

17 May 2024

Brayden Luke
Cessnock City Council
via email

Re: Repurposing Existing Quarry to Waste and Resource Management Facility, 220 Black Hill Road, Black Hill (DA 8/2023/622/1) - intersection biodiversity survey

Dear Brayden,

1 Background

Three Mile Hill Pty Ltd (Three Mile Hill, the Applicant) is seeking development approval to operate a waste management facility at the site of an existing quarry located at 220 Black Hill Road, Black Hill NSW 2322 (the site). The site is within the Cessnock local government area.

All heavy vehicles will access/leave the site using Black Hill Road west of the site. No heavy vehicles associated with the facility will use the Black Hill Road east of the site.

Cessnock City Council has requested that the access road/Black Hill Road intersection is upgraded to provide a centre right-hand turn lane for vehicles entering the site and an acceleration lane for vehicles leaving the site. The upgraded intersection would require road widening west of the intersection.

EMM Consulting Pty Limited (EMM) prepared the biodiversity development assessment report (BDAR) (EMM 2023) for the project. This did not consider any vegetation clearing associated with the intersection upgrade. This found that 5 ecosystem credits and a range of species credits will be required to offset the impacts of the development (see Appendix B of the BDAR).

EMM has prepared this letter report to provide the findings of the recent biodiversity survey conducted at the access road/Black Hill Road intersection.

2 Method

On the 26 April 2024, two EMM ecologists surveyed the biodiversity values in the area of the proposed intersection upgrade. The intersection upgrade will only disturb vegetation on the south side of Black Hill Road.

The design of the upgraded intersection is not available. Therefore, the survey encompassed the road corridor on the southern side of the road, as bounded by the private property fence.

The survey extended 300 m west and 20 m east of the access road intersection and 20 m to the south of the intersection into the site.

The survey included a Biodiversity Assessment Method (BAM) (DPIE 2020) vegetation integrity plot (Figure 1). This plot provided data on the vegetation composition and structure within the area, supplementing our broader observations.

3 Results and recommendations

The vegetation within the road corridor consists of a maintained and mown road verge closest to the road and a native forest along the boundary of the private property fence (Appendix B). The mown road verge has a high density of exotic grasses and is approximately 2–4 metres in width. Once off the road verge, vegetation consists of native forest trees and shrubs with a moderate diversity of exotic species. This vegetation community has the potential to provide habitat to native flora and fauna in the area.

The analysis of the plot data found that the vegetation community corresponds to Plant Community Type (PCT) 1592, Spotted Gum - Red Ironbark - Grey Gum shrub - grass open forest of the Lower Hunter. This PCT was previously mapped within the Three Mile Hill Waste Facility site (EMM 2023). The Vegetation Integrity (VI) score was calculated at 35.6, which is over the threshold for requiring offsets under the BAM (DPIE 2020) if this vegetation is within the footprint of the upgraded intersection.

During the survey, the presence of a large hollow-bearing tree, potentially suitable breeding habitat for large forest owls and cockatoos was recorded. The hollow-bearing tree is located on the south side of the road, within private property, adjacent to the BAM plot location (Figure 1 and Photograph B.3). Given the ecological significance of such trees, it is recommended that mitigation measures are implemented to avoid impacting the tree, these could include:

- adjusting construction plans to maintain a buffer zone around the tree, ensuring its roots and canopy are not disturbed
- implementing temporary fencing or barriers to protect the tree during construction activities
- consulting with an arborist to assess the health and stability of the tree and to provide recommendations for its protection.

4 Biodiversity offsets

The biodiversity impact of the intersection upgrade will be dependent on its footprint.

The intersection should be designed to avoid and minimise impacts to biodiversity within the road corridor where possible.

The number of biodiversity offset credits (if required), will need to be determined based on the final design of the intersection. This assessment will need to consider potential impacts to candidate species listed under the BAM (DPIE 2020). If the intersection upgrade will impact trees and shrubby areas in the road corridor (i.e. any areas beyond the maintained grassy verge), targeted survey for candidate threatened species under the BAM (DPIE 2020) will be required, or 'assumed presence' could be used to determine the credits required.

