



Haerses Road Quarry Modification 4

Extraction Sequence Modification
State Significant Development Modification Assessment
(DA 165-7-2005 MOD 4)

June 2021



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Title: Haerses Road Quarry

Subtitle: Modification 4 – Extraction Sequence Modification

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1 Introduction

The Haerses Road Sand Quarry (the Quarry) is a sand and sandstone quarry located at Maroota within the Hills Shire local government area (see **Figure 1**). The Quarry is owned and operated by Dixon Sand (Penrith) Pty Ltd (Dixon Sand) and operates in conjunction with Dixon Sand's Old Northern Road Quarry (ONRQ), located approximately 2 kilometres (km) north of the site. The Quarry produces a range of sand and gravel products that supply the local Sydney construction and landscaping market.

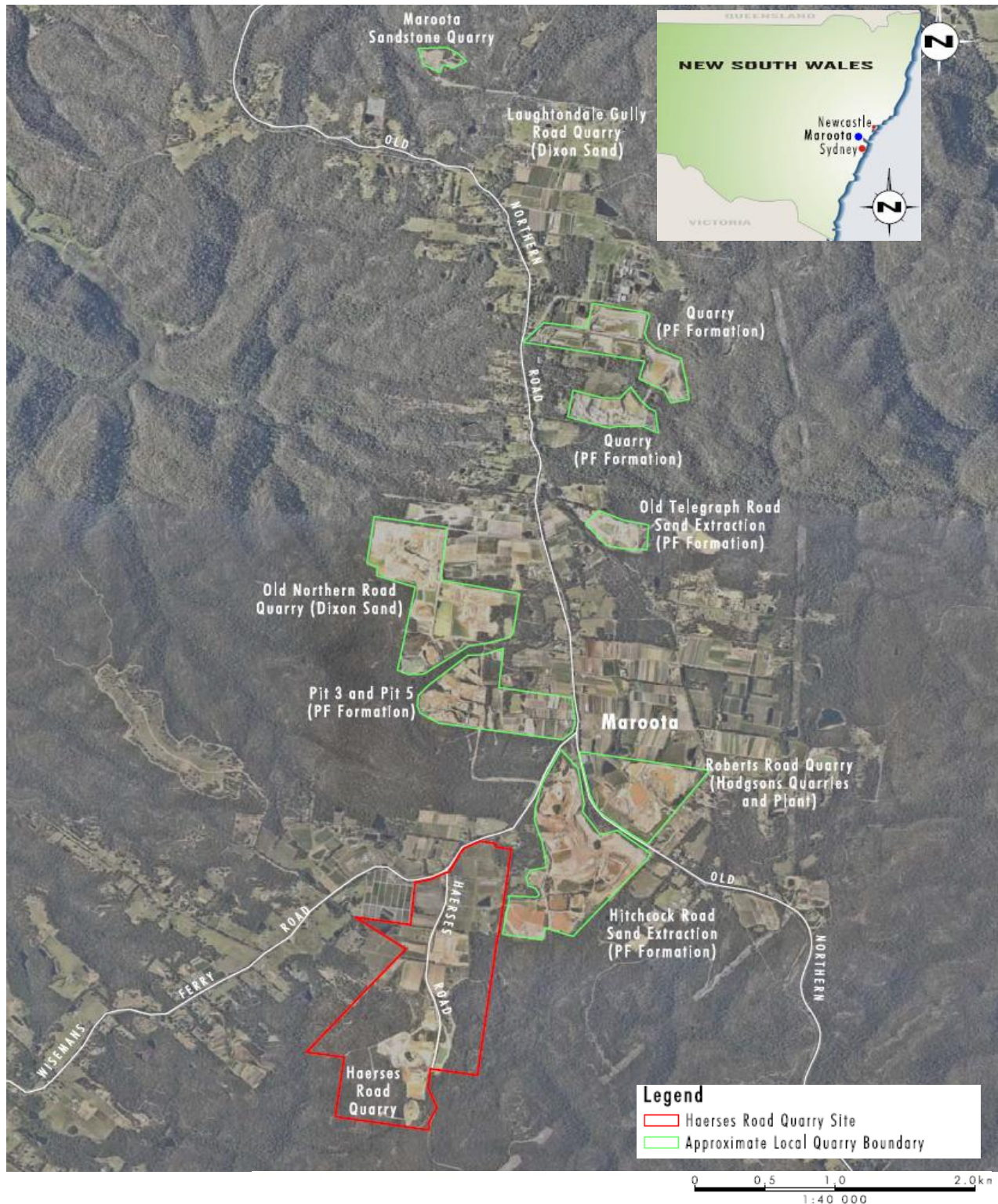


Figure 1 | Regional Context Map

The quarry is located in a rural setting and directly adjoins a sandstone quarry (owned and operated by PF Formation) to the immediate east and with heavily vegetated land that is owned by the Deerubbin Local Aboriginal Land Council and Crown Land to the south east, south and south west. The Maroota area contains seven other sand and sandstone quarries, within the general locality of Haerses Road Quarry (see **Figure 1**).

Other surrounding land uses include rural-residential properties and agricultural activities comprising fruit orchards, market gardens and livestock production. Maroota Public School is also located approximately 1.6km to the north of the Quarry, on Old Northern Road.

1.1 Approval History

Extraction activities at the Quarry are permitted under DA 165-7-2005, which was granted in February 2006 by the then Minister for Planning under Part 4 of the *Environmental Planning & Assessment Act 1979* (EP&A Act) which allows for the:

- staged extraction of the five original extraction cells (Stage 1-5) comprising 7 million tonnes of friable sandstone at a rate of up to 250,000 tonnes per annum (tpa) over a 25-year period until February 2031;
- processing operations (crushing, screening and washing) of quarry products on-site;
- transport of up to 190,000 tpa of quarry products (screened sand) to the ONRQ for further processing and washing; and
- transport of up to 250,000 tpa of quarry product directly to local and regional markets.

