: <ul style="list-style-type: none"> i. at three locations being: <ol style="list-style-type: none"> 1. mid-slope at the 850 m contour; 2. at the 830m contour (approximate level of the groundwater spring); and 3. at the eastern boundary of the Site along the Site profile; and ii. to a depth of at least 10m below ground surface level or until bedrock is reached; and iii. for each soil moisture probe, soil moisture sensors are to be established at depth intervals of 1.0 m; and iv. within the first 1m below surface, soil moisture sensors are to be established at depth intervals of 20cm. 	<p>Data reports to be provided to Council and the full monthly data made available and downloadable via a suitable web interface.</p>

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	<p>c. Daily soil moisture readings from each soil moisture probe and sensor obtained during the baseline monitoring period are:</p> <ul style="list-style-type: none"> i. to be collected, maintained and made available on a monthly basis; ii. at the end of each month of monitoring, to be subjected to statistical analyses to establish a numerical relationship between soil moisture and locally sourced daily meteorological data (e.g., rainfall, temperature in the preceding time period) in the absence of groundwater extraction; iii. the statistical analysis and reporting of the relationship(s) between soil moisture and meteorological data (e.g., rainfall, temperature) must be carried out by an independent and appropriately qualified environmental scientist; and iv. the monthly analysis and reporting must be completed within a period of not more than 10 working days from the end of each month of data collection. 																																		
<p>Water stress in adjacent rainforest</p>	<p>a. The applicant is to monitor water stress at 10 remnant rainforest sites on or surrounding the property using satellite data generally in the following locations</p> <table border="1"> <thead> <tr> <th>Monitoring site</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr><td>1.</td><td>-28.230327</td><td>153.262432</td></tr> <tr><td>2.</td><td>-28.231426</td><td>153.262917</td></tr> <tr><td>3.</td><td>-28.229897</td><td>153.263850</td></tr> <tr><td>4.</td><td>-28.230954</td><td>153.264564</td></tr> <tr><td>5.</td><td>-28.228406</td><td>153.265367</td></tr> <tr><td>6.</td><td>-28.228969</td><td>153.266243</td></tr> <tr><td>7.</td><td>-28.229855</td><td>153.266245</td></tr> <tr><td>8.</td><td>-28.228186</td><td>153.266589</td></tr> <tr><td>9.</td><td>-28.229299</td><td>153.267417</td></tr> <tr><td>10.</td><td>-28.228542</td><td>153.268341</td></tr> </tbody> </table> <p>b. Water stress is to be determined using Normalised Difference Moisture Index (NDMI) data at a spatial resolution of at least 20 m for ten 60 m x 60 m sites (the Monitoring Sites) as shown on the map. Central coordinates for each Monitoring Site are available from Council.</p>	Monitoring site	Latitude	Longitude	1.	-28.230327	153.262432	2.	-28.231426	153.262917	3.	-28.229897	153.263850	4.	-28.230954	153.264564	5.	-28.228406	153.265367	6.	-28.228969	153.266243	7.	-28.229855	153.266245	8.	-28.228186	153.266589	9.	-28.229299	153.267417	10.	-28.228542	153.268341	<p>Data reports to be provided to Council and the full monthly data made available and downloadable via a suitable web interface.</p>
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	<ul style="list-style-type: none"> c. At the end of each month, the average water stress (NDMI) must be calculated for each of the 10 Monitoring Sites using data for days with no more than 10% cloud or smoke cover. d. Where the mean co-efficient of variation across all Monitoring Sites for a month exceeds 0.065 (indicating low data quality), the value for that month is taken to be that of the preceding month. e. The complete monthly data are to be maintained in a database and reported monthly. f. The monthly analysis and reporting must be completed within a period of not more than 10 working days from the end of each month of data collection. g. A minimum number of 10 sites are to be monitored at all times. The sites are to be generally in accordance with coordinates provided. If the canopy cover at any site is disturbed by human activity or as a result of natural events (e.g. tree fall) that site is to be replaced by a new site. The site must have an intact forest canopy and the location of the new site is to be clearly documented and approved by Council. h. For the purpose of calculating an appropriate baseline, the applicant must include an analysis of NDMI values using available data from January 2018 onwards to establish an accurate baseline rainforest water stress index values for use in the interpretation of baseline and operation monitoring data. 	
<p>Environmental DNA (eDNA)</p>	<ul style="list-style-type: none"> a. The applicant must engage the services of an appropriately qualified environmental scientist to undertake an eDNA monitoring program involving the quarterly (every three months) collection and analyses of surface water samples obtained from the following locations: <ul style="list-style-type: none"> i. upstream of the v notch weir established under this condition; and ii. at the point where the spring fed watercourse exits the Site's northern boundary (coordinates to be provided in the baseline monitoring management plan). b. All samples are to be analysed using the DNA Metabarcoding Approach for the following: <ul style="list-style-type: none"> i. taxonomic groups: amphibians, mammals, birds, crustaceans, insects; and ii. conservation significant species known to occur in the Site locality: <ol style="list-style-type: none"> 1. the Hinterland Spiny Crayfish (<i>Euastacus madae</i>); 2. the Embezee's Crayfish (<i>Euastacus binzayedii</i>); 3. the Tusked Frog (<i>Adelotus brevis</i>); and 4. the Fleay's Barred Frog (<i>Mixophyes fleayi</i>). c. The analysis and reporting of baseline eDNA monitoring must be completed within a period of not more than 10 weeks of each quarterly data collection. 	<p>Data and reports to be provided to Council and made downloadable via a suitable web interface quarterly</p>

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<p>Sap Flow and Stem Diameter Monitoring</p>	<p>a. Three (3) telemetered tree sap flow and stem diameter monitoring sites are to be established and maintained within the Site, adjacent to the soil moisture monitoring sites, at the following locations:</p> <ul style="list-style-type: none"> i. mid-slope at the 850 m contour; ii. at the 830m contour (approximate level of the groundwater spring); and iii. at the eastern boundary of the Site. <p>b. Each monitoring site must be comprised of three (3) canopy trees with a stem diameter, measured at 1.5m above ground surface level, of 0.5m or greater.</p> <p>c. Each tree at each monitoring site must be fitted with a sap flow meter and a dendrometer to monitor water use, changes in stem diameter and detect signs of water stress.</p> <p>d. The following information must be recorded for each tree within each of the 3 sap flow and stem diameter monitoring plots:</p> <ul style="list-style-type: none"> i. tree reference code (comprised of a plot and tree reference); ii. tree species; iii. tree location and surface elevation; iv. tree stem diameter and height; and v. tree condition. <p>e. Daily sap flow and stem diameter readings from each tree are to be collected, maintained and made available on a monthly basis;</p> <p>f. At the end of each month of monitoring, statistical analyses are to be undertaken to establish a numerical relationship between (a) sap flow / stem diameter data and (b) soil moisture, ground water levels and locally sourced daily meteorological data (e.g., rainfall, temperature in the preceding time period) in the absence of groundwater extraction;</p> <p>g. the statistical analysis and reporting of the relationship(s) between (a) sap flow / stem diameter and (b) ground water levels, soil moisture and meteorological data (e.g., rainfall, temperature) must be carried out by an independent and appropriately qualified environmental scientist; and</p> <p>h. the monthly analysis and reporting must be completed within a period of not more than 10 working days from the end of each month of data collection.</p>	<p>Data to be available and downloadable via a suitable web interface, and a summary report is to be provided monthly</p>
<p>Flora</p>	<p>a. Three (3) permanent vegetation monitoring plots are to be established and maintained within the Site, coincident with but not encompassing the soil moisture and sap flow/stem diameter monitoring sites, at the following locations:</p> <ul style="list-style-type: none"> i. mid-slope at the 850m contour; ii. at the 830m contour and encompassing the 	<p>Data and reports to be provided to Council biannually and made downloadable via a suitable web</p>

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		<p>groundwater spring; and</p> <p>iii. at the boundary of the Site encompassing the watercourse fed by the groundwater spring.</p> <p>b. Each monitoring plot must be rectangular in shape and at least 10m in length long each side, creating at least four (4) subplots (each 5m x 5m) within each monitoring plot. Plots and sub-plots must be provided with unique alpha-numerical identifiers.</p> <p>c. Each monitoring plot must include as far as possible numerically representative examples of:</p> <ol style="list-style-type: none"> i. <i>Elatostema reticulatum</i>; ii. <i>Pollia crispata</i>; iii. <i>Diplazium dilatatum</i>; iv. <i>Deparia petersenii</i> ssp <i>congrua</i>; v. <i>Pneumatopteris sogorensis</i>; and vi. <i>Helmholtzia glaberrima</i>. <p>d. The corner points of each sub-plot are to be permanently marked using coloured corner pegs (e.g. electrical conduit) at minimum height of 1m above ground surface level, with height markers on each corner peg to be provided at 0.1m intervals to facilitate interpretation of photographic monitoring.</p> <p>e. For each plot, four (4) permanent photo-points must be established at the centre point of each edge of the 10m x 10m monitoring plot. Photo-points are to be galvanised steel droppers and camera type/settings are to be consistent to facilitate collection of consistent repeat images through time. Photographs are to be geo-referenced and time/date stamped.</p> <p>f. The applicant is to take all reasonable steps to restrict the entry of people and domestic animals into the flora monitoring plots for any purpose not related to the monitoring of flora.</p> <p>g. Every six (6) months, for each of the 5m x 5m subplots:</p> <ol style="list-style-type: none"> i. the following photographic records are to be collected prior to entry into the plot for the purpose of completing an inventory of plant species present: <ol style="list-style-type: none"> 1. high resolution photography is to be captured over the centre of the plot using survey grade drone; 2. ground photographs at each of the photo-points with the photographs orientated: <ol style="list-style-type: none"> a. towards the centre of the monitoring plot; and b. towards the tree canopy above the plot. ii. an inventory of all plant species is to be completed with the following data to be 	interface
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		<p>collected for each species within each sub-plot:</p> <ol style="list-style-type: none"> 1. species name; 2. growth form of each individual; 3. height of each individual; 4. projected foliage cover; 5. % total cover within sub-plot; 6. condition of each individual (e.g., affected by disease, stress, flowering etc). <p>h. Every six (6) months for one (1) location in each plot a Leaf Area Index (LAI) must be calculated for each of the vertically aligned photographs required by g. i. 2. b.</p> <p>i. Data and photographic records for each sub-plot are to be maintained and made available on a biannual basis.</p> <p>j. At the end of each biannual monitoring event, statistical analyses are to be undertaken to establish baseline vegetation and flora metrics for each monitoring plot and sub-plot.</p> <p>k. The statistical analysis and reporting must be carried out by an independent and appropriately qualified environmental scientist.</p> <p>l. Monitoring is to be undertaken during autumn and spring.</p> <p>m. The biannual analysis and reporting must be completed within a period of not more than 10 working days from the end of each monitoring event.</p>	
Fauna		<p>Undertake Targeted Groundwater Dependent Fauna Surveys for significant species in accordance with SC6.7 City Plan policy – Ecological site assessments, including the following.</p> <ol style="list-style-type: none"> a. Biannual targeted surveys for the following conservation-significant groundwater dependent significant fauna species: <ol style="list-style-type: none"> i. Tusked Frog (<i>Adelotus brevis</i>); ii. Masked Mountain Frog (<i>Phyllorhina loveridgei</i>); iii. Fleay's Barred Frog (<i>Mixophyes fleayi</i>); iv. Pouched / Hip-Pocket / Marsupial Frog (<i>Assa darlingtoni</i>); v. Hinterland Spiny Crayfish (<i>Euastacus maida</i>); and vi. Embezee's Crayfish (<i>Euastacus binzayedii</i>). b. The targeted fauna surveys are to be carried out by an appropriately qualified and experienced ecologist and are to: <ol style="list-style-type: none"> i. be carried out using survey methods consistent with those specified in Eyre et al. (2022) - Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland (Version 4.0); ii. involve detailed day and night-time traverses of the spring-fed watercourse(s) located on the Site and all land located within 50m of the centreline of the water course(s) and upslope of the spring (excluding entry 	<p>Data and report to be provided to Council biannually and must be downloadable via a suitable web interface</p>

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		<p>into the flora monitoring plots);</p> <ul style="list-style-type: none"> iii. involve the deployment and use, for a period of at least three consecutive days and nights, song meter wildlife acoustic recorders adjacent to the three permanent flora monitoring plots required for this condition; iv. involve recording the location, number and life stage of all individuals of a significant fauna species detected, including any species that are not listed above as target species; and v. involve taking georeferenced photographs of the habitat within which significant fauna species were recorded. <ul style="list-style-type: none"> c. Field data and photographic records are to be retained and made available to Council on request. d. A report detailing the results of each biannual fauna survey is to be prepared by an independent and appropriately qualified environmental scientist. e. Monitoring is to be undertaken during autumn and spring. f. The biannual fauna reporting must be completed within a period of not more than 10 working days from the end of each monitoring event. 	
12		<p>Obtain an Operational monitoring management plan approval</p> <ul style="list-style-type: none"> a. After collection and analyses of the baseline data and submission of the Baseline monitoring report in accordance with condition 11, obtain a Management Plan approval for an Operational monitoring management plan generally in accordance with the Environmental significance overlay code of the City Plan and City Plan Policy SC6.8– Environmental management plans, prior to the commencement of use. <ul style="list-style-type: none"> <i>Note: The overall aim of the Operational monitoring management plan (and associated cessation triggers specified in condition 13) is to ensure the use does not harm matters of environmental significance (as defined in City Plan) on the Site or in the surrounding area.</i> b. The Operational monitoring management plan must be prepared by a suitably qualified hydrogeologist and an ecologist with experience in rainforest ecosystems. From a hydrogeological perspective, this management plan will need to use the results of the 12 months of baseline monitoring to derive appropriate site-specific relationships between the independent processes of antecedent rainfall (for example, the rainfall in the past month – noting that the analysis should assess different durations for their significance) and barometric pressure and the following five dependent processes: <ul style="list-style-type: none"> i. Groundwater level in Borehole 1 ii. Groundwater level in Borehole 9 iii. Groundwater level in Borehole 11 iv. Groundwater level in Borehole 12 v. Spring flow over the V notch at the bottom of the site. c. The Operational monitoring management plan must provide specifications for the monitoring of each parameter identified below that utilise the current best practice methodology for monitoring that parameter. The methodology must be tailored appropriately to the subject site and to be relevant to the proposed use. d. Data collected in the implementation of the Operational monitoring management plan must be compared against baseline data obtained in accordance with condition 11, with any variances identified and discussed. 	

<p>e. Prior to the commencement of the use, and prior to any works other than those in this condition or condition 11, implement the Operational monitoring management plan at no cost to Council in accordance with the following:</p> <ul style="list-style-type: none"> i. the ongoing monitoring parameters in Table 2, Column 1 must be measured in accordance with the requirements in Table 2, Column 2; ii. the results of those measurements must be reported at the frequency listed in Table 2, Column 3. <p>f. The data and reports produced from the ongoing monitoring for this Condition 12 are to be maintained and provided to Council.</p> <p><u>Table 2</u></p>		
1. Parameter	2. Measurement requirements	3. Reporting requirements
Rainfall, temperature and barometric pressure	As for condition 11	Data to be available live and downloadable via a suitable web interface and summary reports are to be provided at the end of each 12 months of monitoring.
Groundwater levels and water quality	As for condition 11	Data to be available live and downloadable via a suitable web interface and summary reports are to be provided at the end of each 12 months of monitoring.
Stream flow and water quality	As for condition 11	Data to be available live via a suitable web interface and summary reports are to be provided at the end of each 12 months of monitoring.
Soil moisture levels	As for condition 11	Data to be available and downloadable via a suitable web interface and summary reports are to be provided monthly
Water stress in adjacent rainforest	As for condition 11	Data and reports to be provided to Council monthly, and must be downloadable via a suitable web interface
Environmental DNA	As for condition 11	Data and reports to be provided to Council quarterly, and must be downloadable, via a suitable web interface
Sap Flow and Stem Diameter Monitoring	As for condition 11	Data and reports to be provided to Council monthly and must be downloadable via a suitable web interface
Flora	As for condition 11	Data and reports to be provided to Council biannually, and must be downloadable, via a suitable web interface,
Fauna	As for condition 11	Data and reports to be provided to Council biannually, and must be downloadable via a suitable web interface,
13	Cessation and Recommencement Trigger Values	
	<p>a The commercial extraction of groundwater must cease immediately:</p> <ul style="list-style-type: none"> i. monitoring or reporting requirements in condition 12, Table 2 are not complied with; or ii. if the analysis (conducted for condition 12) of any parameter listed in Table 3, Column 1 meets the cessation criteria in Table 3, Column 2. <p>b The applicant must notify Council within 2 business days of any of the cessation criteria</p>	

- in Table 3, Column 2 being met or exceeded.
- c If the commercial extraction of groundwater ceases in accordance with:
 - i. paragraph a(i), then it may only resume if the monitoring or reporting requirements of condition 12 are complied with; or
 - ii. paragraph a(ii), then it may only resume if it meets the criteria in Table 3, Column 3.
 - d Notification to Council must be given 2 business days prior to the recommencement of the use. The notification is to demonstrate that the recommencement triggers have been met in accordance with the requirements of the approved Operational monitoring management plan.

Table 3

1. Parameter	2. Cessation criteria	3. Recommencement criteria
Rainfall, temperature and barometric pressure	If any recorded groundwater level or streamflow data falls outside the lower bounds of groundwater or streamflow behaviour calculated from the baseline data set.	When operational monitoring shows that data pertaining to all of the 5 dependent variables listed in Condition 12(c) (i.e., groundwater levels in Boreholes 1, 9, 11, 12 and spring flow over the V notch weir at the bottom of the site) has reverted to being within the range of the baseline data relating each parameter to rainfall.
Groundwater levels and water quality		
Stream flow and water quality		
Soil moisture	Either: <ul style="list-style-type: none"> i. monthly analysis shows that the recorded median (50th percentile) daily soil moisture level for that month at any of the five (5) individual soil moisture sensors at any of the three (3) monitoring locations fell below the established baseline median daily soil moisture value for that sensor for that month; or ii. as otherwise specified in the Council approved Operational monitoring management program based on analysis of baseline soil moisture monitoring data. 	Either: <ul style="list-style-type: none"> i. subsequent monthly analysis shows that the recorded median (50th percentile) daily soil moisture levels at all 15 soil moisture sensors are at or above the established baseline median daily soil moisture value for that sensor for that month; or ii. the applicant produces evidence to Council's satisfaction that the cause of the recorded soil moisture levels below the cessation trigger value is not related to the commercial groundwater extraction operations.
Water stress in adjacent rainforest	The monthly analysis shows that the average water stress (NDMI) for any of the Monitoring Sites for that month falls below 0.45.	All Monitoring Sites water stress (NDMI) are above 0.45 calculated monthly.

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	<p>eDNA</p>	<p>Quarterly eDNA monitoring at any monitoring location:</p> <ul style="list-style-type: none"> i. fails to detect any one of the significant species targeted using the Single Species Approach that had been previously detected at the location in the corresponding quarterly baseline survey; or ii. shows that there has been a reduction in the total number of species recorded (across all taxonomic groups) at that location compared to the corresponding quarterly baseline survey; or iii. as otherwise specified in the Council approved Operational monitoring management program based on analysis of baseline monitoring data. 	<p>Either:</p> <ul style="list-style-type: none"> i. subsequent eDNA monitoring results at all monitoring locations do not trigger the Cessation criteria; or ii. the applicant produces evidence to Council's satisfaction that the cause of the recorded changes in eDNA results are not related to the commercial groundwater extraction operations.
	<p>Sap Flow and Stem Diameter</p>	<p>Either:</p> <ul style="list-style-type: none"> i. monthly analysis shows that the recorded Sap Flow and Stem Diameter metrics for any tree at any location are below the established baseline index values; or ii. as otherwise specified in the Council approved Operational monitoring management program based on analysis of baseline monitoring data. 	<p>Either:</p> <ul style="list-style-type: none"> i. the subsequent monthly analysis of Sap Flow or Stem Diameter metrics shows that the recorded Sap Flow and Stem Diameter metrics at all of the monitoring locations are at or above the established baseline index values for that monitoring location; or ii. the applicant produces evidence to Council's satisfaction that the cause of the recorded reduction in Sap Flow or Stem Diameter metrics is not related to the commercial groundwater extraction operations.
	<p>Flora</p>	<p>Either:</p> <ul style="list-style-type: none"> i. biannual statistical analyses of data 	<p>Either:</p> <ul style="list-style-type: none"> i. biannual analysis shows that the recorded species composition,

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		<p>confirm that there has been a change to the composition, relative abundance, cover, Leaf Area Index, or condition metrics of flora species within any of the monitoring plots compared to the corresponding baseline biannual results for that monitoring plot; or</p> <p>ii. as otherwise specified in the Council approved Operational monitoring management program based on analysis of baseline monitoring data.</p>	<p>relative abundance, cover, Leaf Area Index, and condition metrics for each monitoring plot have returned to the established baseline metrics ; or</p> <p>ii. the applicant produces evidence to Council's satisfaction that the cause of the recorded changes in flora species metrics within a monitoring plot is not related to the commercial groundwater extraction operations.</p>
	Fauna	<p>Biannual fauna monitoring at any monitoring location:</p> <p>i. fails to detect any significant species that had been previously detected at the location in the corresponding biannual baseline survey; or</p> <p>ii. shows that there has been a reduction in the total number of species recorded (across all taxonomic groups) at that location compared to the corresponding biannual baseline survey; or</p> <p>iii. as otherwise specified in the Council approved Operational monitoring management program based on analysis of baseline monitoring data.</p>	<p>Either:</p> <p>i. subsequent fauna monitoring results at all monitoring locations do not trigger the Cessation criteria; or</p> <p>ii. the applicant produces evidence to Council's satisfaction that the cause of the recorded changes in fauna monitoring results are not related to the commercial groundwater extraction operations.</p>
14	<p>Supervision of Baseline monitoring management plan and Operational monitoring management plans</p> <p>During construction / conduct of any works the following professionals must be appointed to supervise the below described actions:</p>		

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Environmental Assessment – Baseline and Operational monitoring management plans																		
Expertise required of the suitably qualified professional		Actions to be overseen by the professional																
A suitably qualified and experienced hydrogeologist		Supervision of the implementation of the aspects of the baseline and operational monitoring program related to hydrogeology, specifically: <ul style="list-style-type: none"> i Rainfall, temperature and barometric pressure ii Groundwater levels and water quality iii Stream flow and water quality 																
A suitably qualified and experienced ecologist with experience in rainforest ecosystems		Supervision of the implementation of the aspects of the baseline and operational monitoring program related to ecology, specifically: <ul style="list-style-type: none"> i Soil moisture levels ii Water stress in adjacent rainforest iii Environmental DNA iv Sap Flow and Stem Diameter Monitoring v Flora Monitoring vi Fauna Monitoring 																
15	Certification of works																	
	Provide Council with certificates prepared by qualified experts from the disciplines listed below, confirming as follows:																	
	<table border="1"> <thead> <tr> <th colspan="5">Baseline Monitoring Management Plan Implementation Certification – Hydrogeology</th> </tr> <tr> <th>Certified document</th> <th>Certification date</th> <th>Plan/ Drawing</th> <th>Expert discipline</th> <th>Requesting Council Section</th> </tr> </thead> <tbody> <tr> <td>The approved Baseline monitoring program management plan</td> <td>Prior to the commencement of use</td> <td>-</td> <td>A suitably qualified and experienced hydrogeologist</td> <td>Environmental Assessment</td> </tr> </tbody> </table> <p>The certification is to confirm: The baseline monitoring program is ready to commence in accordance with the approved baseline monitoring management plan.</p> <p>The certification is to also provide confirmation of the implementation of the aspects of the plan related to hydrogeology, specifically:</p> <ul style="list-style-type: none"> i Rainfall, temperature and barometric pressure ii Groundwater levels and water quality iii Stream flow and water quality 				Baseline Monitoring Management Plan Implementation Certification – Hydrogeology					Certified document	Certification date	Plan/ Drawing	Expert discipline	Requesting Council Section	The approved Baseline monitoring program management plan	Prior to the commencement of use	-	A suitably qualified and experienced hydrogeologist
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<p>The approved Baseline monitoring program management plan</p>	<p>Prior to the commencement of use</p>	<p>-</p>	<p>A suitably qualified and experienced Ecologist with experience in rainforest ecosystems</p>	<p>Environmental Assessment</p>
<p>The certification is to confirm: The baseline monitoring program is ready to commence in accordance with the approved baseline monitoring management plan. The certification is to also provide confirmation of the implementation of the aspects of the plan related to ecology, specifically.</p> <ul style="list-style-type: none"> i Soil moisture levels and soil water potential ii Water stress in adjacent rainforest iii Environmental DNA iv Sap Flow and Stem Diameter Monitoring v Flora Monitoring vi Fauna Monitoring 				
<p>Baseline Monitoring Management Plan Completion Certification – Hydrogeology</p>				
<p>Certified document</p>	<p>Certification date</p>	<p>Plan/ Drawing</p>	<p>Expert discipline</p>	<p>Requesting Council Section</p>
<p>The approved Baseline monitoring program management plan</p>	<p>Prior to the commencement of use and no earlier than 12 months after the commencement of the baseline monitoring plan</p>	<p>-</p>	<p>A suitably qualified and experienced hydrogeologist</p>	<p>Environmental Assessment</p>
<p>The certification is to confirm: The baseline monitoring has been completed in accordance with the approved baseline monitoring management plan. The certification is to also provide confirmation of the implementation of the aspects of the plan related to hydrogeology, specifically:</p> <ul style="list-style-type: none"> i Rainfall, temperature and barometric pressure ii Groundwater levels and water quality iii Stream flow and water quality 				
<p>Baseline Monitoring Management Plan Completion Certification – Ecology</p>				
<p>Certified document</p>	<p>Certification date</p>	<p>Plan/ Drawing</p>	<p>Expert discipline</p>	<p>Requesting Council Section</p>
<p>The approved Baseline monitoring program management</p>	<p>Prior to the commencement of use and no earlier than 12 months after the</p>	<p>-</p>	<p>A suitably qualified and experienced Ecologist with</p>	<p>Environmental Assessment</p>

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	plan	commencement of the baseline monitoring plan		experience in rainforest ecosystems	
<p>The certification is to confirm:</p> <p>The baseline monitoring has been completed in accordance with the approved baseline monitoring management plan requirements in respect of:</p> <ul style="list-style-type: none"> i Soil moisture levels and soil water potential ii Water stress in adjacent rainforest iii Environmental DNA iv Sap Flow and Stem Diameter Monitoring v Flora Monitoring vi Fauna Monitoring 					
Transport					
16	<p>Loading and unloading</p> <p>Loading and unloading of service vehicles (including water trucks) must be undertaken generally in accordance with the Transport code of the City Plan and include in particular:</p> <ul style="list-style-type: none"> a Loading and unloading of any vehicle servicing the development must be conducted wholly within the site. b A vehicle, or vehicle waiting to be loaded or unloaded, must stand entirely within the site. c All vehicles must enter and exit the site in a forward gear. d The largest vehicle permitted on the site is a 10 metre long rigid truck. 				
17	<p>Access to Site</p> <p>The existing concrete access and egress arrangements for the site are to be modified and constructed generally in accordance with the approved drawings by Cambray Consulting:</p> <ul style="list-style-type: none"> a Access Design – the access to the site must be constructed: <ul style="list-style-type: none"> i As a concrete driveway sufficient to accommodate the proposed water haulage vehicle. ii Generally in accordance with the approved drawings. b Sight Distance is to be maintained: <ul style="list-style-type: none"> i The egress driveway design is to ensure adequate sight distance at the driveway of 83 metres minimum is achieved in either direction. ii Sight distance is to be provided in accordance with the requirements of AS2890.1 and AS2890.2. <p>The above requirements are to be maintained at all times in association with the operation of the use.</p>				
18	<p>Restriction on number of truck movements</p> <p>The number of truck movements associated with the approved land use activity shall not exceed:</p> <ul style="list-style-type: none"> a Four (4) truck movements to and four (4) truck movements from the site (a total of eight (8) truck movements) each weekday (Monday to Friday). b One (1) truck movement to and one (1) truck movement from the site (a total of two (2) truck movements) on Saturdays. 				
19	<p>Maintain Vehicle Records</p> <p>The applicant is to maintain written log books of daily vehicle movements and submit these to Council every three (3) months:</p> <ul style="list-style-type: none"> a The truck type and carrying capacity (litres). b Litres of groundwater transported by each truck. c Date of truck movement. d Time of truck movement (entry and exit). 				

20	<p>Approved Haulage Route</p> <p>All vehicle movements associated with the transport of water to and from the site must be undertaken on the following roads:</p> <ul style="list-style-type: none"> a Repeater Station Road (between the site access and Springbrook Road). b Springbrook Road between Repeater Station Road and Pine Creek Road. c Pine Creek Road. d Nerang-Murwillumbah Road. 										
Engineering											
21	<p>Vegetation pruning to achieve sight distance</p> <p>Obtain an operational works approval for the required vegetation pruning to achieve compliant sight distances in accordance with drawings listed below prior to commencement of the use at no cost to Council:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Drawing Title</th> <th style="text-align: left;">Author</th> <th style="text-align: left;">Date</th> <th style="text-align: left;">Drawing No.</th> <th style="text-align: left;">Ver</th> </tr> </thead> <tbody> <tr> <td>Site Plan of Lot 36 RP139816 263 Repeater Station Road Springbrook</td> <td>Michel Group Services</td> <td>22/11/2017</td> <td>Sheet 1 of 1</td> <td>E</td> </tr> </tbody> </table> <p>and include in particular:</p> <ul style="list-style-type: none"> i. Vegetation pruning to achieve compliant sight distances in accordance with Section 3.4.5 of AS2890.2. 	Drawing Title	Author	Date	Drawing No.	Ver	Site Plan of Lot 36 RP139816 263 Repeater Station Road Springbrook	Michel Group Services	22/11/2017	Sheet 1 of 1	E
Drawing Title	Author	Date	Drawing No.	Ver							
Site Plan of Lot 36 RP139816 263 Repeater Station Road Springbrook	Michel Group Services	22/11/2017	Sheet 1 of 1	E							
22	<p>Truck warning signage</p> <p>Obtain an operational works approval for truck warning signage to be implemented in each approach to the subject site. The signage should be implemented in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).</p> <p>The truck warning signage must be placed on each side of the road, adjacent to each of the following lots:</p> <ul style="list-style-type: none"> a Lot 7 on RP139815. b Lot 246 on WD4567. c Lot 36 on RP139816 (the subject site). d Lot 38 on RP140927. 										
Construction Management											
23	<p>Availability of approved plans, drawings and reports</p> <p>Retain a copy of this development approval and approved plans, drawings and reports on site at all times during construction. Any contractors undertaking approved work (including tree removal or relocations) must be directly provided with a copy of these conditions and instructed as to the need to comply with them.</p>										
Advice Notes											
A	<p>Development infrastructure</p> <p>Development infrastructure required to be provided in implementing this development approval is non-trunk development infrastructure unless otherwise stated in a condition of the approval.</p>										
B	<p>Further development permits / compliance permits</p> <p>Further development permits and/or compliance permits from Council are required to facilitate the development of the approved works identified in this development approval. These include:</p>										

	<p>Environmental Assessment</p> <ul style="list-style-type: none"> - Operational works - landscape works - Operational works - vegetation clearing
	<p>Transport Impact Assessment</p> <ul style="list-style-type: none"> - Operational works - vegetation pruning to achieve compliant sight distances. - Operational works - truck warning signage. <p>A copy of this development approval and accompanying drawings / plans must be submitted with any subsequent application identified above.</p> <p>Subsequent development applications (i.e.: Operational works) will be assessed in accordance with the City Plan Version at the time of lodgement (excluding instances where Variation / Preliminary approval exists).</p>
C	<p>Compliance with conditions</p> <p>Once this development approval takes effect, the conditions attach to the land and are applicable in perpetuity. It is a development offence to contravene a development approval, including any of its conditions.</p>
D	<p>Indigenous cultural heritage legislation and duty of care requirement</p> <p>The <i>Aboriginal Cultural Heritage Act 2003</i> ('ACHA') is administered by the Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships (DSDSATSIP). The ACHA establishes a duty of care to take all reasonable and practicable measures to ensure any activity does not harm Aboriginal cultural heritage. This duty of care:</p> <ul style="list-style-type: none"> a Is not negated by the issuing of this development approval; b Applies on all land and water, including freehold land; c Lies with the person or entity conducting an activity; and d If breached, is subject to criminal offence penalties. <p>Those proposing an activity involving surface disturbance beyond that which has already occurred at the proposed site must observe this duty of care.</p> <p>Details of how to fulfil this duty of care are outlined in the duty of care guidelines gazetted with the ACHA.</p> <p>The applicant should contact DSDSATSIP's Cultural Heritage Coordination Unit on 1300 378 401 for further information on the responsibilities of developers under the ACHA.</p>
E	<p>Infrastructure charges</p> <p>Infrastructure charges are now levied under a Charges Resolution by way of an Infrastructure Charges Notice.</p>
F	<p>Properly made submissions</p> <p>There were properly made submissions about the application. Refer to the list of principal submitters for development approval MCU/2018/495. A copy of the list of principal submitters is available for viewing on Council's website www.goldcoastcity.com.au/pdonline.</p>
G	<p>Applicant responsibilities</p> <p>The applicant is responsible for securing all necessary approvals and tenure, providing statutory notifications and complying with all relevant laws.</p> <p>Nothing in this development approval alleviates the need for the applicant to comply with all relevant local, State and Commonwealth laws and to ensure appropriate tenure arrangements have been made where the use of/reliance upon land other than that owned by the applicant is involved. Without limiting this obligation, the applicant is responsible for:</p> <ul style="list-style-type: none"> a Obtaining all other/further necessary approvals, licences, permits, resource

	<p>entitlements etc by whatever name called required by law before the development the subject of this approval can be lawfully commenced and to carry out the activity for its duration.</p> <p>b Providing any notifications required by law (by way of example only, to notify the administering authority pursuant to the <i>Environment Protection Act 1994</i> of environmental harm being caused/threatened by the activity, and upon becoming aware the premises is being used for a 'notifiable activity').</p> <p>c Securing tenure/permission from the relevant owner to use private or public land not owned by the applicant (including for access required by conditions of approval).</p> <p>d Ensuring existing survey marks, including cadastral marks at property corners, i.e pegs or cadastral reference marks in the road reserve (permanent surveys marks, buried iron pins, and various marks in concrete or bitumen structure) are not interfered with. A Consulting Cadastral Surveyor must be contacted if survey marks are disturbed or destroyed during any works in relation to this or related approvals, to investigate and determine if any further action is required. More information on interference with survey marks is available under Section 42 of the <i>Survey and Mapping Infrastructure Act 2003</i>.</p> <p>e Ensuring the correct siting of structures on the land. An identification survey demonstrating correct siting and setbacks of structures may be requested of the applicant to ensure compliance with this development approval and applicable codes.</p> <p>f Providing Council with proof of payment of the Portable Long Service Leave building construction levy (or proof of appropriate exemption) where the total value of the building and construction works exceeds \$150,000 (excluding GST). Acceptable proof of payment is a Q.Leave –Notification and Payment Form approved by the Authority. Proof of payment must be provided before Council can issue a development permit for the Operational works. This is a requirement of section 77(1) of the Building and Construction Industry (Portable Long Service Leave) Act 1991.</p> <p>g Making payment of any outstanding Council rates and charges applicable to the development site prior to the lodgement of subdivision plans.</p> <p>h Obtaining any necessary local government/state approvals where works require the installation of temporary ground anchoring into adjacent Road Reserves. Where ground anchoring is proposed into an adjacent private property, approval from the relevant property owners(s) is required.</p>
H	<p>Access from/works in State-controlled road</p> <p>All access from and works within the State controlled road/reserve must not be carried out without approval from the Department of Transport and Main Roads.</p>
I	<p>Weeds, pest animals and ants</p> <p>Biosecurity Queensland of the Department of Agriculture and Fisheries leads the Government's efforts to prevent, respond to and recover from pests and diseases threatening agricultural prosperity, the environment, social amenity and human health.</p> <p>All landscape materials, including but not limited to, soils, mulch, grass, gravel, potted or ex-ground plants, pavers and timber used in landscape treatments must be free from weeds, pest animals and ants.</p>
J	<p>Fire ant control</p> <p>A significant portion of the Gold Coast is within Fire Ant Biosecurity zone 2 and must remain vigilant for the presence of fire ants. Under the <i>Biosecurity Act 2014</i> individuals and organisations whose activities involve the movement or storage of fire ant carriers have a general biosecurity obligation to take all reasonable steps to ensure they do not spread fire ants. Movement of a fire ant carrier from within the fire ant biosecurity zone may need a biosecurity instrument permit. More information is available on the Department of Agriculture and Fisheries website www.daf.qld.gov.au/plants/weeds-pest-animals-ants/invasive-ants/fire-ants.</p>
Property Notifications	

A	Noise/Acoustic There are development approval conditions applicable in relation to acoustic issues on this lot/subsequent lots. All property owner(s) must ensure compliance with these conditions. Refer to development approval MCU/2018/495. A copy of the development approval is available for viewing on Council's website www.cityofgoldcoast.com.au/pdonline
----------	---

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ATTACHMENT A

Approved Drawings

Drawing Title	Author	Date	Drawing No.	Ver
Site Plan of Lot 36 RP139816 263 Repeater Station Road Springbrook	Michel Group Services	31/01/22	17161-1	E
Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway	Cambray Consulting	23.12.2021	SK01	A
Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway	Cambray Consulting	23.12.2021	SK02	A
Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway	Cambray Consulting	23.12.2021	SK03	A

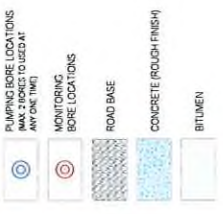
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E	BORE LOCATIONS	LF 31/1/22	BY	DATE
D	ACCESS AND SIGHTLINE NOTE	LF 19/0/18		
C	ACCESS AND SIGHTLINE NOTE	LF 19/0/18		
B	ACCESS NOTE CHANGE	LF 26/0/18		
A	BORES ADDED	LF 28/1/17		
AMENDMENTS				
NOTES & DISCLAIMERS				

LEX 78180

- This plan was prepared for HOFFMAN DRILLING SUPERANNATION FUND PTY LTD from a combination of field survey and existing records for the purpose of DEVELOPMENT APPLICATION and must not be used for any other purpose, particularly demolition, excavation or construction.
- The site boundaries shown on this plan were not surveyed and part of this survey and have been compiled from RP139816 and not by field measurement and therefore could be subject to error.
- Services shown on this plan have been located where possible by field survey. If underground and not able to be so located, services have not been shown and they may therefore be incomplete and/or erroneous.
- Colour interval is 0.5m.
- This note is an integral part of this plan.

