Annex X – Social Impact Assessment

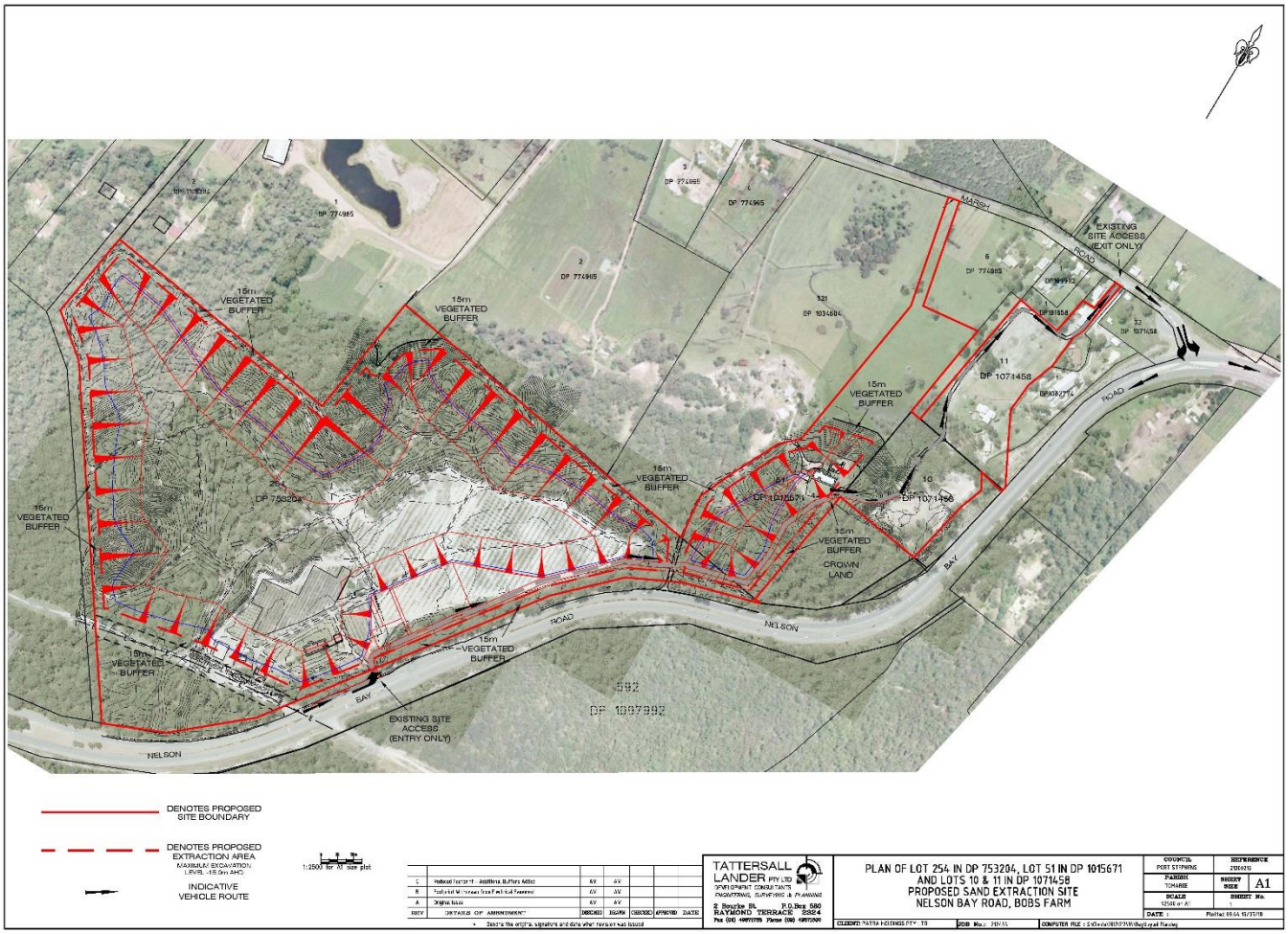
SOCIAL IMPACT ASSESSMENT

FOR

PROPOSED
BOBS FARM SAND MINE

LOTS 10 & 11 DP 1071458 & LOT 254 DP 753204 & LOT 51 DP 1015671
NELSON BAY ROAD, BOBS FARM

October 2018



"Social Impact Assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment."

(Frank Vanclay (2003) International Principles for Social Impact Assessment, Impact Assessment and Project Appraisal, 21:1, 5-12, DOI: 10.3152/147154603781766491)

This Social Impact Assessment has been prepared in accordance with the NSW Department of Planning & Environment Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (September, 2017)

Report prepared by: Julie Wells, BTP (Honours Class 1) UNSW. Report completed 7 November, 2018.

Ms. Wells has over 25 years as a practicing town planner including having held several managerial and executive town planning positions in both local government and in private practice.

Declaration:

This report provides information relevant to the social impact assessment for the project.
The information is not false or misleading. The report provides an impartial assessment of the anticipated social impacts.

Signed: 

Date: 7 November, 2018

Report prepared for: Ammos Resource Management Pty. Ltd.; November, 2018.

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EXECUTIVE SUMMARY

INTRODUCTION

Tattersall Lander Pty Ltd has been engaged by Ammos Resource Management Pty. Ltd. to prepare a Social Impact Assessment (SIA), to inform an Environmental Impact Statement (EIS) and accompany a development application to the Minister for Planning under Part 4 of the *Environmental Planning and Assessment Act 1979*.

The development application seeks approval to construct and operate a sand extraction and processing operation at Bobs Farm, NSW. The land on which the development is proposed is located on the western side of Nelson Bay Road and south of Marsh Road at Bobs Farm and it is within the Port Stephens Local Government Area.

The Department of Planning and Environment was consulted in relation to the development proposal and the Director-General's Requirements (DGRs) for SSD14/6395 were issued on 21 March, 2014.

As two years had passed from the release of the DGRs the Department was further consulted with a request for Secretary's Environmental Assessment Requirements (SEARs). SEARs were provided on 12 April, 2017.

In so far as Social Impact Assessment considerations are concerned, both the DGRs and SEARs provided identical assessment requirements.

Furthermore, correspondence dated 8 March, 2018 was received from the Department advising of the release (on 8 September, 2017) of the 'Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (2017)'. The correspondence noted that proposals for significant mining, petroleum production or extractive industry projects for which SEARs were issued before 8 September, 2017, were given until 7 March 2018 to submit an EIS before the requirements of the said guideline came into effect. As the EIS for the project has not yet been lodged, the correspondence advised that that the following supplementary SEAR must be addressed in the EIS:

"The EIS must include a detailed assessment of the likely social impacts of the development on the local and regional community in accordance with the Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (2017)".

This Social Impact Assessment has been prepared in accordance with the NSW Department of Planning & Environment Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (September, 2017).

BACKGROUND

The current site is utilised as an olive and fig farm, with limited commercial viability.

The site has direct access to Nelson Bay Road. Nelson Bay Road provides a direct link to export potential at Newcastle Harbour and manufacturing operations in Newcastle and Sydney that

incorporate glass, ceramic and chemical industries. The proposed sand extraction and processing facility could readily provide required resources to these industries. The sand resource within the proposed development site has been assessed and has been found to be suitable for a large range of uses that includes at the highest end, relatively scarce high purity glass sand, a very sought-after resource, through to horticultural sand, landscape sand for high end recreational uses on golf courses and playing fields, decorative sands, soft fall sands, construction sands as well as fill sands at the lower end of market return. A large component of the resource is of a quality for glass and high-end technology screen and computer component manufacturing.

PROJECT DESCRIPTION

The proposed development incorporates the following:

- Establishing a quarry to extract and process sand at a rate of 750,000 tonnes per annum, from a total resource of 10 million tonnes; and
- Constructing extractive materials processing and transport infrastructure; and
- Transporting extractive materials off-site via public road; and
- Site rehabilitation; and
- Options for final landform and land use incorporating an internal water body that would be used for a tourist facility or a solar energy farm, post mining.

It is intended to progressively remove the existing olive and fig farm and consequently introduce the sand mining operation in associated sequence. Initially, the sand mining operation will operate above the water table. Subject to the acquisition of sufficient water licences, a dredging operation would then be undertaken to increase the production rate of the sand extraction.

It is expected that the availability of the higher-grade resource will be in high demand. It is anticipated that the resource would take up to 15 years to be extracted. During that time the following employment generation is anticipated:

- The initial construction phase will provide employment of approximately 10-15 workers

- The project will require 7-10 persons for operational activities in addition to 50-70 transport contract drivers.

PROJECT STAKEHOLDERS

For the purposes of this SIA and the EIS generally, the following are considered stakeholders:

- The Bobs Farm community
- Relevant Bobs Farm Community Group(s)
- Bobs Farm Public School
- Relevant Aboriginal individuals, communities and associations
- Council
- Local Businesses
- Statutory and non-statutory agencies

With any commencement of on-site operations, the stakeholder group will be expanded to include:

- Mining Company employees
- Company Management
- Shareholders, if appropriate.

The details of consultation with stakeholders is documented throughout the report.

POSITIVE & NEGATIVE SOCIAL IMPACTS

As well as outlining the positive social impacts created by the proposed development, the SIA includes evaluation of potential negative social impacts including:

- Who is expected to be adversely affected (directly/indirectly or cumulatively);
- When the potential impact is expected to occur; and
- The potential level of social risk posed by the negative social impact from the perspective of those expected to be affected (as opposed to risk of the project) having regard to consequence and likelihood levels

MITIGATION AND MANAGEMENT

EIS specialist reports provide recommendations for mitigation of specific impacts, including social impacts, however likely. The detail of proposed mitigation measures is included in each of the individual specialist reports.

Mitigation measures proposed in each of the specialist reports are likely to satisfy statutory authorities and servicing agencies, along with the Aboriginal community.

Social well-being is a vital component of the Bobs Farm Community. The following recommendations are made to assist the community in resolving outstanding and ongoing concerns:

1. A social impact monitoring program will be developed and will include methodologies to mitigate community impacts (preferably in associated with recommendation 2, below)
2. Asking the community (again) to consider forming a Community Consultative Committee
3. Ongoing dialogue with local residents will be undertaken on a regular basis via the following:

- Dedicated phone hot lines for regulation, compliance and emergency matters
- Community events (e.g. charity fundraisers)
- Community information sessions
- Annual community reports
- Annual dialogue with neighbours: formal and informal

CONCLUSION

The proposed sand mine will provide a supply of a full suite of sand products that include the winning of high-quality deposits of sand for high end uses.

The project can be implemented (with necessary mitigation and amelioration requirements) with minimal adverse socio-economic and environmental impacts as demonstrated throughout this report and the associated EIS.

The project is justified on the basis of being able to satisfactorily mitigate negative environmental and social impacts and provide for overall economic benefits to local, regional and State economies.

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1 INTRODUCTION

Tattersall Lander Pty Ltd has been engaged by Ammos Resource Management Pty. Ltd. (the proponent) to prepare a SIA, to inform an EIS to accompany a development application to the Minister for Planning under Part 4 of the *Environmental Planning and Assessment Act 1979*.

This report documents the detail and associated outcomes of the SIA undertaken by Tattersall Lander on behalf of Ammos Resource Management Pty. Ltd. (the proponent).

The development application seeks approval to construct and operate a sand extraction and processing operation at Bobs Farm, NSW. The land on which the development is proposed is located on the western side of Nelson Bay Road and south of Marsh Road at Bobs Farm and it is within the Port Stephens Local Government Area.

The Department of Planning and Environment was consulted in relation to the development proposal and the Director-General's Requirements (DGRs) for SSD14/6395 were issued on 21 March, 2014.

As two years had passed from the release of the DGRs the Department was further consulted with a request for Secretary's Environmental Assessment Requirements (SEARs). SEARs were provided on 12 April, 2017.

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Furthermore, correspondence dated 8 March, 2018 was received from the Department advising of the release (on 8 September, 2017) of the 'Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (2017)'. The correspondence noted that proposals for significant mining, petroleum production or extractive industry projects for which SEARs were issued before 8 September, 2017, were given until 7 March 2018 to submit an EIS before the requirements of the said guideline came into effect. As the EIS for the project has not yet been lodged, the correspondence advised that that the following supplementary SEAR must be addressed in the EIS:

"The EIS must include a detailed assessment of the likely social impacts of the development on the local and regional community in accordance with the Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (2017)".

This Social Impact Assessment has been prepared in accordance with the NSW Department of Planning & Environment Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (September, 2017); from herein referred to as the 'Department's Guideline 'or 'Departmental Guideline'.

Essentially, the Departmental Guideline provides clear direction on:

1. What social impacts are and how to integrate SIA into different environmental impact assessment phases;

2. What level of community and stakeholder involvement is expected for SIA activities;

3. What SIA information project applicants are expected to provide:
    - In the scoping phase of environmental impact assessment
    - In the EIS preparation phase of environmental impact assessment; and

4. How SIA information is considered in the assessment, determination and post-approval stages of the environmental impact assessment.

2 BACKGROUND

The current site is utilised as an olive and fig farm with limited commercial viability.

The site has direct access to a major road, Nelson Bay Road, and the frontage contains a dual carriageway capacity. Nelson Bay Road provides a direct link to export potential at Newcastle Harbour and manufacturing operations in Newcastle and Sydney that involve glass, ceramic and chemical industries.

The proposed sand extraction and processing facility could readily provide required resources to these industries. The sand resource within this project has been provisionally assessed and has been found to be suitable for a large range of uses that includes at the highest end, relatively scarce high purity glass sand, a very sought-after resource, through to horticultural sand, landscape sand for high-end recreational uses on golf courses and playing fields, decorative sands, soft fall sands, construction sands and finally fill sands at the lower end. A large component of the resource is of a quality for glass and high-end technology screen and computer component manufacturing.

Figure 2-1 - Proposed Development Site in Relation to Bobs Farm Locality

3 PROJECT DESCRIPTION

The proposed sand mine extraction incorporates:

- The establishment of a quarry to extract and process sand at a rate of 750,000 tonnes per annum, from a total resource of 10 million tonnes; and
- Extractive materials processing and transport infrastructure; and
- Transportation of extractive materials off-site via public road; and
- Site rehabilitation and consideration of alternative future land uses.

It is intended to progressively remove the existing olive and fig farm and consequently introduce the sand mining operation in associated sequence. Initially, the sand mining operation will operate above the water table. Subject to the acquisition of sufficient water licences, a dredging operation would then be undertaken to increase the production rate of the sand extraction.

It is expected that the availability of the higher-grade resource will be in high demand. It is anticipated that the resource would take up to 15 years to be extracted. During that time the following employment generation is anticipated:

- The initial construction phase will provide employment of approximately 10-15 workers
- The project will require 7-10 persons for operational activities in addition to 50-70 transport contract drivers.

Further details of the proposed development are included in the EIS.