The Development Consent has been modified on two occasions, with a third modification currently under assessment. Modification 1 was approved in January 2018 by the then Minister for Planning under section 75W of the EP&A Act. This modification permitted the:

- expansion of the approved extraction area (Stages 1A-5B) by 18.89 hectares (ha), allowing the availability of an additional 15 million tonnes of friable sandstone (subject to the sequential retirement of biodiversity offset credits and the approval of a 2-year Groundwater Monitoring Program, demonstrating groundwater would not be intercepted within the friable sandstone zones);
- extending the life of the Quarry by a further 15 years until 2046;
- allowing use of mobile crushers and a mobile wet plant;
- converting a dwelling to a site office;
- constructing a weighbridge, workshop, car park, internal haul roads, water management structures and acoustic bunds;
- permitting all quarry products to be transported directly to market;
- allowing trucks to travel to the site from either the northeast or south-west; and
- importing up to 100,000 tpa of virgin excavated natural material (VENM) and excavated natural material (ENM) for the purpose of progressive rehabilitation to Class 4 Agricultural Land or native vegetation.

Modification 2 was approved in January 2019 by the Minister for Planning under section 4.55(1) of the EP&A Act. This modification corrected an administrative error relating to the establishment of buffer zones around the project site boundary.

Modification 3 was lodged in January 2020 under 4.55(2) of the EP&A Act and remains under consideration. Modification 3 is seeking approval to:

- increase the extraction rate from 250,000 tpa to 495,000 tpa;
- increase overall truck movements from 56 movements to 180 movements per day;
- expand of the disturbance footprint by 1 hectare in Stage 5 and accessing an additional 250,000 tonnes of resource;
- increase in the maximum imported VENM/ENM from 100,000 tpa to 250,000 tpa, for the purposes of site rehabilitation and reprocessing to produce a blended product;

- change some site plant and equipment, including increasing the size of the two onsite trucks from 30-tonne to 40-tonne, 3 new front-end loaders and an additional excavator; and
- increase the number of full-time employees from 8 to 16.

The approved site layout and extraction staging plan is provided in **Figure 2**.