As the final intersection design is not complete, the need for any additional offset credits could be addressed by a consent condition along the lines of:

Prior to commencing construction of the upgraded intersection, the Applicant must:

- (a) prepare an intersection design to the satisfaction of Council;*
- (b) map the area of required vegetation clearance;*
- (c) identify relevant ecosystem and species credits required to compensate for the clearance identified in subparagraph (b); and*
- (d) retire the ecosystem and species credits identified under subparagraph (c), in accordance with the Biodiversity Offsets Scheme of the Biodiversity Conservation Act 2016.*

5 Closing

We trust that this letter provides the biodiversity context for the proposed intersection upgrade and provides a reasonable approach to addressing any biodiversity impacts of the final intersection design.

Please let us know if you have any questions or would like to arrange a meeting to discuss this matter.

Yours sincerely



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References

DPIE 2020, *Biodiversity Assessment Method*, NSW Government. Department of Planning Industry and Environment.

EMM 2023, *Three Mile Hill Waste Facility Biodiversity Development Assessment Report*. Report prepared by EMM Consulting Pty Ltd for Three Mile Hill Pty Ltd.

Appendix A

Biodiversity survey figure



- KEY**
- BAM plot
 - ▲ Hollow bearing tree
 - Survey track
 - Named watercourse
 - Plant community type
 - 1592 | Spotted Gum - Red Ironbark - Grey Gum shrub - grass open forest of the Lower Hunter (poor condition)
 - Existing environment
 - Minor road
 - Vehicular track

Biodiversity survey results

Three Mile Hill Waste Facility
Biodiversity Assessment
Figure 1

Appendix B

Site photographs

Photograph B.1

Photo taken facing west at intersection of Black Hill Quarry entrance road and Black Hill Rd



Photograph B.2

Location of BAM Plot TMH-01, facing East towards intersection of Black Hill Quarry Rd and Black Hill Rd



Photograph B.3

Large hollow bearing tree in adjacent property



Appendix C

BAM Plot data

BAM Site – Field Survey Form

Plot ID:	TMR-01	Date:	26/04/24	Project number:	E211092	Plot dimensions:		
Datum:	GDA94	Easting:	368,681	Recorders:	Bianca_Seal			
Zone:	56	Northing:	6,366,154	IBRA region:	NSW Sydney Basin (Hunter)	Midline bearing:	270	
Plant Community Type:	1592: Spotted Gum - Red Ironbark - Grey Gum shrub - grass open forest of the Lower Hunter				Condition class:	Poor	PCT confidence:	High
Vegetation Class:	Hunter-Macleay Dry Sclerophyll Forests				EEC:	Yes	EEC confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	4
	Grasses etc.:	10
	Forbs:	4
	Ferns:	0
	Other:	3
Sum of Cover of native vascular plants by growth form group	Trees:	13
	Shrubs:	11.2
	Grasses etc.:	13.6
	Forbs:	3.4
	Ferns:	0
Other:	0.4	
High Threat Weed cover:		9.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Tree stem count	Length of logs (m) (≥10 cm diameter, >50 cm in length)	1
80 + cm:	0		
50 – 79 cm:	1		
30 – 49 cm:	2		
20 – 29 cm:	1	Tree hollow count	0
10 – 19 cm:	0		
5 – 9 cm:	3		
< 5 cm:	1		

Counts apply when no. of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For multi-stemmed tree, only largest living stem is included in the count. Tree stems must be living.
For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)				
Subplot:	1	2	3	4	5
Subplot score (%):	40	30	90	50	65
Average litter cover (%):	55				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography and site features
Gently sloped with westerly aspect

Plot Disturbance
Roadside subject to slashing

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code (if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Project name:	E211092				
Recorders:	Bianca_Seal	Plot ID:	TMR-01	Date:	10/05/24