Document 3



MICHEL GROUP SERVICES
 27 Collins Street
 Level 10, 2405
 Spring Hill QLD 4211
 Phone: 07 3200 1111
 Email: info@michelex.com.au

PROJECT
 PROPOSED COMMERCIAL
 GROUNDWATER EXTRACTION

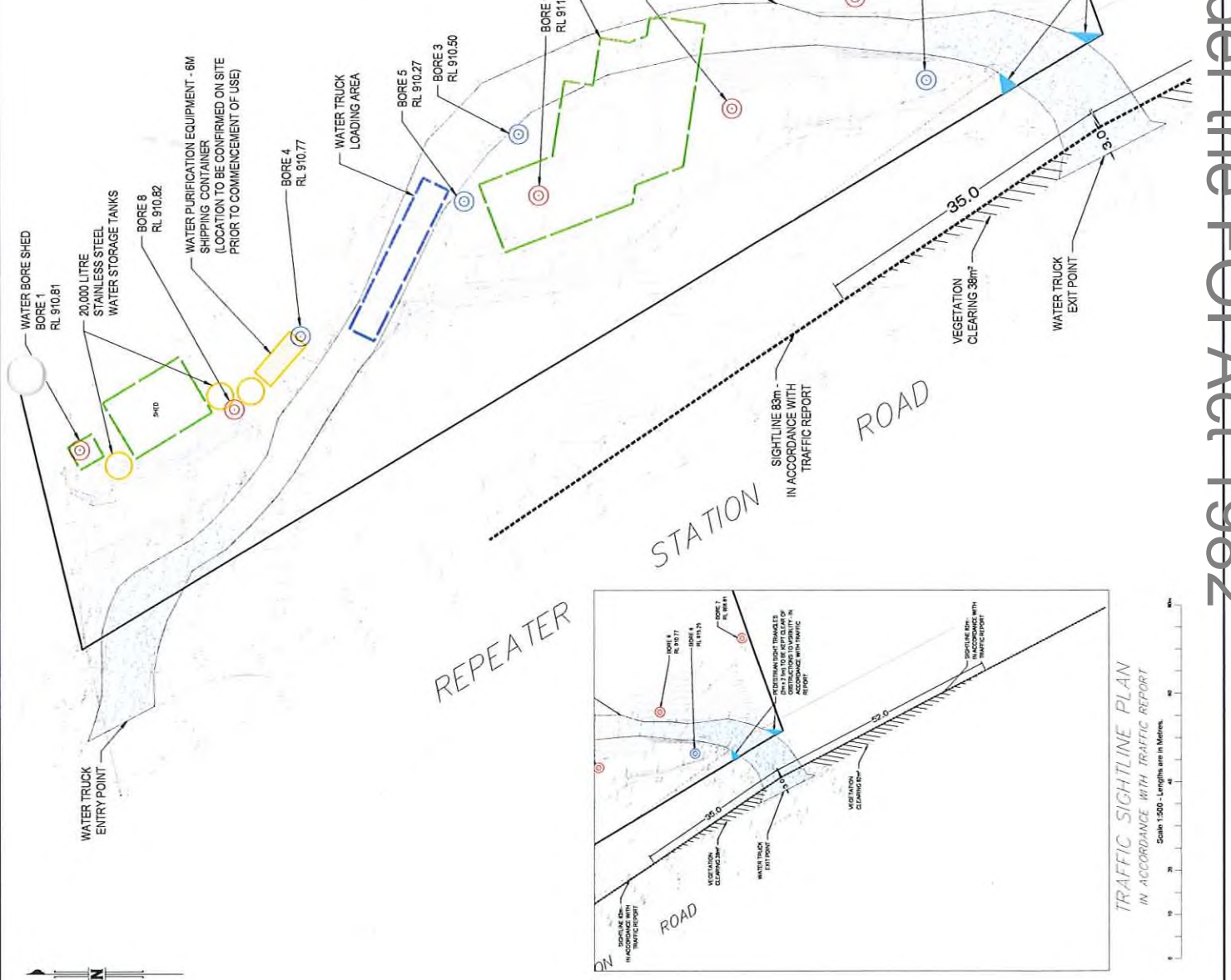
CLIENT
 HOFFMAN DRILLING PTY LTD
 SUPERANNATION FUND

SITE PLAN
 OF LOT 36 RP139816
 263 REPEATER STATION ROAD
 SPRINGBROOK

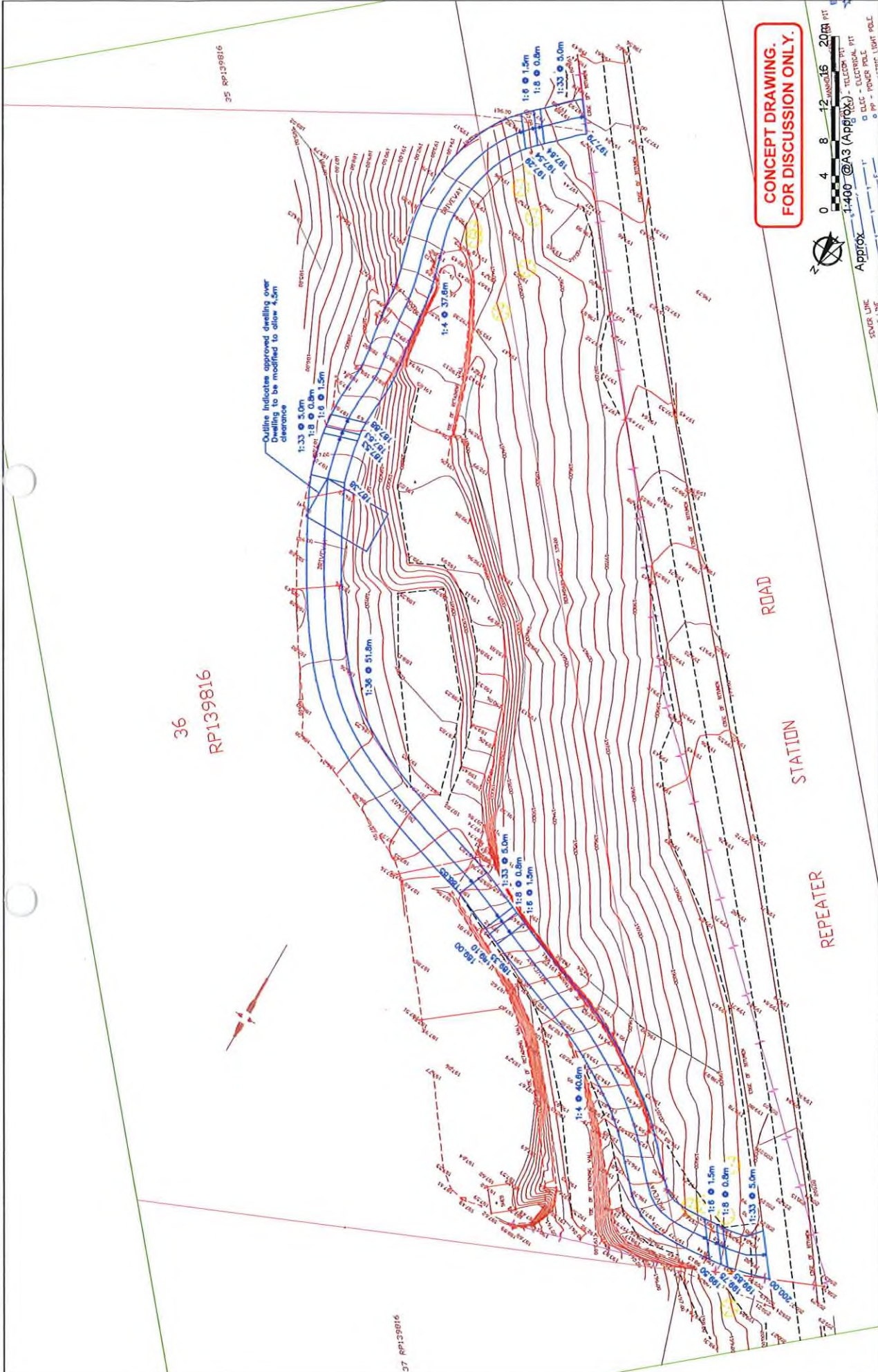
MAP TALLEGERRA COUNTY MAP 6
 DATE 20/11/2017
 LEVEL DATUM CHG
 ADJUST CO-ORD SYSTEM GDA94
 EASTING NORTHING
 AUTOCAD FILE SURVEY FILE
 YEAR 1911
 CHECKED BY DATE ISSUED BY DATE

SHEET NUMBER 1 OF 1
PLAN No 17161-1
ISSUE E

Attachment B



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**CONCEPT DRAWING.
FOR DISCUSSION ONLY.**

0 4 8 12 16 20m PT

1:400 @A3 (Approx) - TELECOM PT
 1:400 @A3 (Approx) - ELECTRICAL PT
 1:400 @A3 (Approx) - POWER POLE
 1:400 @A3 (Approx) - LIGHT POLE

Approx

SEWER LINE

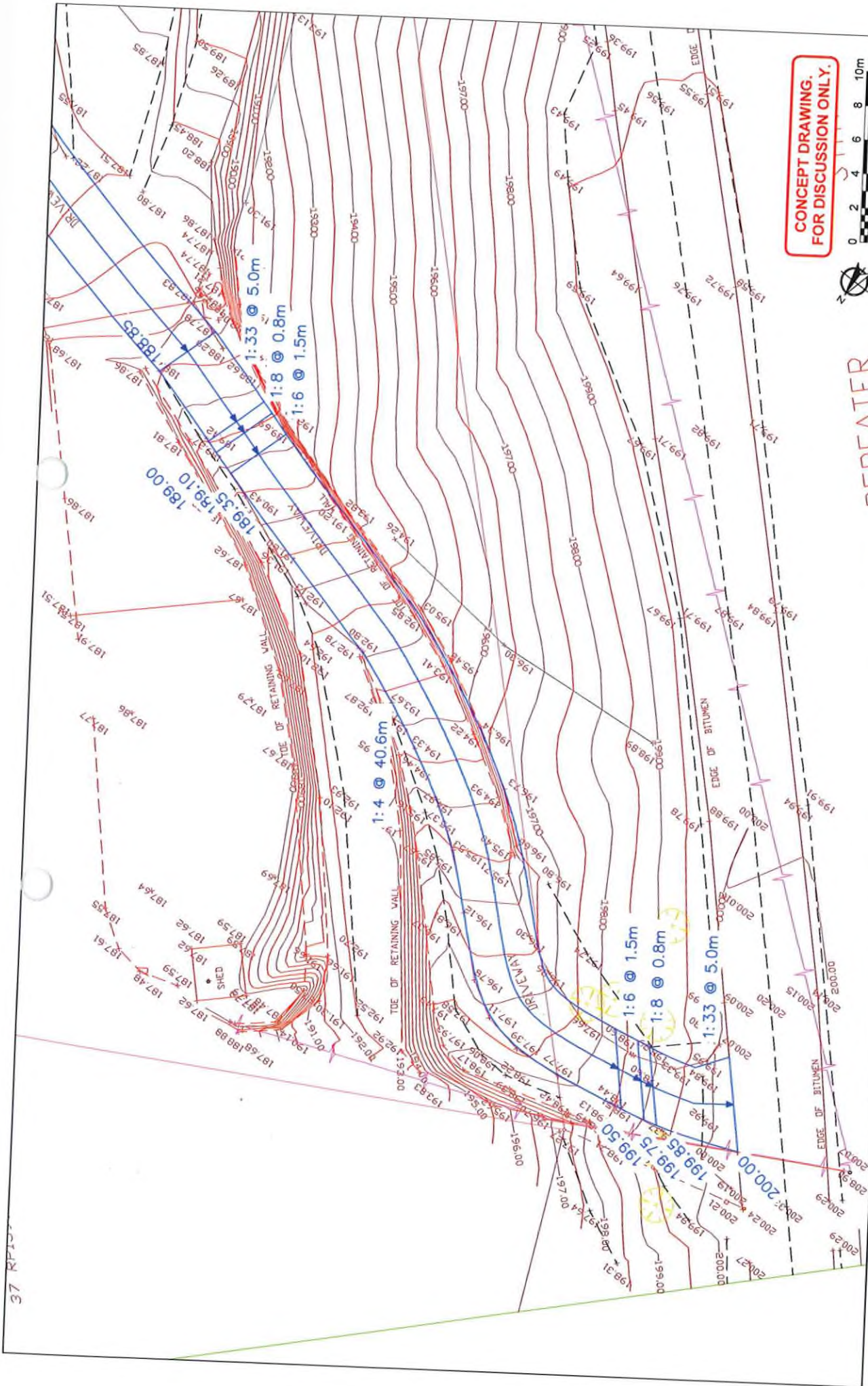
DATE: 23.12.2021

PREPARED BY: P & E Appeal Matter No. 137 of 2020

36
RP139816

37 RP139016

REV / DATE / AMENDMENT / ISSUE A 20/12/21 Preliminary - For Discussion Only	DWG / CRK / ZONE / X3 / / / /	PRELIMINARY NOT FOR CONSTRUCTION	APP NO. / DRAWING NO. THY0120-02 // SK01
		DATE 23.12.2021	PREPARED BY P & E Appeal Matter No. 137 of 2020
LOCATION 263 Repeater Station Road, Springbrook, QLD		DRAWING TITLE Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway	
CAMBRAYconsulting Traffic Engineering and Transport Planning Suite 2604, 211 Mary Street Brisbane Q. 4000 t: 07 3221 3503 e: contact@cambray.com.au		REMARKS This concept takes into account the instructions and requirements of our client. Cambray has taken care in preparing this concept, however it is not a final design and is for discussion purposes only. Cambray does not accept liability for any decisions made regarding the contents of this document and/or any conclusion drawn resulting from omission or lack of full disclosure by the client or the client's consultants.	



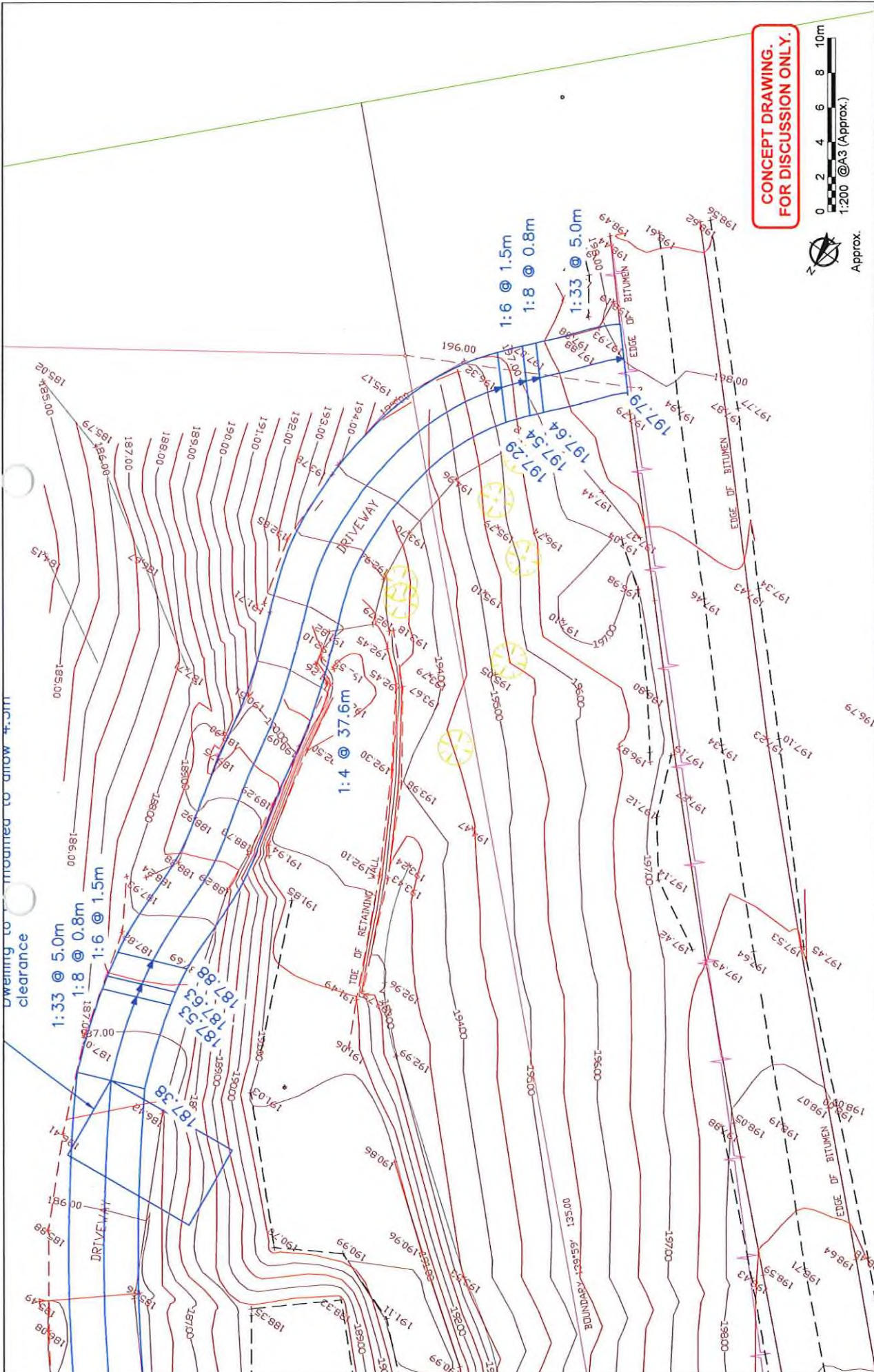
**CONCEPT DRAWING.
FOR DISCUSSION ONLY.**



REPEATER

Approx.

REV	DATE	AMENDMENT / ISSUE	DATE	CHK	APP
1	23.12.21	Primary: For Discussion Only			
<p>LOCATION 263 Repeater Station Road, Springbrook, QLD</p>					
<p>DRAWING TITLE Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Entrance Driveway</p>					
<p>PRELIMINARY NOT FOR CONSTRUCTION</p>					
<p>FOR No. // DRAWING No. THY0120-02 // SK02</p>					
<p>DATE 23.12.2021</p>					
<p>SCALE (A3) 1:200</p>					
<p>PREPARED FOR P & E Appeal Matter No. 137 of 2020</p>					
<p>DISCLAIMER This concept takes into account the information and data provided by the client, Cambridge has taken care of preparing this concept, however it neither accepts liability nor warrants that the information or data provided by the client is correct or that the information or data provided by the client is complete. Cambridge is not responsible for any errors or omissions in this concept drawing resulting from any information or data provided by the client or the client's consultants.</p>					



**CONCEPT DRAWING.
FOR DISCUSSION ONLY.**



REV DATE AMENDMENT / ISSUE A 23/12/21 Preliminary - For Discussion Only	DWG CIRK J.D.	PRELIMINARY NOT FOR CONSTRUCTION	PROJ. No. / DRAWING No. THY0120-02 // SK03
			PROJ. ACD PRJ P & E Appeal Matter No. 137 of 2020
SCALE Scale 1:200 DATE 23.12.2021		LOCATION 263 Repeater Station Road, Springbrook, QLD	
DRAWING TITLE Water Extraction Facilities High Level Driveway Grading Concept Based on IPWEA RS-059 - Rural Driveway Egress Driveway		CAMBRA Y consulting Traffic Engineering and Transport Planning Suite 2601, 21, Mary Street Brisbane, Q.4000 t: 07 3221 3503 e: contact@cambray.com.au	

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 Page 62 of 62

ATTACHMENT B

Referral Agency Response

SARA response dated 17 September 2019 (SARA Reference: 1905-11391 SRA)

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RA6-N



Department of
**State Development,
 Manufacturing,
 Infrastructure and Planning**

SARA reference: 1905-11391 SRA
 Council reference: MCU/2018/495
 Applicant reference: 17616

17 September 2019

Chief Executive Officer
 Gold Coast City Council
 PO Box 5042
 GCMC Qld 9729
 mail@goldcoast.qld.gov.au

Attention: Julie Carstairs

Dear Madam

SARA response—263 Repeater Station Road, Springbrook

(Referral agency response given under section 56 of the *Planning Act 2016*)

The development application described below was confirmed as properly referred by the Department of State Development, Manufacturing, Infrastructure and Planning on 5 June 2019.

Response

Outcome:	Referral agency response – with conditions.
Date of response:	17 September 2019
Conditions:	The conditions in Attachment 1 must be attached to any development approval.
Advice:	Advice to the applicant is in Attachment 2 .
Reasons:	The reasons for the referral agency response are in Attachment 3 .

Development details

Description:	Development permit for Material change of Use for Extractive industry (Commercial groundwater extraction)
SARA role:	Referral Agency.
SARA trigger:	Schedule 10, Part 9, Division 4, Subdivision 1, Table 1, Item 1 – Aspect of development stated in Schedule 20 (Planning Regulation 2017)

SARA reference: 1905-11391 SRA
Assessment Manager: Gold Coast City Council
Street address: 263 Repeater Station Road, Springbrook QLD 4213
Real property description: 36RP139816
Applicant name: Hoffmann Drilling Superannuation Fund Pty Ltd C/ Michel Group Services Pty Ltd
Applicant contact details: PO box 2695
Nerang BC QLD 4211
Leigh.fox@mgs-gc.com.au

Representations

An applicant may make representations to a concurrence agency, at any time before the application is decided, about changing a matter in the referral agency response (s.30 Development Assessment Rules) Copies of the relevant provisions are in **Attachment 4**.

A copy of this response has been sent to the applicant for their information.

For further information please contact Murray Lane, Principal Planning Officer, on 5644 3216 or via email SEQSouthPlanning@dsmip.qld.gov.au who will be pleased to assist.

Yours sincerely



Gareth Richardson
Manager, Planning and Development Services (SEQ South)

cc Hoffmann Drilling Superannuation Fund Pty Ltd C/ Michel Group Services Pty Ltd, Leigh.Fox@Mgs-Gc.Com.Au

enc Attachment 1 - Referral agency conditions
Attachment 2 - Advice to the applicant
Attachment 3 - Reasons for referral agency response
Attachment 4 - Representations provisions
Attachment 5 - Approved plans and specifications

Attachment 1—Referral agency conditions

(Under section 56(1)(b)(i) of the *Planning Act 2016* the following conditions must be attached to any development approval relating to this application) (Copies of the plans and specifications referenced below are found at Attachment 5)

No.	Conditions of Development Approval	Condition Timing
Development Permit – Material Change of Use (Child Care Centre and Dual Occupancy)		
Schedule 10, Part 9, Division 4, Subdivision 1, Table 1, Item 1 – Aspect of development stated in Schedule 20 - The chief executive administering the <i>Planning Act 2016</i> nominates the Director General of the Department of Transport and Main Roads to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following conditions:		
1	All heavy vehicular movements must be generally in accordance with the Traffic Impact Assessment – Proposed Water Extraction Plant prepared by Rytenskild Traffic Engineering dated 4 September 2019, reference 17151 and revision 3.	Prior to the commencement of use and to be maintained at all times

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Attachment 2—Advice to the applicant

General advice	
1.	Terms and phrases used in this document are defined in the <i>Planning Act 2016</i> its regulation or the State Development Assessment Provisions (SDAP) v2.4. If a word remains undefined it has its ordinary meaning.

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Attachment 3—Reasons for referral agency response

(Given under section 56(7) of the *Planning Act 2016*)

The reasons for the department's decision are:

- The proposed development will not have a significant impact on the state-controlled road network, including Springbrook Road as part of the proposed haul route.
- The condition of approval is imposed to place limits on the hours of operation and the number and type of heavy vehicle trips, which are to occur in accordance with the referenced traffic impact assessment
- The proposed development complies with State Code 6 – Protection of State Transport Networks

Material used in the assessment of the application:

- The development application material and submitted plans
- *Planning Act 2016*
- Planning Regulation 2017
- The *State Development Assessment Provisions* (version 2.4), as published by the department
- The Development Assessment Rules
- SARA DA Mapping system

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Attachment 4—Change representation provisions

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Development Assessment Rules—Representations about a referral agency response

The following provisions are those set out in sections 28 and 30 of the Development Assessment Rules¹ regarding representations about a referral agency response

Part 6: Changes to the application and referral agency responses

28 Concurrence agency changes its response or gives a late response

- 28.1. Despite part 2, a concurrence agency may, after its referral agency assessment period and any further period agreed ends, change its referral agency response or give a late referral agency response before the application is decided, subject to section 28.2 and 28.3.
- 28.2. A concurrence agency may change its referral agency response at any time before the application is decided if—
- (a) the change is in response to a change which the assessment manager is satisfied is a change under section 26.1; or
 - (b) the Minister has given the concurrence agency a direction under section 99 of the Act; or
 - (c) the applicant has given written agreement to the change to the referral agency response.²
- 28.3. A concurrence agency may give a late referral agency response before the application is decided, if the applicant has given written agreement to the late referral agency response.
- 28.4. If a concurrence agency proposes to change its referral agency response under section 28.2(a), the concurrence agency must—
- (a) give notice of its intention to change its referral agency response to the assessment manager and a copy to the applicant within 5 days of receiving notice of the change under section 25.1; and
 - (b) the concurrence agency has 10 days from the day of giving notice under paragraph (a), or a further period agreed between the applicant and the concurrence agency, to give an amended referral agency response to the assessment manager and a copy to the applicant.

¹ Pursuant to Section 68 of the *Planning Act 2016*

² In the instance an applicant has made representations to the concurrence agency under section 30, and the concurrence agency agrees to make the change included in the representations, section 28.2(c) is taken to have been satisfied.

Part 7: Miscellaneous

30 Representations about a referral agency response

30.1. An applicant may make representations to a concurrence agency at any time before the application is decided, about changing a matter in the referral agency response.³

³ An applicant may elect, under section 32, to stop the assessment manager's decision period in which to take this action. If a concurrence agency wishes to amend their response in relation to representations made under this section, they must do so in accordance with section 28.


Attachment 5—Approved plans and specifications

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PLANS AND DOCUMENTS
referred to in the REFERRAL
AGENCY RESPONSE



SARA ref: 1905-11391 SRA

Date: 17 September 2019

TRAFFIC IMPACT ASSESSMENT
PROPOSED WATER EXTRACTION PLANT

263 REPEATER STATION ROAD, SPRINGBROOK
(RESPONSE TO INFORMATION REQUEST DATED 11 JUNE 2019)

Prepared for
HOFFMANN DRILLING PTY LTD

4 SEPTEMBER 2019

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DOCUMENT REGISTER

Document Repeater Road Water Carting
Traffic Impact Assessment

RTE Reference 17151

Prepared by s22

Document History

Version	Version date	Details	Reviewed and Authorised	
			Name / Position	Signature
1	26 April 2018	DA Submission	s22	
2	18 October 2018	RFI Response		
3	4 September 2019	SARA Response		

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ACN 151 846 847

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Facsimile: 1300 087177
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Web: www.rytenskildtraffic.com

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TABLE OF CONTENTS

1.0 INTRODUCTION..... 4

2.0 SUBJECT SITE..... 13

3.0 PROPOSED USE 15

4.0 EXISTING ROAD & TRAFFIC CONDITIONS 18

5.0 IMPACT OF DEVELOPMENT GENERATED TRAFFIC 20

6.0 PROPOSED ACCESS ARRANGEMENTS 23

7.0 ROAD SAFETY ASSESSMENT 25

8.0 SUMMARY OF FINDINGS AND CONCLUSIONS 25

APPENDICES 27

 APPENDIX A – IMAGES OF REPEATER STATION ROAD 28

 APPENDIX B – SURVEYED TRAFFIC VOLUMES AND VOLUME SPEEDS ON REPEATER STATION RD .. 38

 APPENDIX C – PROPOSED DRIVEWAY ADJUSTMENT AND ANALYSIS 46

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1.0 INTRODUCTION

Rytenschild Traffic Engineering (RTE) has been engaged by Hoffmann Drilling Pty Ltd to prepare a Traffic Engineering Assessment of its proposed water extraction operation at Springbrook.

This report forms part of a Development Application to be lodged with the Gold Coast City Council.

This report has been amended in response to Council’s Request for Further Information (RFI) dated 11 June 2019 and SARA Information Request dated 19 June 2019. For simplicity, a response to the Transport Code has been removed from this version of the report.

A response to each Information Request item is provided below with further detail provided throughout the report.

Council Information Request (11 June 2019):

Transport Assessment

4 Traffic Impact Assessment

It is requested that the Traffic Impact Assessment by Rytenschild Traffic Engineering dated 18 October 2018 is updated to relate to the changed application submitted to Council. This is to incorporate any relevant changes to the proposal including the revised number of vehicle movements Monday-Friday and Saturday and any amendments to the type of trucks proposed to be used.

Response:

It is now proposed that a maximum of four (instead of eight) heavy vehicles will cart water from the site on a given day. Therefore, the proposal will generate up to eight heavy vehicle movements per day. As discussed in Section 5, the average annual daily traffic generation is estimated to be 5.75 heavy vehicle movements.

SARA Information Request (dated 19 June 2019) :

Item	Information requested
Traffic	
1.	To demonstrate compliance with PO1-PO6 of State code 6 – Protection of state transport networks of the <i>State Development Assessment Provisions</i> (SDAP) version 2.4, the applicant is requested to provide a revised Traffic Impact Assessment that: <ul style="list-style-type: none"> (a) provides a heavy vehicle haul route and identifies which State-controlled roads will be impacted. If an associated impact is identified to the state controlled network provide a pavement impact assessment that identifies mitigation of impacts. (b) undertakes a turn warrant assessment of the intersection of Springbrook Road and Repeater Station Road to determine if any safety improvements are required at the intersection. The turn warrant assessment is to base on the largest permitted vehicle type and include swept path assessments.

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In accordance with the GTIA, the warrants for a detailed assessment of impacts is summarised below.

Table 6.4 – Impact assessment area by impact type

Impact type	Impact assessment area
Road safety	All intersections where the development traffic exceeds 5% of the base traffic for any movement in the design peak periods ³ in the year of opening of each stage All road links where the development traffic exceeds 5% of the base traffic in either direction on the link in the design peak periods ³ in the year of opening of each stage
Access and frontage	The SCR corridor for the extent of the geometric frontage of the site, includes works on both the frontage side and potentially on the opposite side of the road
Intersection delay	All intersections where the development traffic exceeds 5% of the base traffic for any movement in the design peak periods ³ in the year of opening of each stage
Road link capacity	All road links where the development traffic exceeds 5% of the base traffic in either direction on the link's annual average daily traffic (AADT) in the year of opening of each stage
Pavement	All road links where the development standard axle repetitions (SARs) exceeds 5% of the base traffic in either direction on the link's SARs in the year of opening of each stage; the method for calculation of SARs is outlined in Section 13.3
Transport infrastructure	All road links where the development traffic exceeds 5% of the base traffic in either direction on the link's AADT in the year of opening of each stage, or where Transport and Main Roads identifies prevailing structural integrity issues of transport infrastructure (for example, bridges or culverts)

FIGURE 1.1 – WARRANTS FOR VARIOUS TYPES OF IMPACT ASSESSMENT UNDER THE TMR GTIA

It is now proposed that a maximum of four (instead of eight) heavy vehicles will cart water from the site on a given day. Therefore, the proposal will generate up to eight heavy vehicle movements per day. It is proposed that the use will operate between Monday and Saturday, with only up to a single delivery on the Saturday. The proposed use will not operate on public holidays or during school holiday periods.

Development traffic generation

As discussed in Section 5, the average annual daily traffic generation is estimated to be 5.75 heavy vehicle movements. Considering light vehicle movements, it is estimated that the proposal will generate an average of 6 vehicle movements per day.

Traffic operations (Intersection delay / road link capacity)

According to TMR traffic census, Springbrook Road carries in the order of 1,365 vehicles per day (AADT) near Repeater Station Road and 1,408 vehicles per day and Pine Creek Road carries approximately 1,408 vehicles per day. Therefore, the traffic generation of the proposal will equate to less than 1% of the existing traffic volume. With regard to the Springbrook Road / Repeater Station Road, a Type BAL left turn treatment is warranted under current conditions. As shown in

Figure 1.2, the proposed addition of 1-2 right turn movements per hour does not result in any change in the type of turn treatment required and on this basis the applicant should not be responsible for any works at the intersection. It is noted that the proposal only has an indirect impact upon this intersection as the site is located some distance away along a local road. Impacts upon intersection delay are negligible given the low traffic volumes.

Pavement impacts

The TMR data indicates that Springbrook Road carries approximately 109 heavy vehicles per day (ie 8% HV). Therefore, the heavy vehicle generation of the proposal equates to approximately 5.3% of existing volumes. Pine Creek Road carries in the order of 113 heavy vehicle movements per day, and the heavy vehicle generation of the proposal equates to 5.1% of this volume. However, this assumes that all heavy vehicles generated will use this route. It is expected that some heavy vehicles generated will use the Springbrook Road route (via Mudgeeraba), and so the percentage impact on both routes is expected to be well less than 5%.

It is noted that the 5% threshold used to determine whether pavement impact is "significant" is based on Standard Axle Repetitions and the associated change in marginal cost, rather than a simple count of vehicle movements. However, the percentage of volume approach provides a reasonable indication of the impact and is likely to be conservative given that the average heavy vehicle that uses Springbrook Road is relatively large. It is noted that some other uses in the area use articulated vehicles and there is a significant number of large tourist coaches that travel up the mountain on a daily basis. It is noted that the applicant is proposing to use a type of vehicle (2 x quad axle / eight wheels) that has a relatively low impact upon road pavement. On this basis it is considered that the proposal will have a minor impact upon road pavement and a detailed assessment is not warranted.