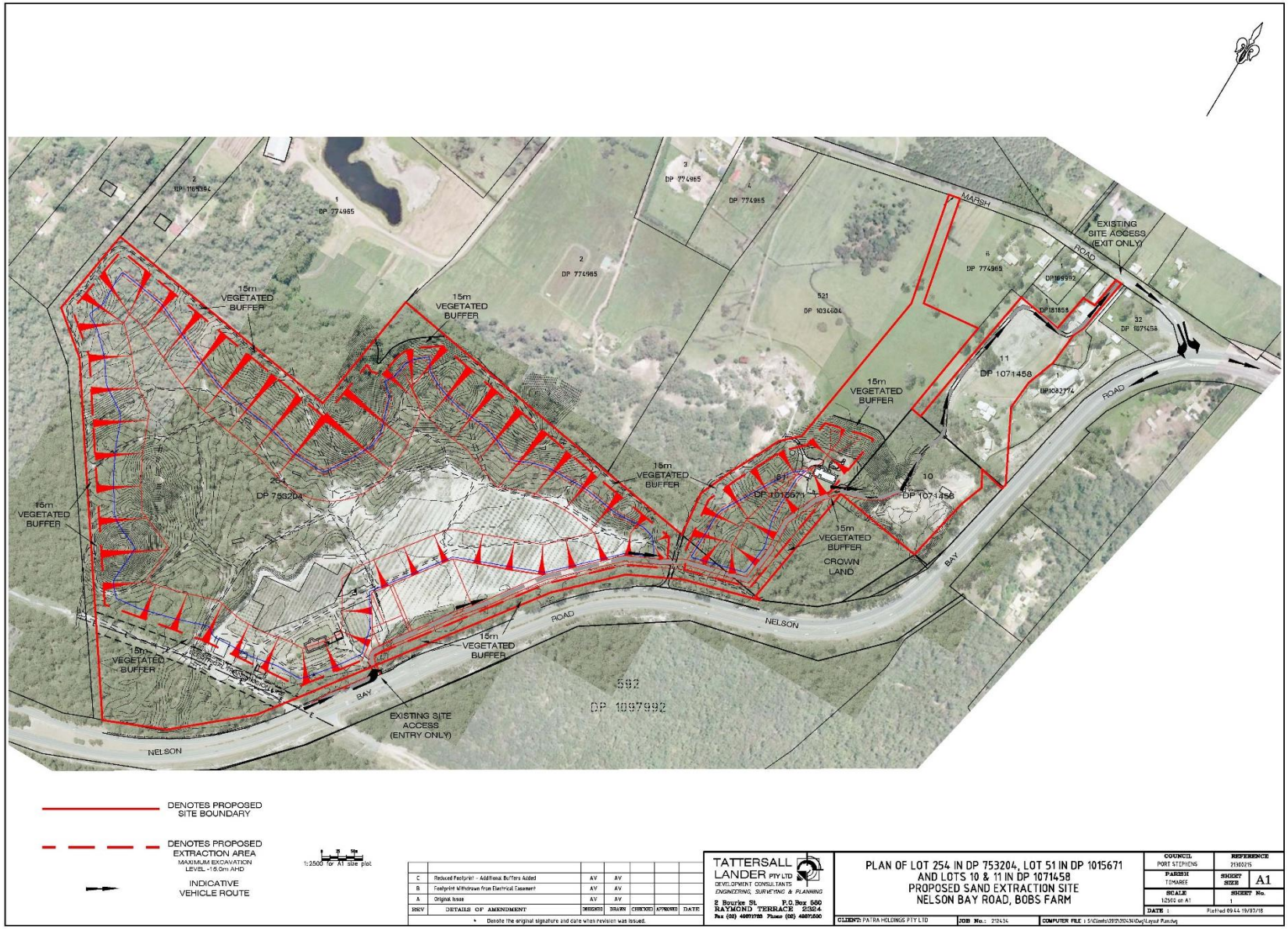

Figure 3-1 - Proposed Development Site and Bobs Farm Locality

4 SOCIAL IMPACT ASSESSMENT AUTHOR REQUIREMENTS

The Department's Guideline (pages 17 and 24) stipulates that the SIA author/authoring team should have a demonstrated understanding of impact assessment, engagement, primary data collection methods and the approach to SIA outlined in the guideline.

The guideline advocates that the lead author of the SIA component of the EIS should have suitable qualifications in a relevant social science discipline and/or proven experience (over multiple years) and competence in social science research methods and SIA theory and practices.

The guideline requires that the lead author's qualifications and experience should be outlined in the SIA component of the EIS and that the lead author should provide a signed declaration indicating that the SIA component of the EIS contains all information relevant to the SIA for the project, and that the information is not false or misleading. The declaration should indicate the date on which the assessment was completed. The author should also follow relevant ethical considerations that apply to research involving people. Safeguards should be put in place and documented to ensure the process and the results provide an impartial assessment of the anticipated social impacts and avoid potential conflicts of interest.

The lead author of the SIA satisfies the Department's requirements. (See SIA first page for further details).

5 SOCIAL IMPACT ASSESSMENT OBJECTIVES

Overall, the Department's Guideline emphasises four core objectives that should be met when preparing the SIA component of the EIS:

1. The extent and nature of potential social impacts are predicted and analysed using accepted social science methods against existing baseline conditions;

2. The SIA component of the EIS effectively draws attention to, and focuses effort on, the potential social impacts that are assessed as being significant;

3. Potential social impacts, particularly those evaluated as significant, have an appropriate, justified response, and residual social impacts are identified and explained; and

4. Appropriate arrangements are proposed to monitor and manage mitigation and enhancement measures and residual social impacts over the life of the project, including unforeseen issues.

The Departmental Guideline identifies (on page 12) the key engagement objectives for SIA:

• ensuring potentially affected people, groups, organisations and the community are identified and have a sufficient understanding of:
  - the proposed project
  - how it may affect them
  - the EIS process for State significant projects in NSW, and how SIA contributes to that process
  - how they can participate and be informed and consulted;

• collecting qualitative and quantitative data, evidence and insights for scoping the SIA and preparing the SIA component of the EIS, in ways that maximise diversity and representativeness;

• understanding the interests that potentially affected and interested people have in the project; and how potential impacts are predicted to be experienced from their perspectives;

• considering the views of potentially affected and interested people in a meaningful way, and using these insights to inform project planning and design, mitigation and enhancement measures, and monitoring and management frameworks;

• confirming data, assumptions, findings and recommendations

• ensuring people know how their input and views have been taken into account;

• helping people understand how other specialist studies prepared for the EIS (for example, air quality, noise), and any associated proposed mitigation measures, address social impacts; and

• respecting people's privacy, allowing them to communicate their views anonymously if they desire.

6 PROJECT STAKEHOLDERS

For the purposes of the SIA and the EIS generally, the following are considered stakeholders:

- The wider Bobs Farm community
- Relevant Bobs Farm Community Group(s)
- Bobs Farm Public School
- Relevant Aboriginal individuals, communities and associations
- Persons with connections to any European heritage considerations relevant to the site
- Council
- Local Businesses
- Statutory and non-statutory agencies

With any commencement of on-site operations, the stakeholder group will be expanded to include:

- Mining Company employees
- Company Management
- Shareholders, if appropriate.

The details of consultation with stakeholders and associated social impact assessment is documented throughout this report as well as within the EIS.

7 WHAT ARE SOCIAL IMPACTS?

The Department' Guideline (page 5) describes social impacts (within the context of State Significant Mining, Petroleum Production and Extractive Industry Development as the following):

"a consequence experienced by people due to changes associated with a State significant resource project".

The guideline stipulates that social impacts can involve changes to people's:

- **way of life**, including:
    - how people live, for example, how they get around, access to adequate housing
    - how people work, for example, access to adequate employment, working conditions and/or practices
    - how people play, for example, access to recreation activities
    - how people interact with one another on a daily basis

- **community**, including its composition, cohesion, character, how it functions and sense of place

- **access to and use of infrastructure, services and facilities**, whether provided by local, state, or federal governments, or by for-profit or not-for-profit organisations or volunteer groups

- **culture**, including shared beliefs, customs, values and stories, and connections to land, places, and buildings (including Aboriginal culture and connection to country)

- **health and wellbeing**, including physical and mental health

- **surroundings**, including access to and use of ecosystem services, public safety and security, access to and use of the natural and built environment, and its aesthetic value and/or amenity

- **personal and property rights**, including whether their economic livelihoods are affected, and whether they experience personal disadvantage or have their civil liberties affected
- **decision-making systems**, particularly the extent to which they can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms

- **fears and aspirations** related to one or a combination of the above, or about the future of their community

It is important to note that, in the context of describing the social impacts associated with the Department's Guideline, the guideline specifies the inclusion of footnotes (1-5).

1 'People' includes individuals, households, groups, communities, organisations and the NSW population generally.
2 Adapted from the definition endorsed by International Association of Impact Assessment and outlined in: Vanclay, F. (2003). International Principles for Social Impact Assessment. Impact Assessment & Project Appraisal 21(1): 5-11.

3 The World Health Organization defines health as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. For this guideline, wellbeing is a state in which people have their basic needs met, can realise their potential, can cope with the normal stresses of life, can work productively and fruitfully, and can participate in their community. See: Smyth, E. and Vanclay, F. (2017). The Social Framework for Projects: a conceptual but practical model to assist in assessing, planning and managing the social impacts of projects. Impact Assessment and Project Appraisal, 35:1, p. 78; Schirmer, J., et al. (2016), Wellbeing, resilience and liveability in rural and regional Australia: The 2015 Regional Wellbeing Survey, University of Canberra, p. 23; and OECD. (2011). How's life?: measuring well-being. OECD Publishing, p. 18: http://dx.doi.org/10.1787/9789264121164-en.

4 Ecosystem services include: provisioning services, such as food and water; regulating services, such as flood and disease control; supporting services, such as nutrient cycling, that maintain the conditions for life on Earth; and cultural services, such as spiritual, recreational, and cultural benefits. See: Millennium Ecosystem Assessment (2005). Ecosystems and Human Well-Being: Our Human Planet: Summary for Decision Makers. The Millennium Ecosystem Assessment Series, Volume 5, Island Press, Washington DC.

5 When considering perceptions of adverse impacts on amenity, an evaluation must be made of the reasonableness of those perceptions. This evaluation involves 'the identification of evidence that can be objectively assessed to ascertain whether it supports a factual finding of an adverse effect on amenity…': Telstra Corporation Ltd v Hornsby Shire Council [2006] NSWLEC 133.

Factors that may influence the nature and scale of the social impacts associated with resource projects include its:

- Location and associated proximity to population;
- Extraction methodology (such as underground or open cut);
- Local and regional context; and
- Commodity cycle prices.

As cited by the Department's Guideline (page 6), social impacts vary in their nature, and can be:

- Positive (e.g. increased employment opportunities) or negative (e.g. increase in prevalence in certain health conditions);
- Tangible (e.g. availability of affordable housing) or intangible (e.g. social cohesion);
- Direct (i.e. caused by the project) or indirect (i.e. caused by a change that is caused by the project) and can also be cumulative (spatial, temporal or linked);
- Directly quantifiable, indirectly or partly quantifiable or only able to be described and assessed in qualitative terms;
- Experienced differently by different people and groups within a community, by different communities and different times and stages of a particular project; and
- Perceived.

Quite apart from understanding the social impacts associated with a particular project, the Departmental guidelines make specific reference to the need to understand the social impacts caused by the accumulation of the project with other existing or foreseeable matters, including spatial and temporal considerations. Such impacts are referred to in the Department's guidelines as 'cumulative impacts'.

The Department's Guideline (page 6) define cumulative impacts as "*the successive, incremental and combined impacts (both positive and negative) of activities on society, the economy and the environment*" and can arise from a single activity, multiple activities or from interactions with other past, current and foreseeable future activities.

The Department's Guideline indicates that cumulative impacts can be further considered as 'sink' impacts arising from the outputs of activities (that is, dust, noise, saline water), or 'source' impacts resulting from drawing upon and using the same resources as other industries (for example, skilled labour, housing, freshwater).

Furthermore, the guideline indicates that cumulative impacts can arise in three main ways:
• 'Spatial' impacts are those that occur over the same area. For example, trucks from multiple operations may produce a cumulative noise impact along a common haulage route.
• 'Temporal' impacts are those that vary over time. For example, the construction of multiple large projects over the same timeframe may produce a spike in temporary workers in an area, creating a short-term cumulative shortage of accommodation.
• 'Linked' impacts involve more complex interactions, such as where an impact triggers another or where a single activity has multiple impacts. For example, a resource project may generate noise and dust, consume local water resources, and increase traffic on local roads and services. The combination of these varied impacts may result in a cumulative impact on the social fabric of a locality.

Importantly, and particularly relevant to this report, social impacts can also be perceived. An individual or a community may perceive changes being caused by a proposed development as detrimental and unable to be suitably managed or controlled. Significant levels of stress may result when this occurs. Certainly, such perception is more evident when the event, including the anticipation of a proposed development, is perceived as being harmful, threatening or challenging and where the individual or community perceives that they do not have the resources, coping strategies and/or support available to manage or influence the disruptions caused by the event. Perceived impact also extends to the belief that amelioration strategies proposed to mitigate what might otherwise be actual impacts, are considered ineffective or irrelevant.

8 DEPARTMENT OF PLANNING & ENVIRONMENT GUIDELINE IDENTIFIED PHASES, KEY ACTIVITIES AND OUTPUTS FOR SOCIAL IMPACT ASSESSMENT

Figure 8-1, illustrates the Departmental Guideline's expectations for Social Impact Assessment preparation within the context of EIS preparation, identifying key activities and outputs.