GF Code	Scientific name	Cover	Abundance	Voucher	N, E or HTE
Tree (TG)	<i>Corymbia maculata</i> (Spotted Gum)	5	5	no	N
Tree (TG)	<i>Eucalyptus siderophloia</i> (Grey Ironbark)	3	2	no	N
Grass & grasslike (GG)	<i>Cymbopogon refractus</i> (Barbed Wire Grass)	0.1	2	no	N
Forb (FG)	<i>Dianella caerulea</i> (Blue Flax-lily)	0.2	3	no	N
Shrub (SG)	<i>Acacia fimbriata</i> (Fringed Wattle)	5	5	no	N
	<i>Sida rhombifolia</i> (Paddy's Lucerne)	1	20	no	E
Other (OG)	<i>Pandorea pandorana</i> (Wonga Wonga Vine)	0.2	5	no	N
	<i>Lantana camara</i> (Lantana)	4	10	no	HTE
Shrub (SG)	<i>Exocarpos cupressiformis</i> (Cherry Ballart)	3	5	no	N
	<i>Plantago lanceolata</i> (Lamb's Tongues)	1	100	no	E
	<i>Prunus spinosa</i> (Blackthorn)	0.2	1	no	E
Shrub (SG)	<i>Dillwynia</i> spp.	0.2	1	no	N
Shrub (SG)	<i>Bursaria spinosa</i> (Native Blackthorn)	3	10	no	N
Forb (FG)	<i>Dichondra repens</i> (Kidney Weed)	2	100	no	N
Other (OG)	<i>Glycine</i> spp.	0.1	20	no	N
Forb (FG)	<i>Lobelia purpurascens</i> (whiteroot)	1	50	no	N
Tree (TG)	<i>Eucalyptus acmenoides</i> (White Mahogany)	5	6	no	N
Other (OG)	<i>Geitonoplesium cymosum</i> (Scrambling Lily)	0.1	2	no	N
Grass & grasslike (GG)	<i>Imperata cylindrica</i> (Blady Grass)	5	300	no	N
	<i>Senecio madagascariensis</i> (Fireweed)	0.1	1	no	HTE
Grass & grasslike (GG)	<i>Aristida vagans</i> (Threeawn Speargrass)	1	20	no	N
	<i>Cenchrus clandestinus</i> (Kikuyu Grass)	0.1	10	no	HTE
Grass & grasslike (GG)	<i>Entolasia stricta</i> (Wiry Panic)	4	20	no	N
Grass & grasslike (GG)	<i>Themeda triandra</i>	1	20	no	N
Grass & grasslike (GG)	<i>Paspalum distichum</i> (Water Couch)	0.2	50	no	N
	<i>Eragrostis curvula</i> (African Lovegrass)	3	1000	no	HTE
	<i>Chloris gayana</i> (Rhodes Grass)	2	500	no	HTE
	<i>Verbena bonariensis</i> (Purpletop)	0.1	1	no	E
	<i>Melinis repens</i> (Red Natal Grass)	1	20	no	E
Grass & grasslike (GG)	<i>Sporobolus</i> spp. (Rat's Tail Couch)	0.1	2	no	N
Grass & grasslike (GG)	<i>Echinopogon</i> spp. (A Hedgehog Grass)	0.1	1	no	N
Grass & grasslike (GG)	<i>Andropogon</i> spp.	0.1	2	no	N
Grass & grasslike (GG)	<i>Cynodon dactylon</i> (Common Couch)	2	1000	no	N
Forb (FG)	<i>Centella asiatica</i> (Indian Pennywort)	0.2	50	no	N
	<i>Araujia sericifera</i> (Moth Vine)	0.1	2	no	HTE
	<i>Passiflora subpeltata</i> (White Passionflower)	1	50	no	E
	<i>Solanum nigrum</i> (Black-berry Nightshade)	0.1	10	no	E
	<i>Bidens pilosa</i> (Cobbler's Pegs)	0.2	20	no	HTE