Road safety

In accordance with Table 6.4 of the Guide to Traffic Impact Assessment, a Road Safety Assessment is not warranted. As discussed in section 1, the traffic generation of the proposed use will be well less than 5% of existing volumes on any section of the surrounding State controlled road network.

In conclusion, the proposal will only have a minor impact upon the State controlled road network and does not trigger the need for a detailed assessment for any of the categories described in Figure 1.1.

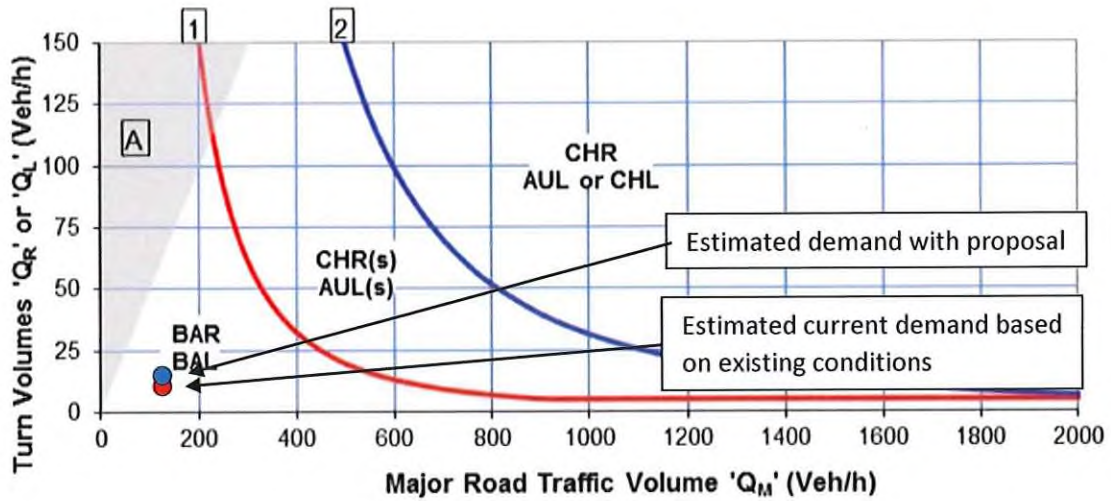


FIGURE 1.2 – RIGHT TURN TREATMENT WARRANT AT THE SPRINGBROOK ROAD / REPEATER STATION ROAD INTERSECTION (SOURCE: AUSTRROADS GUIDE TO TRAFFIC MANAGEMENT PART 6 FIG 2.26)

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Council Information Request (23 May 2018)

Transport Planning

8 Traffic impact assessment

The applicant is proposing to demonstrate compliance with AO20 of the Transport code by submitting a Traffic Impact Assessment report (TIA). The TIA report has identified convex mirrors to be installed on the road network. Council officers do not support the installation of convex mirrors on the road network. It is noted that there are some existing convex mirrors across the City's road network, however, it is the City's current practice that no new mirrors are installed, and existing ones are removed as they approach the end of their design life. Traffic and Road Use Management Manual Vol 2 Part 4A identifies the following issues with convex mirrors:

- The image appears to be smaller, further away and travelling at a slower speed in a mirror with a smaller radius of curvature.
- Could potentially provide too much detail in a small area, which will hamper road user's driver's ability to discriminate detail.
- The image of a vehicle in a convex mirror appears to be on the wrong side of the road due to the 'mirror image' effect. This can result in road users misinterpreting the images.
- Potential problems resulting from headlight glare at night and the effect of glare from the sun, particularly at dawn and dust.
- Dark colours are difficult to detect in these mirrors in the early morning or late afternoon as these colours appear to be absorbed by the road surface.

The applicant is therefore requested to update the TIA report without giving consideration to the installation of convex mirrors on the road network.

Council officers have conducted a site visit and measured the width of the pavement on Repeater Station Road adjacent to the subject site. The pavement width was measured to be 5 metres which is considered difficult for two vehicles to pass, particularly with trucks. The applicant is requested to update the TIA report giving consideration to the total daily traffic volumes and the pavement width on Repeater Station Road to comply with Table 4.5 of Guide to Road Design – Part 3: Geometric Design, Austroads 2016.

The TIA report has also identified that vegetation pruning is required to achieve a minimum of 83 metres viewing to the south on the exit driveway. During the site visit, Council officers have identified that vegetation pruning is also required to achieve the minimum sight distance to the north on the exit driveway. The applicant is requested to submit amended drawings showing the required vegetation pruning to achieve the required sight distances to the north and south on the exit driveway in accordance with Section 3.4.5 of AS2890.2.

Response:

The proposal to introduce additional convex mirrors was based on the fact that there are already mirrors along the Repeater Station Road route. We note that Council has recently replaced the existing mirrors, and they appear to be working effectively. In our opinion, mirrors provide an improvement to safety, however are not considered to be necessary. The proposal to implement additional mirrors is withdrawn on the basis that Council does not wish for any additional installations.

It is noted that the road is already used by the type of heavy vehicles proposed, on a daily basis. As discussed in Section 5, the proposed number of heavy vehicles to be used will not significantly impact upon current traffic operations. In the context of Austroads Part 3, the resultant increase in traffic does not change the preferred geometrical alignment of the road from that which is already warranted under existing traffic conditions. Furthermore, the amount of traffic generated will be less than 5% of existing traffic volumes and therefore is not considered to be significant with respect to road capacity.

A modified sight distance plan has been prepared which identifies the amount of vegetation pruning that will be required to achieve the required sight distances at the exit point. This is shown in Appendix C. It is noted that Luke Rytenskild inspected the site again in August 2019 with Element Ecology. The extent of pruning required is considered to be very minor (routine maintenance), and does not raise any ecological concerns. This is discussed in the submission prepared by Element Ecology.

9 Car parking design and layout

The completed Transport code template prepared by Rytenskild Traffic Engineering incorrectly states that AO25.1 is 'not applicable' to the development proposal. AO25.1 requires off street car parking to be designed, constructed, line marked and maintained in accordance with AS2890.1 and AS2890.2. In order to comply with AO25.1 of the Transport code, the applicant is requested to submit amended drawings demonstrating the following:

- a Directional signage at both of the driveways for the proposed access and exit arrangement to Repeater Station Road (i.e. 'Entry only' or 'Exit only').
- b The gradients for the 'water truck loading area' to comply with Section 4.2 of AS2890.2.
- c The longitudinal section for the internal driveway to comply with Table 3.2 of AS2890.2.
- d Fully dimensioned pedestrian sight triangles on both sides of the driveway measuring 2m along the front property boundary and 2.5m back into the site in accordance with Figure 3.4 of AS2890.2. The sight triangle must be clear of all obstructions to visibility. The sight triangle must be annotated as follows. "Pedestrian sight triangle to be kept clear of obstructions to visibility".

The development application has not identified proposed trunk infrastructure for transport, wastewater, stormwater, recreational facilities or water. The proposal will be assessed on the basis that all transport, wastewater, stormwater, recreational facilities and water development infrastructure is non-trunk.

Response:

a) It is proposed that 'No Entry' signage will be provided at the exist crossover facing Repeater Station Road. This will allow the internal driveway to function in a one-way arrangement.

b & c) Further site inspections have been carried out, including observation of the proposed water truck as it enters, circulates through and exits the site via the proposed entry and exit route.

It is noted that the proposed truck is a special 6 x 4 wheel drive vehicle and not a standard MRV or HRV. The vehicle can comfortable traverse the existing entry and exit driveways, however it is noted that the applicant proposes to reduce the grade at the top of each driveway and widen each driveway to improve the manoeuvring at these locations. The current grade from the edge of the road for the first 3 – 4 metres is approximately 1:3. This will be increased to approximately 1:8 at each location, transitioning to 1:6 and then the existing. On the entry driveway, the 1:6 section will transition to the existing 1:4 section, and then to the existing surface level at the base. There is a 1:8 transition linking the 1:4 section to the base (which is approximately level).

As shown in Figure 1.3, the grade at the bottom of the driveway is relatively flat allowing the truck to level off before ascending on the exit side of the driveway. The proposed modifications will allow improved truck entry and exit angles and for the truck to travel to the base of the driveway satisfactorily. It is also proposed that the entry driveway will be widened at the top with the removal of the trees shown in Figure 1.4. This will allow the trucks to enter the site with satisfactory lateral clearance.

d) As shown in Appendix C, a pedestrian sight splay is shown on both sides of the exit crossover.

It is noted that the head height of a truck driver will be approximately 2.5 metres above the road surface and will have clear vision to the roadway surface.

Pedestrian activity along the site frontage is occasional, and pedestrians walk along the road and move the shoulder as required.



FIGURE 1.3 – GRADIENT AT THE BASE OF THE DRIVEWAY

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FIGURE 1.4 – TREES TO BE REMOVED ON ENTRY DRIVEWAY



2.0 SUBJECT SITE

The subject site is identified as Lot 36 on RP139816 and has an approximate site area of 4.15 hectares.

The proposed driveway arrangement is in place, together with a shed that will be used for the proposed operation. It is intended that a dwelling will be constructed on the site, which will be occupied by the owner / operator.

As shown in Figure 2.1, the subject site is located on the eastern side of Repeater Station Road, approximately 500 metres before the 'Best of All Lookout' car parking area and end of the road.

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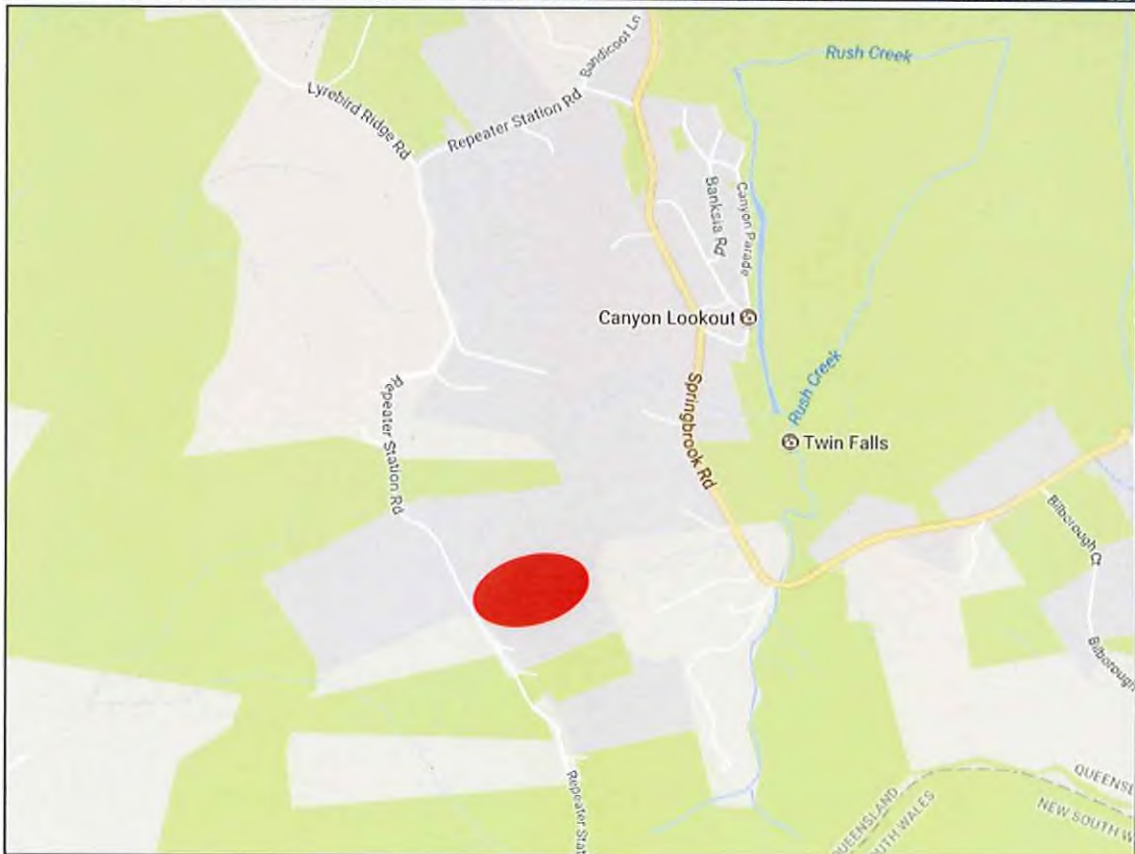
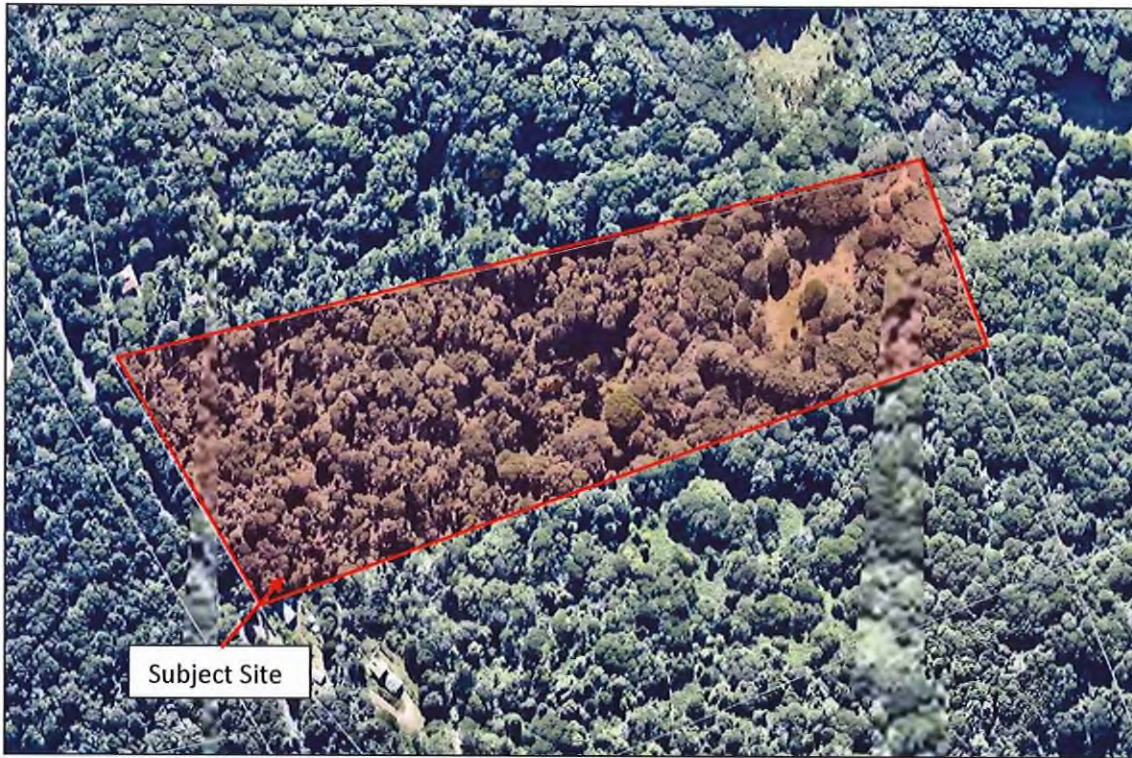


FIGURE 2.1 – LOCATION OF SUBJECT SITE

3.0 PROPOSED USE

The proposal is for a commercial groundwater extraction operation, with the intent to sell the water to Gold Coast and Brisbane based spring water suppliers.

It is proposed that deliveries be made using 8.8 metre and 10 metre long rigid trucks (refer to indicative vehicle profiles shown in Figure 3.1).

An existing water bore on the site would be used and access is proposed to be gained via separate (existing) one way driveways. Trucks will enter the site at the northern driveway, and then circulate through the site to exit via the southern driveway. Given that Repeater Station Road terminates to the south, heavy vehicles will only turn left into and right out of the site.

A contractor for the bottling company will generally operate the trucks. Although local deliveries will generally be made by the owner / operator.

It is proposed that the plant will be permitted to operate between 6:30am and 5:00pm, Monday to Friday, and 6:30am until 10:00am on Saturdays.

The proposed site plan is shown in Figure 3.2.

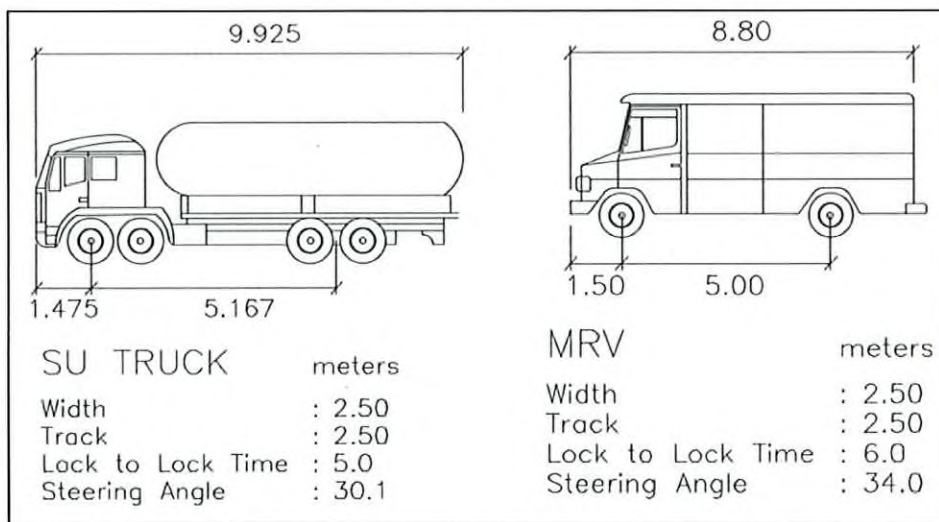


FIGURE 3.1 – INDICATIVE PROFILE OF HEAVY VEHICLES TO BE USED

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FIGURE 3.2 – ACTUAL LARGEST VEHICLE USED (6 X 4 RIGID TRUCK)

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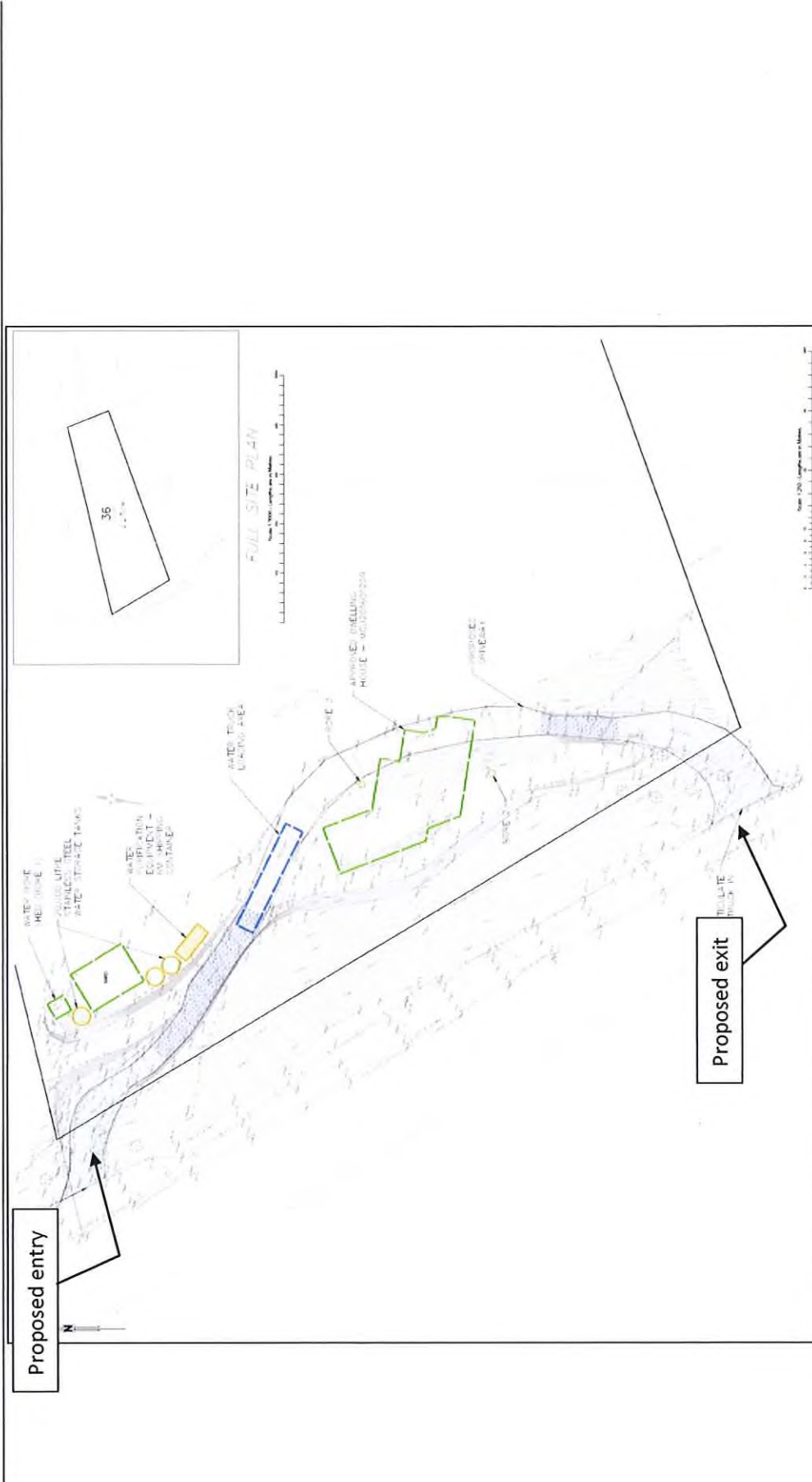


FIGURE 3.3 – PROPOSED SITE PLAN

4.0 EXISTING ROAD & TRAFFIC CONDITIONS

Repeater Station Road has a length of approximately 3.8 kilometres and provides access to adjoining residential properties and the “Best of All Lookout”, where the road terminates. The “Best of All Lookout” is a tourist attraction and is most popular on weekends and during holiday periods.

The road has a speed limit of 60km/hr, with 30 Km / Hr advisory speed signs located at various locations. The road has an undulating alignment with numerous horizontal and vertical curves. Thick vegetation on each side of the road restricts visibility to driveways and on curves.

Repeater Station Road generally has a pavement width of at least 6 metres for the first 1.2 kilometres from the Springbrook Road intersection. It then reduces to approximately 5.5 – 6.0 metres to the subject site. An unsealed shoulder on each side has a varying width of approximately 0.8 – 1.5 metres.

Images of Repeater Station Road adjacent to the site are shown in Appendix A, with the general layout of the road adjacent to the site shown in Figure 4.1.

The Applicant engaged Traffic Control and Data to carry out traffic counts on Repeater Station Road. The data was collected during a typical week in August 2017. As shown in Appendix B, the counts indicates the following existing volumes on Repeater Station Road (adjacent to the site) :

- Typical weekday - 170 vehicles per day
- Typical Saturday - 380 vehicles per day.

The surveyed 85th percentile vehicle speed was in the order of 60 Km / Hr.

FIGURE 4.1 – TYPICAL LAYOUT OF REPEATER STATION ROAD IN THE VICINITY OF THE SUBJECT SITE



5.0 IMPACT OF DEVELOPMENT GENERATED TRAFFIC

It is proposed that the use will generate up to 8 heavy vehicle movements per day (i.e. 4 x loaded vehicles / 4 x unloaded vehicles). However, this will depend on demand and the average traffic generation rate is expected to be less than this.

As discussed in Section 3, it is proposed that deliveries be made using 8.8 metre and 10 metre long rigid trucks. Assuming the proposed maximum number of loads, the demand equates to less than one loaded vehicle movement per hour on Repeater Station Road and less than two vehicle movements.

It is considered that the addition of one heavy vehicle movement per hour in each direction will not have a significant impact upon the operation of Repeater Station Road. The proposed size and type of vehicle is considered to be appropriate for the road environment and consistent with other regular road users including tourist operators.

Whilst there are some sections of the road which narrow to less than the ideal width for two vehicles to pass, visibility is satisfactory and there is provision for two vehicles to pass at each end of these sections. Notwithstanding this, it is recommended that the following traffic management measures be implemented:

- A truck warning sign should be implemented in each approach to the proposed subject site. The signage should be implemented in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).
- Operating hours be restricted to 6:30am-5:00pm Monday to Friday and 6:30am-10:00am on Saturdays with no operations on public holidays.

As shown in Figure 5.1, Austroads prescribes a roadway width of 3.7 metres and 6.2 metres when the daily traffic volumes are under 150 vehicles and between 150 to 500 vehicles per day respectively.

Table 4.5: Single carriageway rural road widths (m)

Element	Design AADT				
	1–150	150–500	500–1000	1000–3000	> 3000
Traffic lanes ⁽¹⁾	3.7 (1 x 3.7)	6.2 (2 x 3.1)	6.2–7.0 (2 x 3.1/3.5)	7.0 (2 x 3.5)	7.0 (2 x 3.5)
Total shoulder	2.5	1.5	1.5	2.0	2.5
Minimum shoulder seal ^{(2),(3),(4),(5),(6)}	0	0.5	0.5	1.0	1.5
Total carriageway	8.7	9.2	9.2–10.0	11.0	12.0

FIGURE 5.1 – SINGLE LANE CARRIAGEWAY REQUIREMENTS (AUSTROADS PART 3)



As shown below the proposal is expected to generate in the order of 8 (7.4) vehicle movement per day. Based on the traffic surveys carried out in 2017, Repeater Station Road generally carries in the order of 230 vehicles per day. (AADT). The percentage impact of the development is therefore less than the 5% threshold, where road capacity impacts are considered to be significant.

On this basis, the resultant increase in traffic is considered to be minor and the applicant should not be responsible for any significant road upgrade works (e.g. pavement widening).

Development Traffic Estimate (AADT)

Monday – Friday :	4 loaded vehicles (assume 100% demand)
Saturday :	1 loaded vehicle (assume 100% demand)
Operating weeks per year =	52 weeks
Weekdays per year =	52 x 5 = 260 days
Saturdays per year =	52 days
Subtract 11 public holidays (10 x weekdays and 1 x Saturday)	
Actual operating weekdays =	250 days
Actual operating Saturdays =	51 days
Total annual weekday loaded vehicles =	1,000 loaded vehicles
Total annual weekend loaded vehicles =	50 loaded vehicles
Total =	1050 loaded vehicles / 2,100 veh movements
Average annual daily traffic generation =	5.75 heavy vehicle trips per day (ie 2100 / 365)

In addition, the proposal may generate 1-2 light vehicle trips per day.

Repeater Station Road Traffic Estimate (AADT)

Weekly Vehicle Trips

Monday – Friday:	170 trips per day
Saturday – Sunday:	380 trips per day
Weekly Total Trips:	1,610 trips

Annual Trips:	83,720 trips
Average Daily Traffic:	230 (229.37) trips (AADT)

The above AADT estimates for Repeater Station Road is conservative as it does not account for school holiday periods and public holidays, where traffic volumes are similar too weekend traffic.

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Notwithstanding the above, it is noted that there are only isolated sections of Repeater Station Road where the width reduces to less than six metres, however there is provision for two opposing vehicles to pass satisfactorily. In the context of Austroads Part 3, there is already a need to widen the road to 6.2 metres under existing traffic conditions, particularly on weekends. However, consideration should be given to the sensitive environmental conditions and the associated heightened awareness of drivers. In this context, it would not be appropriate to carry out works simply to comply with the recommendations of Austroads Part 3, but rather any upgrades should be assessed on an individual basis.

The proposal will not have a significant impact upon existing traffic volume and therefore does not contribute to the need for widening.

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6.0 PROPOSED ACCESS ARRANGEMENTS

Upon inspection of the site, RTE recommended to the Applicant that the northern driveway be used for entry movements, and the southern driveway for exit movements. The southern driveway could also be used for entry movements if required.

The southern driveway provides over 100 metres sight distance viewing to the north and approximately 83 metres viewing to the south. Some vegetation pruning is required to achieve the 83 metres to the south. These distances comply with the requirements of AS2890.2: 2002 for a 60 Km / Hr design speed. As indicated by the TDC traffic data, the surveyed 85th percentile speed was approximately 58 Km / Hr. From our inspection, it is estimated that the speed of vehicles approaching the southern driveway from the south is significantly less than 58 Km / Hr. The areas where vegetation pruning may be required are shown in Appendix C.

As shown in Figure 6.1, the proposed delivery vehicle will be able to turn left into the site, circulate through the site and turn right out onto Repeater Station Road satisfactorily. Inspection of the site indicates that the southern driveway can be regraded so that a transition grade of 1:8 is provided along the verge before entering the site.

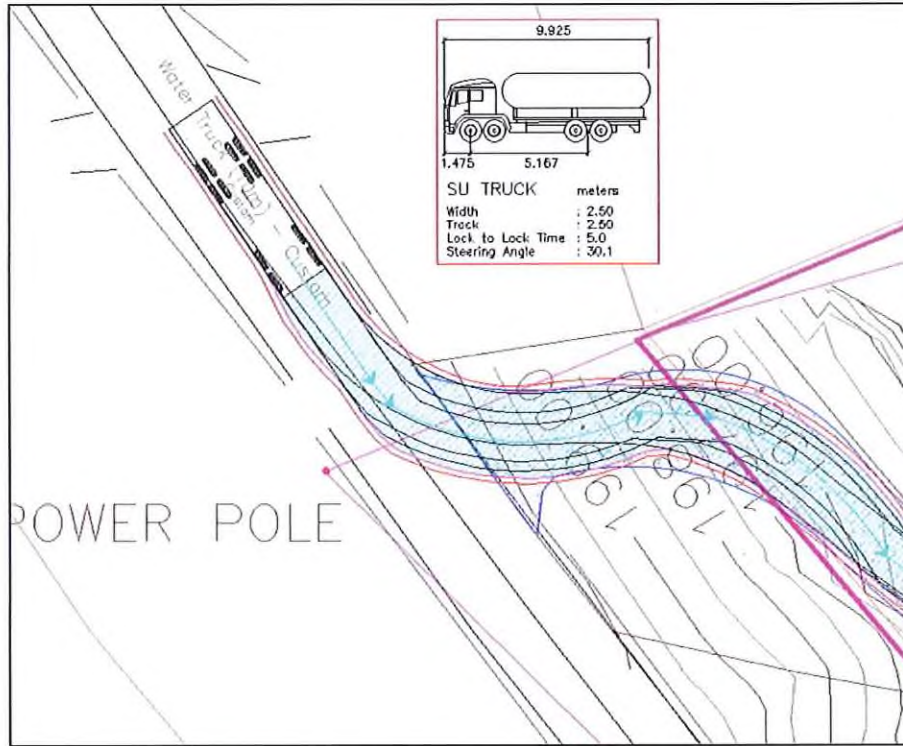


FIGURE 6.1 – 9.9 METRE SINGLE UNIT TRUCK ON-SITE MANOEUVRING

7.0 ROAD SAFETY ASSESSMENT

In accordance with Table 6.4 of the Guide to Traffic Impact Assessment, a Road Safety Assessment is not warranted. As discussed in section 1, the traffic generation of the proposed use will be well less than 5% of existing volumes on any section of the surrounding State controlled road network.

8.0 SUMMARY OF FINDINGS AND CONCLUSIONS

- The subject site is identified as Lot 36 on RP139816 and has an approximate site area of 4.15 hectares. It is intended that a dwelling will be constructed on the site, which will be occupied by the owner / operator.
- The proposal is for a commercial groundwater extraction operation, with the intent to sell the water to Gold Coast and Brisbane based spring water suppliers. It is proposed that deliveries be made using 8.8 metre and 10 metre long rigid trucks.
- Repeater Station Road has a length of approximately 3.8 kilometres and provides access to adjoining residential properties and the "Best of All Lookout", where the road terminates. The "Best of All Lookout" is a tourist attraction and is most popular on weekends and during holiday periods. Repeater Station Road generally has a pavement width of at least 6 metres for the first 1.2 kilometres from the Springbrook Road intersection. It then reduces to approximately 5.5 metres to the subject site. An unsealed shoulder on each side has a varying width of approximately 0.8 – 1.5 metres.
- Recent traffic counts indicate that Repeater Station Road currently carries in the order of 170 vehicles per day on a typical weekday, and 380 vehicles per day on a typical Saturday. During the Saturday period, peak traffic volumes occur around the lunchtime period as this is the peak time for tourists to visit the mountain.
- It is proposed that the use will generate up to 16 heavy vehicle movements per day (i.e. 8 x loaded vehicles / 8 x unloaded vehicles). However, this will depend on demand and the average traffic generation rate is expected to be less than this, particularly on the basis that the use will be operated by a one person (the owner). It is proposed that deliveries be made using 8.8 metre and 10 metre long rigid trucks. Assuming the proposed maximum number of loads, the demand equates to less than one loaded vehicle movement per hour on Repeater Station Road and less than two vehicle movements.
- Upon inspection of the site, RTE recommended to the Applicant that the northern driveway be used for entry movements, and the southern driveway for exit movements. The southern driveway could also be used for entry movements is required. The southern driveway provides over 100 metres sight distance viewing to the north and approximately 83 metres viewing to the south. Some vegetation pruning is required to achieve the 83 metres to the south. These distances comply with the requirements of AS2890.2: 2002 for a 60 Km / Hr design speed.



-
- Whilst there are some sections of the road which narrow to less than the ideal width for two vehicles to pass, visibility is satisfactory and there is provision for two vehicles to pass at each end of these sections. Notwithstanding this, it is recommended that the following traffic management measures be implemented:
 - A truck warning sign should be implemented in each approach to the proposed subject site. The signage should be implemented in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).
 - Operating hours be restricted to 6:30am-5:00pm Monday to Friday and 6:30am-10:00am on Saturdays with no operations on public holidays.
 - The proposal will only have a minor impact upon the State controlled road network and does not trigger the need for a detailed assessment for any of the categories described in Figure 6.4 of the TMR GTIA.

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APPENDICES

APPENDIX A – IMAGES OF REPEATER STATION ROAD

APPENDIX B – TRAFFIC COUNT DATA

APPENDIX C – PROPOSED DRIVEWAY ADJUSTMENT AND ANALYSIS

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APPENDIX A – IMAGES OF REPEATER STATION ROAD



Typical cross section (northern end of Repeater Station Road)



Southbound approach to series of curves

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Southbound approach to Lyrebird Ridge Road intersection



Section immediately south of Lyrebird Ridge Rd intersection

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Approach to curve



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Existing Truck warning sign in southbound approach to curve



Clear sight line available through narrow section

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Sufficient width available for two vehicles to pass safely in low speed environment



Sufficient width available for two vehicles to pass before curve.