Figure 2: Phases of environmental impact assessment and key social impact assessment activities and outputs

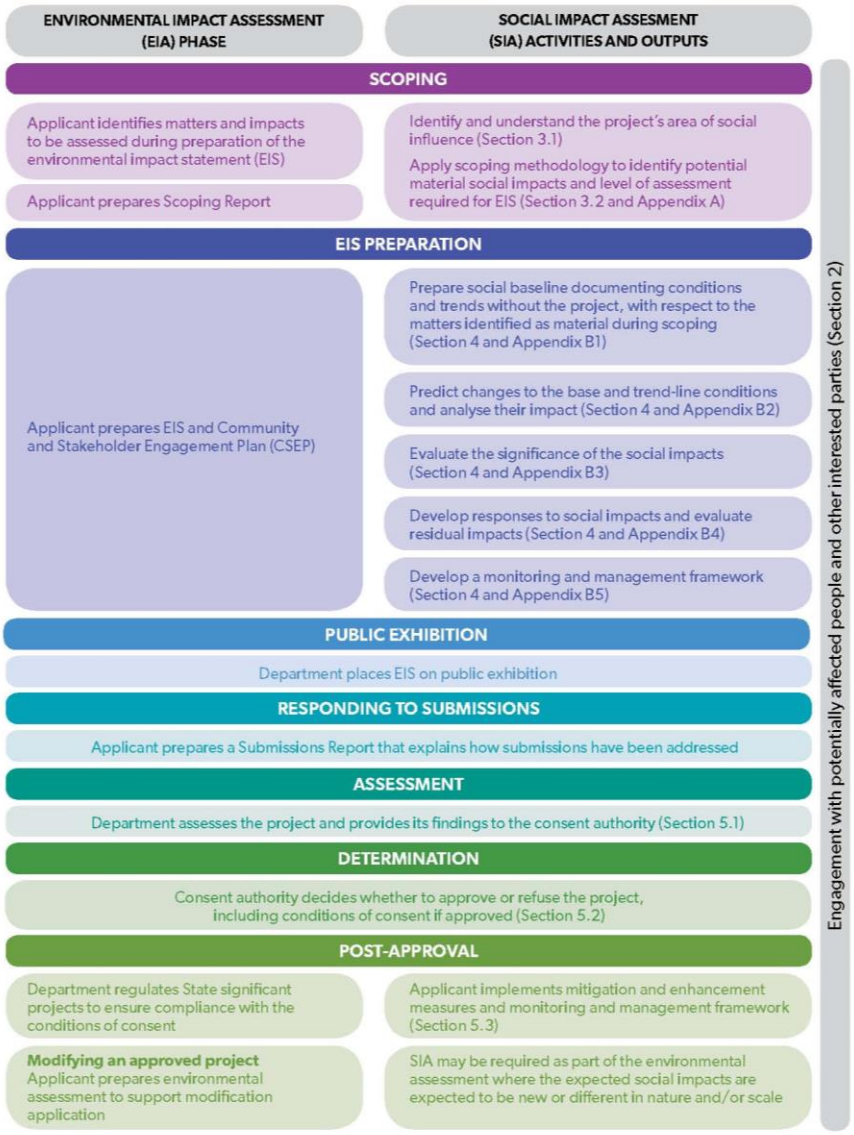

Figure 8-1 - Phases of environmental impact assessment and key social impact assessment activities and outputs

9 WHO TO ENGAGE AND HOW

Overview

The SEARs (as did, previously, the DGRs) require that the EIS must:

- Describe the consultation process used and demonstrate that effective consultation has occurred; and
- Describe the issues raised by community groups and landowners; and
- Describe the issues raised by public authorities and service providers; and
- Identify where the design of the development has been amended in response to issues raised; and
- Otherwise demonstrate that issues raised have been appropriately addressed in the assessment.

Departmental Guideline: How to Engage

The Departmental Guideline provides (page 14) 'useful engagement techniques for social impact assessment'. Identified techniques are summarised in **Table 9-1**.

Table 3: Useful engagement techniques for social impact assessment

Level of participation	Engagement technique	Purpose in social impact assessment
Sharing information	Impromptu discussions and informal conversations	• identifying affected and interested people, groups, organisations and communities • helping people to understand the proposal and the social impact assessment • addressing questions, concerns and complaints • demonstrating early engagement
	Public displays, briefings, information sessions and public meetings	
	Open days and site visits	
	Contact points (for example, hotlines, websites, shopfronts)	
	Websites, direct mail/email/SMS, fact sheets, newsletters and webinars	
Consulting to collect information and insights	Surveys and interviews	• identifying and predicting social impacts • collecting data, evidence and insights • demonstrating early engagement • confirming data, assumptions and findings • involving marginalised groups
	Community Consultative Committee, or community liaison and advisory groups	
	Online forums	
	Social media	
Collaborating in decision-making	Workshops and focus groups	• collaborating in the design of project elements • identifying and predicting social impacts • collaborating in the development of monitoring, mitigation and management measures and actions • involving marginalised groups
	Deliberative forums/workshops	
	Citizen panels	

Table 9-1 - Useful engagement techniques for social impact assessment

10 SOCIAL IMPACT ASSESSMENT SCOPING

As documented by the Department's Guideline (on page 17), project scoping "*highlights what elements of the natural or human environment ('matters') are expected to be impacted upon by activities associated with a State significant resource project (whether positively or negatively), how those impacts should be assessed and to what level of detail. It is used to focus the SIA on the most relevant and important issues for each project and ensures the scale of assessment required is proportionate to the importance of the expected impacts*".

Overall, there are two core objectives specified by the Departmental Guideline (on page 17) that should be met during the scoping phase of the SIA, viz:

1. Potentially affected people and the project's area of social influence are identified and understood; and
2. Social impacts needing further investigation in the EIS are identified and assigned a proportionate level of assessment.

The Departmental Guideline's Scoping Tool has been utilised for the purposes of establishing the detail of impacts associated with the proposed development as well as to inform the detail of specialist EIS studies and amelioration requirements intended to mitigate any negative impacts associated with the proposed development. The output from the Departmental Guideline scoping exercise is provided as **Appendix 1**.

There are 25 key issues identified by project scoping from the Department's Scoping Tool Worksheet 1 and of relevance for consideration within either the SIA specifically or within other specialist reports informing the EIS as a whole:

1. Amenity: acoustic;
2. Amenity: visual;
3. Amenity: microclimate;
4. Amenity: particle deposition;
5. Access: access to property;
6. Access: road network;
7. Access: egress of trucks from the property;
8. Heritage: cultural;
9. Heritage: Aboriginal cultural heritage considerations
10. Heritage: built;
11. Community: health;
12. Community: safety;
13. Community: cohesion, capital and resilience:
14. Economic: natural resource use;
15. Economic: livelihood;
16. Air Quality: particulate matter;
17. Biodiversity: native vegetation;
18. Biodiversity: native fauna;
19. Land: stability and/or structure;
20. Land: soil chemistry;
21. Land: capability;
22. Land: topography;
23. Water: water quality;

24. Water: hydrological flows; and
25. Bushfire

Worksheet 2 of the Department's SIA Scoping Tool identifies specific requirements for the purposes of social impact assessment. Some specific matters raised by the community are purposely considered by other specialist reports which inform the content of the EIS as a whole.

Full copies of Worksheets 1 and 2 are illustrated in **Appendix 1** of the SIA. A summary of Worksheets 1 and 2 follows.

It is also important to note that the existing community consultation undertaken at two public meetings for the project (see **Chapter 11**) have also been heavily utilised in the scoping exercise undertaken to inform the content of the SIA.

The content of Worksheets 1 and 2; the understanding of Key Issues arising from existing community consultation and the content of media reports including social media, are responsible for scoping the content and associated level of social impact assessment undertaken by this report and by the EIS. This, in turn, has informed the consideration and detail of mitigation measures proposed by the project.

Table 10-1 - Summary and Analysis from Worksheet 1 Results (Noting Inclusion of Worksheet Autofill Results)

Social & Environmental Impact Matters		Without Any Mitigation Is the Proposal Likely/Unlikely to Impact on the Matter or Not Applicable?	If Likely Impact Without Mitigation List Activities Expected to Cause the Impact If Unlikely Without Mitigation, Detail Why	Requirement for Consideration in EIS?	Expected Level of EIS Assessment &/or Engagement
AMENITY	acoustic	Likely	Mining and truck haulage (Phase 1: Impacts on R2, R3, R5, R7) (Phase 2: Impacts on R1, R2, R5, R7, R13) (Phase 3: Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) (Phase 4 Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) R4 is Bobs Farm Public School	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	visual	Likely	Vegetation removal; acoustic wall along haulage route	Yes	Key Issue
	odour	NA			No assessment necessary - Worksheet only
	microclimate	Unlikely	Microclimate considerations not a major impact of the proposed development	Yes	Key Issue
	particle deposition	Likely	Mining /truck haulage. Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. However, during all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply with required criteria	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	access to property	Unlikely	Access to the site is from Nelson Bay Road to the south, away from sensitive receptors	No	Key Issue
	utilities	NA			No assessment necessary - Worksheet only

ACCESS	road and rail network	Unlikely	Road network will easily accommodate additional traffic generated by the proposed development. Nelson Bay Road is currently at only 50 percent capacity. As advised by traffic impact assessment: specialist report	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	offsite parking	NA			No assessment necessary - Worksheet only
	egress from the property	Likely	Proximity of truck haulage to Bobs Farm School and other sensitive receptors	Yes	Key Issue, Focused Engagement
BUILT ENVIRONMENT	public domain	NA			No assessment necessary - Worksheet only
	public infrastructure	NA			No assessment necessary - Worksheet only
	other built assets	NA			No assessment necessary - Worksheet only
HERITAGE	natural	NA			No assessment necessary - Worksheet only
	cultural	Unlikely	As advised by cultural heritage assessment: specialist report	No	Key Issue
	Aboriginal cultural	Likely	As advised by Aboriginal cultural heritage assessment: specialist report	Yes	Key Issue, Focused Engagement
	built	Unlikely	As advised by cultural heritage assessment: specialist report	No	Key Issue
COMMUNITY	health	Likely	Mining and truck haulage noise impacts (Phase 1: Impacts on R2, R3, R5, R7) (Phase 2: Impacts on R1, R2, R5, R7, R13) (Phase 3: Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) (Phase 4 Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) R4 is Bobs Farm Public School. Mining and truck haulage air quality impacts: Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. During all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement

			with required criteria. Mental health considerations due to existing perception of the impact of mining operations, particularly the perceived impact on Bobs Farm School is of concern		
	safety	Likely	Community perception of safety impact: perception of conflict between mine trucks and school children/pedestrians	Yes	Key Issue, Focused Engagement
	services & facilities	NA			No assessment necessary - Worksheet only
	cohesion, capital & resilience	Likely	Resilience an issue considering existing community views. Considerations and concerns around existing perceptions related to fear, adaptation to change, mental health and well-being.	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	housing	NA			No assessment necessary - Worksheet only
ECONOMIC	natural resource use	Unlikely	As advised by groundwater assessment: specialist report	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	livelihood	Unlikely	As advised by groundwater, air quality and noise assessments: specialist reports	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	opportunity cost	NA			
AIR	particulate matter	Likely	Mining and truck haulage. Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. During all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply with required criteria	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	gases	NA			No assessment necessary - Worksheet only
	atmospheric emissions*	NA			No assessment necessary - Worksheet only

	total suspended particles*	NA			No assessment necessary - Worksheet only
BIODIVERSITY	native vegetation	Likely	Land Clearing - Direct and potential impacts or losses (approximate areas): 25.9 ha of Coastal Sand Smooth-Barked Apple Blackbutt Forest; 25.9 ha of Supplementary Koala Habitat; 9.5 ha of orchids; 877 hollow bearing trees; 25.9 ha of suitable habitat for a number of additional threatened flora species; habitat fragmentation; edge effects; spread of noxious weeds. The following additional key threatening processes will impact directly or indirectly on native vegetation: Loss of Hollow-Bearing Trees; Removal of dead wood and dead trees; Predation by the European Red Fox (*Vulpes vulpes*); Predation by the Feral Cat (*Felis catus*); Predation and hybridation of Feral Dogs (*Canis lupis famililaris*); Competition and grazing by the feral European Rabbit (*Oryctolagus cuniculus*); Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants; Invasion and establishment of exotic vines and scramblers; Loss or degradation (or both) of sites used for hill-topping by butterflies.	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	native fauna	Likely	Land Clearing - Direct and potential impacts or losses (approximate areas): animal mortality from clearing activities; 25.9 ha of known habitat for 10 threatened fauna species (Little Lorikeet; Powerful Owl; White-Bellied Sea Eagle; Squirrel Glider; Greater Broad-Nosed Bat; Eastern Falsistrelle; Little Bentwing Bat; Large Bentwing Bat; Koala; Grey-Headed Flying Fox) 25.9 ha of Supplementary Koala Habitat; 877 hollow bearing trees; 25.9 ha of suitable	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement

			habitat for a number of additional threatened fauna species; habitat fragmentation; edge effects; spread of pest fauna species; spread of noxious weeds. The following additional key threatening processes will impact directly or indirectly on native vegetation: Loss of Hollow-Bearing Trees; Removal of dead wood and dead trees; Predation by the European Red Fox (*Vulpes vulpes*); Predation by the Feral Cat (*Felis catus*); Predation and hybridation of Feral Dogs (*Canis lupis famililaris*); Competition and grazing by the feral European Rabbit (Oryctolagus cuniculus); Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants; Invasion and establishment of exotic vines and scramblers; Loss or degradation (or both) of sites used for hill-topping by butterflies.		
LAND	stability &/or structure	Likely	Mining: will affect the stability and structure of the land	Yes	Key Issue, Focused Engagement
	soil chemistry	Likely	Mining is likely to encounter ASS and PASS	Yes	Key Issue, Cumulative Impact Assessment
	capability	Likely	Mining: will affect the capacity of the land to sustain a range of land uses in the long term	Yes	Key Issue, Focused Engagement
	topography	Likely	Mining: will affect the existing topography of the land	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
WATER	water quality	Unlikely	As advised by groundwater impact specialist report	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement
	water availability	NA			No assessment necessary - Worksheet only
	hydrological flows	Likely	As advised by groundwater impact specialist report albeit groundwater specialist report advises negligible impact	Yes	Key Issue, Cumulative Impact Assessment, Focused Engagement

RISKS	coastal hazards	NA			No assessment necessary - Worksheet only
	flood waters	NA			No assessment necessary - Worksheet only
	bushfire	Likely	Natural or human cause: site is designated as bushfire prone land	Yes	Key Issue, Cumulative Impact Assessment
	undermining	NA			No assessment necessary - Worksheet only
	steep slopes	NA			No assessment necessary - Worksheet only

*Specialist report undertaken but advised no impact (without mitigation)

Table 10-2 - Summary and Analysis from Worksheet 2 Results (Noting Inclusion of Worksheet Autofill Results)

Social & Environmental Impact Matters		Specialist EIS Report(s) Required?	Specialist EIS Report(s) Inclusive of Social Impact Assessment? (in part or in full)	Separate Social Impact Assessment Report Required?	Where Additional Social Impact Assessment Report Required: Type of Report (See below for definitions)		
					Desktop Social Impact Assessment Required	Standard Social Impact Assessment Required	Comprehensive Social Impact Assessment Required
AMENITY	acoustic	Yes	Yes	No			
	visual	Yes	Yes	Yes	Yes	No	No
	odour	NA					
	microclimate	No		No			
	particle deposition	Yes	Yes	No			
ACCESS	access to property	No		No			
	utilities	NA					
	road and rail network	Yes	Yes	No			
	offsite parking	NA					
	egress from the property	Yes	Yes	No			
BUILT ENVIRONMENT	public domain	NA					
	public infrastructure	NA					
	other built assets	NA					
HERITAGE	natural	NA					
	cultural	Yes		No			
	Aboriginal cultural	Yes	Yes	Yes	Yes	No	No
	built	Yes		No			
COMMUNITY	health	Yes	Yes	Yes	No	Yes	No
	safety	Yes	Yes	Yes	No	Yes	No
	services & facilities	NA					

	cohesion, capital & resilience	Yes	Yes	Yes	No	Yes	No
	housing	NA					
ECONOMIC	natural resource use	Yes	Yes	No			
	livelihood	Yes	Yes	No			
	opportunity cost	NA					
AIR	particulate matter	Yes	Yes	No			
	gases	NA					
	atmospheric emissions	Yes *	Yes	No			
	total suspended particles	Yes *	Yes	No			
BIODIVERSITY	native vegetation	Yes	No	Yes	No	No	Yes
	native fauna	Yes	No	Yes	No	No	Yes
LAND	stability &/or structure	Yes	Yes	No			
	soil chemistry	Yes	Yes	No			
	capability	Yes	Yes	No			
	topography	Yes	Yes	No			
WATER	water quality	Yes	Yes	No			
	water availability	Yes	Yes	No			
	hydrological flows	Yes	Yes	Yes	No	Yes	No
RISKS	coastal hazards	NA					
	flood waters	NA					
	bushfire	Yes	Yes	Worksheet Fails to Specify			
	undermining	NA					
	steep slopes	NA					

*Specialist report undertaken but advised no impact (without mitigation)

Worksheet 2: Definitions of SIA Types (from reference in Department's Guideline)

DeskTop SIA: Another specialist study or section of the EIS will provide all the information and analysis needed to predict, evaluate and develop a response to the social impact, including relevant primary and secondary research, qualitative and quantitative data, and appropriate engagement with potentially affected people, to establish a baseline and support predictions. If this is the case, the SIA component of the EIS only needs to review the data and findings from the other sources through a SIA lens and cross-reference and integrate them into the overall social baseline and assessment.