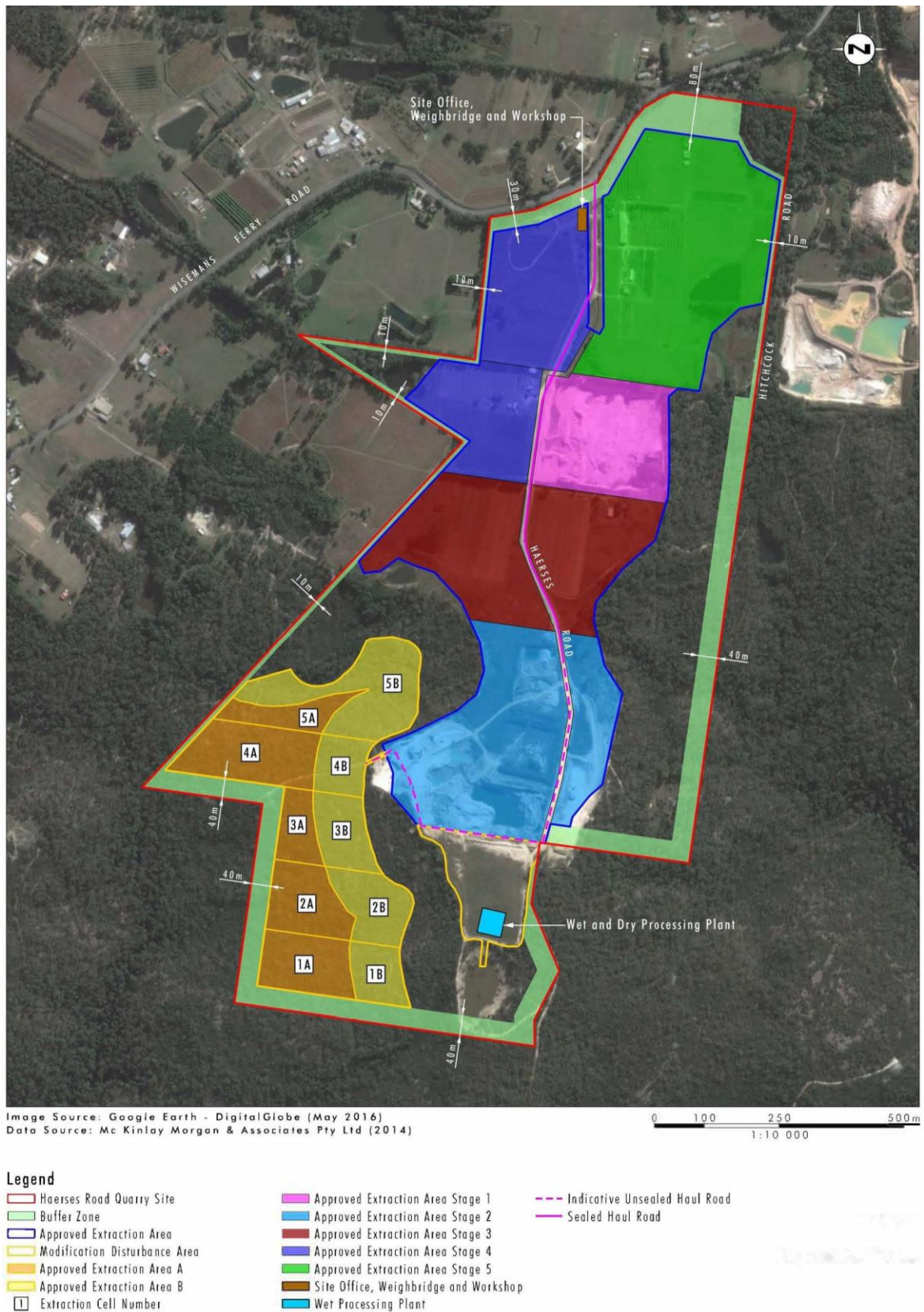


Figure 2 | The approved staging map of the Haerses Road Quarry site

1.2 Background

The Quarry consists of two approved primary extraction areas which vary in quality of resource (see **Figure 2**):

- the Maroota Tertiary Sand Extraction Area, which is separated into 5 large stages and targets alluvial sand deposits; and
- the Friable Hawkesbury Sandstone Extraction Area, which comprises 10 extraction cells, divided into extraction areas A (1A-5A) and B (1B-5B) and approved as part of Modification 1. Extraction area B also forms part of the buffer zone for the Maroota Tertiary Sands Groundwater Sources (MTSGS).

The extraction sequence within the Friable Hawkesbury Sandstone extraction area is approved to sequentially progress from stages 1 to 5 for areas A and B. The commencement of extraction of the cells is subject to the prior retirement of the relevant biodiversity credits required under the approved Biodiversity Offset Strategy for the Development Consent. To date sufficient biodiversity credits have been retired to account for vegetation clearing associated with the extraction of cells 1A and 2A of the Friable Hawkesbury Sandstone extraction area.