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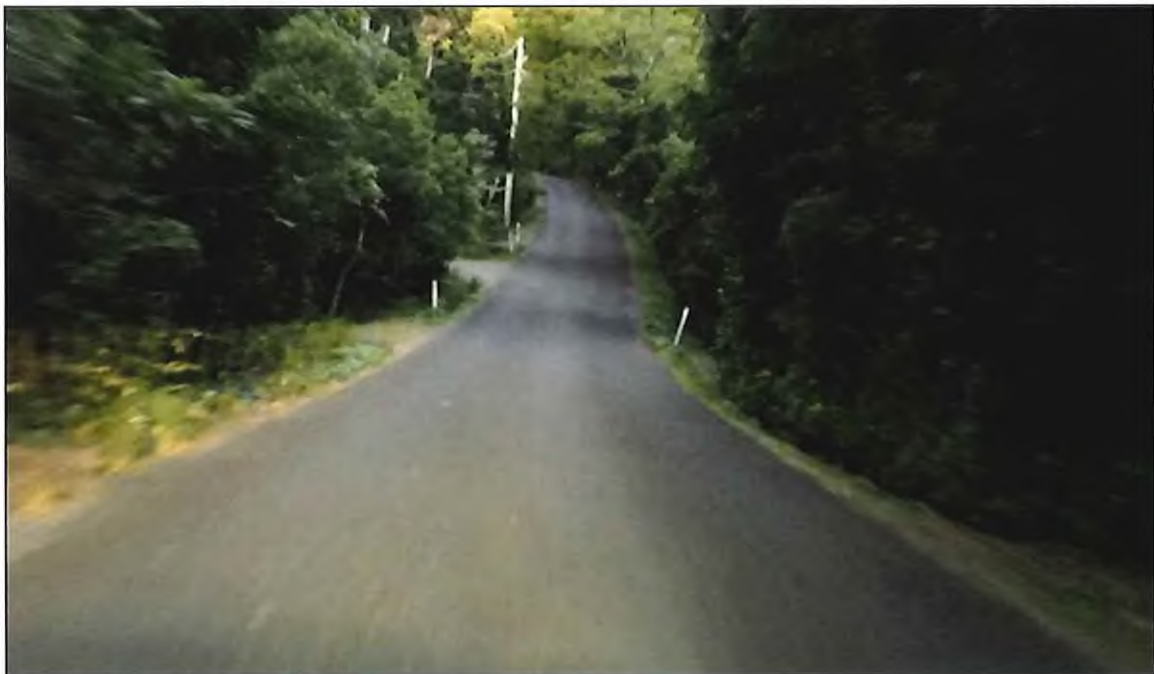
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APPENDIX B – SURVEYED TRAFFIC VOLUMES AND VOLUME SPEEDS ON REPEATER STATION RD

ADJACENT TO THE SITE (TDC – AUGUST 2017)

Springbrook Automatic Report

Site Name - Site 1
 Description - Repeater Station Rd, Springbrook [60]
 Direction - Northbound



Thursday, 10 August 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile
0000	0	0	0	0	-	-
0015	0	0	0	0	-	-
0030	0	0	0	0	-	-
0045	0	0	0	0	-	-
0100	0	0	0	0	-	-
0115	0	0	0	0	-	-
0130	0	0	0	0	-	-
0145	0	0	0	0	-	-
0200	0	0	0	0	-	-
0215	0	0	0	0	-	-
0230	0	0	0	0	-	-
0245	1	1	0	0	59.3	-
0300	0	0	0	0	-	-
0315	0	0	0	0	-	-
0330	0	0	0	0	-	-
0345	0	0	0	0	-	-
0400	0	0	0	0	-	-
0415	0	0	0	0	-	-
0430	0	0	0	0	-	-
0445	0	0	0	0	-	-
0500	0	0	0	0	-	-
0515	0	0	0	0	-	-
0530	0	0	0	0	-	-
0545	0	0	0	0	-	-
0600	0	0	0	0	-	-
0615	0	0	0	0	-	-
0630	0	0	0	0	-	-
0645	0	0	0	0	-	-
0700	0	0	0	0	-	-
0715	1	1	0	0	39.8	-
0730	0	0	0	0	-	-
0745	0	0	0	0	-	-
0800	0	0	0	0	-	-
0815	0	0	0	0	-	-
0830	0	0	0	0	-	-
0845	0	0	0	0	-	-
0900	0	0	0	0	-	-
0915	0	0	0	0	-	-
0930	2	2	0	0	48.5	-
0945	1	1	0	0	71.7	-
1000	0	0	0	0	-	-
1015	0	0	0	0	-	-
1030	2	2	0	0	50.6	-
1045	1	1	0	0	85.3	-
1100	2	1	1	0	47.4	-

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1115	1	1	0	0	47.3	-
1130	4	4	0	0	47.7	-
1145	3	3	0	0	65.8	-
1200	3	2	1	0	45.7	-
1215	3	3	0	0	43.7	-
1230	5	5	0	0	46.9	-
1245	2	2	0	0	53.2	-
1300	1	1	0	0	49.8	-
1315	2	2	0	0	44.9	-
1330	2	2	0	0	34.5	-
1345	4	4	0	0	43.3	-
1400	6	6	0	0	49	-
1415	6	6	0	0	51	-
1430	1	1	0	0	49.6	-
1445	4	4	0	0	46.8	-
1500	2	1	1	0	54.2	-
1515	2	2	0	0	54.2	-
1530	2	2	0	0	43.7	-
1545	2	2	0	0	60.4	-
1600	1	1	0	0	63.8	-
1615	6	6	0	0	51.8	-
1630	3	2	1	0	48.2	-
1645	1	1	0	0	43.7	-
1700	2	2	0	0	51.5	-
1715	1	1	0	0	42.9	-
1730	1	1	0	0	51.4	-
1745	1	1	0	0	47.4	-
1800	0	0	0	0	-	-
1815	0	0	0	0	-	-
1830	1	1	0	0	41	-
1845	1	1	0	0	45.5	-
1900	0	0	0	0	-	-
1915	0	0	0	0	-	-
1930	0	0	0	0	-	-
1945	0	0	0	0	-	-
2000	0	0	0	0	-	-
2015	1	1	0	0	61.4	-
2030	0	0	0	0	-	-
2045	0	0	0	0	-	-
2100	0	0	0	0	-	-
2115	0	0	0	0	-	-
2130	0	0	0	0	-	-
2145	0	0	0	0	-	-
2200	0	0	0	0	-	-
2215	0	0	0	0	-	-
2230	0	0	0	0	-	-
2245	0	0	0	0	-	-
2300	0	0	0	0	-	-
2315	0	0	0	0	-	-
2330	0	0	0	0	-	-
2345	0	0	0	0	-	-
07-09	1	1	0	0	39.8	-
09-16	63	60	3	0	49.8	56.6
16-18	16	15	1	0	50.5	56.6
00-00	84	80	4	0	49.9	56.6

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Springbrook Automatic Report

Site Name - Site 1
 Description - Repeater Station Rd, Springbrook [60]
 Direction - Southbound



Thursday, 10 August 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	0	0	0	0	0	-		
0015	0	0	0	0	0	-		
0030	0	0	0	0	0	-		
0045	0	0	0	0	0	-		
0100	0	0	0	0	0	-		
0115	0	0	0	0	0	-		
0130	0	0	0	0	0	-		
0145	1	1	0	0	66.3	-		
0200	0	0	0	0	0	-		
0215	0	0	0	0	0	-		
0230	0	0	0	0	0	-		
0245	0	0	0	0	0	-		
0300	0	0	0	0	0	-		
0315	0	0	0	0	0	-		
0330	0	0	0	0	0	-		
0345	0	0	0	0	0	-		
0400	0	0	0	0	0	-		
0415	0	0	0	0	0	-		
0430	0	0	0	0	0	-		
0445	0	0	0	0	0	-		
0500	0	0	0	0	0	-		
0515	0	0	0	0	0	-		
0530	0	0	0	0	0	-		
0545	0	0	0	0	0	-		
0600	0	0	0	0	0	-		
0615	0	0	0	0	0	-		
0630	1	1	0	0	49.3	-		
0645	0	0	0	0	0	-		
0700	0	0	0	0	0	-		
0715	0	0	0	0	0	-		
0730	0	0	0	0	0	-		
0745	0	0	0	0	0	-		
0800	0	0	0	0	0	-		
0815	0	0	0	0	0	-		
0830	0	0	0	0	0	-		
0845	0	0	0	0	0	-		
0900	2	2	0	0	53.7	-		
0915	2	2	0	0	59.3	-		
0930	0	0	0	0	0	-		
0945	0	0	0	0	0	-		
1000	1	1	0	0	50.1	-		
1015	3	2	1	0	43.4	-		
1030	1	1	0	0	55.5	-		
1045	0	0	0	0	0	-		
1100	3	3	0	0	43.8	-		

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1115	1	1	0	0	67.4 -		
1130	7	5	2	0	42.7 -		
1145	1	1	0	0	54.6 -		
1200	4	4	0	0	41.6 -		
1215	2	2	0	0	52.6 -		
1230	1	1	0	0	47.7 -		
1245	2	2	0	0	52.8 -		
1300	3	2	1	0	49 -		
1315	5	5	0	0	45.6 -		
1330	5	5	0	0	47.9 -		
1345	5	5	0	0	49.5 -		
1400	3	3	0	0	49.7 -		
1415	3	3	0	0	49.7 -		
1430	2	1	1	0	57.8 -		
1445	2	2	0	0	47.9 -		
1500	1	1	0	0	65.8 -		
1515	3	3	0	0	47.7 -		
1530	4	4	0	0	51 -		
1545	2	2	0	0	50.5 -		
1600	3	2	1	0	50.3 -		
1615	5	5	0	0	50.3 -		
1630	0	0	0	0	-		
1645	0	0	0	0	-		
1700	1	1	0	0	43.6 -		
1715	0	0	0	0	-		
1730	1	1	0	0	43 -		
1745	0	0	0	0	-		
1800	1	1	0	0	75.9 -		
1815	1	1	0	0	41.6 -		
1830	1	1	0	0	62.5 -		
1845	1	1	0	0	42.8 -		
1900	0	0	0	0	-		
1915	0	0	0	0	-		
1930	0	0	0	0	-		
1945	0	0	0	0	-		
2000	0	0	0	0	-		
2015	0	0	0	0	-		
2030	0	0	0	0	-		
2045	0	0	0	0	-		
2100	0	0	0	0	-		
2115	0	0	0	0	-		
2130	0	0	0	0	-		
2145	0	0	0	0	-		
2200	0	0	0	0	-		
2215	0	0	0	0	-		
2230	0	0	0	0	-		
2245	0	0	0	0	-		
2300	0	0	0	0	-		
2315	0	0	0	0	-		
2330	0	0	0	0	-		
2345	1	1	0	0	45.1 -		
07-09	0	0	0	0	-		
09-16	68	63	5	0	48.9	57.2	
16-18	10	9	1	0	48.9 -		
00-00	85	79	6	0	49.4	58.2	

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SATURDAY

Springbrook Automatic Report

Site Name - Site 1
 Description - Repeater Station Rd, Springbrook [60]
 Direction - Northbound



Saturday, 12 August 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	0	0	0	0	-	-		
0015	0	0	0	0	-	-		
0030	0	0	0	0	-	-		
0045	0	0	0	0	-	-		
0100	0	0	0	0	-	-		
0115	0	0	0	0	-	-		
0130	0	0	0	0	-	-		
0145	0	0	0	0	-	-		
0200	0	0	0	0	-	-		
0215	0	0	0	0	-	-		
0230	0	0	0	0	-	-		
0245	0	0	0	0	-	-		
0300	0	0	0	0	-	-		
0315	0	0	0	0	-	-		
0330	0	0	0	0	-	-		
0345	0	0	0	0	-	-		
0400	0	0	0	0	-	-		
0415	0	0	0	0	-	-		
0430	0	0	0	0	-	-		
0445	0	0	0	0	-	-		
0500	0	0	0	0	-	-		
0515	0	0	0	0	-	-		
0530	0	0	0	0	-	-		
0545	0	0	0	0	-	-		
0600	0	0	0	0	-	-		
0615	0	0	0	0	-	-		
0630	1	1	0	0	50.1	-		
0645	0	0	0	0	-	-		
0700	1	1	0	0	44.6	-		
0715	0	0	0	0	-	-		
0730	0	0	0	0	-	-		
0745	2	2	0	0	60.3	-		
0800	0	0	0	0	-	-		
0815	0	0	0	0	-	-		
0830	0	0	0	0	-	-		
0845	0	0	0	0	-	-		
0900	3	3	0	0	46.9	-		
0915	2	1	1	0	56.2	-		
0930	2	2	0	0	42.7	-		
0945	2	2	0	0	52.3	-		
1000	0	0	0	0	-	-		
1015	3	3	0	0	57.7	-		
1030	1	1	0	0	44.1	-		
1045	3	3	0	0	49.5	-		
1100	3	2	1	0	51.5	-		

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1115	2	2	0	0	58.7 -		
1130	5	5	0	0	51.4 -		
1145	11	9	2	0	52.8	65.6	
1200	4	4	0	0	45.4 -		
1215	4	4	0	0	52.9 -		
1230	5	5	0	0	51.8 -		
1245	5	5	0	0	53.1 -		
1300	8	8	0	0	52.9 -		
1315	5	4	1	0	52 -		
1330	5	5	0	0	54.7 -		
1345	8	8	0	0	48.8 -		
1400	10	10	0	0	46.5 -		
1415	6	6	0	0	50.3 -		
1430	12	12	0	0	48.4	57.4	
1445	5	5	0	0	44.6 -		
1500	8	8	0	0	45.8 -		
1515	7	7	0	0	52.5 -		
1530	8	8	0	0	49 -		
1545	8	8	0	0	43.4 -		
1600	9	9	0	0	46.8 -		
1615	6	5	1	0	48.8 -		
1630	7	7	0	0	52.9 -		
1645	4	4	0	0	47.7 -		
1700	4	4	0	0	56 -		
1715	4	4	0	0	45.6 -		
1730	3	3	0	0	51.7 -		
1745	0	0	0	0	-		
1800	1	1	0	0	40.1 -		
1815	1	1	0	0	54.6 -		
1830	0	0	0	0	-		
1845	0	0	0	0	-		
1900	0	0	0	0	-		
1915	0	0	0	0	-		
1930	0	0	0	0	-		
1945	0	0	0	0	-		
2000	0	0	0	0	-		
2015	0	0	0	0	-		
2030	0	0	0	0	-		
2045	1	1	0	0	56.2 -		
2100	0	0	0	0	-		
2115	0	0	0	0	-		
2130	0	0	0	0	-		
2145	0	0	0	0	-		
2200	0	0	0	0	-		
2215	0	0	0	0	-		
2230	0	0	0	0	-		
2245	0	0	0	0	-		
2300	0	0	0	0	-		
2315	0	0	0	0	-		
2330	1	1	0	0	68 -		
2345	0	0	0	0	-		
07-09	3	3	0	0	55 -		
09-16	145	140	5	0	49.8	57.3	
16-18	37	36	1	0	49.6	56.5	
00-00	190	184	6	0	50	57.3	

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Springbrook Automatic Report

Site Name - Site 1
 Description - Repeater Station Rd, Springbrook [60]
 Direction - Southbound



Saturday, 12 August 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	0	0	0	0	0	-		
0015	0	0	0	0	0	-		
0030	0	0	0	0	0	-		
0045	0	0	0	0	0	-		
0100	0	0	0	0	0	-		
0115	0	0	0	0	0	-		
0130	0	0	0	0	0	-		
0145	0	0	0	0	0	-		
0200	0	0	0	0	0	-		
0215	0	0	0	0	0	-		
0230	0	0	0	0	0	-		
0245	0	0	0	0	0	-		
0300	0	0	0	0	0	-		
0315	0	0	0	0	0	-		
0330	0	0	0	0	0	-		
0345	0	0	0	0	0	-		
0400	0	0	0	0	0	-		
0415	0	0	0	0	0	-		
0430	0	0	0	0	0	-		
0445	0	0	0	0	0	-		
0500	0	0	0	0	0	-		
0515	0	0	0	0	0	-		
0530	0	0	0	0	0	-		
0545	1	1	0	0	51.5	-		
0600	1	1	0	0	44	-		
0615	0	0	0	0	0	-		
0630	0	0	0	0	0	-		
0645	0	0	0	0	0	-		
0700	0	0	0	0	0	-		
0715	0	0	0	0	0	-		
0730	0	0	0	0	0	-		
0745	3	3	0	0	56.8	-		
0800	1	1	0	0	49.2	-		
0815	0	0	0	0	0	-		
0830	1	1	0	0	36.1	-		
0845	1	1	0	0	48.6	-		
0900	1	0	1	0	56.7	-		
0915	3	3	0	0	54.3	-		
0930	0	0	0	0	0	-		
0945	4	4	0	0	43.9	-		
1000	3	2	1	0	48.4	-		
1015	2	1	1	0	60.2	-		
1030	3	3	0	0	55.1	-		
1045	4	4	0	0	51.6	-		
1100	3	3	0	0	50.7	-		

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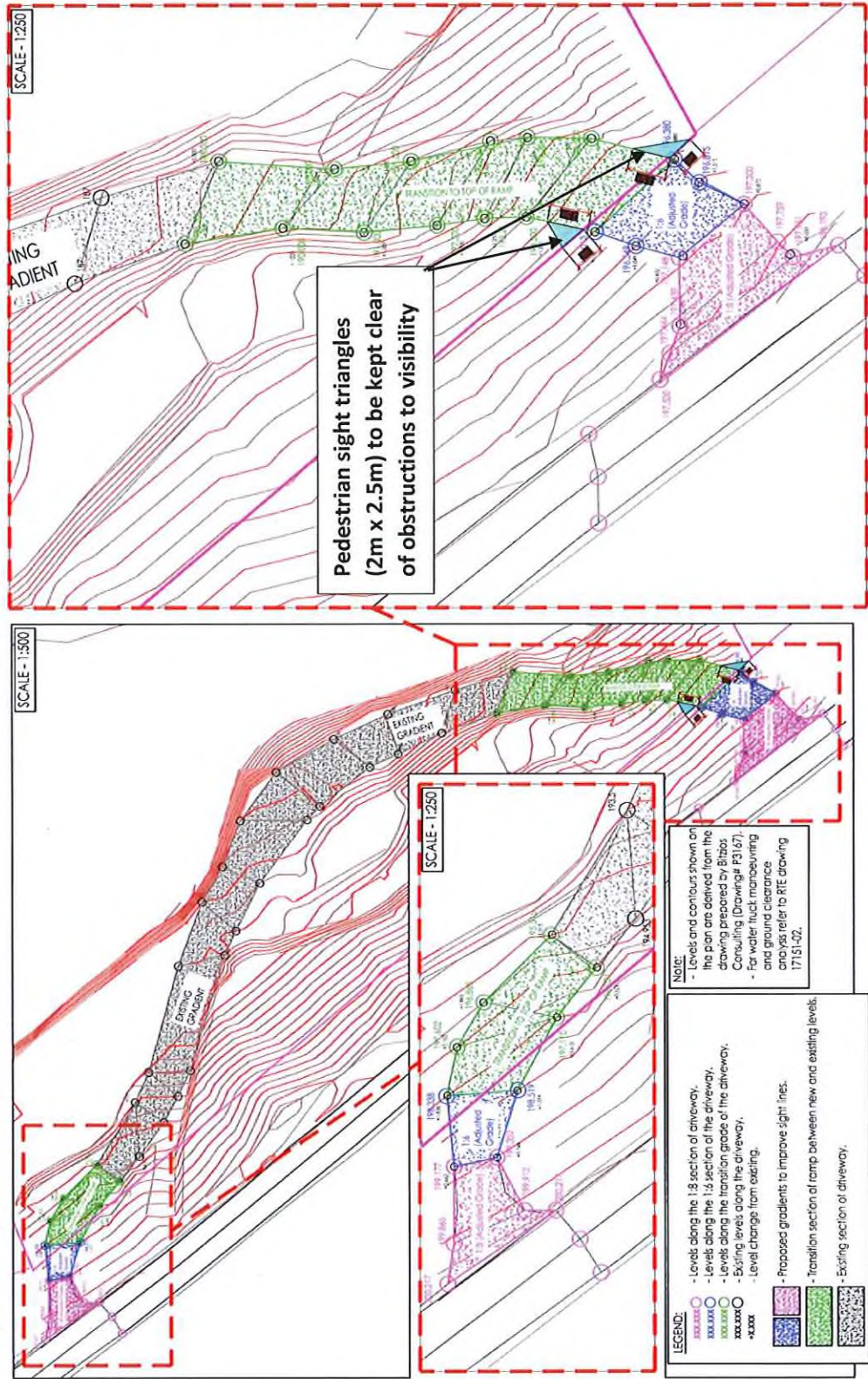
1115	8	6	2	0	50.7 -		
1130	3	3	0	0	51.3 -		
1145	6	6	0	0	54.1 -		
1200	3	3	0	0	53.7 -		
1215	6	6	0	0	51 -		
1230	5	5	0	0	53.1 -		
1245	7	6	1	0	52.3 -		
1300	7	7	0	0	44.8 -		
1315	6	6	0	0	52.9 -		
1330	8	8	0	0	45.4 -		
1345	12	12	0	0	50	56.5	
1400	8	8	0	0	46.1 -		
1415	7	7	0	0	43.9 -		
1430	8	8	0	0	47 -		
1445	5	5	0	0	42.3 -		
1500	11	11	0	0	49.6	60.2	
1515	7	7	0	0	46.9 -		
1530	9	9	0	0	47.5 -		
1545	4	3	1	0	43.9 -		
1600	7	7	0	0	47 -		
1615	8	7	1	0	50.9 -		
1630	4	4	0	0	51.3 -		
1645	4	4	0	0	53 -		
1700	2	2	0	0	51.1 -		
1715	0	0	0	0 -	-		
1730	0	0	0	0 -	-		
1745	0	0	0	0 -	-		
1800	1	1	0	0	50 -		
1815	0	0	0	0 -	-		
1830	0	0	0	0 -	-		
1845	0	0	0	0 -	-		
1900	0	0	0	0 -	-		
1915	0	0	0	0 -	-		
1930	0	0	0	0 -	-		
1945	0	0	0	0 -	-		
2000	0	0	0	0 -	-		
2015	1	1	0	0	49.1 -		
2030	0	0	0	0 -	-		
2045	0	0	0	0 -	-		
2100	0	0	0	0 -	-		
2115	0	0	0	0 -	-		
2130	0	0	0	0 -	-		
2145	0	0	0	0 -	-		
2200	0	0	0	0 -	-		
2215	0	0	0	0 -	-		
2230	0	0	0	0 -	-		
2245	0	0	0	0 -	-		
2300	0	0	0	0 -	-		
2315	1	1	0	0	35 -		
2330	0	0	0	0 -	-		
2345	0	0	0	0 -	-		
07-09	6	6	0	0	50.7 -		
09-16	153	146	7	0	49	55.8	
16-18	25	24	1	0	50.2	58	
00-00	189	181	8	0	49.2	56	

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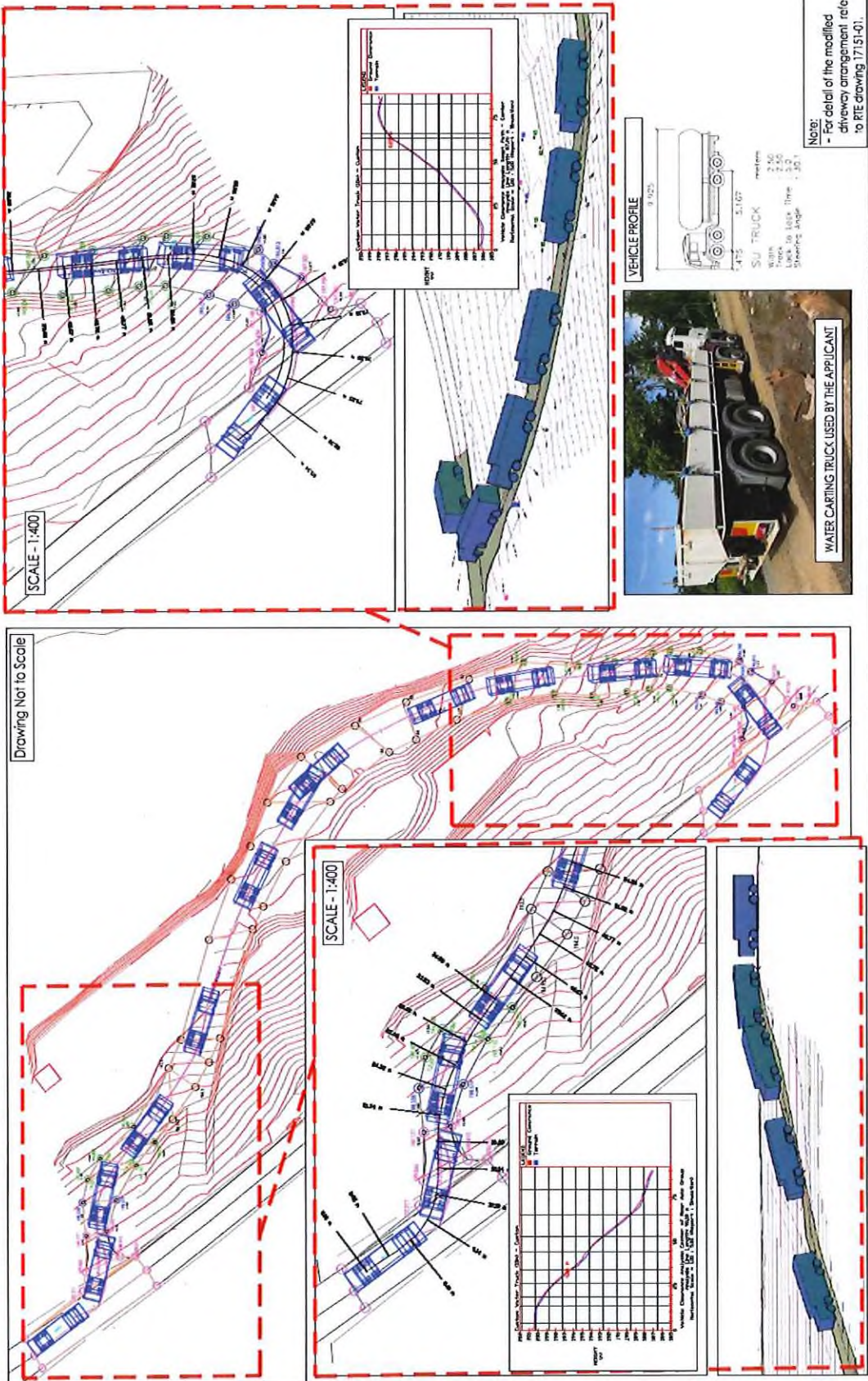


APPENDIX C – PROPOSED DRIVEWAY ADJUSTMENT AND ANALYSIS

PROPOSED DRIVEWAY GRADES



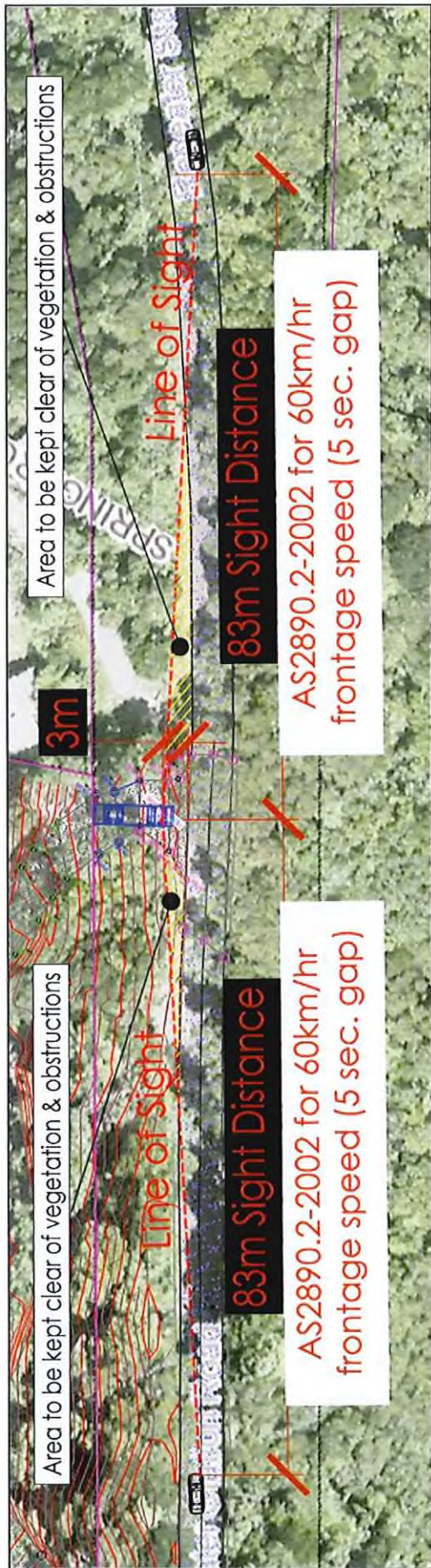
CUSTOM WATER TRUCK MANOEUVRING



Note:
- For detail of the modified driveway arrangement refer to RIE drawing 17151-01.



SIGHT DISTANCE ANALYSIS





EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 03-Nov-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	77
Listed Migratory Species:	14

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	20
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	2
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [\[Resource Information \]](#)

Name	State	Legal Status
Gondwana Rainforests of Australia	QLD	Declared property

National Heritage Places [\[Resource Information \]](#)

Name	State	Legal Status
Natural Gondwana Rainforests of Australia	NSW	Listed place

Listed Threatened Ecological Communities [\[Resource Information \]](#)

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Dunn's white gum (Eucalyptus dunnii) moist forest in north-east New South Wales and south-east Queensland	Endangered	Community may occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species [\[Resource Information \]](#)

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat may occur within area
Atrichornis rufescens Rufous Scrub-bird [655]	Endangered	Species or species habitat likely to occur within area

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Scientific Name LEX 78180	Threatened Category Document 3	Presence Text	Attachment C
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat likely to occur within area	
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat likely to occur within area	
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area	
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	

LEX 78180

Document 3

[Rostratula australis](#)

Australian Painted Snipe [77037]

Endangered

Species or species habitat likely to occur within area

[Stagonopleura guttata](#)

Diamond Firetail [59398]

Vulnerable

Species or species habitat may occur within area

[Turnix melanogaster](#)

Black-breasted Button-quail [923]

Vulnerable

Species or species habitat likely to occur within area

CRUSTACEAN

[Euastacus madae](#)

Hinterland Spiny Crayfish, Hinterland Crayfish [86603]

Critically Endangered

Species or species habitat likely to occur within area

FROG

[Assa darlingtoni](#)

Pouched Frog [1965]

Vulnerable

Species or species habitat known to occur within area

[Mixophyes balbus](#)

Stuttering Frog, Southern Barred Frog (in Victoria) [1942]

Vulnerable

Species or species habitat may occur within area

[Mixophyes fleayi](#)

Fleay's Frog [25960]

Endangered

Species or species habitat likely to occur within area

[Mixophyes iteratus](#)

Giant Barred Frog, Southern Barred Frog [1944]

Vulnerable

Species or species habitat likely to occur within area

INSECT

[Argynnis hyperbius inconstans](#)

Australian Fritillary [88056]

Critically Endangered

Species or species habitat may occur within area

[Phyllodes imperialis smithersi](#)

Pink Underwing Moth [86084]

Endangered

Species or species habitat may occur within area

MAMMAL

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Scientific Name LEX 78180	Threatened Category Document 3	Presence Text	Attachment C
Antechinus arktos Black-tailed Antechinus [88217]	Endangered	Species or species habitat known to occur within area	
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area	
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area	
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	
Potorous tridactylus tridactylus Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat likely to occur within area	
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	
Pseudomys oralis Hastings River Mouse, Koontoo [98]	Endangered	Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
LEX 78180 Pteropus poliocephalus	Document 3	Attachment C
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
PLANT		
Arthraxon hispidus		
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area
Baloghia marmorata		
Marbled Balogia, Jointed Baloghia [8463]	Vulnerable	Species or species habitat may occur within area
Bosistoa transversa		
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
Bulbophyllum globuliforme		
Miniature Moss-orchid, Hoop Pine Orchid [6649]	Vulnerable	Species or species habitat may occur within area
Clematis fawcettii		
Stream Clematis [4311]	Vulnerable	Species or species habitat likely to occur within area
Coleus nitidus listed as Plectranthus nitidus		
Nightcap Plectranthus, Silver Plectranthus [91380]	Endangered	Species or species habitat likely to occur within area
Cryptocarya foetida		
Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat may occur within area
Cryptostylis hunteriana		
Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area
Cynanchum elegans		
White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area
Diospyros mabacea		
Red-fruited Ebony, Silky Persimmon, Ebony [18548]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text	Attachment C
LEX 78180 Diploglottis campbellii Small-leaved Tamarind [21484]	Endangered	Species or species habitat likely to occur within area	
Elaeocarpus williamsianus Hairy Quandong [8956]	Endangered	Species or species habitat may occur within area	
Endiandra floydii Floyd's Walnut, Crystal Creek Walnut [52955]	Endangered	Species or species habitat likely to occur within area	
Endiandra hayesii Rusty Rose Walnut, Velvet Laurel [13866]	Vulnerable	Species or species habitat likely to occur within area	
Floydia praealta Ball Nut, Possum Nut, Big Nut, Beefwood [15762]	Vulnerable	Species or species habitat known to occur within area	
Fontainea australis Southern Fontainea [24037]	Vulnerable	Species or species habitat known to occur within area	
Gaultheria viridicarpa Green Waxberry [87380]	Endangered	Species or species habitat likely to occur within area	
Leichhardtia longiloba listed as Marsdenia longiloba Clear Milkvine [91911]	Vulnerable	Species or species habitat likely to occur within area	
Lenwebbia sp. Main Range (P.R.Sharpe+ 4877) [87240]	Critically Endangered	Species or species habitat likely to occur within area	
Lepidium peregrinum Wandering Pepper-cress [14035]	Endangered	Species or species habitat may occur within area	
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat likely to occur within area
Ochrosia moorei Southern Ochrosia [11350]	Endangered	Species or species habitat known to occur within area
Owenia cepiodora Onionwood, Bog Onion, Onion Cedar [11344]	Vulnerable	Species or species habitat may occur within area
Ozothamnus vagans Wollumbin Dogwood [56207]	Vulnerable	Species or species habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Pterostylis bicornis [9074]	Vulnerable	Species or species habitat may occur within area
Rhodamnia maideniana Smooth Scrub Turpentine [20665]	Critically Endangered	Species or species habitat known to occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat likely to occur within area
Sarcochilus fitzgeraldii Ravine Orchid [19131]	Vulnerable	Species or species habitat known to occur within area
Sarcochilus hartmannii Waxy Sarcochilus, Blue Knob Orchid [4124]	Vulnerable	Species or species habitat may occur within area

LEX 78180

Document 3

Attachment C

Released under the FOI Act 1982

LEX 78180 Sophora fraseri [8836]	Vulnerable	Species or species habitat likely to occur within area
Symplocos baeuerlenii Small-leaved Hazelwood, Shrubby Hazelwood [19010]	Vulnerable	Species or species habitat known to occur within area
Syzygium hodgkinsoniae Smooth-bark Rose Apple, Red Lilly Pilly [3539]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Vincetoxicum woollsii listed as Tylophora woollsii [40080]	Endangered	Species or species habitat likely to occur within area
Westringia rupicola [18260]	Vulnerable	Species or species habitat likely to occur within area

REPTILE

Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat likely to occur within area
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
Harrisoniascincus zia Rainforest Cool-skink [84785]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species	[Resource Information]	
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		

Scientific Name	Threatened Category	Presence Text
^{LEX 78180} Apus pacificus Fork-tailed Swift [678]	^{Document 3}	Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area

Scientific Name <small>LEX 78180</small>	Threatened Category <small>Document 3</small>	Presence Text	Attachment C
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area	
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	

Other Matters Protected by the EPBC Act

Commonwealth Lands [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Defence	
Defence - VHF REPEATER STATION [31845]	QLD

Listed Marine Species [\[Resource Information \]](#)

Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area

Scientific Name LEX 78180	Threatened Category Document 3	Presence Text Attachment C
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area

[Myiagra cyanoleuca](#)

Satin Flycatcher [612]

Species or species habitat known to occur within area overfly marine area

[Numenius madagascariensis](#)

Eastern Curlew, Far Eastern Curlew [847]

Critically Endangered

Species or species habitat may occur within area

[Pterodroma cervicalis](#)

White-necked Petrel [59642]

Species or species habitat may occur within area

[Rhipidura rufifrons](#)

Rufous Fantail [592]

Species or species habitat known to occur within area overfly marine area

[Rostratula australis as Rostratula benghalensis \(sensu lato\)](#)

Australian Painted Snipe [77037]

Endangered

Species or species habitat likely to occur within area overfly marine area

[Sterna striata](#)

White-fronted Tern [799]

Migration route may occur within area

[Symposiachrus trivirgatus as Monarcha trivirgatus](#)

Spectacled Monarch [83946]

Species or species habitat known to occur within area overfly marine area

Extra Information

State and Territory Reserves [[Resource Information](#)]

Protected Area Name	Reserve Type	State
Numinbah	Nature Reserve	NSW
Springbrook	National Park	QLD

Regional Forest Agreements [[Resource Information](#)]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State
North East NSW RFA	New South Wales

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Gold Coast Hinterland Great Walk	2004/1529	Controlled Action	Post-Approval
Not controlled action			
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

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s. 22(1)(a)(ii)

From: s22 @edo.org.au <@edo.org.au>
Sent: Thursday, 29 February 2024 3:30 PM
To: Minister Plibersek
Cc: Minister.King@mo.infrastructure.gov.au; Kate GOWLAND; Rana Koroglu
Subject: URGENT - Cth funded infrastructure likely to have a significant impact on the koala - Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade
Attachments: 240229 Ltr to Min Plibersek re Appin Rd - Koalas.pdf; A_Steve Phillips Advice.pdf; B_231221 Letter to Min Graham re Appin Rd Koalas.pdf; C_231129 EDO to TfNSW re Appin Rd Addendum Report.pdf
Importance: High

Some people who received this message don't often get email from s22 @edo.org.au. [Learn why this is important](#)

Dear Minister Plibersek

Please see **attached** letter dated 29 February 2024 and enclosures thereto.