Standard SIA: Most information and analysis needed to predict, evaluate and develop a response to the social impact will be provided by another specialist study or section of the EIS, but it will need to be supplemented with further evidence gathering and analysis to fill any gaps and obtain a complete picture from a SIA perspective.

Comprehensive SIA: Only limited or no information and analysis will be provided by another specialist study or section of the EIS. If so, the author/s of the SIA component of the EIS will need to undertake the evidence gathering and analysis needed to predict, evaluate and develop a response to the social impact.

11 BOBS FARM COMMUNITY: ENGAGEMENT & CONSULTATION

Overview

In order to comprehensively understand the views of the Bobs Farm Community about the proposed development, the following consultation has occurred with the community specifically:

- Public Meeting 25 November, 2014 (when the project was first mooted): this public meeting consisted of a briefing of the proposed development followed by discussion incorporating extensive questions and answers. A summary of the issues and considerations raised by the community at that meeting is discussed in **Chapter 15** of the SIA.
- Following from the public meeting on 25 November, 2014: informal conversations about the proposed development with interested community members and the press.
- Public Meeting 10 October, 2018: given the length of time within which the EIS has been in preparation and following additional requirements by the Department regarding the current extent of knowledge by the community about the status of the project and any associated modifications, an additional public meeting which consisted of a project briefing was undertaken. The briefing was followed by discussion incorporating extensive questions and answers. A summary of the issues and considerations raised by the community at that meeting is discussed in **Chapter 15** of the SIA*. Further detail of matters discussed by the community at the 10 October, 2018 public meeting is located at **Appendix 2.**
- Following from the public meeting on 10 October, 2018: informal conversations about the proposed development with interested community members and the press.
- Precis of issues raised by the community on the 'Say No to Bobs Farm' Facebook page (see **Chapter 15** of the SIA)
- Precis of issues raised on the State Member, Kate Washington MP, Facebook page (see **Chapter 15** of the SIA)
- Precis of issues raised in the press (television and newspaper) (see **Chapter 15** of the SIA)

*The community was invited by the project applicant to form a Community Consultative Committee to engage in further dialogue about the proposed development. The community declined to do so.

The SIA specifically addresses the issues raised by the community as well as considering the wider social impacts of the proposed development on the general community.

Public Meeting 25 November, 2014

A Public Meeting was facilitated by Tattersall Lander to discuss the development proposal when it was first mooted. The purpose of the meeting was to provide a briefing about the proposed development and to provide an opportunity to understand matters raised by the community in response.

Stakeholders were advised by Public Notice of the intention to hold the Public Meeting. Public Notice was given by way of advertisement in the Public Notes section of the Port Stephens Examiner; the date of publication being 20 November, 2014. A copy of the publication and details of the presentation are provided at Error! Reference source not found..

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Plate 11-1 - Director Tattersall Lander (Bob Lander) during presentation to the Public Meeting on 25 November, 2014 (Source: Port Stephens Examiner website: December 2, 2014)

64 residents/stakeholders recorded their attendance at the community meeting held at Bobs Farm Community Hall on 25 November, 2014.

Locational representation of public meeting attendees, including business owners, features below.

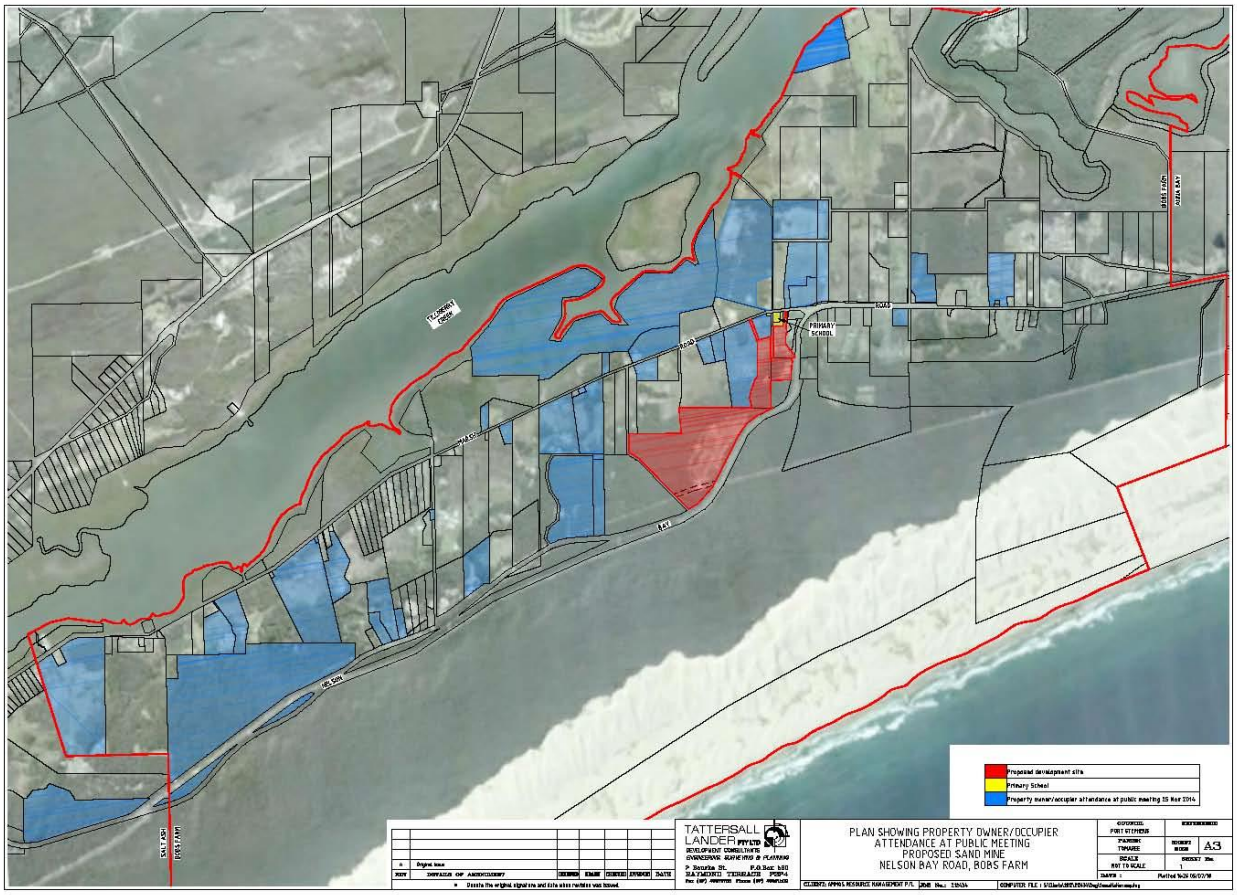


Figure 11-1 - Addresses of Recorded Attendees at Public Meeting 25 November, 2014 and Locational Relationship to Proposed Development Site and Public School

Suburb/Township	Number of Attendees
Corlette	3
Anna Bay	2
Salt Ash	1
Newcastle	1
Warners Bay	1
Toongabbie	1

Table 11-1 - Recorded Attendees Public Meeting 25 November, 2014 not from Bobs Farm or Immediate Locality

Matters of concern to the community about the proposed development are discussed in **Chapter 15**. Amelioration measures proposed to mitigate concerns raised by the community are discussed in **Chapter 17.**

Public Meeting 10 October, 2018

Given the length of time involved in finalisation of the EIS for the proposed development, an additional Public Meeting was facilitated by Tattersall Lander to discuss the development proposal with the community, also outlining proposed amelioration measures which have been developed in consultation with lead authors of specialist reports prepared in response to SEAR's considerations. Again, the purpose of the meeting was to provide a briefing about the proposed development and to provide an opportunity to understand matters raised by the community in response.

Stakeholders were advised by Public Notice of the intention to hold the Public Meeting. Public Notice was given by way of advertisement in the Public Notes section of the Port Stephens Examiner. A copy of the publication is provided at Error! Reference source not found..

Plate 11-2 - Director Tattersall Lander (Bob Lander) during presentation to the Public Meeting on 10 October, 2018 (Source: Tattersall Lander, 10 October, 2018)

42 residents/stakeholders recorded their attendance at the community meeting held at Bobs Farm Community Hall on 10 October, 2018.

Plate 11-3 - Part of the Bobs Farm Community Audience during presentation by Tattersall Lander to the Public Meeting on 10 October, 2018 (Source: Tattersall Lander, 10 October, 2018)

Locational representation of public meeting attendees, including business owners, features below.

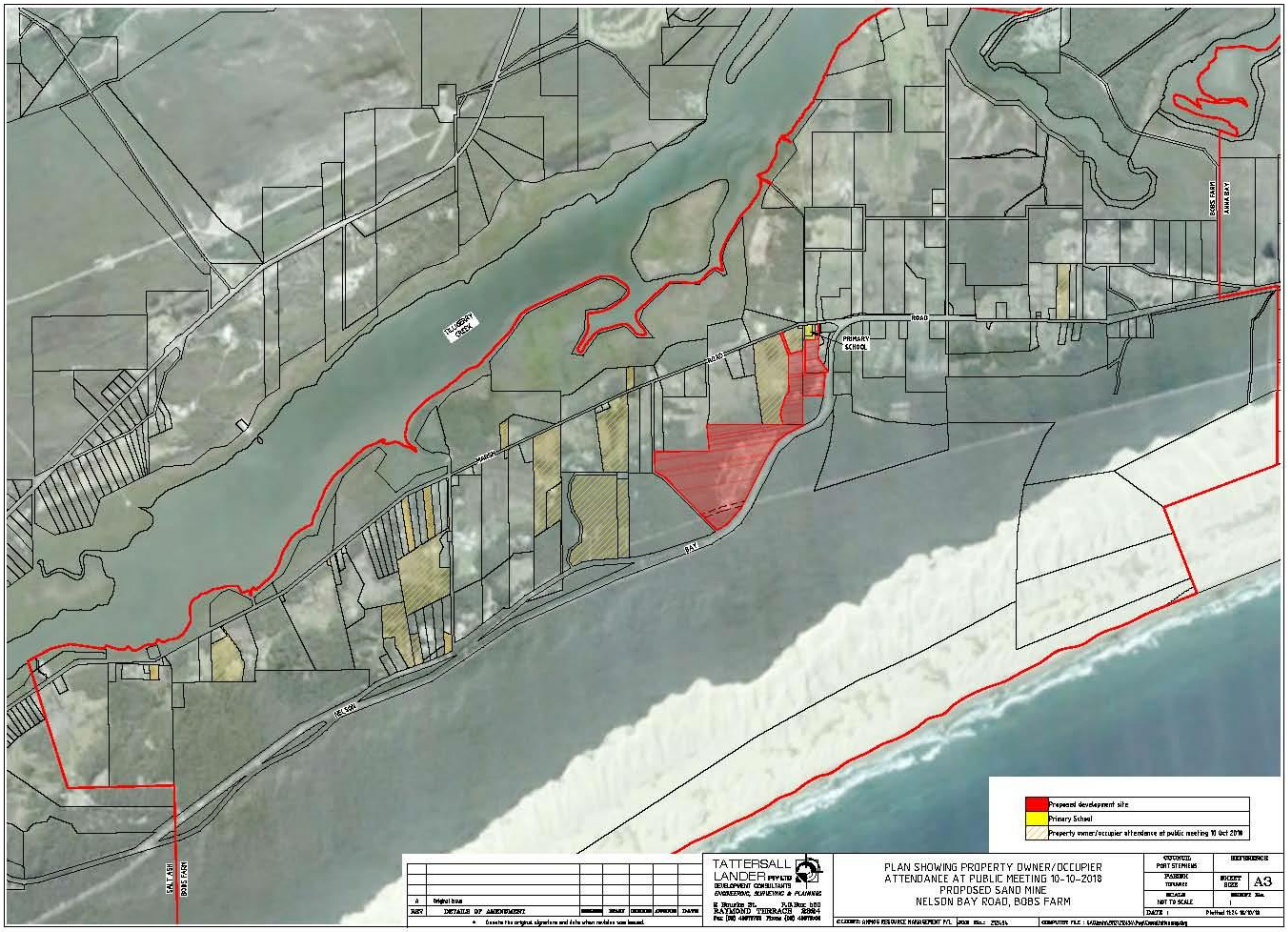


Figure 11-2 - Addresses of Recorded Attendees at Public Meeting 10 October, 2018 and Locational Relationship to Proposed Development Site and Bobs Farm Public School

(Note: 6 attendees could not be identified in Bobs farm: lack of or incomprehensible details)

Suburb/Township	Number of Attendees
Anna Bay	4
Nelson Bay	3
Corlette	2
Salt Ash	1
Raymond Terrace	1
Frenchs Forest	1

Table 11-2 - Recorded Attendees Public Meeting 10 October, 2018 not from Bobs Farm or Immediate Locality

(Note: Table above includes addresses of State and Local Government member present at the meeting)

A full copy of the public presentation given by Tattersall Lander at the Public Meeting is included as Error! Reference source not found..