In addition to the retirement of the relevant biodiversity credits, the extraction of cells 1B to 5B is further subject to the completion of a 2-year baseline Groundwater Monitoring Program (GWP), to demonstrate that extraction within Area B would not intercept the locally significant MTSGS. Since the approval of Modification 1, Dixon Sand has completed and submitted the 2-year Groundwater Monitoring Program, which has been considered and endorsed by the Department's Water Group (DPIE Water) separately to this modification application.

Following the completion of extraction in cell 1A, Dixon Sand examined the physical properties of sand in cell 2A and has determined that it is of lower quality and less commercially viable than the sand which occurs within extraction cell 1B. The outcome of this examination has led Dixon Sand to review the proposed extraction sequence for the Modification 1 area and revise its proposed sequencing.

2 Proposed Modification

On 7 October 2020, Umwelt Consulting, on behalf of Dixon Sand, submitted a modification request (DA 165-7-2005 MOD 4) under section 4.55(1A) of the EP&A Act.

The modification proposes to change the approved sequence of extraction to allow Dixon Sand to next access more commercially viable sand in extraction Cell 1B, instead of Cell 2A. Despite this change in the sequencing of activities on site, the modification would not involve any changes to the extent of the approved Maroota Tertiary Sands Extraction Area, duration of extraction, hours of operation, amount of biodiversity offset credits required, location of approved biodiversity offset areas, extraction and processing methods, site infrastructure, transportation methods and processing arrangements between ONRQ and the Haerses Road Quarry. The proposed changes are described further in the Modification Report (see **Appendix A**).

The Department notes that the conditions of Development Consent DA 165-7-2005 currently require a staged approach to the retirement of specific species and ecosystem credits prior to vegetation clearing occurring in the corresponding extraction cells. The proposed modification would not involve any change to this existing requirement and Dixon Sand would still need to demonstrate the retirement of relevant credits prior to extraction in "Cell 1B", as the next scheduled extraction area.

3 Statutory Context

3.1 Scope of Modifications

The modification application and Modification Report were lodged under section 4.55(1A) of the EP&A Act. The Department has reviewed the scope of the modification and considers that it:

- is substantially the same development as originally approved and as last modified under Section 4.55(1A);
- would not increase the environmental impacts of the project (as approved);
- would not change any of the key approved elements of the original development; and
- would not involve any further disturbance outside of the already approved disturbance areas for the project.

The Department is therefore satisfied that the proposed modification is within the scope of section 4.55(1A) of the EP&A Act and does not constitute a new development application. Accordingly, the Department considers that the application should be assessed and determined under section 4.55(1A) of the EP&A Act.

The Department has also:

- considered advice provided by public authorities concerning the proposed modification (see Section 4); and
- considered the relevant matters in section 4.15(1) of the EP&A Act, including;
 - the provisions of any relevant environmental planning instrument and development control plan;
 - the likely impacts of the proposed modification, including environmental impacts on both the natural and built environment, social and economic impacts in the locality; and
 - the public interest, including any relevant objects of the EP&A Act.

Consent Authority

The Minister for Planning and Public Spaces (the Minister) is the consent authority for the application under Section 4.5(a) of the EP&A Act. However, the Director - Resource Assessments, may determine the application under the Minister's delegation of 26 April 2021 as:

- No submissions were received by way of objection;
- Dixon Sand did not report any political donations; and
- The Hills Shire Council did not object to the proposal.

3.2 Mandatory Matters for Consideration

The Department conducted a comprehensive assessment of the project against the mandatory matters for consideration as part of the original assessment of DA 165-7-2005. The Department considers this modification application does not result in significant changes that would alter the mandatory matters for consideration under section 4.15 of the EP&A Act and conclusions made as part of the original assessment.

3.3 Environmental Planning Instruments

A number of environmental planning instruments (EPI's) apply to the modification including:

- *State Environmental Planning Policy (Mining, Petroleum and Extractive Industries) 2007*;
- *State Environmental Planning Policy (State and Regional Development) 2011*;
- *State Environmental Planning Policy No. 55 - Remediation of Land*;
- *Sydney Regional Environmental Plan No.9 – Extractive Industry (SREP 9)*; and
- *The Hills Local Environmental Plan 2019 (The Hills LEP)*.