Please don't hesitate to contact me on s22 1 if you have any questions or wish to discuss.

Thank you
 Kind regards

s22



Environmental
 Defenders Office

s22
 (Wed, Thu, Fri)
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I use she/her pronouns.

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Released under the FOI Act 1982



Environmental Defenders Office

Our Ref: RK:NV:S189
Your Ref: MC23-035210

29 February 2024

The Hon Tanya Plibersek MP
Minister for the Environment
PO Box 6022
Parliament House
Canberra ACT 2600

By email only: Minister.Plibersek@dcceew.gov.au

Cc: The Hon Catherine King MP
Minister for Infrastructure, Transport, Regional Development and Local Government

By email only: Minister.King@mo.infrastructure.gov.au

Cc: Kate Gowland
Branch Head, Environment Assessments (NSW and ACT) Branch
Department of Climate Change, Energy, the Environment and Water

By email only: kate.gowland@dcceew.gov.au

URGENT

Dear Minister Plibersek

Action funded by Commonwealth likely to have a significant impact on the endangered koala - Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade (the Activities)

1. We refer to the letter from the Department of Climate Change, Energy, the Environment and Water (**the Department**) dated 5 January 2024 signed by Ms Fiona Beynon, in response to our letter to Minister Plibersek of 7 December 2023.
2. On 18 January 2024, it was publicly announced that the NSW Government had approved the Appin Road Upgrade (Mount Gilead to Ambarvale),¹ despite further expert evidence prepared by Dr Phillips urgently on 20 December 2023, at the request of the NSW Minister for Roads

¹ https://www.transport.nsw.gov.au/system/files/media/documents/2024/Appin-Road-upgrade_community-update_January-2024.pdf

(Minister Graham), confirming Dr Phillips' earlier advice that it **would have a significant impact on Koalas**.² Please find **attached** for your reference, Dr Phillips' 20 December 2023 report and our letter to Minister Graham of 21 December 2023 enclosing this report.

3. Dr Phillips' concludes in his 20 December 2023 report:

In summary, the proposed changes to key connectivity elements still fall demonstrably short of minimum standards that can be derived from an analysis of [Transport for NSW] successful koala crossing data, and hence contradict the statement on page 45 of the Submissions Review that the new structure dimensions being proposed have been 'specifically designed for koalas'; this is because – quite simply- it can now be demonstrated by the data analyses in the [Report of Dr Phillips dated 17 November 2023] that they have not.³

4. Dr Phillips' also relevantly states in relation to the Glen Lorne connectivity structure:

Furthermore, the location of this structure remains in the wrong place and appears to be sited based on tenure convenience more so than common sense ecological principles, which should not be the case. I unreservedly reject the assertions (as posited on page 2 of the Ward Advice and again reiterated Sec 3.4.2 (pages 37-38) of the Submissions Review) that habitat loss required by construction of a more centrally located overpass structure at this key location outweighs the longer-term connectivity benefit to koalas (habitat can easily be regenerated; koala populations not so).

5. Ms Beynon's letter states, "I understand that TfNSW has addressed key concerns raised by Dr Phillips...". We are concerned that it appears that the Department has been misinformed as it is patently incorrect to state that "TfNSW has addressed key concerns raised by Dr Phillips." TfNSW has **not** addressed the key concerns raised by Dr Phillips, despite now being provided with four independent expert reports – the first of which was provided to TfNSW in 2019 - which detail the ameliorative engineering and construction measures that could be undertaken to ensure the Activities, including the now approved Appin Road Upgrade (Mount Gilead to Ambarvale), would no longer be likely to significantly affect the koala.

6. The Department's letter again does not engage substantively with any of the significant issues raised in our 10 October 2023 and 7 December 2023 letters. As previously noted, TfNSW purports to rely on the approval granted on 24 September 2015 by the then Minister under s 146B of the *Environment Protection Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**) for the class of actions set out in the program *Environmental Assessment and Decision-Making by NSW Roads and Maritime Services (Program)*, endorsed on 7 September 2015.⁴ However, as detailed in our 10 October 2023 letter, the Activities as proposed **do not** fall within the approved class of actions because they will not be undertaken in accordance with the Program.

² Together with the Appin Road Safety Improvement works and the Brian Road Intersection Upgrade (**the Activities**). However, we note that Dr Phillips has also advised verbally that the Appin Rd Upgrade alone will have a significant impact on Koalas.

³ The "Submissions Review" referred to above by Dr Phillips is the *Appin Road Upgrade, Mount Gilead to Ambarvale, Addendum Review of Environmental Factors Submissions Report* dated January 2024. Available here: <https://www.transport.nsw.gov.au/system/files/media/documents/2024/Appin-Road-upgrade-Addendum-REF-Submissions-Report-2024-01.pdf>

⁴ Endorsement, approval, and program available at <https://www.dcceew.gov.au/environment/epbc/approvals/strategic-assessments/nsw-roads-and-traffic-management>.

7. Accordingly, in the terms of the instrument of endorsement for the Program, the Activities “are not covered by the approval and therefore may not be taken without further approval under the EPBC Act”.⁵ We respectfully repeat our request that you exercise your power under s 70 of the EPBC Act to request TfNSW to refer the Activities for assessment under the EPBC Act. We note that the Department’s letter of 5 January 2024 did not respond to this request.
8. There is a clear solution available to ensure the critically important Campbelltown koala population is not pushed to extinction. TfNSW must adopt the suite of ameliorative measures set out in paragraph [5] of our letter of 29 November 2023 to TfNSW into the design for the Activities, including for the Appin Road Upgrade, so that the Activities would no longer be likely to significantly affect the koala. A copy of our 29 November 2023 letter to TfNSW is **attached** again for ease of reference. This could be achieved by requiring the adoption of these ameliorative engineering measures, as a condition of the provision of the significant Commonwealth funding for the Appin Road Safety Improvements.
9. We have been advised by TfNSW that the construction of the Appin Road Upgrade is due to commence in late February 2024. Our client respectfully requests again that you immediately act to prevent the construction of the Appin Road Upgrade in its currently approved form. Failure to act immediately will result in the critically important Campbelltown koala population going into decline and likely lead to its eventual extinction. We note there is significant public interest in the protection of this critical koala population. Our client has advised us that its online petition⁶ in relation to the Campbelltown koala population has had over 5,500 actions in response to date.

Thank you for your consideration of this matter. We respectfully request a response to the above by **14 March 2024**. Please contact **s22** @edo.org.au if you have any questions or wish to discuss.

Yours faithfully
Environmental Defenders Office

s22

s22

Special counsel

Enclosures:

- A** Report of Dr Stephen Phillips dated 20 December 2023
- B** Letter to Minister Graham dated 21 December 2023
- C** Letter to TfNSW of 29 November 2023

⁵ See Annexure 1 to the approval, available at <https://www.dcceew.gov.au/sites/default/files/env/pages/d776c7d9-05cc-4e27-a6aa-8a981cd7faf9/files/approval-decision-notice-nsw-roads.pdf>.

⁶ See: <https://action.ifaw.org/page/138510/action/1?locale=en-AU>

The EDO

s22 Special Counsel
Level 8, 6 O'Connell Street,
Sydney NSW 2000 AUSTRALIA

20th December 2023

Dear s22

Re: Proposed Appin Road upgrade

This advice is provided in response to a brief dated 8th December 2023 from The Environmental Defenders Office (EDO) following a virtual meeting with the Minister for Roads Mr. John Graham. This advice now follows three earlier advice reports that I have prepared for the EDO on the matter of the proposed Appin Road upgrade, the first dated the 19th of August 2019, the second the 4th of April 2023, and the third (**the Addendum Advice**) dated 17th of November 2023; this fourth advice should ideally be read in conjunction with the previous three.

In providing the advice that follows I reiterate that I have read and acknowledge compliance with Division 2 of Part 31 of the *Uniform Civil Procedure Rules 2005* (**UCPR**) and the Expert Witness Code of Conduct contained in Schedule 7 of the UCPR and agree to be bound by it.

Prior to the virtual meeting I was provided with a link by EDO Special Counsel to a bundle of documents, amongst which were included:

- i) The *Appin Road Upgrade, Mount Gilead to Ambarvale Addendum Review of Environmental Factors Submissions Report* dated October 2023 (**the Submissions Review**)
- ii) Advice from Dr. Steven Ward to Mark Anderson dated 18th of October 2023 (**the Ward Advice**)
- iii) An upgraded biodiversity assessment from *ecological Australia* to Mark Anderson dated 11th of October 2023 (**the ecological-Australia Advice**).

The EDO brief provided to me on the 8th of December 2023 requested a further Addendum report which addressed the questions set out in my earlier brief dated 8th of December 2022 considering the proposed amendment to the Activities as set out in **the Submissions Review**.

It is apparent from the dates on **the Submissions Review**, **the Ward Advice**, and **the ecological-Australia Advice** that they were prepared prior to receipt of **the Addendum Advice** dated 17th of November 2023. I am instructed by EDO that **the Addendum Advice** was forwarded to TfNSW on the 29th of November 2023, this being the circumstance it is obvious that the authors of the reports

supplied by TfNSW and referred to above did not have time to consider / integrate information provided by **the Addendum Advice**. This is unfortunate because and consistent with the advice provided by the earlier reports I had prepared on this issue, the explicit purpose of **the Addendum Advice** was to objectively assist with further resolution of matters associated with the provision of connectivity structures for koalas in conjunction with the proposed Appin Road upgrade between Gilead and Ambarvale, and at Brian Road to the north of the village of Appin.

My capacity to provide detailed commentary on **the Submissions Review** is limited because of a) the size of the document and b) the turnaround time required of this further advice as agreed to with the Minister. While I am concerned at some of the associated aspects arising from **the Submissions Review** (for example but not limited to matters of obfuscatory referencing, selective data interpretation, delays between road construction and installation of connectivity structures, and default fencing measures at Browns Bush), it is not the intention of this advice to review in detail **the Submissions Review** and the respective advice from Dr. Ward and *ecological Australia*. Rather, the scope of this advice is limited to evaluating aspects of proposed changes to the key connectivity structures at Glen Lorne and Browns Bush.

In my opinion the issue of vehicle-strike, east-west connectivity and the structures that will facilitate safe koala movement are the most important of all the measures being proposed for koalas; the reality being that if these key elements offer no effective utility, the other measures will only function to further compound already existing impacts arising from vehicle-strike and habitat fragmentation, as well as the associated processes of koala population dynamics and longer-term koala population viability. Because of this, it is important that the detail of **the Addendum Advice** is given full consideration, more so because the objective analyses and guidance it contained were based primarily on TfNSW connectivity structures that had successfully been used by koalas; hence the initial concerns as communicated in my advice of 4th of April 2023, are now fully supported by a measured analysis of successful use of over- under-road crossing structures by koalas.

Measures required to resolve the connectivity issues associated with the Appin Road upgrade are detailed in **the Addendum Advice** which additionally offered two metrics for consideration:

1. As a broad rule of thumb, the trendline in Figure 1 of **the Addendum Advice** offered a simple minimum standard test of potential connectivity structure compliance for a given LURT (Length of Under Road Traverse) and thereafter the structural dimensions of the connectivity structure in terms of H (Height)x W (Width) or in the case of round pipes $-\pi \left(\frac{D}{2}\right)^2$, such that any new or proposed connectivity structures should ideally intersect at or above the plotted trendline.

2. As recommended by **the Addendum Advice**, a further metric (the mean Q-value of 0.283), was also proposed as a potential best practice TfNSW specification that would ensure the suitability of under-road koala connectivity structures, not just for the Appin Road upgrade, but for all other projects where the need to ensure connectivity for koalas was a requirement.

The Ward Advice proposed changes to the dimensions of connectivity structures at Glen Lorne and Browns Bush, which in turn are reflected in **the Submissions Review**. The changes to the Glen Lorne structure proposed by **the Ward Advice** result in a reduction in the LURT at this location from 57 m to 54 m and an increase in size of the connectivity structure from a 2.4 m diameter pipe to a 2.4 m x 3 m Reinforced Concrete Box Culvert (RCBC). When considered in terms of **the Addendum Advice** the new dimensions being proposed result in a H x W value of 7.2 and a Q-value of 0.133 both of which fall short of the otherwise required H x W value of 7.8 as indicated by the trendline in Figure 1 of **the Addendum Advice**, as well as the Q-value of 0.283. Furthermore, the location of this structure remains in the wrong place and appears to be sited based on tenure convenience more so than common sense ecological principles, which should not be the case. I unreservedly reject the assertions (as posited on page 2 of **the Ward Advice** and again reiterated Sec 3.4.2 (pages 37-38) of **the Submissions Review**) that habitat loss required by construction of a more centrally located overpass structure at this key location outweighs the longer-term connectivity benefit to koalas (habitat can easily be regenerated; koala populations not so). Moreover, there are ways that habitat loss at this location could be minimised by and amongst other considerations, finalising the location of the overpass structure to minimise loss of key habitat elements such as preferred koala food trees.

In support of the Glen Lorne underpass being located to the south of the vegetated edge of the existing corridor, Table 3-1 on page 35 of **the Submissions Review** offers data from 3 locations on the north coast of NSW as evidence of koalas successfully using connectivity structures at such locations. In the first instance it is relevant that successful use by koalas of the first two structures in Table 3-1 (Pacific Highway, Taree, and Pacific Highway, Broadwater) are predictable because the H x W / LURT intersection values approximate or are located above the trendline in Figure 1 of **the Addendum Advice**, as do those at the third example (Skyline Road). Consistent with the views offered in my 4th of April advice, it is readily accepted by all parties that the Campbelltown koalas are a naturally occurring low-density population (0.05 – 0.07 koalas ha⁻¹). In contrast, koala populations on the north coast tend to occur at densities that are 4 – 5 times higher because of greater diversity / relative abundance of preferred koala food trees. In north coast areas, because of the higher density, there is a much higher probability of koalas encountering connectivity structures on the edges of vegetation than there is in naturally occurring low-density koala populations. Because of this, it is not appropriate for **the**

Submissions Review to imply that factors influencing successful structure use at vegetation edges by medium to high density koala populations are the same for naturally occurring low density koala populations such as occur at Campbelltown.

The Ward Advice also proposed changes to the Browns Bush interim connectivity structure (potential increase in the LURT from 27 m to 30 m, replacement of 2 x 1.2 m round pipes with a single 1.5 x 2.4 m RCBC). When considered in terms of **the Addendum Advice**, the new dimensions being proposed result in a H x W value of 3.6, and a Q-value of 0.12, both of which again fall short of the otherwise required H x W value of 6, and the benchmark Q-value of 0.283 respectively.

In summary, the proposed changes to key connectivity elements still fall demonstrably short of minimum standards that can be derived from an analysis of TfNSW successful koala crossing data, and hence contradict the statement on page 45 of **the Submissions Review** that the new structure dimensions being proposed have been '*...specifically designed for koalas*'; this is because – quite simply – it can now be demonstrated by the data analyses in **the Addendum Advice** that they have not. Because of this circumstance, I again reject the conclusions reached by **the Ward Advice** and **the ecological Australia advice** that the measures being proposed will result in no significant impact on the Campbelltown koala population. To this end, the conclusions and associated recommendations reached in **the Addendum Advice** dated 17th of November 2023 regarding the potential for a significant impact on koalas remain unchanged.

Yours Sincerely

s22

s22



Environmental Defenders Office

Our Ref: RK:NV:S189

Your Ref: 01858297

21 December 2023

The Hon John Graham MLC
Minister for Roads
52 Martin Place
SYDNEY NSW 2000

By email: office@graham.minister.nsw.gov.au

Cc: s22
Executive Assistant
Office of the Hon John Graham MLC

By email: s22@minister.nsw.gov.au

URGENT

Dear Minister Graham

Threat to Campbelltown Koalas – Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade

1. Thank you for meeting with us and Dr Phillips on 8 December 2023.
2. As you are aware, on the evening of Tuesday 5 December 2023, Transport for NSW (**TfNSW**) provided us with the *Appin Road Upgrade, Mount Gilead to Ambarvale, Addendum Review of Environmental Factors Submissions Report*, October 2023 (the **Submissions Review**) and appendices thereto. It was provided to us on a confidential basis, as it is not yet publicly available.
3. As requested at our meeting with you, Dr Phillips has prepared a further independent expert report dated 20 December 2023 in relation to the Submissions Review, a copy of which is **attached** for your consideration. We note that the scope of Dr Phillips' report is necessarily limited to addressing the changes now proposed by TfNSW to the connectivity structures at Glen Lorne and Browns Bush, given the tight timeframe imposed on Dr Phillips at our meeting. However, Dr Phillips notes in his report that there are other serious deficiencies in the Submissions Review. Accordingly, it is in the public interest that the Submissions Review is publicly exhibited after the holiday period to allow for feedback on all aspects covered by the Submissions Review.

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4. Dr Phillips concludes in relation to the connectivity structures proposed at Glen Lorne and Browns Bush:¹

In summary, the proposed changes to key connectivity elements still fall demonstrably short of minimum standards that can be derived from an analysis of TfNSW successful koala crossing data, and hence contradict the statement on page 45 of **the Submissions Review** that the new structure dimensions being proposed have been ‘...*specifically designed for koalas*’; this is because – quite simply – it can now be demonstrated by the data analyses in **the Addendum Advice** that they have not. Because of this circumstance, I again reject the conclusions reached by **the Ward Advice** and **the ecological Australia advice** that the measures being proposed will result in no significant impact on the Campbelltown koala population. To this end, the conclusions and associated recommendations reached in **the Addendum Advice** dated 17th of November 2023 regarding the potential for a significant impact on koalas remain unchanged.

We note that the “Ward Advice” and the “*ecological Australia* advice” referred to by Dr Phillips above are appendices to the Submissions Review. The “Addendum Advice” is the report prepared by Dr Phillips dated 17 November 2023, sent to your office on 29 November 2023 and **attached** to this letter for convenience.

5. In relation to the currently proposed location of the Glen Lorne connectivity structure in an unvegetated area, Dr Phillips relevantly states:²

Furthermore, the location of this structure remains in the wrong place and appears to be sited based on tenure convenience more so than common sense ecological principles, which should not be the case. I unreservedly reject the assertions (as posited on page 2 of the **Ward Advice** and again reiterated Sec 3.4.2 (pages 37-38) of the **Submissions Review**) that habitat loss required by construction of a more centrally located overpass structure at this key location outweighs the longer-term connectivity benefit to koalas (habitat can easily be regenerated; koala populations not so). Moreover, there are ways that habitat loss at this location could be minimised by and amongst other considerations, finalising the location of the overpass structure to minimise loss of key habitat elements such as preferred koala food trees.

6. Further to Dr Phillips’ statement above, at our meeting with you, TfNSW representatives also raised issues of the urgency of timing as a justification for not changing the location of the Glen Lorne connectivity structure to be consistent with the expert advice of Dr Phillips. This is astonishing, given that Dr Phillips advised in his report of 19 August **2019** that an overpass was required at Norrumba Reserve. Accordingly, TfNSW has been on notice for **over four years** of the specific required location of this essential Koala connectivity structure.
7. Dr Phillips’ expert evidence, based mostly on TfNSW’s own data, is clear. Allowing the Activities³ to proceed in their current form will significantly affect the Koala. It will result in an increase in Koala mortality in a small population that cannot tolerate that increase,⁴ and place

¹ Page 4, Independent Expert report of Dr Stephen Phillips dated 20 December 2023.

² Page 3, Independent Expert report of Dr Stephen Phillips dated 20 December 2023.

³ As described in the: Appin Road Upgrade, Mount Gilead to Ambarvale, Addendum Review of Environmental Factor, November 2022 (**Addendum REF**) as now amended by the Submissions Review; Appin Road Safety Improvements from Brian Road to Gilead, Review of Environmental Factors, November 2018 (**Safety Improvements REF**); and Brian Road Intersection Upgrade, Review of Environmental Factors, January 2023 (**Brian Rd REF**).

⁴ Pages 9-10, Independent Expert report of Dr Stephen Phillips dated 4 April 2023.

the critically important Campbelltown Koala population at risk of extinction. The engineering solutions required to ensure Koalas are kept safe have been provided by Dr Phillips.

8. Accordingly, we respectfully reiterate our request that, in order to ensure TfNSW does not contravene s 5.7 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**), you immediately instruct TfNSW to provide a written undertaking that the ameliorative measures listed in paragraph [5] of our letter to TfNSW dated 29 November 2023 be included as part of the plans for the Activities and re-exhibited, and then also implemented in the construction of the Activities. This is the only way to ensure that the Koala is not significantly impacted by the Activities.
9. We are instructed to note that our client reserves all of its rights in relation to this matter, including, without limitation, those in relation to the commencement of proceedings against TfNSW in Class 4 of the Land and Environment Court of NSW to restrain an apprehended breach of the EP&A Act (ss 9.44 and 9.45).
10. We note TfNSW's existing undertaking to provide us with at least 7 days' written notice prior to commencement of construction works in relation to the Activities. Given the significant public interest in this matter and in the preservation of the Koala, we would expect that decisions in relation to whether to approve and/or commence the Activities would only be made after the Submissions Review is publicly exhibited for a reasonable period and all submission are considered and addressed.

Thank you for your consideration of this matter. We respectfully request a response to the above by 17 January 2024. Please contact s22 if you have any questions or wish to discuss.

Yours faithfully
Environmental Defenders Office

s22

s22

Special Counsel

Enclosures

- A. Report of Dr Stephen Phillips dated 20 December 2023
- B. Report of Dr Stephen Phillips dated 17 November 2023

Released under the FOI Act 1982



Environmental Defenders Office

Our Ref: RK:NV:S189

Your Ref: LEC:LEN010/4026

29 November 2023

s22

Senior Associate
Corrs Chambers Westgarth

By email: s22@corrs.com.au

cc: s22
Partner
Corrs Chambers Westgarth

By email: s22@corrs.com.au

URGENT

Dear s22

Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade – activities likely to have a significant impact on the koala

1. We refer to our previous correspondence on the Appin Road Upgrade, Appin Road Safety Improvements and Brian Road Intersection Upgrade (**Activities**)¹ with your client and with your office. In particular, we refer to our letter to Transport for NSW (**TfNSW**) dated 17 April 2023, which enclosed the expert reports of Dr Stephen Phillips dated 4 April 2023 and 19 August 2019.
2. Dr Phillips has prepared an addendum report to his 4 April 2023 report, dated 17 November 2023 (**Addendum Report**), a copy of which is **enclosed**. The Addendum Report provides further information regarding the use of underpass structures by koalas by utilising publicly available data that was not included in his 4 April 2023 report. The Addendum Report also provides clarification in relation to Dr Phillips' opinion in relation to the under-road structures

¹ As described in the: Appin Road Upgrade, Mount Gilead to Ambarvale, Addendum Review of Environmental Factor, November 2022 (**Addendum REF**); Appin Road Safety Improvements from Brian Road to Gilead, Review of Environmental Factors, November 2018 (**Safety Improvements REF**); and Brian Road Intersection Upgrade, Review of Environmental Factors, January 2023 (**Brian Rd REF**).

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proposed by TfNSW in the Brian Road REF and Addendum REF. The Addendum Report is to be read in conjunction with Dr Phillips' reports dated 19 August 2019 and 4 April 2023.

3. Dr Phillips concludes in the Addendum Report that "opinions expressed in my earlier advice dated 4th April 2023 in relation to the potential for a significant impact on koalas of the Activities remain not only unchanged but are strongly supported by available data relating to the successful use of underpass structures by koalas." Accordingly, Dr Phillips' Addendum Report confirms that a significant impact on koalas **will** result from the Activities. In support of this conclusion, he notes the following:
 - a. Examination of publicly available data, the majority of which was obtained from the TfNSW website, confirms the connectivity structures currently proposed by TfNSW in the Addendum REF and the Brian Road REF do not accord with best practice and "there is **clearly no evidence** to support the installation of such structures ...as meaningful koala connectivity measures for the purposes of the proposed Appin Road upgrade" [our emphasis].² This is consistent with the conclusions expressed in Dr Phillips 4 April 2023 report.
 - b. In relation to the Brian Road REF, the 2.4m diameter pipe proposed by TfNSW is "too small to be of utility to koalas."³ Dr Phillips states that a **minimum** of a 2.4 m x 2.4 m culvert is required at this location.
 - c. In relation to the Noorumbah-Glen Lorne connectivity structure proposed in the Addendum REF, Dr Phillips confirmed his earlier opinion, that this structure is not only too small to offer any utility to koalas, but it is also in the wrong location. Dr Phillips confirms that what is required is an overpass centrally located within the currently vegetated area.
 - d. In relation to the Browns Bush connectivity structures proposed in the Addendum REF, Dr Phillips' further analysis confirms his earlier opinion that these structures are too small to offer utility for koalas. Dr Phillips also identifies a further issue with the proposed alignment of these structures. Dr Phillips states that what is required:

... is a diagonal realignment of the proposed connectivity structures so that direct access to vegetated areas of the Beulah bushland to the immediate south is consequently enabled. The diagonal realignment will result in a longer **LURT** [length of the under-road traverse] requirement than what was set out in the [Addendum REF]. Assuming that the diagonal realignment results in a **LURT** of approximately 35 m (rather than 27 m as stated in the [Addendum REF]), then koala connectivity requirements would then need to be met by larger structures such as 2.4 m x 2.4 m culverts, not pipes. The matter of fence end management should be addressed by provision of temporary koala-grids at this location.
4. Dr Phillips' Addendum Report confirms that a significant impact on koalas **will** result from the Activities. Accordingly, we reiterate our client's view, set out in our 17 April 2023 letter, that TfNSW (as the determining authority) must not carry out the Activities without first obtaining, examining and considering an Environmental Impact Statement (**EIS**) that includes or is accompanied by a Species Impact Statement (**SIS**) or Biodiversity Development Assessment Report (**BDAR**). Should TfNSW carry out the Activities in the absence of an EIS and SIS or BDAR, our client is of the view that TfNSW would be breaching s 5.7 of the *Environmental Planning and*

² Addendum Report, p 5.

³ Ibid.

Assessment Act 1979 (NSW) (**EP&A Act**). We note that such a breach may be remedied by way of an application in Class 4 of the NSW Land and Environment Court's (**LEC**) jurisdiction to restrain an apprehended breach of the EP&A Act (ss 9.4 and 9.45, EP&A Act).

Request for ameliorative measures to be included in the Activities

5. In paragraph [11] of our 17 April 2023 letter, we requested that certain ameliorative measures be included as part of the Activities, so the Activities would no longer be likely to significantly affect the koala. The Addendum Report provides further clarification on the ameliorative measures required to be undertaken in relation to the Brian Road intersection and Brown's Bush. Accordingly, on behalf of our client, we request that the following ameliorative measures be included as part of the Activities:
 - a. In relation to the Glen Lorne linkage (refer to page 6 and 7 of Dr Phillips 4 April 2023 Report, confirmed in the conclusion of the Addendum Report):
 - i. Further assessment and more detailed treatment of fence ends within the road corridor at the northern boundary of the linkage (a cursory examination of aerial imagery by Dr Phillips would suggest that the western fence end should be more to the north of the eastern fence end to lock into existing fencing).
 - ii. Installation of 'to specification' koala-grids (see page 4 of Dr Phillips' 4 April 2023 report for specifications) beneath both gates that are proposed to offer vehicular access to Noorumbah and Glen Lorne Reserves respectively to assist in enforcing the exclusion principle by not allowing koalas into the road corridor even if gates are left open.
 - iii. Replacement of the proposed 2.4 m piped underpass at the extreme southern end of the linkage with a dedicated fauna overpass as shown in Figure 1 of Dr Phillips' 4 April 2023 report, that is centrally located within the currently vegetated area.
 - iv. Dr Phillips' notes that koala fencing now extends along the western edge of the road corridor independently of the Figtree Hill Development fencing/noise wall. While the extension of fencing along the western side of the road corridor is supported, there is no indication in the Addendum REF that existing driveways/service roads will receive the necessary fence-end treatments such as the installation of to-specification koala -grids that will be required to effectively seal these potential access points. These considerations are also a requirement along the eastern side of the road but again have not been specifically detailed amongst the Activities to be undertaken.
 - b. In relation to Brown's Bush (refer to page 7 and 8 of Dr Phillips' 4 April 2023 Report and the conclusion of the Addendum Report):
 - i. Diagonal realignment of the proposed connectivity structures is required so that direct access to vegetated areas of the Beulah bushland to the immediate south is consequently enabled.
 - ii. The diagonal realignment will result in a longer length of the under-road traverse (**LURT**) requirement than what was set out in the Addendum REF.

Assuming the diagonal realignment results in a LURT of approximately 35 m (rather than 27 m as stated in the Addendum REF), then koala connectivity requirements would then need to be met by two 2.4 m x 2.4 m culverts. However, we note that if the LURT is longer than 35m this may result in the requirement for larger culverts, see Figure 2 in the Addendum REF.

- iii. Installation of permanent 'to specification' koala-grids (see page 4 of Dr Phillips' 4 April 2023 report for specifications) at all driveways and service roads along both sides of the road corridor to the north.
 - iv. Installation of temporary 'to specification' koala-grids (see page 4 of Dr Phillips' 4 April 2023 report for specifications) at fence ends immediately to the south of the interim underpass, to be removed only when the following stage has been completed and proposed Beulah underpass is functional.
- c. In relation to the Brian Road linkage (refer to page 8 and 9 of Dr Phillips' 4 April 2023 Report and the conclusion of the Addendum Report):
- i. Replacement of the proposed 2.4 m diameter pipe with a **minimum** of a 2.4 x 2.4m culvert.
 - ii. Installation of permanent 'to specification' koala-grids (see page 4 of Dr Phillips' 4 April 2023 report for specifications) at the western fence ends along Brian Road.
 - iii. Install a permanent 'to specification' koala-grid (see page 4 of Dr Phillips' 4 April 2023 report for specifications) across Appin Road at the southernmost fence ends or develop a more detailed treatment whereby fence ends can be tied into existing barriers.

Concurrence of Environment Agency Head

6. We refer to our letter dated 17 April 2023 and note that we have still not been advised as to whether TfNSW has obtained the requisite concurrence of the Environment Agency Head required by s 7.12(3) of the *Biodiversity Conservation Act 2016* (NSW). Please advise if this concurrence has been obtained.

Activities as currently designed require assessment under the EPBC Act

7. We refer to our 19 October 2023 letter, noting that Dr Phillips' 4 April 2023 advice also found that the Activities will have a significant impact on the koala for the purposes of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**). On behalf of our client, we requested that TfNSW immediately refer the Activities for assessment under the EPBC Act. We requested a response by 10 November 2023, however we have not received a response to date. Please provide a response to the issues raised in our 19 October 2023.

Request for undertaking

8. We are instructed to respectfully request that TfNSW provide:

- a. A written undertaking that the ameliorative measures listed in paragraph [5] above will be included as part of the plans for the Activities and re-exhibited and then also implemented in the construction of the Activities; or, in the alternative
 - b. A written undertaking that construction works will not be commenced by TfNSW or its contractors in relation to the Activities, and that it will suspend any authority given to Lendlease or its contractors to commence construction works in relation to the Activities, until TfNSW obtains an EIS including a SIS or BDAR in respect to the impacts of the Activities on the koala.
9. If TfNSW is not prepared to provide either of the above undertakings, we note your existing undertaking dated 3 May 2023 to provide us with at least 7 days' written notice prior to commencement of construction works in relation to the Activities.
10. We are instructed to note that our client reserves all of its rights in relation to this matter, including, without limitation, those in relation to the commencement of proceedings in Class 4 of the LEC to restrain an apprehended breach of the EP&A Act (ss 9.44 and 9.45).

Thank you for your consideration of this matter. We respectfully request a response to the above by 13 December 2023. Please contact **s22** @edo.org.au if you have any questions or wish to discuss.

Yours faithfully
Environmental Defenders Office

s22

s22

Special Counsel

Enclosure:

A Addendum Report of Dr Stephen Phillips dated 17 November 2023.

s. 22(1)(a)(ii)

From: s22 @edo.org.au>
Sent: Friday, 8 March 2024 4:47 PM
To: Minister Plibersek
Cc: s22
Subject: Request concerning compliance for EPBC 2023/09485
Attachments: 240308 Letter to Cth Environment Minister re Northern Silica Sand Mining Project AP.pdf; Field Inspection Report of Proposed Northern Silica Mining Project, Cape Flattery.pdf; Impact of Proposed Northern Silica Mine Project on the Conservation Values of the Cape Flattery Are.pdf

You don't often get email from s22 @edo.org.au. [Learn why this is important](#)

Dear Minister Plibersek,

We act on behalf of Queensland Conservation Council in relation to concerns regarding the compliance of Northern Silica Sand Mining Project referral number EPBC 2023/09485.

Please find **attached**, a letter outlining the concerns and the following two reports by Dr Bruce Wannan as supporting evidence:

- (a) *Impact of Proposed Northern Silica Mine Project on the Conservation Values of the Cape Flattery Area*; and
- (b) *Field Inspection of Proposed Northern Silica Mining Project, Cape Flattery*

If you have any questions related to the contents of the letter or reports, please contact s22 at s22 @edo.org.au.

Kind regards,



Environmental Defenders Office

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I use he/his pronouns.



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EDO recognises the traditional owners and custodians of the land, seas and rivers of Australia. We pay our respects to Aboriginal and Torres Strait Islander elders past and present, and aspire to learn from traditional knowledge and customs so that, together, we can protect our environment and cultural heritage through law.



Environmental Defenders Office

8 March 2024

Hon Tanya Plibersek MP
Minister for the Environment and Water
House of Representatives
Parliament House
Canberra ACT 2600

By email: Minister.Plibersek@dcceew.gov.au

Dear Minister Plibersek,

Request for investigation of Northern Silica Sand Mining Project referral number EPBC 2023/09485 concerning compliance with the *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)* (“EPBC Act”)

Summary

1. We act on behalf of the Queensland Conservation Council in alliance with Protect Beautiful Queensland.
2. Queensland Conservation Council is an independent, non-profit organisation and is Queensland’s peak body for environmental groups.
3. Protect Beautiful Queensland is a partnership between Queensland Conservation Council and the Pew Charitable Trusts and works with Traditional Owners, local communities, scientists, recreation users, outdoors industry representatives and government to create new protected areas.
4. Our client has independently undertaken desktop and site surveys and has instructed that the proponent, Cape Silica Holdings Pty Ltd, has taken an action without approval under the EPBC Act. We have been instructed that clearing of Critically Endangered Littoral Rainforest for vehicle tracks has occurred during the exploration and assessment process for the Northern Silica Project controlled action **EPBC 2023/09485**.

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5. Our client's assessments culminated in the following reports that are **enclosed** for your reading convenience:
 - (a) *Impact of Proposed Northern Silica Mine Project on the Conservation Values of the Cape Flattery Area* ("the Desktop Report"); and
 - (b) *Field Inspection of Proposed Northern Silica Mining Project, Cape Flattery* ("Field Inspection Report").¹
6. Our client respectfully requests this clearing be investigated to prevent the further destruction of Critically Endangered Littoral Rainforest as a Matter of National Environmental Significance ("MNES") without approval.
7. Our client draws attention to potential inconsistencies between the Northern Silica Project referral documentation and the actual occurrence of Critically Endangered Littoral Rainforest within the Project area.
8. Our client also requests that the Northern Silica Project proposal be considered in conjunction with the Cape Flattery Silica Sands Project due to the potential combined significant impacts on the Critically Endangered Littoral Rainforest from land clearing. Notably, the two projects are adjacent. Diatreme Resources Ltd, which controls the proponent for Northern Silica Project, also intends to acquire the Cape Flattery Silica Sands Project by offering to takeover Metallica Minerals Ltd.²

Background

Northern Silica Project

9. The Northern Silica Project is located 30 km north of Hope Vale and 200 km north of Cairns. The proponent is Cape Silica Holdings Pty Ltd, controlled by Diatreme Resources Ltd.³
10. The Northern Silica Project was declared a controlled action (EPBC 2023/09485) on 14 June 2023.⁴

¹ Wannan, *Impact of Proposed Northern Silica Mining Project on the Conservation Values of the Cape Flattery Area* (Report, August 2023) ("the Desktop Report"); Wannan, *Field Inspection of Proposed Northern Silica Mining Project, Cape Flattery* (Report, January 2024) ("Field Inspection Report") 4.