A copy of the Meeting Transcript Summary is provided at **Appendix 2.**

Matters of concern to the community about the proposed development are discussed in **Chapter 15**. Amelioration measures proposed to mitigate concerns raised by the community and by specialist reports are discussed in **Chapter 17.**

Attendance at Both Public Meetings

Of interest to this report has been the attendance of Bobs Farm Community members at both public meetings (2014 and 2018). **Figure 11-3** illustrates address attendance at both meetings.

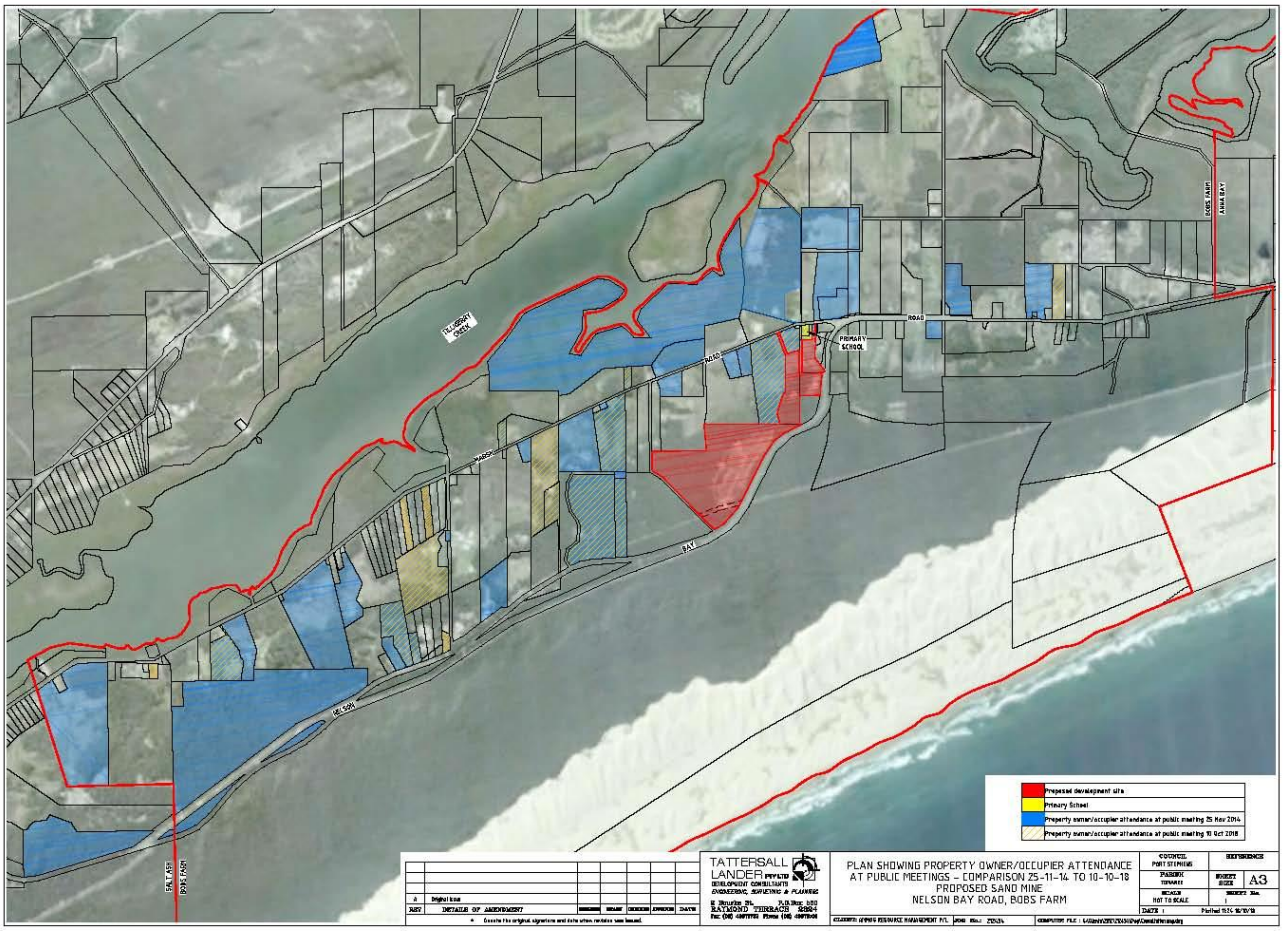


Figure 11-3 - Addresses of Recorded Attendees at Public Meetings 25 November, 2014 and 10 October, 2018 and Locational Relationship to Proposed Development Site and Bobs Farm Public School

12 CONSULTATION WITH STATUTORY AUTHORITIES AND SERVICING AGENCIES

Given the timeframe over which preparation of the EIS has occurred, consultation requirements have applied to both the issuing of the Director-General's Requirements (DGRs) and Secretary's Environmental Assessment Requirements (SEAR's).

The (SEARs) (as did, previously, the (DGRs)) require, in part, that the EIS must:

- Describe the issues raised by public authorities and service providers; and
- Identify where the design of the development has been amended in response to issues raised; and
- Otherwise demonstrate that issues raised have been appropriately addressed in the assessment.

Consultation in accordance with (the then) DGR's issued on 21 March, 2014 occurred during 2014 with the following statutory authorities and servicing agencies:

- Commonwealth Department of the Environment
- Office of Environment & Heritage (including the Heritage Branch)
- Environment Protection Authority
- Division of Resources & Energy (from Trade and Investment, Regional Infrastructure and Services)
- Department of Primary Industries (including NSW Office of water, NSW Forestry, Agriculture and Fisheries, Catchment and Lands (Crown lands Division))
- Transport NSW (Centre for Transport Planning, Roads and Maritime Services)
- Hunter Local Land Services
- Hunter Water
- Port Stephens Council

Consultation in accordance with the SEAR's issued on 12 April, 2017 occurred during 2017 with the following statutory authorities:

- Port Stephens Council
- Office of Environment & Heritage (including the Heritage Branch)
- Environment Protection Authority
- Division of resources & Energy within the Department of Industry
- Department of Primary Industries (including the DPI Water, NSW Forestry, Agriculture and Fisheries and Crown Lands)
- Roads & Maritime Services
- NSW Rural Fire Service
- Hunter Local Land Services

All relevant matters raised by statutory authorities and servicing agencies raised during that time as components of the (then) DGR's and SEAR's are incorporated into relevant chapters of the EIS. Any matters relevant to Social Impact Assessment are included in this SIA Report.

Consulted statutory authorities and servicing agencies have advised that they will each provide any additional comments and requirements once the Development Application and EIS has been provided to them by the Department of Planning & Environment.

13 CONSULTATION WITH THE ABORIGINAL COMMUNITY

The SEARs (as did, previously, the DGRs) require, in part, that the EIS must:

- Describe the issues raised by community groups and landowners; and
- Identify where the design of the development has been amended in response to issues raised; and
- Otherwise demonstrate that issues raised have been appropriately addressed in the assessment.

Aboriginal community consultation was conducted in accordance with the Office of Environment & Heritage (OEH) Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). The six Registered Aboriginal Parties (RAPs) for this assessment included the Worimi Local Aboriginal Land Council, Mur-Roo-Ma Inc, Nur-Run-Gee Pty Ltd, Lower Hunter Aboriginal Incorporated, Do-Wa-Kee and Maaiangal Aboriginal Heritage.

Archaeological survey of the project area was undertaken over two days by a combined field team of two (AECOM) archaeologists and three RAP field representatives per day.

A total of five new Aboriginal archaeological sites were identified during the survey. These consist exclusively of low-density surface scatters of marine and/or estuarine midden shell within the project area's elevated dune field landform unit. All are located on unsealed light vehicle tracks. However, one site incorporates (in places) remnant land surfaces on either side of the track. No finds other than shell (e.g., flaked stone artefacts, mammal bone) were identified at any site nor were any compact, in-situ lenses of shell observed. All identified sites are interpreted as disturbed surface manifestations of former subsurface shell midden deposits. Two sites have been assessed as being of moderate scientific significance and three as being of low scientific significance. No surface sites of high scientific significance were identified during the survey.

All five Aboriginal archaeological sites identified within the project area are expected to be directly impacted by the sand mine. At the same time, it is considered highly likely that a body of subsurface Aboriginal archaeological material will also be impacted.

To manage potential impacts to the known and potential Aboriginal heritage resource of the project area, it is recommended that a detailed Aboriginal Cultural Heritage Management Plan (ACHMP) be prepared for the project. The ACHMP should be prepared in consultation with RAPs and OEH, and to the satisfaction of DP&E. The commitment for the development of this ACHMP is addressed in the EIS.

In recognition of the Aboriginal cultural heritage value of the site and having regard to the requirements of the SEAR's, key components of the proposed ACHMP are as follows:

- A comprehensive archaeological salvage program incorporating:
  - surface collection of the three sites of low scientific significance;
  - surface collections and archaeological excavations at the two sites of moderate scientific significance;
- A program of archaeological monitoring by RAPs during vegetation clearance activities, with scope for test and salvage excavations (where required);

- Monthly RAP inspections of stockpiled samples of reject screen material for the first 12 months of active operations;
- An unexpected finds procedure for any suspected or definitive Aboriginal objects identified throughout the life of the project, with management action(s) varying according to the type of object(s) identified, its significance (both scientific and cultural) and the nature of potential impacts;
- A standard procedure for the management of any potential human skeletal remains identified throughout the life of the project; and
- The development of an Aboriginal cultural heritage awareness training package for use throughout the life of the project.

The SIA specifically addresses the community raised issues as well as considering the wider social impacts of the proposed development on the general community.

14 BOBS FARM: SOCIAL BASELINE STUDY

14.1 Bobs Farm Locational Context and Local Government Characteristics

As previously documented, the proposed Bobs Farm Sand Mine development site is located on the western side of Nelson Bay Road and south of Marsh Road at Bobs Farm and it is within the Port Stephens Local Government Area.

Bobs Farm is a sparsely populated rural locality of the Port Stephens Local Government Area in the Hunter Region of New South Wales. It is on the main road between Newcastle and Nelson Bay.

Port Stephens Local Environmental Plan 2013 (LEP 2013) is the principal local environmental planning instrument governing land use in the Port Stephens LGA. LEP 2013 zones the site of the application area as RU2 Rural Landscape. **Figure 14-1** identifies the application area in relation to the zoning of the land.

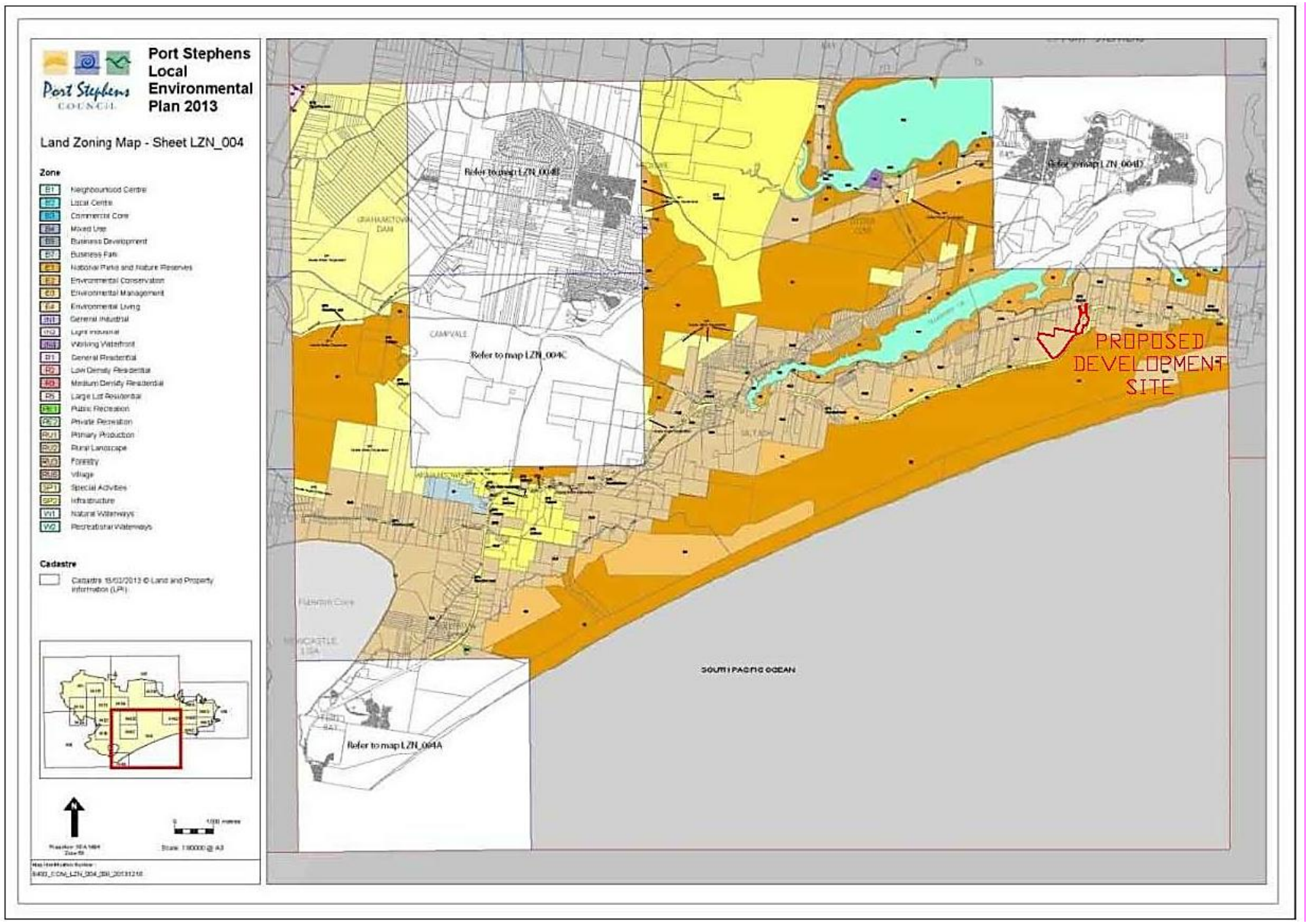
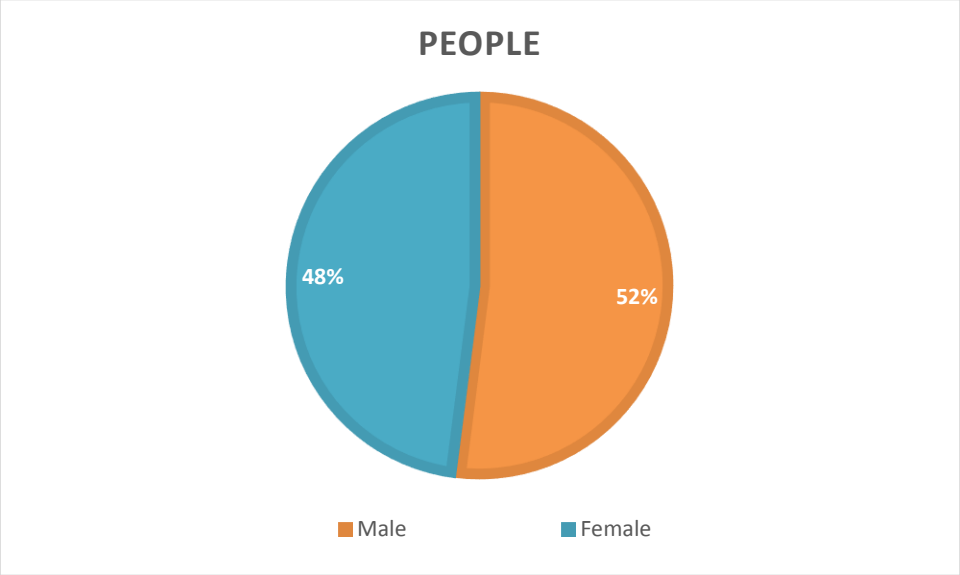