3.4 Other Approvals

The Quarry's activities are regulated under Environment Protection Licence (EPL) 12513, granted under the *Protection of the Environment Operations Act 1997* (POEO Act). Dixon Sand also holds two Water Access Licences associated with the use of surface water. These existing approvals would not need to be modified as a result of the current proposal.

3.5 Commonwealth Approvals

On 6 August 2018, a delegate of the Commonwealth Minister for the Environment and Energy approved the original project (EPBC 215/7608) under the *Environmental Protection Biodiversity Conservation Act 1999* (EPBC Act) following an assessment of its potential impacts on Matters of National Environmental Significance (MNES), specifically listed threatened species and communities (sections 18 & 18A of the EPBC Act).

As the proposed modification would not affect the existing approved disturbance area or requirements in relation to biodiversity existing offsetting obligations the Department has not afforded any further consideration to MNES.

3.6 Reasons for Granting the Original Consent

In determining the original Haerses Road Sand Project, the Minister concluded that the project's benefits outweighed the residual environmental impacts and imposed a range of strict conditions to appropriately manage impacts. The Department has considered the proposed modification against the reasons the Minister gave for determining the project and is satisfied the proposed modification does not affect that previous decision. The proposed modification would allow similar benefits to be realised at local, regional and State levels.

4 Engagement

Due to the minor nature of the proposed modification, the application was not placed on public exhibition. However, the Department made the modification application publicly available on its website and notified **The Hills Shire Council (Council)**, **Environment Energy and Science (EES) within the Department**, **Natural Resource Access Regulator (NRAR)**, the **Environmental Protection Agency (EPA)** and the **Commonwealth Department of Agriculture, Water and the Environment (DAWE)**. No agencies or Council raised any issues or objections to the proposal.

5 Assessment

The Department has assessed the merits of the proposed modification in accordance with the relevant objects and requirements of the EP&A Act. In assessing these merits, the Department has considered the:

- Environmental Impact Statement (EIS) for the original development application;
- existing conditions of approval, as modified;
- modification application and accompanying Modification Report;
- advice from government agencies and Council; and
- relevant EPIs, policies and guidelines.

5.1 Biodiversity

As a requirement of the approved Biodiversity Offset Strategy, Dixon Sand is required to retire biodiversity credits in accordance with conditions 30-34 of Schedule 3 of Development Consent 06_0030. The retirement of these credits is staged such that certain credits must be retired prior to any clearing of vegetation within the Modification 1 extraction area and other credits must be retired prior to clearing in particular cells.

The Modification Report provides an assessment of biodiversity credits required under the existing Development Consent against those credits that have already been retired by Dixon Sands. Additionally, this report provides a comparison of the number of biodiversity credits already retired with those that would be required for extraction in Cells 1A and 1B, based on the per hectare rates applied under the existing approval (see **Figures 3 and 4**).

Name	Credits Required	Total Credits Retired ¹
Ecosystem Credits		
HN560 Needlebush – Banksia Wet Heath on Sandstone Plateaux of the Sydney Basin Bioregion (Moderate/Good)	3	3
HN566 Red Bloodwood – Scribbly Gum Heathy Woodland on Sandstone Plateaux of the Sydney Basin Bioregion (Moderate/Good)	377	377
HN582 Scribbly Gum – Hairpin Banksia – Dwarf Apple Heathy Woodland on Hinterland Sandstone Plateaux of the Central Coast, Sydney Basin Bioregion (Moderate/Good)	538	181
HN586 Smooth-barked Apple – Red Bloodwood – Sydney Peppermint Heathy Open Forest on Slopes of Dry Sandstone Gullies of Western and Southern Sydney, Sydney Basin Bioregion (Moderate/Good)	44	44
Total Ecosystem Credits	962	605
Species Credits		
<i>Darwinia biflora</i>	360	360
Dural woodland snail (<i>Pommerhelix duralensis</i>)	230	98
<i>Tetratheca glandulosa</i>	288	288
<i>Grevillea parviflora</i> subsp. <i>supplicans</i>	338	338
eastern pygmy-possum (<i>Cercartetus nanus</i>)	223	148
Total Species Credits	1439	1232

Note: ¹. Total credits retired includes Haerses Rd and Porters Rd BioBank Sites, plus Biodiversity Fund Payment Credits.