² Metallica Minerals Ltd, *Diatreme's intention to make a takeover offer for Metallica Minerals* (letter, 19 February 2024).

³ 'Northern Silica Sand Mining Project', *EPBC Act Public Portal* (Web Page, 14 June 2023)

<<https://epbcpublicportal.awe.gov.au/all-referrals/project-referral-summary/?id=a1b85f75-c6bb-ed11-83fe-00224818a31f>>.

⁴ Ibid.

11. The controlling provisions are as follows:
- (a) World Heritage properties (ss 12 & 15A);
 - (b) National Heritage places (ss 15B & 15C);
 - (c) Listed threatened species and communities (ss 18, 18A);
 - (d) Listed migratory species (ss 20 & 20A); and
 - (e) Great Barrier Reef Marine Park (ss 24B & 24C).⁵
12. On 12 January 2024, Northern Silica Project was declared a Coordinated Project under the *State Development and Public Works Organisation Act 1971* (Qld) (“SDPWOA”).⁶
13. The project draft Terms of Reference (“ToR”) for the Environmental Impact Statement (“EIS”) is currently being prepared for assessment under the SDPWOA.
14. As the assessment approach is bilateral, both Queensland and Commonwealth approvals are occurring simultaneously.⁷ Construction is expected to start in 2025.⁸
15. The key features of the Northern Silica Project are:
- (a) an open cut silica sand mine;
 - (b) mine infrastructure, processing plant;
 - (c) access road; and
 - (d) options for use of, and potentially construction of, a jetty and marine offloading infrastructure within the Port of Cape Flattery, for export via ocean-going vessels.⁹

Independent Desktop and Site Survey

16. Our client commissioned an independent review of the technical assessment provided by the proponent as part of the referral process under the EPBC Act.
17. Dr Bruce Wannan, an environmental scientist, wrote the Desktop Report in August 2023. In the Desktop Report, Dr Wannan identified that the total clearing of Critically Endangered Littoral

⁵ Department of Climate Change, Energy, the Environment and Water, *Notification of referral decision and designated proponent – controlled action* (Decision, 14 June 2023), 1.

⁶ ‘Declaration of a Coordinated Project’, *Queensland Government Gazette* (Gazette, 12 January 2024).

⁷ ‘Northern Silica Sand Mining Project’, *EPBC Act Public Portal* (Web Page, 14 June 2023)

<<https://epbcpublicportal.awe.gov.au/all-referrals/project-referral-summary/?id=a1b85f75-c6bb-ed11-83fe-00224818a31f>>.

⁸ ‘Northern Silica Project’, *Coordinated Projects* (Web Page, 22 January 2024)

<<https://www.statedevelopment.qld.gov.au/coordinator-general/assessments-and-approvals/coordinated-projects/current-projects/northern-silica-project>>.

⁹ *Ibid.*

Rainforest could amount to approximately 1000 ha, which is far greater than the 3.9 ha estimate of Cape Silica Holdings Pty Ltd in the *Northern Silica Project EPBC Referral Supporting Material*.¹⁰

18. The controlled action provision for Critically Endangered Littoral Rainforest is s 18A for a Listed Threatened Ecological Community (“TEC”). The Littoral Rainforest and Coastal Vine Thickets of Eastern Australia is a Critically Endangered TEC listed under the EPBC Act. The ecological community provides habitat for over 70 threatened plants and animals and provides an important buffer to coastal erosion and wind damage.¹¹
19. Based on the findings of the Desktop Report, our client commissioned Dr Wannan to conduct a site inspection to ground truth the desktop assessment. On 6 December 2023, Dr Wannan undertook a site inspection in the north-west portion of the exploration lease (ML 1000308) for the proposed Northern Silica Project. This was done with Traditional Owner Richard Bowen (Dhaarrba Land Trust) and Kerry Trapnell (Cairns).¹²
20. The site inspections consisted of observations and photographs at 15 GPS sites. The presence of Critically Endangered Littoral Rainforest was identified within the inspected area and extends to a significantly larger area than was identified in the *Northern Silica Project EPBC Referral Supporting Material*.¹³
21. The site inspection also identified clearing of the Critically Endangered Littoral Rainforest plant community from existing exploration activities. According to the Field Inspection Report, there has been an extensive track network which has been cleared across the site through an estimated 10 ha of Critically Endangered Littoral Rainforest.¹⁴
22. Our client is concerned that the controlling provision s 18A of the EPBC Act was triggered for significant impact for the proposed referral documents identifying 3.9 hectares for clearing. Our client has adduced evidence for an action taken without approval for on or around three times this amount of clearing of the critically endangered TEC.

Cape Flattery Silica Sands Project

23. The Cape Flattery Silica Sands Project is being assessed as a controlled action simultaneously to the Northern Silica Project. Due to the proximity of these projects, it is likely the impacts on

¹⁰ The Desktop Report 19; BMT, *Northern Silica Project EPBC Referral Supporting Material* (Report, 2 March 2023) 37.

¹¹ The Desktop Report 18.

¹² Field Inspection Report 4.

¹³ *Ibid* 5-8, 18.

¹⁴ *Ibid* 10.

Critically Endangered Littoral Rainforest will be magnified if both proposals are accepted. We recommend the proposals be considered together to determine the cumulative impacts on the TEC.

24. The Cape Flattery Silica Sands Project is approximately 42 km northeast of Hope Vale. This project has also been referred to the Department (EPBC 2022/09376). The proponent is Cape Flattery Silica Pty Ltd.¹⁵
25. The Cape Flattery Silica Sands Project was declared a controlled action under the EPBC Act on 16 January 2023.¹⁶
26. The relevant controlling provisions are:
- (a) World Heritage properties (ss 12 & 15A);
 - (b) National Heritage places (ss 15B & 15C);
 - (c) Listed threatened species and communities (ss 18, 18A);
 - (d) Listed migratory species (ss 20 & 20A); and
 - (e) Great Barrier Reef Marine Park (ss 24B & 24C).¹⁷
27. On 15 December 2023, the Cape Flattery Silica Sands Project was declared a coordinated project under the SDPWOA.¹⁸
28. On 18 December 2023, the Commonwealth government accepted a Notification of Variation of Proposal for the Cape Flattery Silica Sands Project.¹⁹
29. The draft ToR are currently being prepared. Construction is also expected to start in 2025.²⁰
30. The key features of the Project are:
- (a) open cut silica sand mine;

¹⁵ Cape Flattery Silica Pty Ltd, *Initial Advice Statement* (Report, 22 November 2023) 9; 'Cape Flattery Silica Sands Project', *Coordinated Projects* (Web Page, 19 December 2023)

<<https://www.statedevelopment.qld.gov.au/coordinator-general/assessments-and-approvals/coordinated-projects/current-projects/cape-flattery-silica-sand-project>>.

¹⁶ 'Cape Flattery Silica Sands Project', *EPBC Act Public Portal* (Web Page, 16 January 2023) <

<https://epbcpublicportal.awe.gov.au/all-referrals/project-referral-summary/?id=ce00c72d-3049-ed11-bba2-00224818a992>>.

¹⁷ Department of Climate Change, Energy, the Environment and Water, *Notification of referral decision and designated proponent – controlled action* (Decision, 16 January 2023), 1.

¹⁸ 'Declaration of a Coordinated Project', *Queensland Government Gazette* (Gazette, 15 December 2023).

¹⁹ Department of Climate Change, Energy, the Environment and Water, *Notification of variation of proposal to take an action, Cape Flattery Silica Sands project, Queensland (EPBC 2022/09376)* (Decision, 18 December 2023), 1.

²⁰ *Ibid.*

- (b) mine infrastructure area;
- (c) two processing plants, product stockpile area and conveyors; and
- (d) jetty and marine offloading infrastructure within the Port of Cape Flattery, for transport to ocean-going vessels.²¹

31. Critically Endangered Littoral Rainforest is identified as likely to occur in the Cape Flattery Silica Sands Project area. A small pocket of closed canopy vegetation containing vine thicket species was recorded in the east of the study area during the wet season flora survey but was considered analogous to the TEC.²²

32. As the location and amount of Critically Endangered Littoral Rainforest in the Northern Silica Sands Project supporting material was likely underestimated, it is possible the Cape Flattery Silica Sands Project has also underestimated the extent of Critically Endangered Littoral Rainforest in the project disturbance footprint.

Conservation of Critically Endangered Littoral Rainforest

33. The National Recovery Plan for the Critically Endangered Littoral Rainforest states land clearing near the TEC should be avoided and that offsets are a last resort. It states offset proposals with unacceptable impacts will not be approved.²³

34. The recommended buffer zone is 100 metres. A higher buffer zone may be needed for areas of very high conservation value or in a drainage zone.²⁴

35. The National Recovery Plan also provides a list of regulatory policies for minimising the impacts of mining operations. The highest priority regulatory policy is to prevent future clearing.²⁵

36. Minimising the impacts of mining operations on the TEC requires:

- (a) pre-operation surveys;
- (b) identification of environmental thresholds that would trigger mitigation measures;
- (c) monitoring of environmental conditions throughout the life of the mine;
- (d) appropriate and progressive rehabilitation through the life of the mine;

²¹ 'Cape Flattery Silica Sand Project', *Coordinated Projects* (Web Page, 15 December 2023) <<https://www.statedevelopment.qld.gov.au/coordinator-general/assessments-and-approvals/coordinated-projects/current-projects/cape-flattery-silica-sand-project>>.

²² Cape Flattery Silica Pty Ltd, *Terrestrial Ecology Assessment* (Report, 26 September 2022) 31, 37.

²³ Department of Environment and Energy, *National Recovery Plan for the Littoral Rainforest and Coastal Vine Thickets of Eastern Australia Ecological Community* (Report, February 2019) 15.

²⁴ *Ibid* 25-6.

²⁵ *Ibid* 31-2.

- (e) identification of criteria to measure success of rehabilitation;
- (f) ongoing monitoring of environmental conditions post rehabilitation; and
- (g) confirmation of the return of biodiversity, structural integrity and functioning of the TEC.²⁶

37. Impacts should be minimised by:

- (a) retaining and avoiding damage to high quality patches; and
- (b) protecting important habitat features.²⁷

38. The Approved Conservation Advice identifies the Littoral Rainforest as Critically Endangered. It sets out advice for local and regional priorities in monitoring and rehabilitation.²⁸

39. The approved conservation advice for local priority actions includes:

- (a) monitor known sites to identify key threats;
- (b) modify access routes to prevent vehicle and pedestrian access; and
- (c) minimise adverse impacts from land use change.²⁹

40. The approved conservation advice for regional priority recovery and threat abatement includes:

- (a) protect areas of native vegetation;
- (b) maintain and monitor rehabilitation;
- (c) collect and store seed;
- (d) repair, expand and connect the TEC through reforestation; and
- (e) develop management plans for weed control, feral animals and fire.³⁰

Potential Breaches

Taking an action with a significant impact on a TEC

41. A person must not take an action that has, will have, or is likely to have a significant impact on a Critically Endangered listed TEC without approval.³¹
42. A person commits an offence if the person takes an action that results in, or is likely to have, a significant impact on a listed TEC without approval.³²

²⁶ Ibid 32.

²⁷ Ibid 45.

²⁸ Department of Environment and Energy, *Approved Conservation Advice for the Littoral Rainforest and Coastal Vine Thickets of Eastern Australia ecological community* (12 November 2015) 2-3.

²⁹ Ibid, 2.

³⁰ Ibid 2-3.

³¹ Ibid ss 18 (5), 19 (2).

³² Ibid ss 18A (1), (2), (3), 19 (2).

43. An action is likely to have a significant impact on a Critically Endangered TEC if there is a real chance or possibility that it will:
- (a) reduce the extent of an ecological community;
 - (b) fragment or increase fragmentation, for example by clearing vegetation for roads;
 - (c) adversely affect habitat critical to the survival of the ecological community;
 - (d) modify or destroy abiotic (non-living) factors necessary for the community's survival;
 - (e) cause substantial change in the species composition of an occurrence of an ecological community;
 - (f) cause a substantial reduction in the quality or integrity of an occurrence of an ecological community; or
 - (g) interfere with the recovery of an ecological community.³³
44. Our client has evidence of damage to at least 10 ha of Critically Endangered Littoral Rainforest caused by clearing of extensive tracks within the mining lease area.³⁴
45. The Desktop Report states the clearing of Littoral Rainforest at this site will likely have a very significant impact on the TEC. The Desktop Report further states all the above criteria for a significant impact will be met if clearing occurs.³⁵

Taking a controlled action without approval

46. A person must not take a controlled action without approval.³⁶
47. Both the Northern Silica Project and the Cape Flattery Silica Sands Project are controlled actions partly due to their potential significant impact on listed threatened species and communities. The TEC identified in both projects is Critically Endangered Littoral Rainforest. Neither Project has been granted approval for clearing a TEC.

False or misleading information

48. A person commits an offence if the person is reckless or negligent as to whether the information required or requested for an approval is false or misleading in a material particular.³⁷

³³ Department of Environment, *Significant impact guidelines 1.1*, EPBC Act 11.

³⁴ Field Inspection Report 5-8, 10.

³⁵ The Desktop Report 12.

³⁶ EPBC Act s 67A.

³⁷ Ibid s 489 (1), (2A).

49. The *Northern Silica Project EPBC Referral Supporting Material* states Critically Endangered Littoral Rainforest only occurs within 2 km of the coast.³⁸ This is inconsistent with the National Recovery Plan which provides the Critically Endangered Littoral Rainforest primarily occurs within 2 km of the coast but is known to extend beyond these boundaries.³⁹
50. The Desktop Report provides the *Northern Silica Project EPBC Referral Supporting Material* failed to accurately identify the relevant regional ecosystems and misinterpreted the Commonwealth listing guidelines for the TEC. The two issues noted in the Desktop Report are:
- (a) including *Araucarian notophyll vine forest on granitic ridges and mountains* as part of the Littoral Rainforest when it is not an element of this listed community, and its closest occurrence is 100km north and Cape Melville; and
 - (b) incorrectly arguing Critically Endangered Littoral Rainforest only occurs within 2 km of the coast.⁴⁰
51. The Desktop Report states this means the Northern Silica project could potentially affect over 1,000 ha of Critically Endangered Littoral Rainforest, as opposed to the 3.9 ha argued in the *Northern Silica Project EPBC Referral Supporting Material*.

Powers

52. The following powers are available to prevent the further destruction of Critically Endangered Littoral Rainforest within the Northern Silica Project mining area:

Inspection

53. An authorised officer may apply for a monitoring warrant. The magistrate may issue the warrant if satisfied that it is reasonably necessary that the authorised officer should have access to the premises for the purpose of finding out whether all the provisions of an environmental law have been, and will be, complied with.⁴¹

Injunction

54. If a person engages in conduct consisting of an act or omission that is an offence or contravention of the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth)

³⁸ *Northern Silica Project EPBC Referral Supporting Material* (Report, 2 March 2023) 37.

³⁹ Department of Environment and Energy, National Recovery Plan for the Littoral Rainforest and Coastal Vine Thickets of Eastern Australia Ecological Community (Report, February 2019) 7-8.

⁴⁰ The Desktop Report 10-2.

⁴¹ EPBC Act s 409 (1), (2).

(“EPBC Act”), the Minister or an interested person can apply to the Federal Court for an injunction.⁴²

Remedy

55. The Minister has the power to mitigate any damage that arises from the act or omission and relates to the environment, or to prevent any damage likely to arise from the act or omission and relates to the environment.⁴³

Recommendations

56. We respectfully request for you to investigate the Northern Silica Project to prevent the further destruction of Critically Endangered Littoral Rainforest.

57. We request that you consider the precautionary principle in deciding whether to approve the Northern Silica Project and the Cape Flattery Silica Sands Project.⁴⁴ If there is a lack of scientific certainty as to whether the Critically Endangered Littoral Rainforest extends into the area of cleared vegetation, we recommend this should not be used as a reason for postponing a measure to prevent the degradation of the environment as there is a potential threat of serious or irreversible environmental damage.⁴⁵

58. We respectfully request for you to consider the inconsistencies between the area identified as Critically Endangered Littoral Rainforest by the proponent and by Dr Wannan when assessing the Northern Silica Project.

59. We request that the Northern Silica Project be assessed in conjunction with the Cape Flattery Silica Sands Project. Our client asserts that an assessment of the cumulative impact of both proposals is necessary to form a complete understanding of the impacts of each proposal. This is because the proposals are in close proximity and will likely have similar impacts on the same TEC.

If you have any questions or concerns regarding the matters raised in this letter, please contact

s22 [@edo.org.au](mailto:s22@edo.org.au).

⁴² Ibid s 475.

⁴³ Ibid s 499 (2) (b), (c).

⁴⁴ Ibid s 391 (1).

⁴⁵ Ibid s 391 (2).

Yours sincerely,

s22

s22

- North Queensland

Environmental Defenders Office

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Field Inspection of Proposed Northern Silica Mining Project, Cape Flattery

Table of Contents

1. Introduction	3
2. Methodology	4
3. Results and Discussion	5
3.1 Occurrence of Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	5
3.2 Occurrence of other habitats	8
4. Conclusions	10

1. Introduction

This document reports on a short site inspection to a proposed silica mining project at Cape Flattery Queensland (ML 100308) as requested by the Queensland Conservation Council. This visit follows earlier desktop reports by the current author on the biophysical environmental values¹ and possible environmental impacts of the proposed development².

These desktop reports found that proposed mining activities were very likely to have significant detrimental impacts on the following environmental values:

- Internationally significant values of the Great Barrier Reef
- Nationally significant Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia.
- Nationally significant threatened species including critically endangered species.
- Nationally significant Listed Migratory Species.
- Nationally significant wetland values of the *Cape Flattery Dune Lakes*.

The site inspection aimed to ground-truth some of the environmental values described for the area. In particular, the inspection focused on the potential loss of over 1,000 hectares of the Nationally significant Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia.

¹ Wannan B.S. 2023a. *Conservation Values of Cape Bedford – Cape Flattery Area*. Consultancy report.

² Wannan B.S. 2023b. *Impact of Proposed Northern Silica Mining Project on the Conservation Values of the Cape Flattery Area*

2. Methodology

The site inspection was undertaken on the 6 December 2023 with traditional owner s22 (Hopevale) and s22 (Cairns). The north-west portion of the exploration lease was inspected (shown below) using existing 4WD tracks.

Observations and photographs were made at 15 GPS sites (see table below).



Way point	Notes
58	Gate
60	Landscape
61	Hilltop on sandy soil with littoral rainforest to 10 metres. T1(8-10): Xanthostemon arenarius. T2(4-6): Acacia solenota (c), Neofabricia myrtifolia, Pouteria sericea, Amorphospermum antilogum, Leucopogon. S1 (1-3): Asteromyrtus lysicephala, Leucapogon, Neofabricia, Bossiaea arenicola, Alyxia spicata, Hibbertia, Drypetes deplanchei, Dodonaea, Orchidaceae. S2(0.5): Boronia, Lomandra banksii, Cassytha
63	track clearing - Bossiaea arenicola
64	lake side
65	lake side
66	Road clearing in littoral rainforest . Sunbird recorded
67	Side of lake on sandy rise with 10 metre littoral rainforest/ heath shrubland with Xanthostemon arenarius, Syzygium banksii, Asteromyrtus, Lophostemon suaveolens, Thryptomene, Melaleuca, Lomandra banksii . Gnd: sedges
70	5 metre wide clearing through littoral rainforest
71	15 metre wide clearing in well developed, rich 10-12 metre T1, 6-8 m T2 littoral rainforest of summit of sand ridge with additional rf species: Gardenia (c), Hoya australis, Golden orchid, Hypserpa decumbens, Jasminum longipetalum, Syzygium banksii (c). Gardenia.
72	Understorey of vine forest

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3. Results and Discussion

3.1 Occurrence of Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia

The occurrence of Critically Endangered *Littoral Rainforest and Coastal Vine Thickets of Eastern Australia* was confirmed during the site inspection at Waypoints 61, 62, 63, 67, 70, 71, and 72.



Critically Endangered Littoral Rainforest at Waypoint 61 with large tree of the locally endemic *Xanthostemon arenarius*

This plant community has a rainforest structure that varies from 8-12 metres in height. The tallest trees are typically *Xanthostemon arenarius* and *Syzygium banksii*. There is a lower tree layer (4-6 metres high) often with *Amorphospermum antilogum*, *Pouteria sericea*, *Acacia solenota* and *Neofabricia myrtifolia*. There is a shrub layer (1-3 metres high) with a mix of rainforest species (e.g. *Gardenia*, *Drypetes deplanchei*, *Hypserpa decumbens*, *Hoya*, *Jasminum longipetalum*, *Alyxia spicata*) or heath species (*Asteromyrtus lysicephala*, *Leucapogon*, *Neofabricia*, *Bossiaea arenicola*,

Hibbertia, Dodonaea, Thryptomene). The groundlayer is typically open with scattered sedges. At the time of inspection (late dry season) there was a layer of dead leaves evidently dropped by plants to reduce water loss. The community appears to be slightly taller and more diverse where it grows closer to the coast.

Of great concern across the site is the extensive track network which has been cleared as part of the exploration process. This network of more 25 kilometres of tracks has been cleared through substantial areas of Critically Endangered *Littoral Rainforest and Coastal Vine Thickets of Eastern Australia* (see photos below). **Based on the aerial recognition of the Littoral rainforest photo-signature and a five metre wide track clearing footprint, it seems that more than 10 hectares of this endangered community has already been cleared.**



Track clearing through Critically Endangered Littoral Rainforest at Waypoint 63



Clearing of Critically Endangered Littoral Rainforest at Waypoint 71

If the mining proposal proceeds it appears likely that in excess of 1,000 ha of this critically endangered forest will be cleared. This would likely:

- adversely affect habitat critical to the survival of an ecological community
- modify or destroy abiotic factors necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns
- cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species
- cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, or
- interfere with the recovery of an ecological community (already impacted by mining closer to Cape Flattery)

There would also be a loss of key habitat resources across this landscape; at the time of inspection *Syzygium banksi* was fruiting, clearly a key resource for frugivorous birds near the end of the dry season. The loss of this critically endangered forest would likely also cause one of the dominant trees (*Xanthostemon arenarius*) to be listed as threatened species as this tree occurs only in this part of Cape York Peninsula.

3.2 Occurrence of other habitats

The exploration lease area also contains areas of open heath/ shrubland communities (Regional Ecosystems 3.2.21, 3.2.26) which are important habitat areas for:

- orchids including threatened species: *Dendrobium bigibbum*, *Dendrobium johannis*, *Dockrillia wassellii*,
- endemic skink species: *Ctenotus rawlinsoni*, *Lerista ingrami*

The exploration lease area also contains wetland communities (Regional Ecosystems 3.2.14, 3.2.18, 3.2.27, 3.2.33) which are important habitat areas for wetland species throughout the year. Wetlands in these areas appear closely connected to the groundwater and many still contained water at the time of our inspection. Amongst these:

- Regional Ecosystem 3.2.14 (*Melaleuca arcana* low open forest associated with dune swamps) is an **of concern** regional ecosystem with only 2,000 ha known.
- Regional Ecosystem 3.2.18 (*Thryptomene oligandra* open heath +/- *Asteromyrtus lysicephala* on flat sand plains) is **potential habitat for threatened plant species**³ namely: *Acacia solenota*, *Dendrobium bigibbum* and *Habenaria xanthantha*.
- Regional Ecosystem 3.2.33 (*Gahnia sieberiana* open to closed heath in drainage swamps in east coast dunefields) is an **of concern** regional ecosystem with only 8,000 ha known.

The exploration tracks across the site have included clearing to provide access to lake areas (see photos below).



Clearing of Critically Endangered Littoral Rainforest (Waypoint 66) in order to access lake nearby (Waypoint 65)

³ <https://apps.des.qld.gov.au/regional-ecosystems/details/?re=3.2.18>. Accessed 21 December 2023.



Clearing of sedgeland that fringe the perennial lake at Waypoint 65 (Regional Ecosystem 3.2.7)

These wetland Regional Ecosystems form part of the *Cape Flattery Dune Lakes*⁴ which are a listed **Nationally Important Wetland**. The *Cape Flattery Dune Lakes* are described as the largest dune field on the east coast of Australia, north of Fraser Island. The wetlands are comprised of a number of freshwater lakes and palustrine wetlands located in dune swales. There are also beaches, mangroves and salt flats. The largest of the dune lakes exceed 1 km² in area, and many are permanent, providing dry season refuges for waterbirds and breeding habitats for numerous species of wildlife⁵. The dunes carry a diverse vegetation cover, ranging from heath to rainforest. This provides a variety of habitats for at least 559 species of wildlife⁶.

⁴ <https://www.environment.gov.au/cgi-bin/wetlands/report.pl> Accessed 21 December 2023

⁵ Hawkins *et al.* (1988) Limnology of oligotrophic dune lakes at Cape Flattery, North Queensland. *Australian Journal of Marine and Freshwater Research* 39(4) 535 – 553. <https://www.publish.csiro.au/MF/MF9880535> Accessed 21 December 2023

⁶ <https://wetlandinfo.des.qld.gov.au/wetlands/facts-maps/wildlife/?AreaID=wqip-cape-flattery-dune-lakes-eastern-cape-york> Accessed 21 December 2023

4. Conclusions

The site inspection to ML 100308 has confirmed the occurrence of values identified in previous desktop reports for this area by Wannan (2023a, b)⁷, namely:

- Occurrence of nationally significant Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia
- Nationally significant wetland values for the Cape Flattery Dune Lakes
- Occurrence of Regional Ecosystems of conservation significance.

The site inspection also identified the occurrence of significant impacts to Critically Endangered Littoral Rainforest plant community from existing exploration activities. There has been an extensive track network which has been cleared across the site through an estimated 10 hectares of Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia.

Clearing has also occurred in wetland REs around at least one lake.

Based on the current footprint of impacts, the proposed mining activities are very likely to have **significant detrimental impacts** on the following environmental values:

- **Internationally significant** geo-physical values of the Cape Bedford - Cape Flattery Dunefield.
- **Internationally, nationally and state significant** biodiversity values of the Cape Flattery area including **endemic skink species** (*Ctenotus rawlinsoni*, *Lerista ingrami*).
- **Nationally significant Critically Endangered** Littoral Rainforest and Coastal Vine Thickets of Eastern Australia.
- **Nationally significant threatened species.**
- **Nationally significant Listed Migratory Species.**
- the **Nationally significant** wetland values of the *Cape Flattery Dune Lakes*.

⁷Wannan B.S. 2023a. *Conservation Values of Cape Bedford – Cape Flattery Area*. Consultancy report. Wannan B.S. 2023b. *Impact of Proposed Northern Silica Mining Project on the Conservation Values of the Cape Flattery Area*. Consultancy report



Impact of Proposed Northern Silica Mining Project on the Conservation Values of the Cape Flattery Area

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Table of Contents

1.	Introduction	3
2.	Proposed development.....	4
3.	Impact of the proposal on EPBC Protected Matters	6
3.1	Introduction	6
3.2	Great Barrier Reef.....	7
3.2.1	EPBC Significant Impact Guidelines.....	7
3.2.2	Critical Assessment of Referral.....	8
3.3	Listed Threatened Ecological Communities.....	9
3.3.1	EPBC Significant Impact Guidelines.....	9
3.3.2	Critical Assessment of Referral.....	10
3.4	Threatened species.....	13
3.4.1	EPBC Significant Impact Guidelines.....	13
3.4.2	Critical Assessment of Referral.....	13
3.5	Listed Migratory Species.....	14
3.5.1	EPBC Significant Impact Guidelines.....	14
3.5.2	Critical Assessment of Referral.....	14
3.6	Cape Flattery Dune Lakes.....	14
3.6.1	EPBC Significant Impact Guidelines.....	15
3.6.2	Critical Assessment of Referral.....	15
4.	Impact of the proposed mining on other conservation values	16
4.1	Introduction	16
4.2	Internationally significant geo-physical landform values	16
4.3	Internationally significant biological diversity values	17
5.	Conclusions	19
6.	References.....	21

Appendix A

EPBC Act Protected Matters Report or Cape Bedford– Cape Flattery Area

1. Introduction

The Queensland Conservation Council and Pew Charitable Trust have requested a review of the technical assessment provided by consultants (BMT 2023¹) for a proposed silica mining project at Cape Flattery. The technical assessment is part of a Referral required under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC). The BMT technical supporting material (hereafter called the Referral) aimed to describe the possible impacts of the proposed mine on EPBC Matters of National Environmental Significance (MNES) relevant to the site (**Appendix A**).

This review also provides a desktop assessment of likely impacts of the proposed mine on the environmental values outside of MNES.

A desktop assessment of the biophysical environmental values of the Cape Bedford – Cape Flattery Area has been previously undertaken for the Queensland Conservation Council and Pew Charitable Trust by the current author (Wannan 2023)², and was found to include:

- Internationally significant geo-physical landform values
- Nationally and potential internationally significant biological diversity values
- Nationally significant wetland values,
- Nationally significant plant community,
- Nationally listed threatened species (49) and state listed threatened species (32).
- State significant ecological and biodiversity values.

¹ BMT 2023 *Northern Silica Project – EPBC Referral Supporting Material*. Consultancy report for Diatreme Resources Ltd.

² Wannan B.S. 2023. *Conservation Values of Cape Bedford – Cape Flattery Area* Consultancy report for Pew Foundation.

2. Proposed development

The Referral (BMT 2023) consists of the following proposed mining leases (see table and figure below).

MLA	Activities	Area (ha)
100308	Mining, processing, stockpile areas and associated infrastructure as well as a potential infrastructure corridor to the Port of Cape Flattery	4,681.0
100310	Mining infrastructure, providing access to the Port of Cape Flattery across the existing ML for Cape Flattery Silica Mine (ML2965)	23.1
100313	Cape Flattery Access – mining infrastructure, providing access over freehold lot held by Far North Queensland Ports Corporation	37.2
100311	Starcke Road -Northern Silica Access – Option 1	50.6
100312	Starcke Road -Northern Silica Access – Option 2	94.5
	Total	4,886



From BMT 2023

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The Referral listed the following impacting processes:

Landside/ terrestrial	<ul style="list-style-type: none"> Vegetation clearing Landform changes Drainage changes Groundwater extraction Construction/mining noise and dust Vehicle movements Introduction or spread of pest species Unplanned events i.e. spills and leaks of hydrocarbons and chemicals
Marine	<ul style="list-style-type: none"> Vessel movements (inshore) Vessel movements (offshore/shipping channels) Product loading (and potential spill/material loss) Construction noise (underwater). Introduction or spread of pest species Unplanned events i.e. spills and leaks of hydrocarbons and chemicals and vessel collisions or groundings

It should be noted that significant elements of the project are, as yet, unclear such as the possible use of maritime infrastructure belonging to the existing silica mine Cape Flattery Silica Mine (CFSM). Should this use not eventuate, it would precipitate the need for additional port infrastructure and thus additional environmental impacts.

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3. Impact of the proposal on EPBC Protected Matters

3.1 Introduction

The Commonwealth Government provides a search tool for environmental matters managed by the EPBC, namely: the *Protected Matters Report* which includes the following conservation values for the area proposed for mining.

Protected Matters	Occurrence in Search Area
World Heritage Properties	Great Barrier Reef
National Heritage Places	Great Barrier Reef
Great Barrier Reef Marine Park	Yes
Listed Threatened Ecological Communities	1. Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia 2. Endangered Lowland tropical rainforest of the Wet Tropics
Listed Threatened Species	49 species
Listed Migratory Species	48 species
Listed Marine Species	103
Whales and Other Cetaceans	12
State and Territory Reserves	3
Nationally Important Wetlands	2 (Cape Flattery Dune Lakes, Great Barrier Reef Marine Park)
Biologically Important Area	For 9 species

The search also listed EPBC Referrals, namely: Cape Flattery Silica Sands Project 2022/09376, Northern Silica Sand Mining Project 2023/09485, Galalar Silica Sand Project 2020/8626, and Strengthening of Wharf Structure 2001/148).

The MNES Search Area used in this review (Appendix A) was larger than the leases in order to adequately sample Protected Matters near to the proposal which may be affected by indirect or offsite impacts³.

Guidelines from the Commonwealth⁴ suggest that the Referral must clearly state:

- all direct, indirect and facilitated impacts that your project could have on protected matters
- if impacts to protected matters are likely to be significant.

The Referral must also:

- show how you've designed your project to avoid or reduce any significant impacts to protected matters
- explain how you'll implement your avoidance or mitigation measures
- explain how any avoidance or mitigation measures you'll use are likely to succeed

³ Matters of National Environmental Significance – Significant Impact Guidelines 1.1 EPBC Act 2013

⁴ www.dcceew.gov.au/environment/epbc/advice/referral-applications-and-proposals

- attach supporting information, such as surveys, reports and clear, readable maps of your project area.

The Commonwealth also provides guidance for the determination of significant impacts⁵. These are further discussed below in relation to the impacts on Protected Matters listed above.

3.2 Great Barrier Reef

3.2.1 EPBC Significant Impact Guidelines

The Great Barrier Reef is listed under: World Heritage Property, National Heritage Place, Great Barrier Reef Marine Park and Nationally Important Wetland. The tests for each category are outlined below.

The test for significant impact on **World Heritage Properties** (WHP) is that there is a real chance or possibility that it will cause one or more of the World Heritage values to be lost, degraded or damaged, or notably altered, modified, obscured or diminished. For example, a significant impact would:

- reduce the diversity or modify the composition of plant and animal species in all or part of a WHP
- fragment, isolate or substantially damage habitat important for the conservation of biological diversity in a WHP
- cause a long-term reduction in rare, endemic or unique plant or animal populations or species in a WHP, or
- fragment, isolate or substantially damage habitat for rare, endemic or unique animal populations or species in a WHP.

The test for significant impact on the National Heritage values of a **National Heritage Places** is that there is a real chance or possibility that it will cause one or more of the National Heritage values to be lost, degraded or damaged, or notably altered, modified, obscured or diminished. For example, a significant impact would:

- modify or inhibit ecological processes in a National Heritage place
- reduce the diversity or modify the composition of plant and animal species in a National Heritage place
- fragment or damage habitat important for the conservation of biological diversity in a National Heritage place
- cause a long-term reduction in rare, endemic or unique plant or animal populations or species in a National Heritage place, or
- fragment, isolate or substantially damage habitat for rare, endemic or unique animal populations or species in a National Heritage place.

The test for significant impact on **Great Barrier Reef Marine Park** (GBRMP) is that there is a real chance or possibility that the action will:

- modify, destroy, fragment, isolate or disturb an important, substantial, sensitive or vulnerable area of habitat or ecosystem component such that an adverse impact on marine ecosystem health, functioning or integrity in the GBRMP
- have a substantial adverse effect on a population of a species or cetacean including its life cycle (for example, breeding, feeding, migration behaviour, life expectancy) and spatial distribution
- result in a substantial change in air quality or water quality (including temperature) which may adversely impact on biodiversity, ecological health or integrity or social amenity or human health
- result in a known or potential pest species being introduced or becoming established in the GBRMP
- result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, or social amenity or human health may be adversely affected, or
- have a substantial adverse impact on heritage values of the GBRMP including damage or destruction of an historic shipwreck.

⁵ www.dceew.gov.au/environment/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance

There appear to be no specific tests for significant impact on **Nationally Important Wetlands**. However, there is clear detail provided for determining impacts on *Wetlands of International Importance* (RAMSAR) which is defined as being a real chance or possibility that:

- areas of the wetland being destroyed or substantially modified
- a substantial and measurable change in the hydrological regime of the wetland, for example, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland
- the habitat or lifecycle of native species, including invertebrate fauna and fish species, dependant upon the wetland being seriously affected
- a substantial and measurable change in the water quality of the wetland – for example, a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health, or
- an invasive species that is harmful to the ecological character of the wetland being established (or an existing invasive species being spread) in the wetland. it will cause one or more of the World Heritage values to be lost, degraded or damaged, or notably altered, modified, obscured or diminished. In terms of biological and ecological values this would be:

These guidelines appear quite suitable for Nationally Important Wetlands.