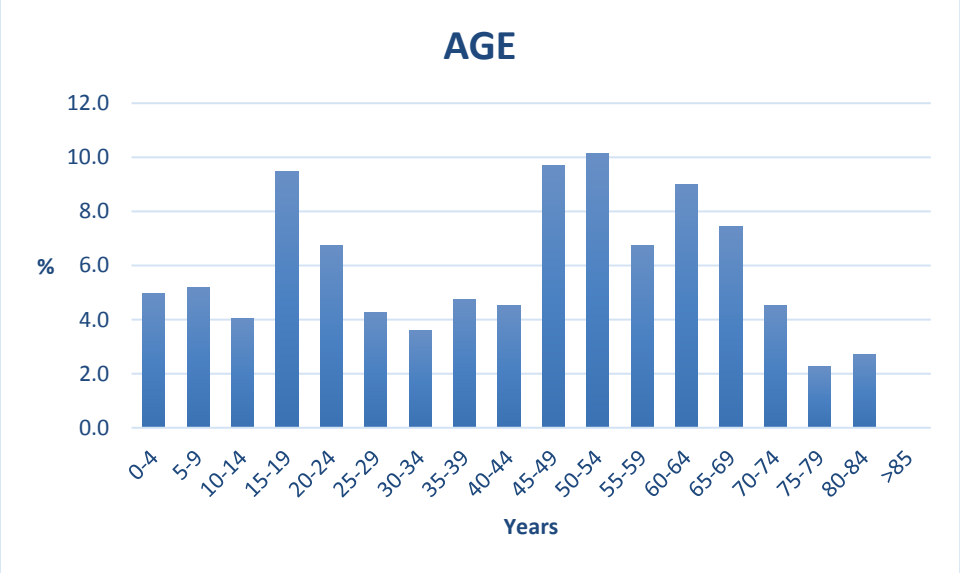
Figure 14-1 - Port Stephens LEP 2013 Zoning Map

14.2 Bobs Farm Demographics and Associated Context

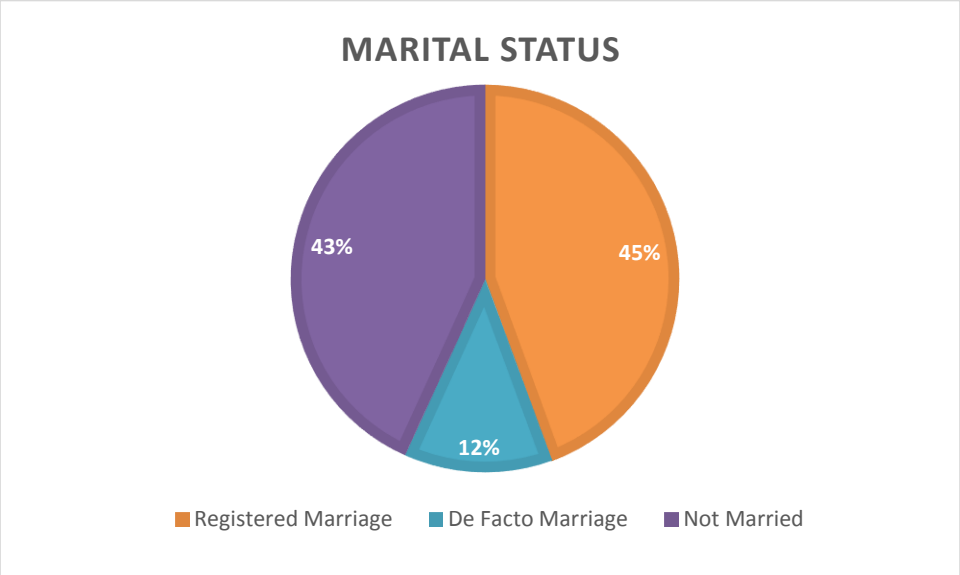
A full breakdown and analysis of the demographic characteristics of Bobs Farm residents and the comparative relationship with the Port Stephens LGA, New South Wales and Australia from the Australian Census 2016, is located at **Appendix 4.** A 'snapshot' of the more pertinent characteristics which relate to this SIA is provided below.



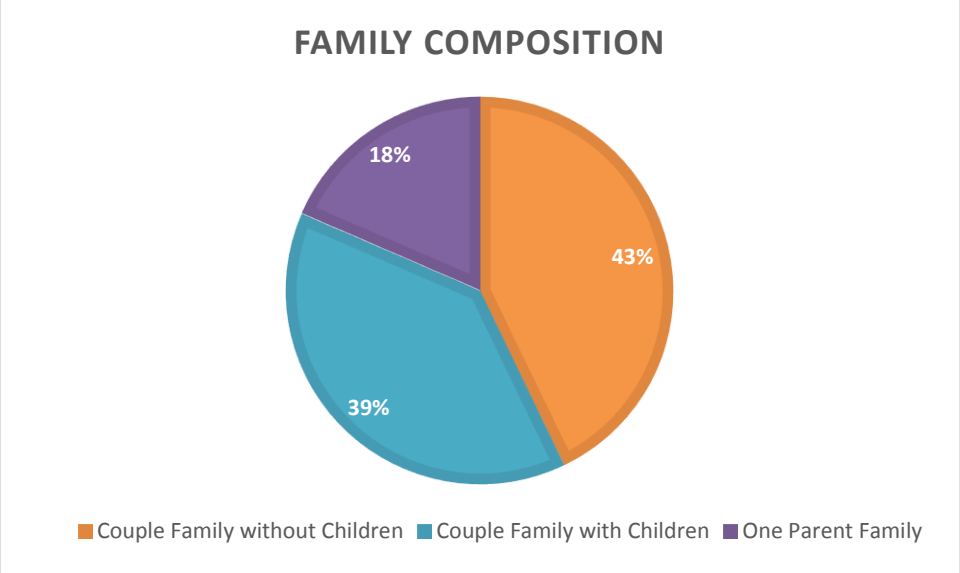
Source: Census Statistics Snapshot, ABS 2016



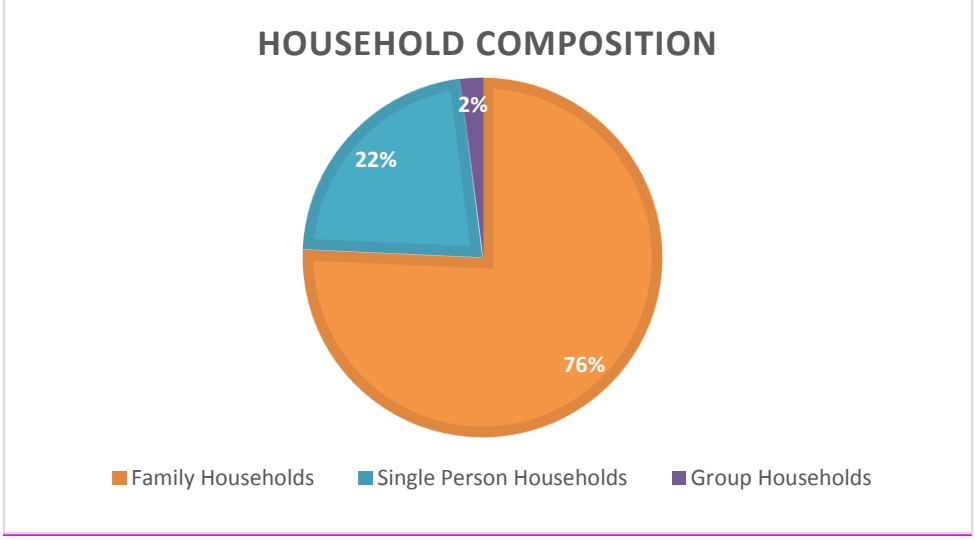
Source: Census Statistics Snapshot, ABS 2016



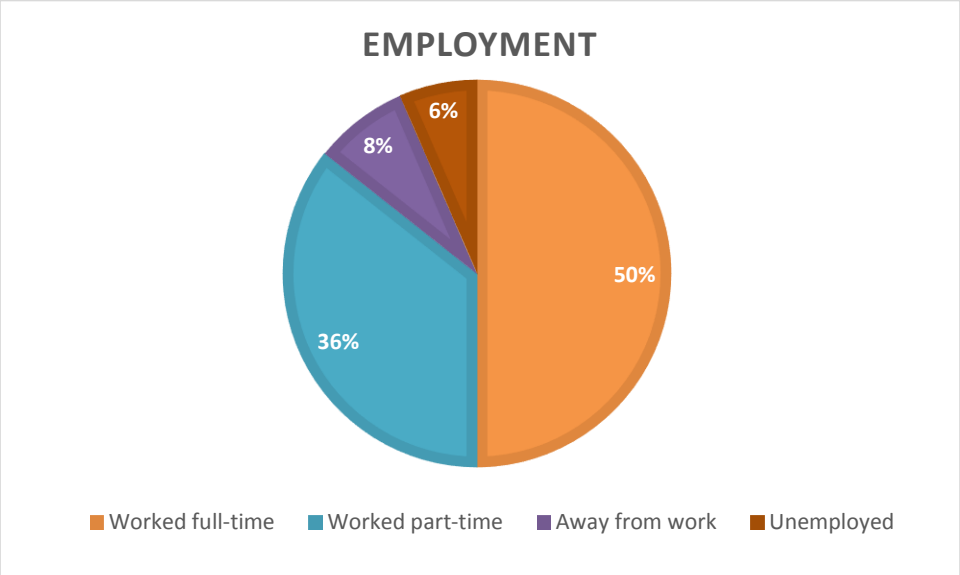
Source: Census Statistics Snapshot, ABS 2016



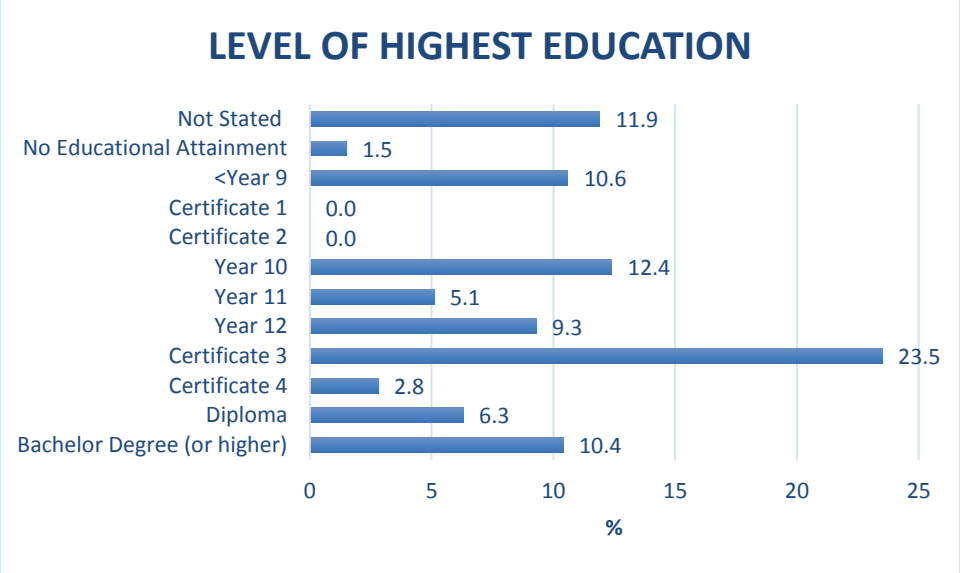
Source: Census Statistics Snapshot, ABS 2016



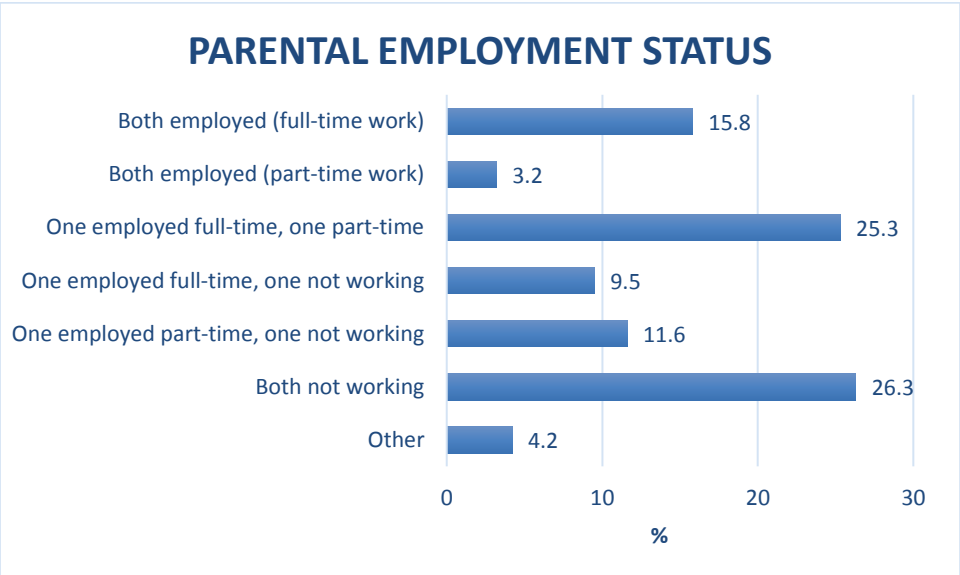
Source: Census Statistics Snapshot, ABS 2016