Figure 3 | Ecosystem and species credits required vs retired

Name	Credits Required for Cell 1A	Credits Requirement for Cell 1B	Credits Required for Cell 1A & Cell 1B	Total Credits Retired To Date	Surplus Retired Credits accounting for Cell 1A & Cell 1B
Ecosystem Credits					
HN560 Needlebush – Banksia Wet Heath on Sandstone Plateaux of the Sydney Basin Bioregion (Moderate/Good)	0	0	0	3	3
HN566 Red Bloodwood – Scribbly Gum Heathy Woodland on Sandstone Plateaux of the Sydney Basin Bioregion (Moderate/Good)	5	0	5	377	372
HN582 Scribbly Gum – Hairpin Banksia – Dwarf Apple Heathy Woodland on Hinterland Sandstone Plateaux of the Central Coast, Sydney Basin Bioregion (Moderate/Good)	98	63	161	181	20
HN586 Smooth-barked Apple – Red Bloodwood – Sydney Peppermint Heathy Open Forest on Slopes of Dry Sandstone Gullies of Western and Southern Sydney, Sydney Basin Bioregion (Moderate/Good)	0	0	0	44	44
Total Ecosystem Credits	103	63	166	605	439
Species Credits					
<i>Darwinia biflora</i> (associated with HN566 and HN582)	42	26	68	360	292
Dural woodland snail (<i>Pommerhelix duralensis</i>)	30	24	54	98	44
<i>Tetratheca glandulosa</i> (associated with HN566 and HN582)	34	21	55	288	233
<i>Grevillea parviflora</i> subsp. <i>supplicans</i>	No impact	0	0	338	338
eastern pygmy-possum (<i>Cercartetus nanus</i>) (associated with HN582)	41	26	67	148	81
Total Species Credits	147	97	244	1,232	988

Note: Credits rounded to nearest whole number

Figure 4 | Ecosystem and species credits required vs retired

Importantly, this comparison indicates that Dixon Sands has already retired all credits under condition 30 of Schedule 3 that needed to be retired prior to the commencement of operations in the Modification 1 area and has partially retired the additional credit obligations required under conditions 31 and 32 of Schedule 3.

Given that the biodiversity impacts of the project would occur incremental over a period of up to 29 years, with the majority of disturbance occurring well into the future, the Department stipulated in its 2018 assessment of the Modification 1 area that it did not object to Dixon's Sands proposal to incrementally retire credits on a progressive basis to align with the extraction of particular cells.

However, to provide additional upfront certainty that appropriate credits would be retired at appropriate times, the Department recommended a three-step offset approach. The first step required Dixon Sand to secure two land based offset areas prior to the clearing of any vegetation in the modification area. These land based offsets fulfilled the majority of the credit requirements for the proposal and provided the additional benefit of ensuring the majority of credits for MNES were secured prior to the commencement of the development.

The Department notes that in finalising the biobanking agreements to retire these land based offsets, Dixon Sands identified the presence of roads in two small areas of land to the south of the site and removed these areas from the biodiversity offset being secured on title. The Department is satisfied that the removal of these areas does not affect the existing credit liabilities required under the conditions of consent and notes that the existing conditions already provide sufficient flexibility to account for any minor change in credits generated by the existing land based offsets, by allowing the provision of other land based offsets or alternative mechanisms.

With the retirement of the current land based offsets, the Department concluded that sufficient credits would have been retired to permit Dixon Sand to undertake extraction in Stages 1A and 2A. Following the completion of these first two extraction cells, Dixon Sand would then be required to retire the remaining 132 species credits for the Dural Land Snail before it could clear vegetation associated with subsequent Stages 1B, 2B or 3B (which contained the balance of snail habitat – see **Figure 5**). Finally, the remainder of credits for other NSW listed species would be retired on a progressive basis, prior to clearing in relevant extractive cells.