3.2.2 Critical Assessment of Referral

The BMT (2023) Referral confirmed the occurrence of:

- the marine components of the Project Area within the Great Barrier Reef (GBR) region, including the GBR World Heritage Area (WHA) and National Heritage Property (NHP) (p. 26).
- Outstanding Universal Values which are potentially relevant to the Project Area (p. 72)

An assessment of the Referral’s assertions (pages 72-73) is provided below.

Referral Assertion	Critical Assessment
The proposed mining area is <u>buffered from the coast</u> by at least 1km	The potential mining disturbance area includes activities within 1 km of the coast (Fig 1.5 conveyor, Fig 1.6 road)
There will be no direct or indirect surface water discharges or <u>runoff</u> from the project that could affect the GBR lagoon	This is contradicted by the information provided in Section 2.2.4 (Discharge from the dune sand aquifer is expected to include offshore discharge, discharge to surface water and evapotranspiration) together with the planned use of 3,500 ML / annum from bores (p. 13).
The mining process does not generate sediment that will contribute to downstream <u>erosion and sedimentation</u> , there will be vegetated buffers between mining operations and watercourses and mineral processing does not use chemical agents except for biodegradable flocculants	These assertions deserve further detail, especially the last. The impacts of biodegradable flocculants in a low nutrient environment can be severe. The assertion on page 35 is also inconsistent (there will be no ‘mine affected water’ or other pollutants that could be discharged into the marine environment).
<u>Conveyors and stockpile areas</u> near the coast will be strictly controlled as will be loading and unloading operations at the port. If spillage does occur the pure silica is not expected to impact on world heritage values as it is not a contaminant of concern	These intentions/promises lack detail. How will they be controlled?
<u>Groundwater</u> will be managed to ensure no drawdown occurs from groundwater dependant habitat features or results in changes in flow regimes from creeks and waterways into the GBR lagoon. This will be demonstrated through calibrated groundwater numerical modelling	These intentions/promises will require field testing with a detailed monitoring plan with clearly defined hold points. These are not provided.

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Finally, the Referral (p. 73) asserted that the proposal will not have a significant impact (*values to be lost, degraded or damaged or notably altered, modified, obscured or diminished*). It stated that although the proposal will potentially introduce new physical infrastructure at Cape Flattery in the form of a barge ramp and extension to the port wharf, it will not represent a new development area within the WHA/NHP that could otherwise damage or degrade the relevant values.

This would appear to ignore the negative impacts of increased shipping movements in the Great Barrier Reef lagoon and the increased activity, and therefore risks, at the loading location. The existing mine (CFSM) is listed⁶ as the world's largest silica mine and the port was listed in 2001 as the eighth largest⁷ in Queensland in terms of throughput.

The referral further asserted that:

- “As assessed elsewhere, the NSP is not anticipated to pose a significant impact to any species of marine megafauna, shorebird or seabird and therefore will not impact the overall ecosystem and species values within the WHA/NHP”
- “Additional vessel movements from the NSP will represent <1% of total vessel movements already in the WHA/NHP and can be adequately managed through existing management protocols for shipping, bunkering, ballast water exchanges, biosecurity and vessel safety without a change in risk profile”

This assertion might be arguable for the high threshold impact (*One or more of the World Heritage values to be lost*), but it is not arguable for the lower threshold impacts of:

- *One or more of the World Heritage values to be degraded or damaged, or*
- *One or more of the World Heritage values to be notably altered, modified, obscured or diminished*

The authors need to provide further evidence and separately discuss these potential impacts.

There is also no reference to any of the documented impacts and monitoring results from the current CFSM mine near this location. These data should form a background for this Referral.

3.3 Listed Threatened Ecological Communities

3.3.1 EPBC Significant Impact Guidelines

The test for significant impact on **endangered ecological communities** is that there is a real chance or possibility that it will:

- reduce the extent of an ecological community
- fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines
- adversely affect habitat critical to the survival of an ecological community
- modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns
- cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting
- cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:
 - assisting invasive species, that are harmful to the listed ecological community, to become established, or
 - causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or
- interfere with the recovery of an ecological community

⁶<https://www.australianresourcesandinvestment.com.au/2022/11/25/the-precise-world-of-silica/#:~:text=In%20far%20north%20Queensland%20%E2%80%93%20about.and%20other%20parts%20of%20Asia.>

⁷<https://www.environment.gov.au/cgi-bin/wetlands/report.pl>

3.3.2 Critical Assessment of Referral

The Referral correctly asserted that the occurrence of *Endangered Lowland tropical rainforest of the Wet Tropics* is unlikely.

However, whilst it identified the potential occurrence of *Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia*, the Referral failed to accurately identify the relevant Regional Ecosystems (REs) and misinterpreted the Commonwealth listing guidelines thereby underestimating the potential impacts.

The referral incorrectly listed RE 3.12.2b *Araucarian notophyll vine forest on granitic ridges and mountains* (page 37) as part of the *Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia* (CELR&CVT). This RE is not an element of this listed community and its closest occurrence is 100 kilometres to the north at Cape Melville.

The referral (page 37) incorrectly argued that CELR&CVT only occurs within 2 kilometres of the coast citing Threatened Species Scientific Committee (TSSC 2008⁸):

“Typically, the ecological community occurs within two kilometres of the coast or adjacent to a large salt water body, such as an estuary and, thus, is influenced by the sea.”

This unusual interpretation certainly minimised the risk of this Listed Ecological Community to the project. However, it ignored the listing of Queensland vegetation mapping list of REs within the same document (TSSC 2008⁵). The authors also appear unaware of additional Commonwealth documents which clearly define this community by its REs in Queensland⁹. A scan of the Queensland Regional Ecosystem database¹⁰ would have revealed the current relevant REs for this listed community in the study area is RE 3.2.12. Three other REs for this listed community do not occur within MLA 100308.

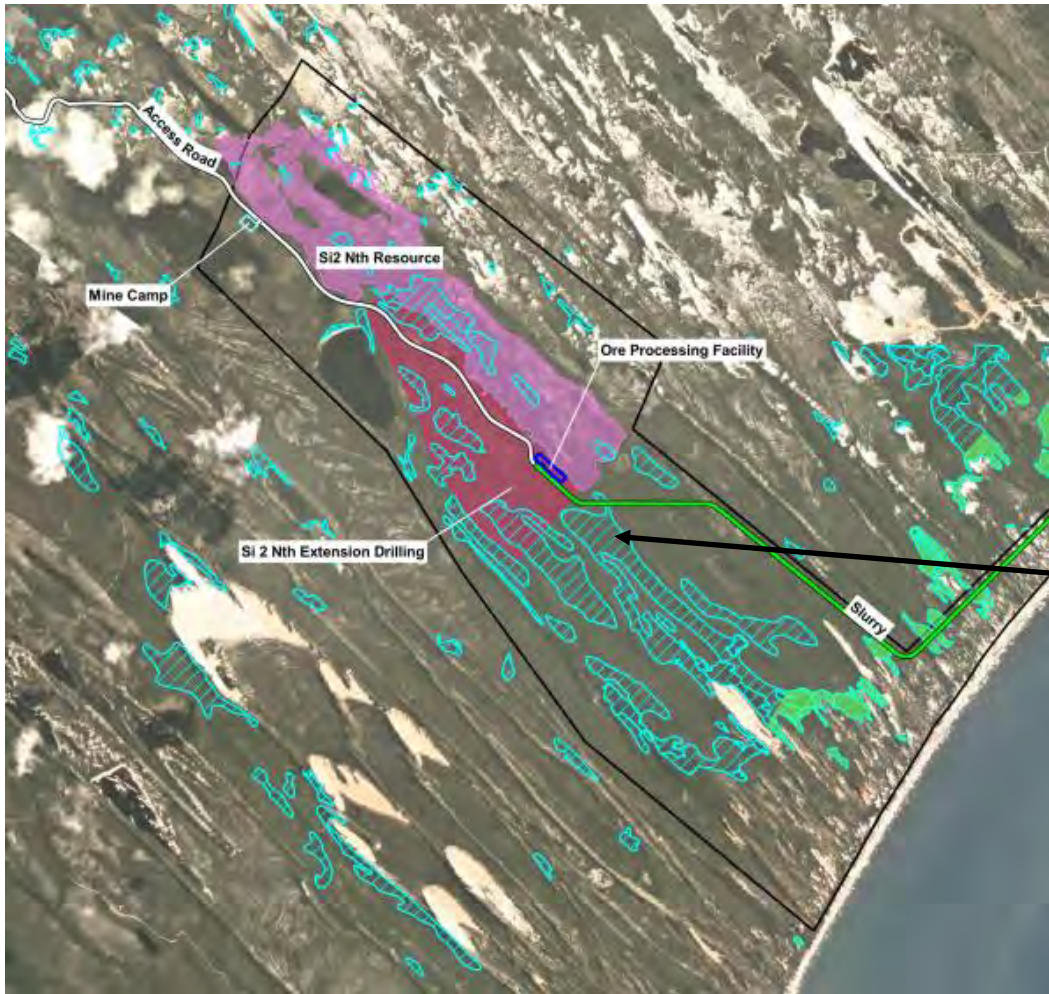
The map provided by the Referral (BMT 2023 - Figure 3.3) is also inconsistent with Regional Ecosystem data layers available through Queensland Globe (5 August 2023). The two figures can be compared below.

The inaccuracies of the Referral’s basic assessment have resulted in a series of incorrect conclusions about the potential impacts of this proposal. Contrary to the 3.5 ha argued in the Referral (page 37), the mapping above suggests that the proposed mine could potentially affect over 1,000 ha of this community which lies within the current MLA 100308.

⁸ Commonwealth Listing Advice on Littoral Rainforest and Coastal Vine Thickets of Eastern Australia, Department of the Environment, Water, Heritage and the Arts, Commonwealth of Australia

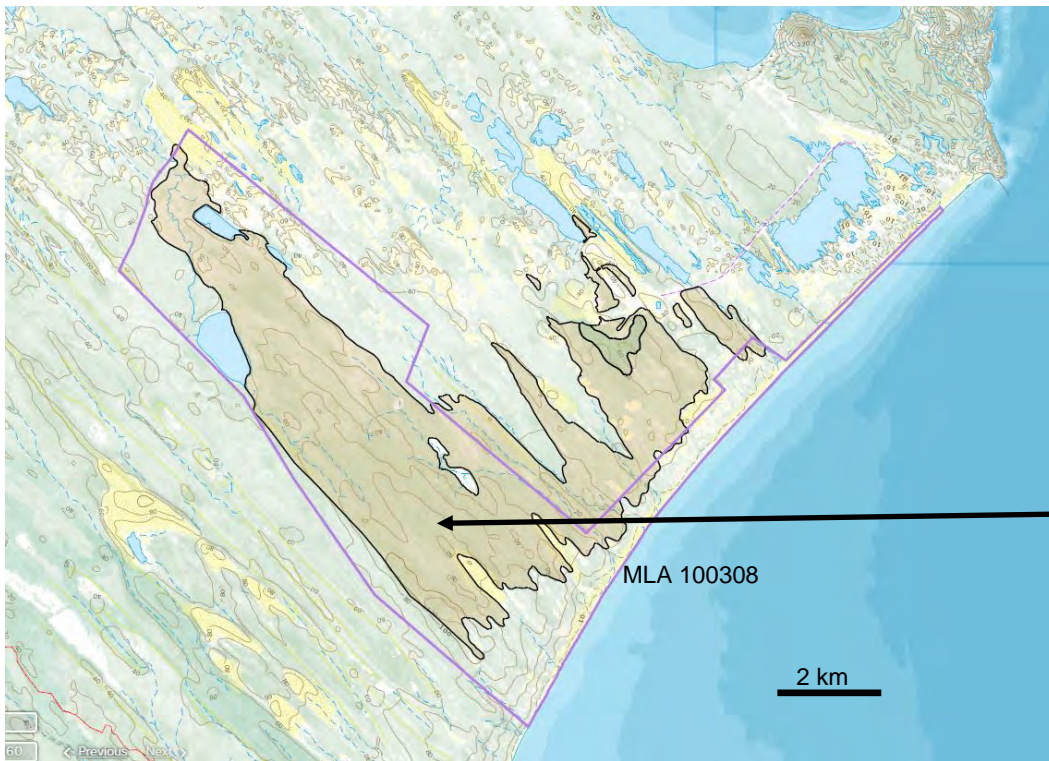
⁹ https://www.legislation.gov.au/Details/F2019L00153/Html/Text#_Toc503951219

¹⁰ <https://apps.des.qld.gov.au/regional-ecosystems/>



Extent of Littoral Rainforest Community (hatched blue polygons) BMT (2023)

Part of Figure 3.3 from BMT 2023



Extent of Littoral Rainforest Community based on RE 3.2.12

Regional Ecosystem mapping from Queensland Globe 5 August 2023

Released under the FOI Act 1982

Referral Assertion	Critical Assessment
<p>(p. 60) <i>Reduction in extent of an ecological community:</i> Temporary impact – there will be an unavoidable reduction in the extent of the TEC due to clearing for infrastructure. However, this will be rehabilitated after closure of the mine, with full rehabilitation of the community expected. The total reduction, therefore, will be limited to a period of decades (i.e. 20+ year mine life plus post-mining rehabilitation period).”</p>	<p>These responses depend on effective reinstatement of this community, but there is <u>no discussion</u> regarding the likelihood of effective reinstatement following the removal/ disturbance of topsoil and regolith during mining. The current author’s 30 years of experience in vegetation ecology on Cape York Peninsula (including mining rehabilitation) suggests that the reinstatement of these communities is extremely difficult as they often depend on perched humic layers and ground water which are always disrupted by mining activities.</p>
<p><i>Fragment or increase fragmentation of an ecological community</i> “Temporary impact – as the proposed infrastructure is linear and crosses through an area of the TEC, there will be a fragmentation of the community for the life of the NSP until closure and rehabilitation is achieved. Note that the corridor has been minimised (sic) as much as possible to reduce the extent of fragmentation impacts.”</p>	<p>The Referral provides no evidence on the timescale for effective rehabilitation in the area although these data may well be available from other sand mining activities on Cape York Peninsula. The actual impacts of the proposal on these two criteria are long term and serious.</p>

The Referral also stated that the proposal will have no impacts on the remaining 5 criteria. This assessment is flawed by poorly assessed disturbance area (detailed above) and the misinterpretation of the criteria. At this site, the areas of clearing associated with proposed works will indeed:

- adversely affect habitat critical to the survival of an ecological community
- modify or destroy abiotic factors necessary for an ecological community’s survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns
- cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species
- cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, or
- interfere with the recovery of an ecological community

Based on the criteria listed above, the potential impacts on this critically endangered plant community are likely to be very significant.

The discussion in this Referral is not an adequate assessment of these impacts.

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3.4 Threatened species

3.4.1 EPBC Significant Impact Guidelines

The criteria for determining a significant impact for threatened species are summarised below.

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:	
Critically endangered or endangered species	Vulnerable species
lead to a long-term decrease in the size of a population ^A	lead to a long-term decrease in the size of an <i>important</i> population ^B of a species
disrupt the breeding cycle of a population	disrupt the breeding cycle of an <i>important</i> population
interfere with the recovery of the species	interfere <i>substantially</i> with the recovery of the species
reduce the area of occupancy of the species	
fragment an existing population into two or more populations	
adversely affect habitat critical to the survival of a species	
result in invasive species that are harmful to a species becoming established in the species' habitat	
introduce disease that may cause the species to decline, or	
modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	
<p>A: 'population of a species' is defined under the EPBC Act as an occurrence of the species in a particular area. In relation to critically endangered, endangered or vulnerable threatened species, occurrences include but are not limited to: a geographically distinct regional population, or collection of local populations, or a population, or collection of local populations, that occurs within a particular bioregion.</p> <p>B: 'important population' is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are: key source populations either for breeding or dispersal, populations that are necessary for maintaining genetic diversity, and/or populations that are near the limit of the species range</p>	

3.4.2 Critical Assessment of Referral

The EPBC Report listed 42 threatened species but BMT has listed few as known or possibly occurring in the area (9 species of birds, one mammal, 4 plants, 6 reptiles and 3 sharks). Few data are cited in relation to the possible significance of the area for these species. For example, for the critically endangered/endangered birds (p. 42) it is stated that:

“These habitats are not critical to individual or species survival”

No data is presented to support this claim.

It appears that consideration of Threatened species occurring in the study area has been parsimonious at best. It is clear that a large range of threatened species occupy many of the habitats of the proposed site including rainforest and marine habitats.

The Referral would be much improved by:

- an analysis of threatened species by habitat to provide an indication of the importance of spatially identified areas, and
- use of a larger search area to provide a more accurate indication of possible species occurrence.

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3.5 Listed Migratory Species

3.5.1 EPBC Significant Impact Guidelines

An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

3.5.2 Critical Assessment of Referral

The Referral provided a parsimonious assessment of this category of species and concluded, without adequate data, that:

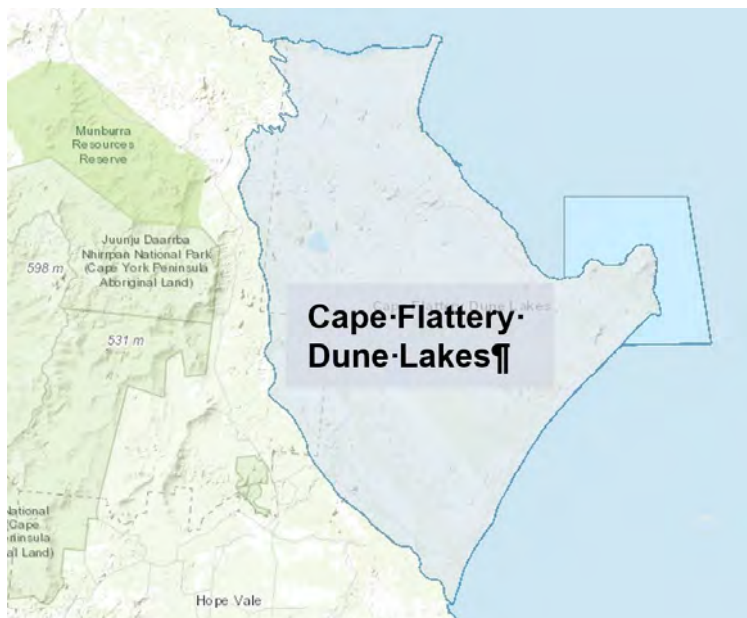
“it is not considered that any of these species or groups would be significantly impacted by the proposal”.

Again, the Referral would be much improved by:

- an analysis of Listed Migratory species by habitat to provide an indication of the importance of spatially identified areas, and
- use of a larger search area to provide a more accurate indication of possible species occurrence.

3.6 Cape Flattery Dune Lakes

Cape Flattery Dune Lakes are a listed **Nationally Important Wetland** which are described as the largest dune field on the east coast of Australia, north of Fraser Island. The wetlands are comprised of a number of freshwater lakes and palustrine wetlands located in dune swales. There are also beaches, mangroves and salt flats. The largest of the dune lakes exceed 1 km² in area, and many are permanent, providing dry season refuges for waterbirds and breeding habitats for numerous species of wildlife. The dunes carry a diverse vegetation cover, ranging from heath to rainforest. This provides a variety of habitats for wildlife.



3.6.1 EPBC Significant Impact Guidelines

Although there are no specific guidelines for this category of Protected Matter, it is considered that those for Internationally Important Wetlands provide a good indication. They consider that a significant impact occurs if there is a real chance or possibility that it results in:

- areas of the wetland being destroyed or substantially modified
- a substantial and measurable change in the hydrological regime of the wetland, for example, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland
- the habitat or lifecycle of native species, including invertebrate fauna and fish species, dependant upon the wetland being seriously affected
- a substantial and measurable change in the water quality of the wetland – for example, a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health, or
- an invasive species that is harmful to the ecological character of the wetland being established (or an existing invasive species being spread) in the wetland. it will cause one or more of the World Heritage values to be lost, degraded or damaged, or notably altered, modified, obscured or diminished. In terms of biological and ecological values this would be:

3.6.2 Critical Assessment of Referral

The Referral largely avoids consideration of this **nationally significant** environmental wetland, and makes no attempt to outline the potential impacts of the proposed activities on this area.

The *Directory of Important Wetlands*¹¹ entry notes the existing mining operation at Cape Flattery requires the extraction of large volumes of ground water and there is potential for this to cause the lowering of water tables which will affect the site's wetlands. It further adds there is some evidence to suggest that mining activities are reducing the diversity of invertebrates in the dune lakes.

There seems little doubt that the alienation or destruction of up to 4,800 ha from this wetland would have a major impact. It seems highly likely that:

- **areas of the wetland would be destroyed or substantially modified**
- **a substantial and measurable change in the hydrological regime of the wetland would occur**
- **the habitat or lifecycle of native species, including invertebrate fauna and fish species, dependent upon the wetland would be seriously affected, and**
- **a substantial and measurable change in the water quality of the wetland would occur.**

The diversity and resilience of this nationally important ecological area would be clearly compromised. It is not just the lakes but the entire mosaic of habitat together which defines the extraordinary values of this area.

¹¹ <https://www.environment.gov.au/cgi-bin/wetlands/report.pl>

4. Impact of the proposed mining on other conservation values

4.1 Introduction

A best-practice approach to environmental impact assessment suggests that all relevant information should be used in a systematic way (International Association for Impact Assessment)¹². This section identifies some additional key biophysical environmental values that should be considered in the Cape Flattery Area, namely:

- **Internationally significant** geo-physical landform values
- **Internationally significant** biological values,

The likely impacts on these values are outlined below.

4.2 Internationally significant geo-physical landform values

As part of the *Cape York Peninsula Land Use Strategy* the Cape Bedford-Cape Flattery Dunefield was identified by the Australian Heritage Commission (1994) as one of four internationally significant geological/ landform features on Cape York Peninsula. Its high-level significance was described as:

- representing over 40% of the total dune field area on Cape York Peninsula
- containing significant representations of the dune landforms and vegetation found on Cape York Peninsula
- containing some of the best examples of varieties of Parabolic dunes on the tropical Queensland coast, especially large, elongate Parabolic dunes.
- being one of a few places in the world with an extensive development of active, large, elongate Parabolic dunes; the Gegenwalle ground patterns in the dune field are the best developed and largest in the world.

These values were reinforced by the *Expert Panel for Assessment of Potential World Heritage Values* (Hitchcock *et al.*) in 2013. They confirmed that **Cape Flattery** is one of the few places in the world with extensive development of active, large elongate parabolic dunes, and its Gegenwalle ridges are amongst the largest and best developed in the world. The report considered that the dune systems of Cape York Peninsula were likely to meet World Heritage criteria:

- (vii) to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance; and
- (viii) to be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features.

The proposed mining activities will potentially disturb nearly 5,000 ha of this landform representing 7% of its total area. It should be noted that this proposal will more than double the existing areas of disturbance at Cape Flattery.

¹² <https://www.ianz.org/document/item/2744>

4.3 Internationally significant biological diversity values

Also during the *Cape York Peninsula Land Use Strategy*, Abrahams *et al.* (1995) identified the Cape Bedford-Cape Flattery Dunefields as an Area of Nationally Significant Conservation Significance for biodiversity because:

- it contains some of the best examples of evergreen mesophyll/notophyll vine forest on the Peninsula, as well as some other rare vine thicket communities;
- it is the only known habitat of two rare skink species;
- it contains the habitat of several threatened plant species and regionally uncommon vegetation types; the dune lakes contain a unique faunal assemblage; the evergreen notophyll vine forests of the area support several plant species that have widely disjunct populations; large roosting populations of the endangered Little Tern (*Sterna albifrons*) have been recorded in the area; and the cliffs and wave cut platforms at Cape Bedford are some of the best exposures of the extensive Hodgkinson Province, providing much information about regional geological events.

These values were reinforced by the *Expert Panel for Assessment of Potential World Heritage Values* (Hitchcock *et al.*) in 2013. They confirmed the occurrence of potential World Heritage values (Criteria viii – ix) for:

- Tropical Savanna Landscapes,
- Aquatic Ecosystems and Freshwater Biodiversity,
- Rainforest Ecosystems,
- Continental Scale Biological Bridge, and
- Development of Scleromorphy in the Australian flora.

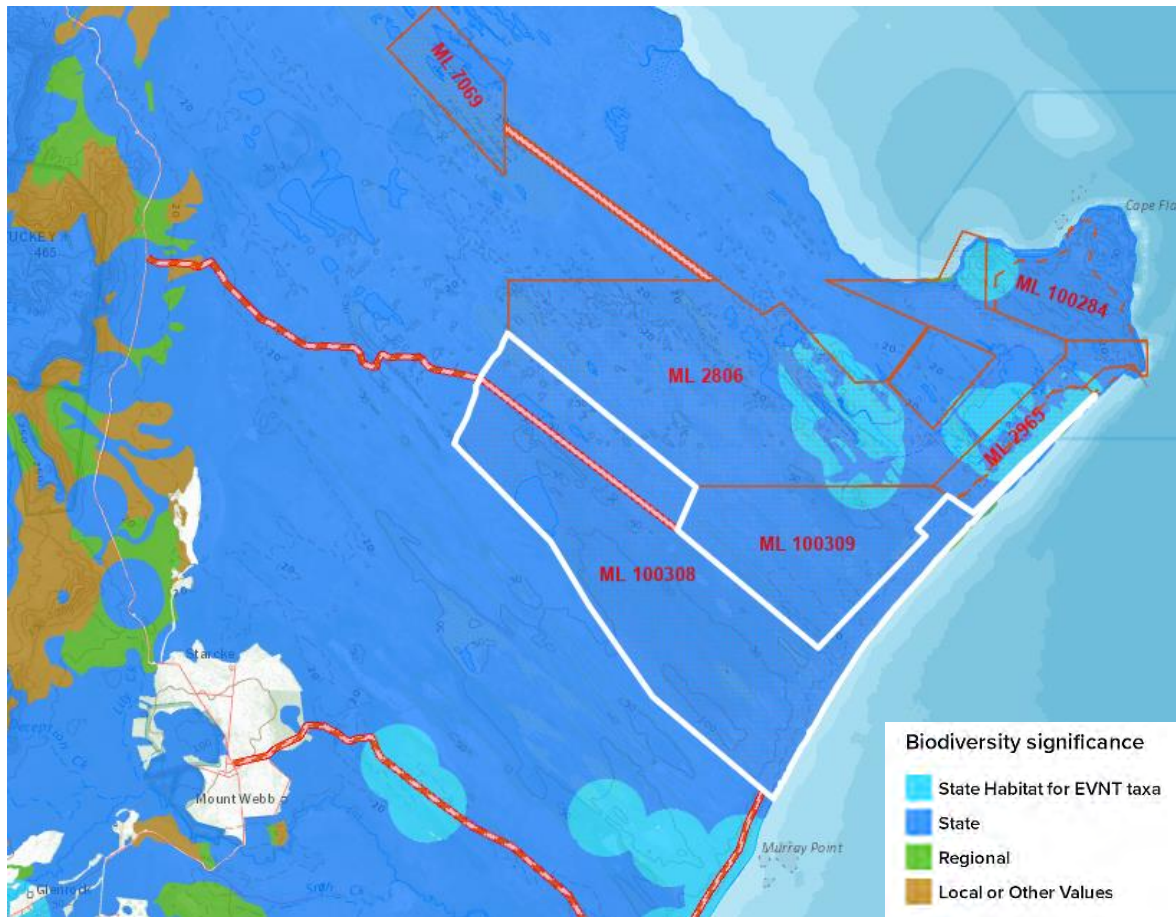
These values were identified as occurring across Cape York Peninsula including the Cape Bedford – Cape Flattery area. **The proposed mining activities would disturb nearly 5,000 ha of habitats that have been recognised as highly significant for their biodiversity. It would more than double the existing areas of disturbance at Cape Flattery clearly affecting identified values of savanna landscapes, aquatic ecosystems and freshwater biodiversity, and rainforest ecosystems.**

Further detailed spatially identified values were determined by Queensland Government in 2013 (*Cape York Peninsula Biodiversity Planning Assessment*, EHP 2012 and online as a search tool¹³). In this analysis all of MLA 10308 is mapped as the highest level (state) significant values for biodiversity and habitat for Endangered, Vulnerable and Near- threatened taxa (EVNT) (see figure overleaf).

The search tool report identified the following **State Significant values** within the MLA area:

- Habitat for threatened (EVNT) taxa
- Core Habitat for Priority Taxa
- Ia: Centres of Endemism
- Ib: Wildlife Refugia
- Ic: Disjunct Populations
- Id: Limits of Geographic Ranges
- Ie: High Species Richness
- If: Relictual Populations
- Ig: area containing REs with distinct variation in species composition
- Ij: breeding or roosting sites used by a significant number of individuals

¹³ <https://www.qld.gov.au/environment/management/environmental/environmental-reports-online>



In addition, the Expert Panel further identified the following **state significant values**:

- cyp_fl_04 - **Littoral rainforest** - The Littoral Rainforest and Coastal Vine Thickets of Eastern Australia is a critically endangered ecological community listed under the Australian Government's EPBC Act. The ecological community provides habitat for over 70 threatened plants and animals and it provides an important buffer to coastal erosion and wind damage.
- cyp_fl_07 - **Heath communities** are nationally restricted and uncommon. CYP contains the largest areas of heathland in Australia, and these examples are largely undisturbed
- cyp_1_07 - **Dunefields** - east and west coast with prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Threatened species present. Holocene on west coast, quaternary on east coast.
- cyp_1_29 - **Cape Bedford / Cape Flattery** sand country, basalt, sandstone country with:
 - some of the best examples of evergreen mesophyll/notophyll vine forest on the Peninsula, as well as some other rare vine thicket communities;
 - only known habitat of two rare skink species (*Ctenotus rawlinsoni* and *Lerista ingrami*);
 - habitat of several threatened plant species and regionally uncommon vegetation types;
 - the dune lakes contain a unique faunal assemblage;
 - the evergreen notophyll vine forests of the area support several plant species that have widely disjunct populations;
 - large roosting populations of the endangered Little Tern (*Sterna albifrons*)

The nearly 5,000 ha of proposed clearing is likely to impact on a number of these values including four identified by the Expert Panel. Of particular note is the likely impacts on the habitat of two locally endemic species of skink *Ctenotus rawlinsoni* and *Lerista ingrami*. Although both are listed as vulnerable in Queensland, they do not yet attain this status under the EPBC Act. It seem highly likely that if this proposal proceeds then they will soon become represented on the EPBC list of threatened reptiles.

5. Conclusions

The Cape Flattery Area includes conservation values of up to, and including, international significance. It is clear that these extend onto the areas identified as leases for proposed silica mines (MLAs 100308, 100310, 100313, 100312). S

The proposed mining activities are very likely to have **significant detrimental impacts** on the following EPBC Protected Matters:

- **internationally significant** values of the Great Barrier Reef through increased maritime traffic, changes in overland and groundwater flows, use of biodegradable flocculants, and increased port activity. **It appears very likely that *One or more of the World Heritage values may be degraded or damaged.***
- **Nationally significant Critically Endangered** Littoral Rainforest and Coastal Vine Thickets of Eastern Australia by clearing of potentially over 1,000 ha with a high probability of *reducing its extent, causing fragmentation, adversely affecting habitat, and causing a substantial change in the species composition.* **The Referral's discussion of these impacts is misleading and inaccurate.**
- **Nationally significant threatened species** including critically endangered species whose habitats are dismissed by the Referral as being "*not critical to individual or species survival*". **The absence of data casts doubt on the veracity of these claims.**
- **Nationally significant Listed Migratory Species** whose habitats are also dismissed by the assertion that "*it is not considered that any of these species or groups would be significantly impacted by the proposal*". Similar to above, **the absence of data here casts doubt on the veracity of the claims for these species.**
- the **Nationally significant** wetland values of the *Cape Flattery Dune Lakes*. There seems little doubt that the alienation or destruction of up to 4,800 ha from within this wetland would have a major impact. **The diversity and resilience of this nationally important ecological area would be clearly compromised.** It is not just the lakes but the entire mosaic of habitat together which defines the extraordinary values of this area

The Referral would be much improved by the addition of a discussion of the impacts of the proposed mine on:

- the **internationally significant** geo-physical values of the Cape Bedford - Cape Flattery Dunefield. The proposed mining activities would disturb nearly 5,000 ha of this landform representing 7% of its total area. **This proposal will more than double the area of disturbance already present at Cape Flattery as a result of CFSM.**
- the **internationally, nationally and state significant** biodiversity values of the Cape Flattery area. The proposed disturbance of nearly 5,000 ha would detrimentally affect habitats that are recognised as highly significant for their ecology and biodiversity. **It may lead to two endemic skink species (*Ctenotus rawlinsoni*, *Lerista ingrami*) being added to the list of EPBC nationally threatened species.**

Overall, the Referral does not meet its required aim of systematically describing all direct, indirect and facilitated impacts that the project could have on Protected Matters¹⁴.

Additionally, the Referral does not adequately:

- **provide details on how the project would avoid or reduce any significant impacts**
- **explain how avoidance or mitigation measures would be implemented**
- **explain how avoidance or mitigation measures are likely to succeed**

The Referral would be much improved by the addition of a discussion of the impacts of the proposed mine on other relevant nationally and internationally significant biophysical values.

Released under the FOI Act 1982

¹⁴ www.dceew.gov.au/environment/epbc/advice/referral-applications-and-proposals

6. References

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Wannan B.S. 2023. *Conservation Values of Cape Bedford – Cape Flattery Area* Consultancy report for Pew Foundation.