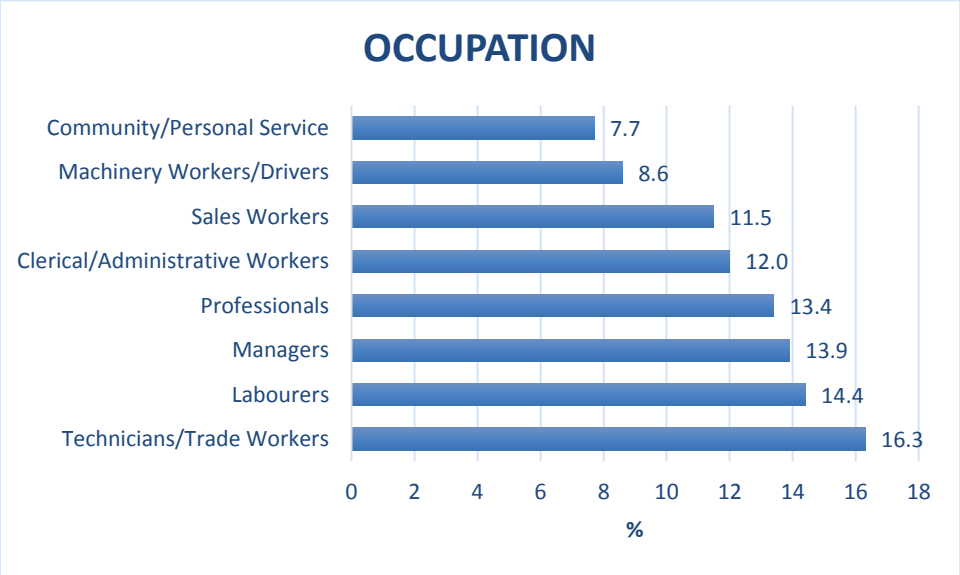
Source: Census Statistics Snapshot, ABS 2016



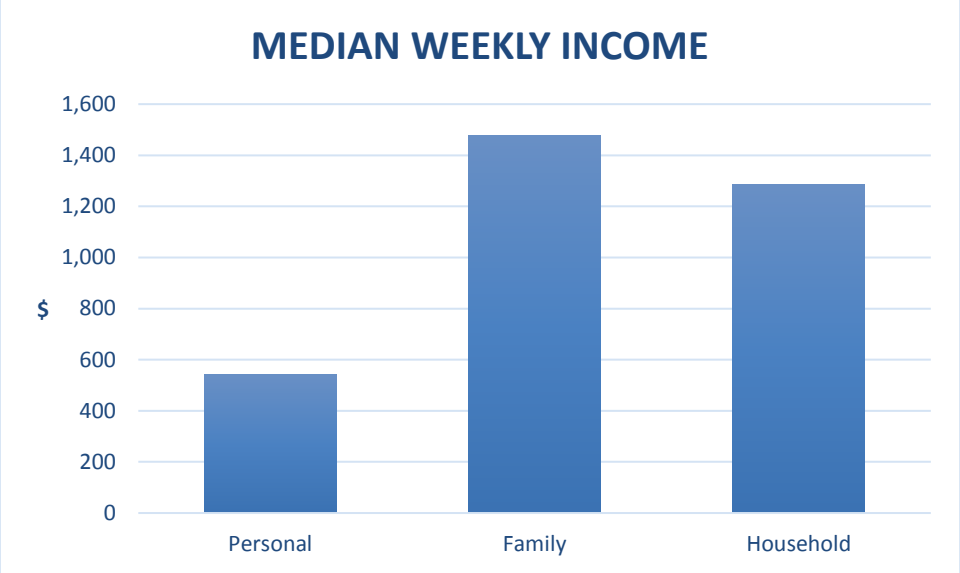
Source: Census Statistics Snapshot, ABS 2016



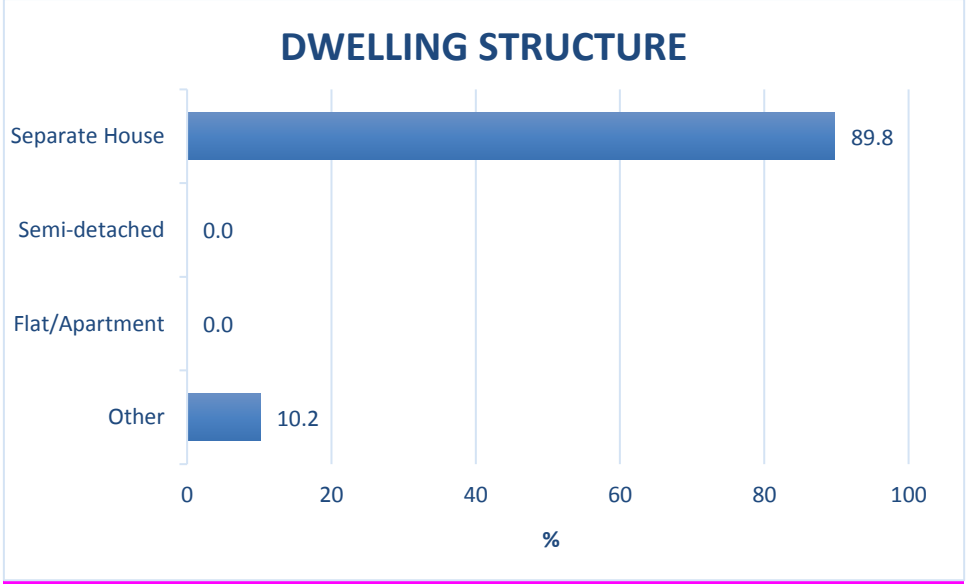
Source: Census Statistics Snapshot, ABS 2016



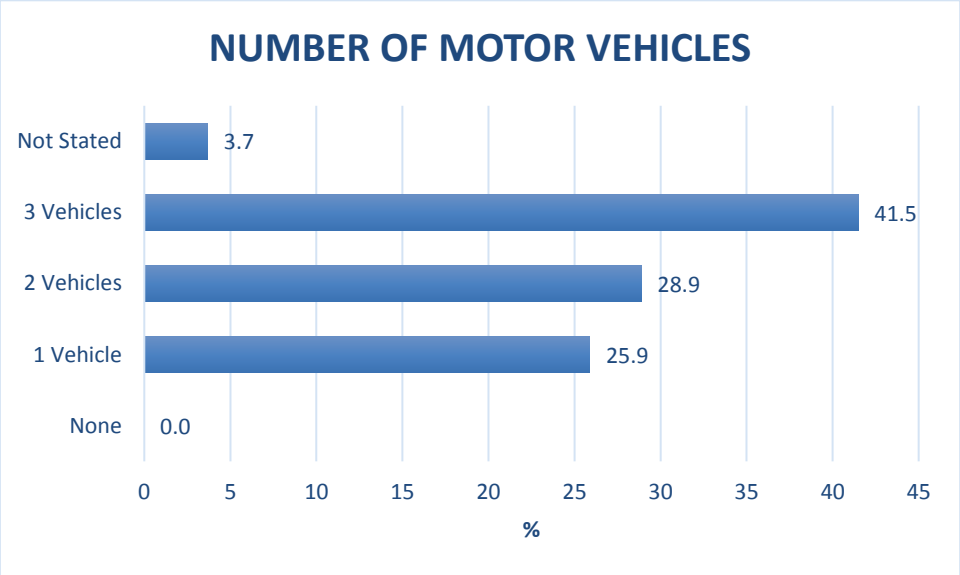
Source: Census Statistics Snapshot, ABS 2016



Source: Census Statistics Snapshot, ABS 2016



Source: Census Statistics Snapshot, ABS 2016



Source: Census Statistics Snapshot, ABS 2016

The following are key considerations in understanding the social make-up of the Bobs Farm Community:

- Relatively equal numbers of males and females
- Age category brackets are dominated by those aged 15-19 and those aged 45-69
- Relatively equal split of registered married couples and non-married couples
- Family composition is dominated by both couples without children and couples with children. There are lesser numbers of one parent families
- Household composition consists mainly of family households
- Parental employment status illustrates the three highest categories (descending order) both not working; one working full-time and one working part-time; and both working full-time
- Overall employment is characterised in the main by full-time and part-time work
- There is a relatively even spread of employment profession
- Most of the community live in a 'separate dwelling house' (i.e. not attached or medium density)
- The community is adequately mobile with the majority of households having 3 motor vehicles

14.3 Proposed Development: Area of Social Influence

After undertaking the various SIA scoping exercises and understanding their outputs, including the specific dialogue with the Bobs Farm Community at two public meetings, it appears that the project's area of social influence is largely localised to the Bobs Farm locality.

Nonetheless, having regard to community meeting attendance from a small number of persons residing in other parts of the Tomaree Peninsula and more generally in the Lower Hunter, it can be considered that the extent of social influence can be extended to those locations. (See **Chapter 11**). This is further supported by the existence and recent approval of other sand mines on the Tomaree Peninsula and at Williamtown. An additional sand

mine is also mooted at Anna Bay although the application is still under preparation. It is also expected that some sand may be exported at the Port of Newcastle. That being the case, additional employment will occur in that location.

The second public meeting, held on 10 October, 2018, was attended by Ms. Kate Washington MP, Member for Port Stephens and Councillor Sarah Smith, Port Stephens Council. Matters raised by Ms. Washington were localised in nature and directly relevant to the Bobs farm Community.

14.4 Summary of Social Impacts and Location of Assessment

The scoping exercises discussed in other parts of the report have provided a collective understanding of matters to be investigated as part of the applicant's social impact assessment. Some of the social impacts are incorporated and addressed within other specialist reports which have been commissioned for the purposes of the EIS; others are addressed separately within the SIA. **Table 14-1** summarises each of the social impacts understood through the scoping exercises undertaken and illustrates where the discussion of social impact is located for each matter raised.

Social Impact	Social Impact Assessment Location (Other Specialist Report and/or SIA)	Comments
Amenity: acoustic	VIPAC Noise Report	EIS Chapter 11
Amenity: visual	Tattersall Lander Visual Impact Assessment and Desktop SIA	EIS Chapter 17 and SIA Chapter 15
Amenity: particle deposition	VIPAC Air Quality Report	EIS Chapter 12
Access: road network	Seca Solution Traffic Report	EIS Chapter 15
Access: egress of trucks from the property	Seca Solution Traffic Report	EIS Chapter 15
Heritage: Aboriginal cultural heritage	AECOM Aboriginal Cultural Heritage Report and Desktop SIA	EIS Chapter 9 and SIA Chapter 15
Community: health	Combination of air quality/noise/traffic/biodiversity and Standard SIA	EIS Chapters 11, 12, 14, 15 and SIA Chapter 15
Community: safety	Seca Solution Traffic Report and Standard SIA	EIS Chapter 15 and SIA Chapter 15
Community: cohesion, capital and resilience	Combination of air quality/noise/traffic/biodiversity and Standard SIA	EIS Chapters 11, 12, 14, 15 and SIA Chapter 15
Economic: natural resource use	Martens Associates Reports	EIS Chapters 5 and 7 and SIA Chapter 15
Economic: livelihood	Martens Associates Reports	EIS Chapters 5 and 7 and SIA Chapter 15
Air Quality: particulate matter	VIPAC Air Quality Report	EIS Chapter 12
Air Quality: atmospheric emissions	VIPAC Air Quality Report	EIS Chapter 12
Air Quality: total suspended particles	VIPAC Air Quality Report	EIS Chapter 12
Biodiversity: native vegetation	Comprehensive SIA	EIS Chapter 14 and SIA Chapter 15
Biodiversity: native fauna	Comprehensive SIA	EIS Chapter 14 and SIA Chapter 15
Land: stability and/or structure	Martens Associates Report	EIS Chapter 5

Land: soil chemistry	Martens Associates Report	EIS Chapter 5
Land: capability	Martens Associates Report	EIS Chapter 5
Land: topography	Martens Associates Report	EIS Chapter 5
Water: water quality	Martens Associates Report	EIS Chapter 7
Water: hydrological flows	Martens Associates Report and Standard SIA	EIS Chapter 7 and SIA Chapter 15
Bushfire	Folbigg Report	EIS Chapter 19

Table 14-1 - Summary of Social Impacts Identified from All Scoping

14.5 Proposed Development: Additional Social Impact Assessment

The outputs of the Departmental Guideline worksheets stipulate that, given that the (other) specialist reports informing the EIS contain, in some cases (only), a certain level of reference to social impact assessment (or do not contain social impact assessment for the matter(s) being discussed), the formal SIA (this document) needs to consider other SIA matters with varying degrees of complexity. The following additional social impact assessment is required in this report:

Type of Social Impact Assessment	Social Impact
Desktop Assessment	Amenity: Visual
	Heritage: Aboriginal Cultural Heritage
Standard Assessment	Community: Health
	Community: Safety
	Community: Cohesion, Capital and Resilience
	Water: Hydrological Flows
Comprehensive Assessment	Biodiversity: Native Vegetation
	Biodiversity: Native Fauna

Table 14-2 - Additional Social Impact Assessment Requirements

15 SOCIAL IMPACT ASSESSMENT OF IDENTIFIED CONSIDERATIONS & ASSOCIATED IMPACTS

15.1 Overview

Table 14-2 identifies requirements for those matters requiring Social Impact Assessment in this report. Those matters are discussed below.

15.2 Amenity: Visual Impact – Desktop Assessment

The detailed Visual Impact Assessment (VIA) provided in **Chapter 17** of the EIS is considered sufficient for the purposes of understanding the social impacts associated with the change to visual qualities of the site both in the short term and with regard to the final landform anticipated at the site. Relevant extracts of the VIA, as relevant to the SIA are reproduced below.

15.2.1 Existing Landscape Character

The landscape on and surrounding the sand mining area comprises generally low-lying to gently rising undulating coastal flat sand dunes that are forested with areas of cleared orchards (figs and olives) in the central section of the site, with some steeper sand dunes to the southwestern parts of the land. The visual catchment of the site is predominantly characterised by a thin line of mature forest along the southern boundary with well forested areas to the west. The central part of the site has been disturbed by years of clearing for figs, olives and other rural activities.

To the southern boundary, Nelson Bay Road fronts the development and traffic moves along this main road at 80km/hr, north bound and 100km/hr south bound. Visibility of the site is considered passive.

Plate 15-1 - North Bound View of the Site

In areas where the proposed acoustic mounds are intended to be located in the north-western and north-eastern sections of the site, the existing landform is a fully vegetated forest.

In some parts of the areas of the proposed acoustic barriers, there are already metal fences to 2.8m and 2.3m in height, a maintenance/machinery shed to around 5m in height with general screening fencing to the public school (2.8m high) and the adjoining Go-kart Track and 776 Marsh Road at 2.3m in height.