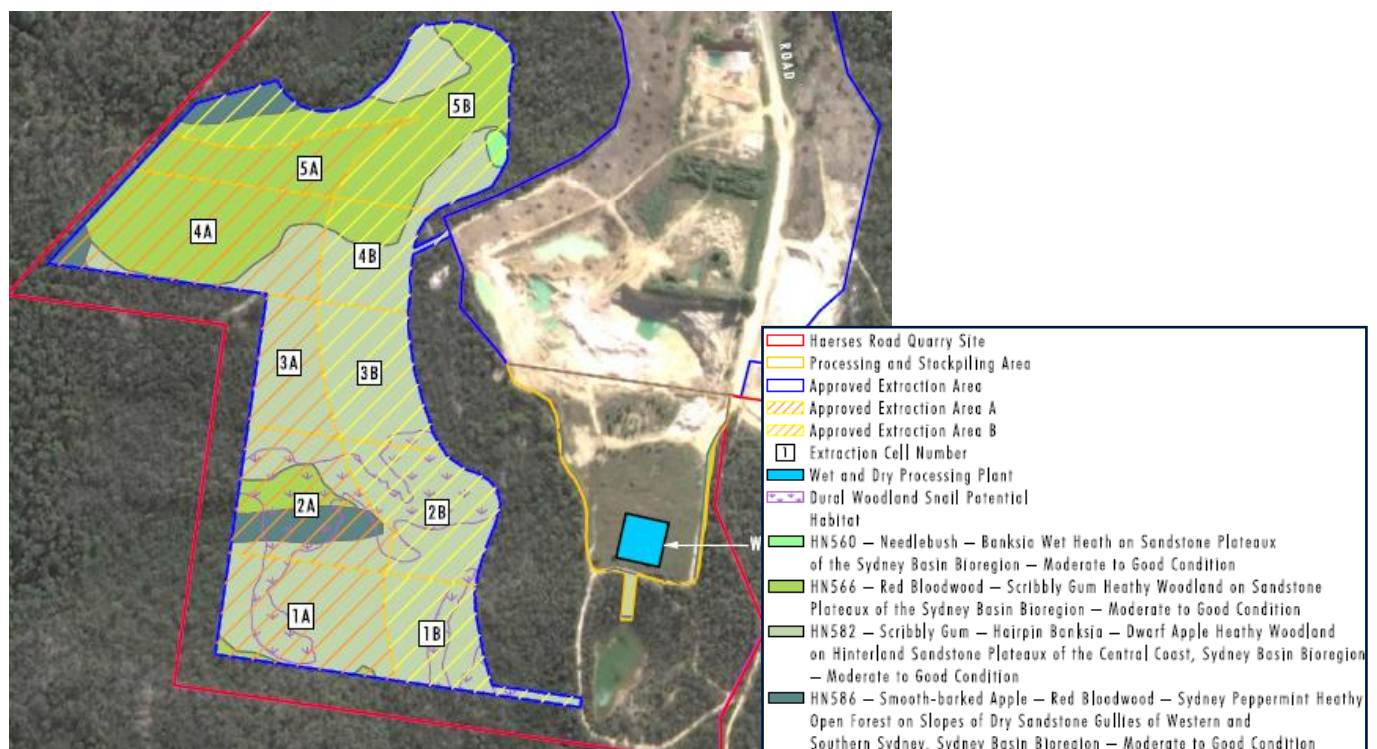


Figure 5 | Mapped vegetation in Modification 1 area

This history behind the current progressive offset requirements provides important context in relation to the proposed modification, as the staging of offset retirements was ultimately designed to ensure that all required credits for any particular stage were retired prior to impacts occurring within that stage of the development.

As described above, Dixon Sands has already commenced the retirement of credits associated with Modification 1 and has retired sufficient species and ecosystem credits to account for the biodiversity impacts associated with extraction from Cells 1A and 1B. In fact, **Figure 4** demonstrates that the credits already retired are not only sufficient to account for impacts in Cells 1A and 1B, but are actually in surplus of the credit obligations that would ordinarily be required for these initial stages.

The Department acknowledges that the proposed modification is seeking amendments to conditions 31 and 32 of Schedule 3, in order to reflect the changed timing of extraction of the more commercially viable sand resource in Cell 1B. Given that sufficient credits have already been retired to account for this change in extraction sequencing, the Department is satisfied that the proposed amendments would not be inconsistent with the intention of the original staged offset approach, change the overall extent of land approved to be cleared or change the overall biodiversity offset obligations for extraction in the Modification 1 area.