Appendix A:

EPBC Act Protected Matters Report



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 27-Jul-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	8
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	49
Listed Migratory Species:	48

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	103
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	3
Regional Forest Agreements:	None
Nationally Important Wetlands:	2
EPBC Act Referrals:	4
Key Ecological Features (Marine):	None
Biologically Important Areas:	9
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [\[Resource Information \]](#)

Name	State	Legal Status
Great Barrier Reef	QLD	Declared property

National Heritage Places [\[Resource Information \]](#)

Name	State	Legal Status
Natural		
Great Barrier Reef	QLD	Listed place

Great Barrier Reef Marine Park [\[Resource Information \]](#)

Zone Type	Zone ID	IUCN
Conservation Park	CP-14-4114	IV
Conservation Park	CP-15-4020	IV
General Use	GU-11-6002	VI
Habitat Protection	HP-14-5112	VI
Habitat Protection	HP-15-5115	VI
Habitat Protection	HP-15-5116	VI
Marine National Park	MNP-14-1025	II
Marine National Park	MNP-14-1032	II

Listed Threatened Ecological Communities [\[Resource Information \]](#)

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area
Lowland tropical rainforest of the Wet Tropics	Endangered	Community likely to occur within area

Listed Threatened Species [\[Resource Information \]](#)

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
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Scientific Name LEX 78180	Threatened Category Document 5	Presence Text	Attachment C
BIRD			
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area	
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat may occur within area	
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat likely to occur within area	
Neochmia phaeton evangelinae Crimson Finch (white-bellied), White-bellied Crimson Finch [64443]	Endangered	Species or species habitat may occur within area	
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	
Probosciger aterrimus macgillivrayi Palm Cockatoo (Australian) [67033]	Vulnerable	Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
LEX 78180 Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Turnix olivii Buff-breasted Button-quail [59293]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area

FISH

Stiphodon semoni Opal Cling Goby [83909]	Critically Endangered	Species or species habitat may occur within area
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FROG

Litoria dayi Australian Lace-lid, Lace-eyed Tree Frog, Day's Big-eyed Treefrog [86707]	Vulnerable	Species or species habitat likely to occur within area
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MAMMAL

Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area
Hipposideros semoni Semon's Leaf-nosed Bat, Greater Wart-nosed Horseshoe-bat [180]	Vulnerable	Species or species habitat may occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Mesembriomys gouldii rattoides Black-footed Tree-rat (north Queensland), Shaggy Rabbit-rat [87620]	Vulnerable	Species or species habitat may occur within area

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[Phascolarctos cinereus \(combined populations of Qld, NSW and the ACT\)](#)

Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104] Endangered Species or species habitat may occur within area

[Pteropus conspicillatus](#)

Spectacled Flying-fox [185] Endangered Species or species habitat may occur within area

[Rhinolophus robertsi](#)

Large-eared Horseshoe Bat, Greater Large-eared Horseshoe Bat [87639] Vulnerable Species or species habitat likely to occur within area

[Saccolaimus saccolaimus nudicluniatus](#)

Bare-rumped Sheath-tailed Bat, Bare-rumped Sheath-tail Bat [66889] Vulnerable Species or species habitat likely to occur within area

[Xeromys myoides](#)

Water Mouse, False Water Rat, Yirrkoo [66] Vulnerable Species or species habitat likely to occur within area

PLANT

[Acriopsis emarginata](#)

Pale Chandelier Orchid [83928] Vulnerable Species or species habitat may occur within area

[Bruguiera x hainesii](#)

Haines's Orange Mangrove [91351] Critically Endangered Species or species habitat likely to occur within area

[Cyclophyllum costatum](#)

a shrub [82770] Vulnerable Species or species habitat may occur within area

[Dendrobium johannis](#)

Chocolate Tea Tree Orchid [13585] Vulnerable Species or species habitat known to occur within area

[Eremochloa muricata](#)

[6469] Endangered Species or species habitat known to occur within area

[Leichhardtia araujacea](#)

[91900] Critically Endangered Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
^{LEX 78180} Myrmecodia beccarii Ant Plant [11852]	Vulnerable	Species or species habitat likely to occur within area
Phaius pictus [22564]	Vulnerable	Species or species habitat may occur within area
Phlegmariurus dalhousieanus BlueTassel-fern [86550]	Endangered	Species or species habitat likely to occur within area
Phlegmariurus squarrosus Rock Tassel-fern, Water Tassel-fern [86556]	Critically Endangered	Species or species habitat may occur within area
Vappodes phalaenopsis Cooktown Orchid [78894]	Vulnerable	Species or species habitat likely to occur within area
REPTILE		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
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LEX 78180

Document 5

Attachment C

SHARK

[Carcharodon carcharias](#)

White Shark, Great White Shark [64470] Vulnerable Species or species habitat may occur within area

[Pristis pristis](#)

Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756] Vulnerable Species or species habitat may occur within area

[Pristis zijsron](#)

Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442] Vulnerable Species or species habitat known to occur within area

[Rhincodon typus](#)

Whale Shark [66680] Vulnerable Species or species habitat may occur within area

[Sphyrna lewini](#)

Scalloped Hammerhead [85267] Conservation Dependent Species or species habitat likely to occur within area

Listed Migratory Species

[Resource Information

Scientific Name	Threatened Category	Presence Text
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Migratory Marine Birds

[Anous stolidus](#)

Common Noddy [825] Foraging, feeding or related behaviour known to occur within area

[Apus pacificus](#)

Fork-tailed Swift [678] Species or species habitat likely to occur within area

[Fregata ariel](#)

Lesser Frigatebird, Least Frigatebird [1012] Species or species habitat likely to occur within area

[Fregata minor](#)

Great Frigatebird, Greater Frigatebird [1013] Species or species habitat likely to occur within area

[Phaethon lepturus](#)

White-tailed Tropicbird [1014] Species or species habitat may occur within area

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Scientific Name LEX 78180	Threatened Category Document 5	Presence Text	Attachment C
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area	
Migratory Marine Species			
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area	
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area	
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area	
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	
Dugong dugon Dugong [28]		Species or species habitat known to occur within area	

Scientific Name LEX 78180	Threatened Category Document 5	Presence Text	Attachment C
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area	
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area	
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area	
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat likely to occur within area	
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area	
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	

Scientific Name <small>LEX 78180</small>	Threatened Category <small>Document 5</small>	Presence Text <small>Attachment C</small>
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		Foraging, feeding or related behaviour known to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Monarcha frater Black-winged Monarch [607]		Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area

Scientific Name LEX 78180	Threatened Category Document 5	Presence Text	Attachment C
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area	
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area	
Limnodromus semipalmatus Asian Dowitcher [843]		Species or species habitat may occur within area	
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area	

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Foraging, feeding or related behaviour known to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area

Scientific Name <small>LEX 78180</small>	Threatened Category <small>Document 5</small>	Presence Text <small>Attachment C</small>
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat may occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]		Species or species habitat may occur within area overfly marine area

Scientific Name <small>LEX 78180</small>	Threatened Category <small>Document 5</small>	Presence Text <small>Attachment C</small>
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Monarcha frater Black-winged Monarch [607]		Species or species habitat known to occur within area overfly marine area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area

LEX 78180

Document 5

[Sternula albifrons as Sterna albifrons](#)

Little Tern [82849]

Species or species habitat may occur within area

[Symposiachrus trivirgatus as Monarcha trivirgatus](#)

Spectacled Monarch [83946]

Species or species habitat known to occur within area overfly marine area

[Tringa nebularia](#)

Common Greenshank, Greenshank [832]

Species or species habitat may occur within area overfly marine area

Fish

[Acentronura tentaculata](#)

Shortpouch Pygmy Pipehorse [66187]

Species or species habitat may occur within area

[Bulbonaricus davaoensis](#)

Davao Pughead Pipefish [66190]

Species or species habitat may occur within area

[Choeroichthys brachysoma](#)

Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]

Species or species habitat may occur within area

[Choeroichthys cinctus](#)

Barred Short-bodied Pipefish, Girdled Pipefish [66195]

Species or species habitat may occur within area

[Choeroichthys sculptus](#)

Sculptured Pipefish [66197]

Species or species habitat may occur within area

[Choeroichthys suillus](#)

Pig-snouted Pipefish [66198]

Species or species habitat may occur within area

[Corythoichthys amplexus](#)

Fijian Banded Pipefish, Brown-banded Pipefish [66199]

Species or species habitat may occur within area

[Corythoichthys flavofasciatus](#)

Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]

Species or species habitat may occur within area

Scientific Name <small>LEX 78180</small>	Threatened Category <small>Document 5</small>	Presence Text <small>Attachment C</small>
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys ocellatus Orange-spotted Pipefish, Ocellated Pipefish [66203]		Species or species habitat may occur within area
Corythoichthys paxtoni Paxton's Pipefish [66204]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus maxweberi Maxweber's Pipefish [66209]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Festucalex gibbsi Gibbs' Pipefish [66215]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area

Scientific Name LEX 78180	Threatened Category Document 5	Presence Text Attachment C
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus macrorhynchus Whiskered Pipefish, Ornate Pipefish [66222]		Species or species habitat may occur within area
Halicampus matafae Samoan Pipefish [66223]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spinostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippichthys spicifer Belly-barred Pipefish, Banded Freshwater Pipefish [66232]		Species or species habitat may occur within area

Scientific Name <small>LEX 78180</small>	Threatened Category <small>Document 5</small>	Presence Text <small>Attachment C</small>
Hippocampus bargibanti Pygmy Seahorse [66721]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Hippocampus zebra Zebra Seahorse [66241]		Species or species habitat may occur within area
Micrognathus andersonii Anderson's Pipefish, Shortnose Pipefish [66253]		Species or species habitat may occur within area
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area
Micrognathus natans Offshore Pipefish [66256]		Species or species habitat may occur within area
Microphis brachyurus Short-tail Pipefish, Short-tailed River Pipefish [66257]		Species or species habitat may occur within area
Nannocampus pictus Painted Pipefish, Reef Pipefish [66263]		Species or species habitat may occur within area

LEX 78180

Document 5

[Phoxocampus diacanthus](#)

Pale-blotched Pipefish, Spined Pipefish [66266]

Species or species habitat may occur within area

[Siokunichthys breviceps](#)

Softcoral Pipefish, Soft-coral Pipefish [66270]

Species or species habitat may occur within area

[Solegnathus hardwickii](#)

Pallid Pipehorse, Hardwick's Pipehorse [66272]

Species or species habitat may occur within area

[Solenostomus cyanopterus](#)

Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]

Species or species habitat may occur within area

[Solenostomus paradoxus](#)

Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]

Species or species habitat may occur within area

[Syngnathoides biaculeatus](#)

Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]

Species or species habitat may occur within area

[Trachyrhamphus bicoarctatus](#)

Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]

Species or species habitat may occur within area

[Trachyrhamphus longirostris](#)

Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]

Species or species habitat may occur within area

Mammal

[Dugong dugon](#)

Dugong [28]

Species or species habitat known to occur within area

Reptile

[Acalyptophis peronii](#)

Horned Seasnake [1114]

Species or species habitat may occur within area

[Aipysurus duboisii](#)

Dubois' Seasnake [1116]

Species or species habitat may occur within area

Scientific Name LEX 78180	Threatened Category Document 5	Presence Text	Attachment C
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area	
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area	
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area	
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area	
Chitulia ornata as Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [87377]		Species or species habitat may occur within area	
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area	
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area	
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
LEX 78180 Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli Small-headed Seasnake [75601]		Species or species habitat may occur within area
Lapemis curtus as Lapemis hardwickii Spine-bellied Seasnake [83554]		Species or species habitat may occur within area
Laticauda colubrina a sea krait [1092]		Species or species habitat may occur within area
Laticauda laticaudata a sea krait [1093]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and Other Cetaceans [\[Resource Information \]](#)

Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area

Current Scientific Name LEX 78180	Status Document 5	Type of Presence Attachment C
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat likely to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa sahalensis Australian Humpback Dolphin [87942]		Foraging, feeding or related behaviour known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State
Great Barrier Reef Coast	Marine Park	QLD
Ngulun (Starcke River)	Fish Habitat Area (B)	QLD
Ngulun (Starcke River)	Fish Habitat Area (A)	QLD

Nationally Important Wetlands [Resource Information]

Wetland Name	State
Cape Flattery Dune Lakes	QLD
Great Barrier Reef Marine Park	QLD

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status
Cape Flattery Silica Sands Project	2022/09376		Assessment
Northern Silica Sand Mining Project	2023/09485		Assessment

Controlled action

Galalar Silica Sand Project	2020/8626	Controlled Action	Assessment Approach
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Not controlled action

Strengthening of Wharf Structure	2001/148	Not Controlled Action	Completed
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Biologically Important Areas

Scientific Name	Behaviour	Presence
Dolphins		
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]	Foraging	Known to occur
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]	Foraging	Likely to occur
Tursiops aduncus		
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Likely to occur

Marine Turtles

Eretmochelys imbricata		
Hawksbill Turtle [1766]	Internesting	Known to occur

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766]

Nesting

Known to occur

Seabirds

[Anous stolidus](#)

Common Noddy [825]

Breeding

Known to occur

[Anous stolidus](#)

Common Noddy [825]

Foraging

Likely to occur

[Sterna sumatrana](#)

Black-naped Tern [800]

Breeding

Known to occur

Whales

[Megaptera novaeangliae](#)

Humpback Whale [38]

Breeding and calving

Known to occur

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

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s. 22(1)(a)(ii)

From: s22 [redacted]@edo.org.au>
Sent: Friday, 8 March 2024 6:15 PM
To: s22 [redacted]
Cc: s22 [redacted]
Subject: Nature positive reforms - feedback from EDO
Attachments: EDO Briefing Note - Key concerns with progress on nature positive reforms.pdf

Dear s22 [redacted]

Thank you again for your time yesterday afternoon.

As discussed, EDO has put together a briefing note setting out our priorities and key concerns with the nature positive reforms so far. We covered a lot of it in our discussions, but this briefing contains further detail.

Please let us know if you'd like to set up another time to meet so we can answer any questions or provide further background on the points raised.

We will also provide a copy of the briefing to the Department.

Kind regards

s22 [redacted]



Environmental
Defenders Office

s22 [redacted] — Solicitor,
Commonwealth and Government Liaison
Naarm/Melbourne

s22 [redacted] edo.org.au

I use she/her pronouns.

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This email and any attachments are confidential. If you are not the intended recipient you must not disseminate, distribute or copy it. If you have received this email by mistake please notify us immediately at info@edo.org.au and delete this email.

EDO recognises the traditional owners and custodians of the land, seas and rivers of Australia. We pay our respects to Aboriginal and Torres Strait Islander elders past and present, and aspire to learn from traditional knowledge and customs so that, together, we can protect our environment and cultural heritage through law.

Released under the FOI Act 1982



8 March 2024

Briefing note: Key concerns with progress on nature positive reforms

EDO has now attended three targeted stakeholder consultations to view parts of the new nature positive reforms. There are positive elements of the proposed reforms that represent substantial improvements and are supported by EDO.

However, as a whole, EDO is concerned the Government's nature positive reform package is falling short of delivering on the Government's commitments set out in the *Nature Positive Plan*. The current proposed model will **not** deliver the critical conceptual shift needed to move us from being nature negative to nature positive.

EDO has the following key concerns:

- 1. The proposed objects lack ambition**
- 2. New concepts are ambiguous and under-developed**
- 3. National Environment Standards have been pared back and their application is uncertain**
- 4. Upfront protections are not guaranteed**
- 5. Discretionary decision-making will undermine objectivity and safeguards**
- 6. Proposed restoration actions and contributions are contrary to best practice biodiversity offsetting**
- 7. Regional planning has been substantially curtailed**
- 8. Reforms do not adequately address key environmental challenges: climate change and clearing**
- 9. First Nations interests have been absent**
- 10. More work is needed to improve transparency and accountability**

We remain confident that nature positive reform is within reach, however the Minister must ensure key elements of the reform package deliver on commitments to nature positive made by Government and do not inadvertently wind back current protections.

For more information:

s22

OVERVIEW

Environmental Defenders Office (**EDO**) has significant concerns that the Government's nature positive reform package is falling short of delivering on the Government's commitments as set out in the *Nature Positive Plan*.

Based on the material we have seen in the three rounds of targeted stakeholder engagement to date, our view is that the reform package as drafted will **not** deliver the critical conceptual shift needed to move us from being nature negative to nature positive. Some elements signal a regression from current laws.

The process for consultation (i.e. stakeholder lock-ins and limited access to materials) has made it difficult for stakeholders to understand the interaction between key elements and the operation of framework as whole. It has also restricted our ability to provide comprehensive feedback.

We remain confident that nature positive reform is within reach, however the Minister must ensure key elements of the reform package deliver on commitments to nature positive made by Government and do not inadvertently wind back current protections – see [‘Nature positive’ within reach – 2024 the year for long-awaited national environmental law reforms - Environmental Defenders Office \(edo.org.au\)](#).

KEY CONCERNS

1. Objects lack ambition

Given the Minister had signalled that nature positive reforms will deliver a ‘conceptual shift’, the proposed objects of the new framework are underwhelming. Current drafting comprises minimal changes to the current objects and ESD principles. While we understand that specific biodiversity targets have not yet been developed, the objects need to better reflect international and domestic commitments including to achieve zero new extinctions and halt and reverse biodiversity loss. The objects of the *Nature Repair Act 2023* (Cth) provide a useful example. The objects should also link to our climate obligations as set out in the *Climate Change Act 2022* (Cth).

2. New concepts are ambiguous and under-developed

The reform package proposes a number of key new concepts such as ‘nature positive’, ‘unacceptable impacts’, ‘critical protection areas’ etc. It is important that these concepts are clearly defined, and their scope and application is clearly understood; currently they are not. For example:

- *‘Nature positive’*: While ‘nature positive’ has been added to the objects, no upfront definition of nature positive has been provided. It must be defined consistent with its widely accepted international meaning of halting and reversing nature loss by 2030 with reference to a 2020 baseline, with the objective of full recovery by 2050.¹ The definition must be upfront in legislation (and not in provisions to establish the statutory head of Environment Information Australia, as proposed). At a project level, strict best-practice offsetting designed to legitimately offset impacts and deliver real gains will be required otherwise there is a real risk that nature positive will not be achieved.
- *‘Unacceptable impacts’*: The proposed ‘unacceptable impact’ provisions have the potential to be an important environmental safeguard and provide upfront certainty to proponents.

¹ <https://www.naturepositive.org/>

However, current definitions are too narrow and discretionary and there is a real risk the provisions will not deliver the outcomes intended.

- *'Critical protection area'*: The new concept of 'critical protection area' relies on other new concepts such as 'irreplaceable' and 'necessary... to survive in the wild'. It is unclear why known concepts such as 'critical habitat' and 'habitat critical to the survival' have been abandoned or have not informed the definition of 'critical protection area'. There is also ambiguity around the scope and certainty of upfront protection for critical protection areas (e.g. the identification of critical protection areas in a protection statement is not mandatory; and current drafting does not make it mandatory for critical habitat areas to be captured in regional planning 'conservation zones'). Without stronger implementation, it is unclear whether critical protection areas will effectively contribute to halting extinctions and reversing ongoing biodiversity decline.

3. National Environmental Standards have been pared back and their application is uncertain

National Environmental Standards are intended to be the centrepiece of the new framework - setting out the environmental outcomes that our laws are seeking to achieve. However, current versions of the Standards appear to have been significantly pared back from those first suggested, and are now proposed to be very brief and high level. For the new standards-based regulatory scheme to be effective, the Standards must include clear and more specific details on the outcomes required.

There is also a lack of clarity about which decisions, and which parts of the Act, the National Environmental Standards will apply to. Standards must apply consistently, to all types of projects, and any ability to exempt projects from the usual assessment and approvals pathway (including through Ministerial call-in powers) must be constrained. National environmental standards must also apply to regional plans (current drafting is simply that the Minister must have regard to Standards). The application of standards should be made clear in legislation and not determined by future rules that can be easily changed.

4. Upfront protections are not guaranteed

There are a number of mechanisms aimed at providing upfront protection in the new framework. These include, for example: provisions for an 'upfront no' for unacceptable impacts; identification and protection of conservation zones in regional plans; and identification and protection of critical protection areas (e.g. through regional plans or through decisions made consistent with conservation planning documents). EDO supports these measures in principle.

However, we are concerned that upfront protections are not guaranteed by the way these have been operationalised. For example:

- As noted above, these mechanisms rely on ambiguous and under-developed concepts.
- The draft legislation does not mandate the areas or values that must be protected in conservation zones in Regional Plans. While the process for developing regional plans will allow for robust discussion about how to manage competing land uses and cumulative impacts, the legislation itself should signal what environmental values are to be given upfront protection and are non-negotiable.

- The identification of critical protection areas in protection statements is not mandatory. If critical protection areas are not identified they will not be protected.

It is imperative that the framework provides genuine upfront protections, particularly as other aspects of the framework (e.g. development zones, accreditation etc.) are aimed at streamlining approvals. The framework will not be able to deliver nature positive outcomes if development is fast-tracked on one hand, but protections are not delivered on the other.

5. Discretionary decision-making will undermine objectivity and safeguards

Both the Samuel Review and Nature Positive Plan recognise the need to move away from discretionary decision-making. Legal tests, decision-making criteria, and statutory powers should be clear and constrained for best practice environmental decision-making. This is essential to restore public confidence in the federal environment laws, as well as to provide certainty for industry.

We are concerned that the policy settings and legal drafting are not achieving this. For example:

- The proposed Ministerial call-in power allows the Minister too much discretion to deviate from objective and constrained decision-making processes. For example, the Minister has discretion to approve 'unacceptable impacts' and the Minister must only 'have regard to' rather than make decisions consistent with National Environmental Standards. Similarly, in making regional plans, the Minister must only have regard to (not make decisions consistent with) National Environmental Standards. Unconstrained Ministerial powers undermine the integrity of the framework and could be misused by the Minister of the day.
- Phrases such as 'have regard to' or 'not inconsistent with' characterise the way discretion is structured under the EPBC Act, and should not be carried forward into the new legislation. The framing of obligations to make decisions 'not inconsistent with' should be strengthened to an obligation to make decisions 'compliant with' (or equivalent).
- Key decision-making processes throughout the draft legislation are framed as 'at the decision-maker's state of satisfaction', rather than objective tests decided against clearly defined criteria and Standards. This should be rectified.
- Key conservation planning tools within the framework remain discretionary (e.g. the decision to have a Threat Abatement Plan). If these tools are to be effective, they must be mandatory (except in limited, clearly defined circumstances).

There must be a wholesale tightening of the legal drafting consistent with commitments to move away from discretionary decision-making.

6. Proposed restoration actions and contributions are contrary to best practice biodiversity offsetting

The proposed new framework for 'restoration actions' 'restoration contributions' and 'regional restoration contribution' is a significant shift away from best practice biodiversity offsetting, and is strongly opposed by EDO. If, after robust application of the mitigation hierarchy, offsetting is needed to ameliorate residual impacts and deliver net gains, then it must be done in line with science-based best practice.

Most alarmingly, the framework proposes to introduce 'restoration contributions' and 'regional restoration contributions' as a way of satisfying offsets obligations. This is essentially 'payment for destruction' and is contrary to best practice. The framework also appears to be removing current

requirements that 'a minimum of 90 per cent of the offset requirements for any given impact must be met through direct offsets' again moving away from strict, best-practice 'like-for-like' principles. These two changes alone signify a substantial weakening of Federal offsets rules. This will result in an overreliance on offsets without no guarantee they will deliver positive outcomes for the environment, and undermine the objectives of the Nature Positive Plan and Australia's international commitments. The offsets framework should not be seen as a revenue raising opportunity; its focus must be on ensuring residual impacts are appropriately ameliorated through direct offsets that meet science aligned best practice principles and deliver genuine, commensurate environmental outcomes. Other key information is also missing, including how the mitigation hierarchy will be implemented in practice and how projected gains will be calculated.

7. Regional planning has been substantially curtailed

Regional planning was announced as another new tool set to deliver nature positive outcomes. The Nature Positive Plan indicated that regional planning would:

- speed up decision-making while delivering nature positive outcomes at a landscape scale.
- be built around a three-level (traffic light) map, designed to pre-identify areas for protection, restoration and sustainable development'.
- will be required to deliver outcomes set in the standard for Matters of National Environmental Significance.

Material seen to date indicates that Regional Planning has been substantially curtailed. Most notably, regional planning no longer appears to be able to guarantee important upfront protections for conservation priorities (see above); the draft legislation provides no criteria for what values must be protected in conservation zones. That is, rather than aligning with conservation priorities conservation zones may end up simply being 'quasi-offset' areas to counter the impacts of development zones. In that sense, regional plans, as proposed, are not much different to strategic assessments under the current framework. They will facilitate fast-tracked development without necessarily delivering conservation gains.

8. Reforms do not adequately address key environmental challenges: climate and clearing

The reforms fail to make any substantial improvements for dealing with two of the greatest threats to matters of national environmental significance: namely climate change and clearing. This is a significant missed opportunity for national leadership on these two critical issues.

Climate change:

It is simply not possible to create 'nature positive' legislation without proper consideration of climate impacts, and climate change drivers.

As proposed, the scope 1 and 2 greenhouse gas emissions estimate disclosed by proponents in the assessment process is not explicitly required to be considered by the EPA (or Minister) in making decisions, and decision-makers are not required to consider legislated emissions targets, a carbon budget, or Safeguard Mechanism baselines, nor the international climate agreements Australia is a party to. This means no thorough assessment of a new project's emissions – and the impacts those emissions will have on our environment – will take place before the project gets approved.

Climate change considerations must be better embedded into decision-making in the EPBC Act. For example:

- *Assessments and approvals:* A robust climate change trigger should require certain projects to be assessed as controlled actions, high-emitting projects must be refused due to unacceptable impacts. For all projects, all direct and downstream emissions should be disclosed, and it must be mandatory for decision-makers to take into account climate change impacts, including those associated with downstream emissions.
- *Strategic assessment and regional planning:* It must be mandatory to consider and address climate change impacts and cumulative impacts in strategic assessments and regional planning.
- *Conservation planning:* Climate refugia must be protected, and conservation planning tools (e.g. listings and recovery plans) must be adaptive to recover species and build ecosystem resilience.

Clearing:

The EPBC Act has failed to adequately regulate land clearing impacts. This is because land clearing activities, in their own right, do not require assessment and approval under the EPBC Act and only trigger the EPBC Act if likely to have a significant impact on MNES. Where clearing activities may trigger the EPBC Act (due to impacts on MNES), there are real concerns that activities are not referred to the Commonwealth and that compliance and enforcement is inadequate.

To date, nothing has been proposed that will overcome the shortcomings of the current framework. There is a real risk that excessive land clearing will continue unchecked and undermine conservation gains made elsewhere. A comprehensive land-clearing trigger would shore up strong federal oversight on land clearing and move us towards nature positive.

Similarly, to date, there has been no detailed information provided on how National Environmental Standards will apply to Regional Forest Agreements, as committed in the Nature Positive Plan.

9. First Nations interests have been absent

The absence of the First Nations Participation and Engagement Standard from the policy materials shared with stakeholders so far is of significant concern to EDO and our clients. This is a key element for ensuring the interests of First Nations are better integrated into environmental decision-making under the framework; and a key part of understanding how the framework will operate as a whole.

We are also concerned that legislative and regulatory reform on foot in relation to offshore petroleum gas is pre-empting nature positive reforms. Proposed legislative reform to the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) will override important EPBC Act oversight.²

10. More work is needed to improve transparency and accountability

More can be done to restore community trust in environmental decision-making through substantial improvements to the current framework. To date, we have seen limited improvements in the proposed package. In particular:

- Civil enforcement provisions need to be strengthened, including through open standing provisions to remedy or restrain contraventions.

² <https://www.edo.org.au/wp-content/uploads/2024/02/Offshore-Petroleum-and-Greenhouse-Gas-Storage-Legislation-Amendment-Bill-EDO-Memo-updated.pdf>

- Proposed privative clauses (limiting procedural rights, including court review of decisions) need to be deleted.
- Third-party merits review should be introduced.
- There must be legal requirements for the Minister to give reasons for decisions.
- Community members should be able request the EPA to require a proposed action be submitted for federal assessment where the proponent has failed to refer it.

These measures would improve transparency and accountability and lead to better decision-making.

POSITIVE ELEMENTS OF THE REFORM PACKAGE

We also take this opportunity to highlight positive elements of the reform package. We support:

- A legislative commitment to nature positive.
- Establishment of Environment Protection Australia – although we would like to see governance arrangements for the EPA improved, including by the establishment of a Board.
- Establishment of Environment Information Australia.
- A clear ‘up-front no’ for unacceptable impacts - noting this needs to be strengthened – per above.
- Prohibiting the use of offsets to overcome unacceptable impacts.
- Inclusion of a non-regression principle to ensure Standards cannot be weakened.
- A mechanism for emergency listing of species or ecological communities that can be used following climate related events such as bushfires or reef bleaching.
- Expanding the range of MNES that could be considered in deciding whether to list a process as a Key Threatening Process.
- Allowing Threat Abatement Strategies to cover multiple threats and to have multiple strategies where listed threats cover a broad range of issues.
- Strengthening of wildlife trade provisions.
- A new monitoring and evaluation framework, including new State of Environment reporting and a requirement for a formal government response.
- Inclusion of climate change in the Act’s objects, as well as in regional planning and strategic assessment considerations.
- Updated enforcement provisions, including powers of authorised officers consistent with the *Regulatory Powers (Standard Provisions) Act 2014*.

s. 22(1)(a)(ii)

From: s22 @edo.org.au >
Sent: Tuesday, 5 March 2024 9:58 AM
To: s22 James TREGURTHA
Cc: s22
Subject: Nature positive reforms - meeting request

Dear s22 James,

Thank you for facilitating the three stakeholder 'lock-in' consultations so far.

EDO has attended all three and provided feedback on the draft materials. It has been useful to work closely with Department staff in these sessions, and to have the ability to provide on-the-spot feedback. We have also recently published a [legal update](#) on our website, setting out our priorities for nature law reform this year.

However, as communicated in the February session, we continue to hold significant concern about parts of the materials, including whether the package as whole will truly secure nature positive outcomes as the Government intends. To discuss these concerns in more detail, including our recommendations for how to ensure the laws work for community, nature, and the climate, **we are seeking an urgent meeting.**

Is there a time this week or early next week we can meet to discuss the materials in more detail?

Kind regards

s22



Environmental
Defenders Office

s22

Commonwealth and Government Liaison

Naarm/Melbourne

s22

[@edo.org.au](mailto:s22@edo.org.au)

I use she/her pronouns.

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EDO recognises the traditional owners and custodians of the land, seas and rivers of Australia. We pay our respects to Aboriginal and Torres Strait Islander elders past and present, and aspire to learn from traditional knowledge and customs so that, together, we can protect our environment and cultural heritage through law.

Released under the FOI Act 1982

s. 22(1)(a)(ii)

From: s22
Sent: Friday, 2 February 2024 4:09 PM
To: 's22' <[redacted]@do.org.au>
Cc: Dan DORAN
Subject: Minister Plibersek | Correspondence [SEC=OFFICIAL]
Attachments: 20240202 EDO - s22.pdf

Dear s22

Please find attached correspondence from Minister Plibersek.

Dan Doran is cc'd in this email.

Kid regards,

s22

s22

THE HON TANYA PLIBERSEK MP
 MINISTER FOR THE ENVIRONMENT AND WATER
 PARLIAMENT HOUSE CANBERRA s22



I acknowledge the Traditional Owners of the lands, waters, and seas.
 I acknowledge their ongoing connection to culture and Country and pay my respects to their Elders past and present.

I work flexibly. I'm sending this message now because it suits me. I don't expect you to read, action or respond out of normal work hours.

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THE HON TANYA PLIBERSEK MP
MINISTER FOR THE ENVIRONMENT AND WATER

OFFICIAL

2 February 2024

s22

Chief Executive Officer
PO Box R1105
Royal Exchange NSW 1225

s22

edo.org.au

Dear s22

I write about the conduct of the Environmental Defenders Office (EDO), as described by Federal Court Justice Natalie Charlesworth in her decision in *Munkara v Santos NA Barossa Pty Ltd (No 3)* [2024].

I trust the EDO will treat Justice Charlesworth's criticisms seriously, and act to ensure there is no repeat of this kind of behaviour.

As with any organisation in receipt of public funds, the Australian people, quite rightly, expect the EDO to exhibit the highest ethical and professional standards. That is my expectation too.

We firmly support the right of ordinary people and civil society to access justice, including through the EDO. That's why the Albanese Government restored funding to community legal services like yours, after the cuts of the Abbott/Turnbull/Morrison years.

We expect organisations charged with such important work to act responsibly and with integrity at all times.

Yours sincerely

A handwritten signature in black ink that reads "Tanya Plibersek".

TANYA PLIBERSEK

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s. 22(1)(a)(ii)

From: s22 @edo.org.au
Sent: Thursday, 8 February 2024 12:29 PM
To: s22
Cc: Dan DORAN; s22
Subject: RE: Minister Plibersek | Correspondence [SEC=OFFICIAL]
Attachments: 240207 EDO Reply to Minister Plibersek.pdf

Some people who received this message don't often get email from s22 @edo.org.au. [Learn why this is important](#)

Dear s22

Thank you for the letter from Minister Plibersek, I have attached a letter in reply from myself and the Chair of the EDO Board, s22

Please reach out with any further questions or comments.

Best,

s22



s22

Level 8, 6 O'Connell Street, Gadi/Sydney NSW
2000

s22

I use he/his pronouns.

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Please note that I am sending this email at a time convenient to me. I may have emailed you at an odd hour, I certainly do not expect a response outside of business hours. I understand that an aspect of flexible working is that responses will be dictated by personal circumstances.

From: s22 dcceew.gov.au
Sent: Friday, February 2, 2024 3:09 PM
To: s22 @edo.org.au
Cc: Doran, Dan <Dan.Doran@dcceew.gov.au>
Subject: Minister Plibersek | Correspondence [SEC=OFFICIAL]

You don't often get email from s22 @dcceew.gov.au. [Learn why this is important](#)

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Dear s22

Please find attached correspondence from Minister Plibersek.

Dan Doran is cc'd in this email.

Kid regards,

s22

s22

THE HON TANYA PLIBERSEK MP

MINISTER FOR THE ENVIRONMENT AND WATER
PARLIAMENT HOUSE CANBERRA s22



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I acknowledge their ongoing connection to culture and Country and pay my respects to their Elders past and present.

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Environmental Defenders Office

7 February 2024

The Hon Tanya Plibersek MP
Minister for the Environment and Water
PO Box 6022
House of Representatives
Parliament House
Canberra, ACT 2600

By email: minister.plibersek@DCCEEW.gov.au

Copied to: dan.doran@dcceew.gov.au; s22 [REDACTED]@dcceew.gov.au

Dear Minister

Re: Munkara v Santos NA Barossa Pty Ltd

I am writing in response to your letter dated 2 February 2024 regarding the Federal Court's decision in *Munkara v Santos NA Barossa Pty Ltd (No 3)* [2024] FCA 9.

While this matter remains before the Court, our obligations are to our clients and it would not be appropriate to make detailed comment at this time.

However, as you rightly point out, the expectation is that EDO will exhibit the highest ethical and professional standards. I want to assure you that EDO takes its professional obligations very seriously and we are carefully considering the findings of the Court in that matter.

As an accredited Community Legal Centre, EDO is committed to providing access to justice for the Australian public and we are grateful to the Albanese Government for supporting that important work.

Should you wish to discuss EDO's broad range of legal work in more detail, I would be happy to do so at your convenience.

Yours faithfully,

Environmental Defenders Office

s22

CEO

s22

Chair

T +61 2 9262 6989
E sydney@edo.org.au

F +61 2 9264 2414
W edo.org.au

Suite 8.02, Level 8, 6 O'Connell Street Sydney, NSW 2000
ABN: 72002 880 864

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s. 22(1)(a)(ii)

From: s22 @edo.org.au>
Sent: Wednesday, 13 March 2024 2:43 PM
To: Minister Plibersek
Cc: Dan DORAN
Subject: EDO Review
Attachments: 240313 - EDO Letter to Minister Plibersek.pdf

Some people who received this message don't often get email from s22 @edo.org.au. [Learn why this is important](#)

Dear Minister,

Please find attached a letter regarding an EDO review being announced today. Please let me know if you would like any further information.

Sincerely,

s22



Environmental
Defenders Office

s22

Level 8, 6 O'Connell Street, Gadi/Sydney NSW
2000

s22

I use he/his pronouns.

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Environmental Defenders Office

13 March 2024

The Hon Tanya Plibersek MP
Minister for the Environment and Water
PO Box 6022
House of Representatives
Parliament House
Canberra, ACT 2600

By email: minister.plibersek@DCCEEW.gov.au

CC: Dan Doran: Dan.Doran@dcceew.gov.au

Dear Minister,

EDO process review

I am writing to update you on an EDO review to be announced today.

The Board of the Environmental Defenders Office is announcing the appointment of a team of external legal experts to recommend process reforms to enhance provision of EDO's legal services. Please find attached the Statement from EDO Chair Bronwyn Darlington.

The external review follows the Federal Court decision in the matter of Munkara v Santos NA Barossa Pty Ltd (No 3) [2024] FCA 9 on 15 January 2024. We take this decision seriously, as we would any decision that includes judicial comment about our lawyers.

The review is a proactive step by the EDO Board to ensure continuous improvement and strengthening of EDO's practice and service delivery. In order to find ways to strengthen our legal practice, the review will examine and make recommendations on best practice when working with First Nations clients and communities, including in Court processes involving cultural heritage.

Eminent Senior Counsel, Barrister **Dr Tony McAvoy SC** has been engaged to conduct the review. Dr McAvoy will be supported by law firms **Chalk & Behrendt** and **Gilbert + Tobin**.

Members of the review team appointed by the Board are acknowledged leaders in this field of legal practice. The review team is engaged to provide EDO's Board and management with recommendations after an examination of EDO's current processes.

T +61 2 9262 6989

E sydney@edo.org.au

F +61 2 9264 2414

W edo.org.au

Suite 8.02, Level 8, 6 O'Connell Street Sydney, NSW 2000
ABN: 72002 880 864

Acknowledging the Board's desire to proceed expeditiously, the Board has asked the reviewers to advise it on appropriate timeframes to complete the review and report.

In relation to the proceeding, this matter is still before the Court and it is not appropriate to comment on the decision, nor will the review traverse the particular circumstances of that case or the findings of the Court.

EDO has had an exemplary record over the past 40 years in jurisdictions across Australia. Without EDO, many of our clients would not have access to justice and would see the places or values they are intent on protecting harmed, in some cases beyond repair. We are grateful to the Albanese Government for supporting this important work.

Should you wish for further updates on the review process, or on EDO's broad range of important public interest legal work in more detail, I would be happy to do so at your convenience.

Yours faithfully,

Environmental Defenders Office



CEO

Attachment

Statement from EDO Chair Bronwyn Darlington

EDO appoints eminent First Nations barrister to lead process review

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13 March 2024

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