Consequently, the Department has recommended conditions to reflect the change in extraction sequence and require that additional offsets be provided prior to extraction progressing into future cells and has taken the opportunity to update Condition 33 of Schedule 3 to include reference to contemporary offsetting mechanisms under the *Biodiversity Conservation Act* 2016. The Department has also updated the figures in Appendix 4 to more clearly reflect the approved extraction boundaries and notes that these amended figures do not alter the extent of existing approved disturbance under DA165-7/2005, as modified.

Finally, the Department notes that under the existing conditions, Dixon Sand would also be required to update its Biodiversity and Rehabilitation Management Plan to reflect the modification within 3 months of any approval.

5.2 Other Issues

Table 1 | Summary of issues

Issue	Findings	Recommendations
Rehabilitation	As extraction is completed within the Tertiary sand extraction area, a final landform will be progressively constructed. While the modification may alter the sequence that the land is progressively rehabilitated, the Department considers the altered extraction sequence would not impact on the required rehabilitation or final landform design.	No additional conditions required to manage rehabilitation impacts.
Noise	The modification would not result in any additional noise impacts than those previously assessed. The Department considers the approved Noise Management Plan remains suitable to adequately monitor and manage any unforeseen impacts.	No additional conditions required to manage noise impacts.
Air Quality	The modification would not result in any additional air quality impacts than those previously assessed. The Department considers the approved Air Quality Management Plan remains suitable to adequately monitor and manage any unforeseen impacts.	No additional conditions required to manage air quality impacts.
Heritage	There would be no potential additional impact to Aboriginal cultural heritage or historic heritage than the impacts previously assessed. The Department considers that the	No additional conditions required

	existing unexpected finds protocol and approved Heritage Management Plan remains suitable to adequately manage any unforeseen impacts.	to manage heritage impacts.
Water	There would be no potential additional impact to surface water or groundwater than those previously assessed. The Department considers the approved Water Management Plan remains suitable to adequately monitor and manage any unforeseen impacts.	No additional conditions required to manage water quality impacts.
Traffic and Transport	There would be no potential additional impacts associated with traffic and transport as a result of the proposal. The Department considers the approved Traffic Management Plan remains suitable to adequately monitor and manage any unforeseen impacts.	No additional conditions required to manage traffic and transport impacts.
Social and Economic	<p>The Department considers there would be no increase beyond previously assessed impacts as a result of the proposed modification.</p> <p>The proposal would result in the continued supply of higher quality sand materials to the Greater Sydney Region.</p>	No additional conditions required to manage social and economic impacts

6 Evaluation

The Department has assessed the merits of the proposed modification in accordance with the requirements of the EP&A Act. The proposed modification involves changing the sequence of extraction in the Friable Hawkesbury Sandstone extraction area by enabling the commencement of extraction in Cell 1B prior to the extraction of Cell 2A.

The Department is satisfied that the modification would not result in any material impacts greater than those previously assessed and would facilitate the ongoing supply of high-quality sand to the Greater Sydney Region construction market and provide continued employment for existing staff.

Overall, the Department considers that the modification would deliver positive social and economic impacts without increasing the environmental impacts of the quarry, as currently approved. The Department is therefore satisfied that the modification is in the public interest and should be approved.

The Department has drafted a Notice of Modification (see **Appendix C**) and a consolidated version of the Development Consent (see **Appendix D**), as proposed to be modified. Dixon Sand has reviewed the proposed conditions and has not objected to their imposition.

7 Recommendation

It is recommended that the Director, Resource Assessments, as delegate of the Minister for Planning and Public Spaces:

- **considers** the findings and recommendations of this report;
- **determines** that the application DA 165-7-2005 MOD 4 falls within the scope of section 4.55(1A) of the EP&A Act;
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to approve the modification;
- **modifies** the consent DA 165-7-2005; and
- **signs** the attached approval of the modification (**Appendix C**).

Recommended by:



Joel Herbert
Environmental Assessment Officer
Resource Assessments

Recommended by:



Robert Hodgkins
Team Leader
Resource Assessments

8 Determination

The recommendation is **Adopted** by:



29/06/2021

Matthew Sprott
Director
Resource Assessments

as delegate of the Minister for Planning and Public Spaces

9 Appendices

Appendix A – Modification Report

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/40331>

Appendix B – Submissions

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/40331>

Appendix C – Notice of Modification

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/40331>

Appendix D – Consolidated Consent

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/40331>