15.2.2 View Point Analysis

A view point analysis was conducted from a number of vantage points surrounding the proposed sand mine with particular emphasis on the northern residences, adjoining Go-Kart and residence to the south of the main haul route and Nelson Bay Road. The view point analysis considers how the sand mine will be viewed at all stages of development. The following comments summarise this analysis:

- from the unformed electricity easement to the south, the mine will be visible when extraction is occurring in the vicinity of the existing easement. When extracting the southern section's visibility would be low due to proposed screening vegetation This screen vegetation will also surround the sand processing areas as well as the main operation sheds and stockpile areas.
- from the nearest residence to the north at 644 Marsh Road (approximately 63m distant from the edge of the batter to the dwelling), the proposed extraction area is not visible. It is screened by significant vegetation and topography.
- An obscuring dune and screening vegetation exist between the mine and all other properties to the north.
- The school is already partially screen by existing vegetation and screens and this screen will be augmented. The proposed location of the 4m barrier to the northern side of the haul route can be located generally between existing vegetation and the road. As such, the location of this wall is generally not visually intrusive to adjoining rural properties.
- the sand mine will be partially observed from Nelson Bay Road at the entrance to the mine, including compound and the operations sheds but only as a passing glimpse from north bound traffic. No visibility will be afforded to south bound traffic.

Plate 15-2 - Typical Median Screen for South Bound Traffic

Plate 15-3 - Existing 2.8m High Fence to be Replaced with 4m High Fence

- Only two properties to the north of the operations can view the proposed barrier and these are 712 Marsh Road, albeit from a distance of 450m, and 724 Marsh Road from a distance of 240m with this view corridor being through existing mature vegetation.
- The proposed 6m high vegetated acoustic mound around the perimeter between the operations and 724 Marsh Road will effectively screen this property from the sand extraction areas.
- The Go-Kart Track and 776 Marsh Road have already a 2.3m high metal panel fence around their facility and dwelling.

15.2.3 Impacts

The visual contrast between pre and post development impacts is a combination of the appearance of the development, the absorptive capacity of the landscape setting, and the distance from which the development is viewed.

The visual modification of the proposed development is low overall given that:

- the proposed sand mine development cannot be seen from any nearby residence.
- Local topography and screening vegetation prevent the visibility of the proposed extraction area from all surrounding residences.
- All acoustic mounds will be inserted behind a 15m existing vegetated screen that will, if necessary, be supplemented with additional plantings if required. No overshadowing occurs from the acoustic mounds.
- The north western acoustic mound is only a temporary structure that is required for mining operations at the western end of the project and will be removed as the operations move easterly. It is not proposed to have this mound vegetated but stabilised and mulched to limit dust movement.
- The north-eastern mound will again be mulched and at specific locations that the mound becomes visible from the adjoining property at 724 Marsh Road it will be vegetated.

- The final waterbody will not be visible to any adjoining residence or passing traffic or casual observer.
- the final landform would be visually consistent with the area being one of a forested back drop.
- the extracted areas would be progressively rehabilitated with native vegetation suited to the local area;
- A 15m metre buffer of screening vegetation would be retained around the entire perimeter of the site to reduce the visual impacts in all directions. The buffer area will be augmented with rehabilitated land as per the mining plan.
- The mining compound will be screened by the 15m buffer strip which will contain, where necessary, a mound and plantings so that only the initial construction of the development will be seen from Nelson Bay Road, Light spillage from the compound is not considered a significant issue as the property will install lighting that has directional spillage, lights that are directed away from public areas and residences and given that the operations are generally only a daytime operation, will not be needed in the am and only for around 1hr during the pm winter period.
- The location of the 4m high noise barrier along the haul route is expected to be located in the same location as the existing northern 2.8m high fence that will be screening the school. No clearing is expected to be undertaken through existing vegetation and only minor limbing of the existing significant tree cover is required. The significant existing vegetation buffer to the south of the schools playing fields will in effect fully screen the barrier from the school.
- Parts of this northern barrier are seen from adjoining dwellings at 712 and 724 Marsh Road but the distances to these residences are significant and will be generally rehabilitated so that the barrier, in the medium term, will be fully covered by vegetation.
- The eastern end of these proposed barriers will extend from the existing maintenance shed towards Marsh Road and whilst the owner of 772 Marsh Road has previously requested that an acoustic fence not be located for the current trucking operations from Lot 10 DP 1071458, the impact on this property is considered manageable as the barrier will be located on their eastern boundary with limited overshadowing impacts. As regards the eastern barrier, it will only overshadow driveways for the majority of the length of the boundary that are used to access a residential dwelling at 776 Marsh Road and the Go-Kart access track at 778 Marsh Road. Further discussion on the impacts on these properties is below and is accompanied with specific plans to indicate the impacts.
- The 4m high acoustic barrier on the eastern side of the haul road will replace an existing 2.3m high metal fence that has been installed from the maintenance shed on 774 Marsh Road along the northern boundary of 776 Marsh Road to the southern extents of the Go-Kart Track at 778 Marsh Road. Passing traffic will only have a momentary glimpse of the walls as it is at right angles to the direction of the vehicular traffic.
- Diagrams of the impact relative to various locations have been prepared to discuss the impact of the mounds and barriers and are provided below.

Plate 15-4 - Partial View of the Transmission Line – South Bound Traffic

The surrounding residences are not visible from the site and it is intended that an appropriate boundary buffer to all residences is initially maintained. Under an active rehabilitation of the batters, the residential buffers will be extended to > 40m to 100m in overall width from the boundary. The buffer to Nelson Bay Road boundary will be commenced at 15m and be extended to between 23 and 40m. The overall distance from the western road edge to the future water level will be around 38m to 55m.

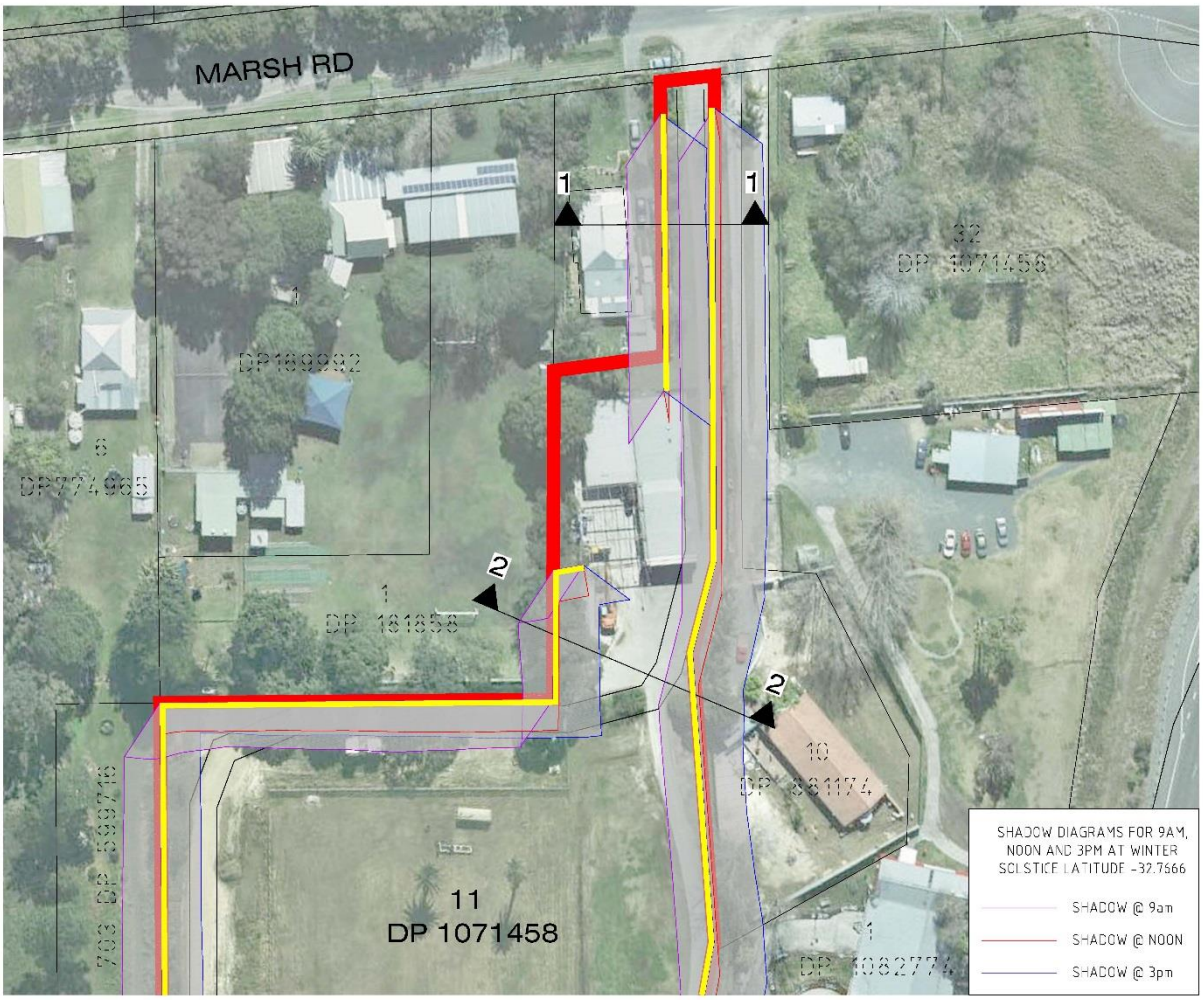
Plate 15-5 - Existing Entrance into 774 Marsh Road – Note Existing Fences and Adjoining Driveways

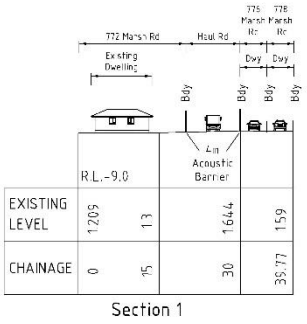
Figure 15-1 below indicates the location of the proposed 4m high barrier at the exit point of the operations and its impact on 772 Marsh Road. Minimal impacts are expected to either 776 or 778 Marsh Road as the barrier does not closely adjoin the residence on 776 Marsh Road or is well screen by vegetation contained within the property. The Go-Kart facility at

778 Marsh Road only has a shed and the track in close proximity to the barrier. The majority of the barrier will adjoin driveways or vehicular manoeuvring areas. Overshadowing impacts are also included for both of these barriers for the 9:00am, 12:00 and 3:00pm hours indicating that only minimal impacts are expected.

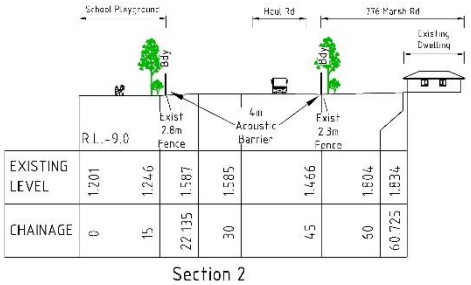
Figure 15-2 below is at the western end of the mining operations and is showing the relationship of the temporary mound to the 15m buffer and then adjoining properties. Clearly the mound will not be visible and given that the mound is going to be 6m high, 15m from the boundary, overshadowing impacts are nil.

Figure 15-3 below has been prepared to indicate the impact on the adjoining property at 724 Marsh Road. The residence at this location is well below the crest of the acoustic mound and well behind the vegetation screen. There is a 75m separation to the residence. Clearly the mound will not be visible and given that the mound is going to be 6m high, 15m from the boundary, overshadowing impacts are nil.





Section 1



Section 2

Figure 15-1 - Barrier Impacts at the main Egress Point on Marsh Road

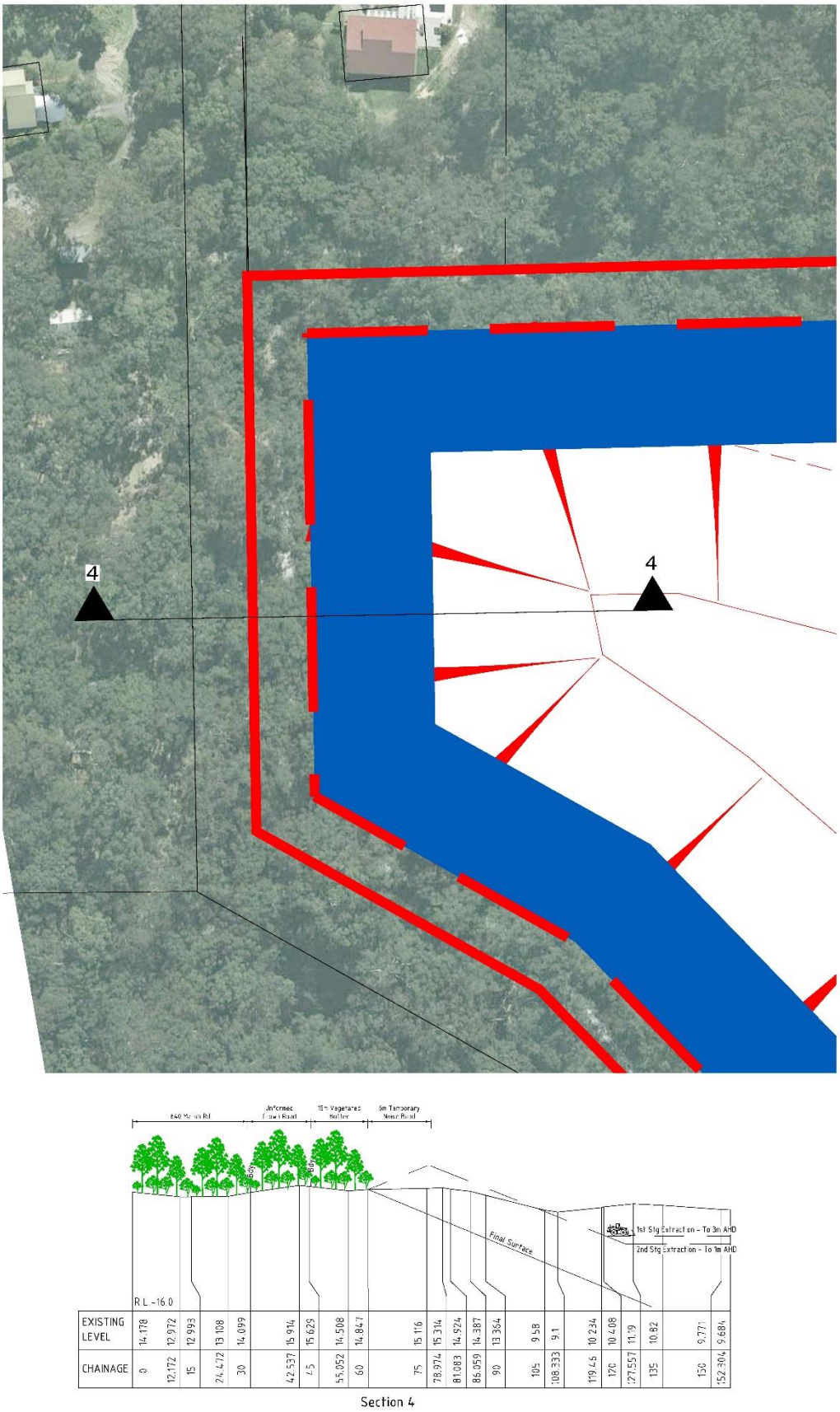


Figure 15-2 - Mound Impacts at the Western Part of the Operations

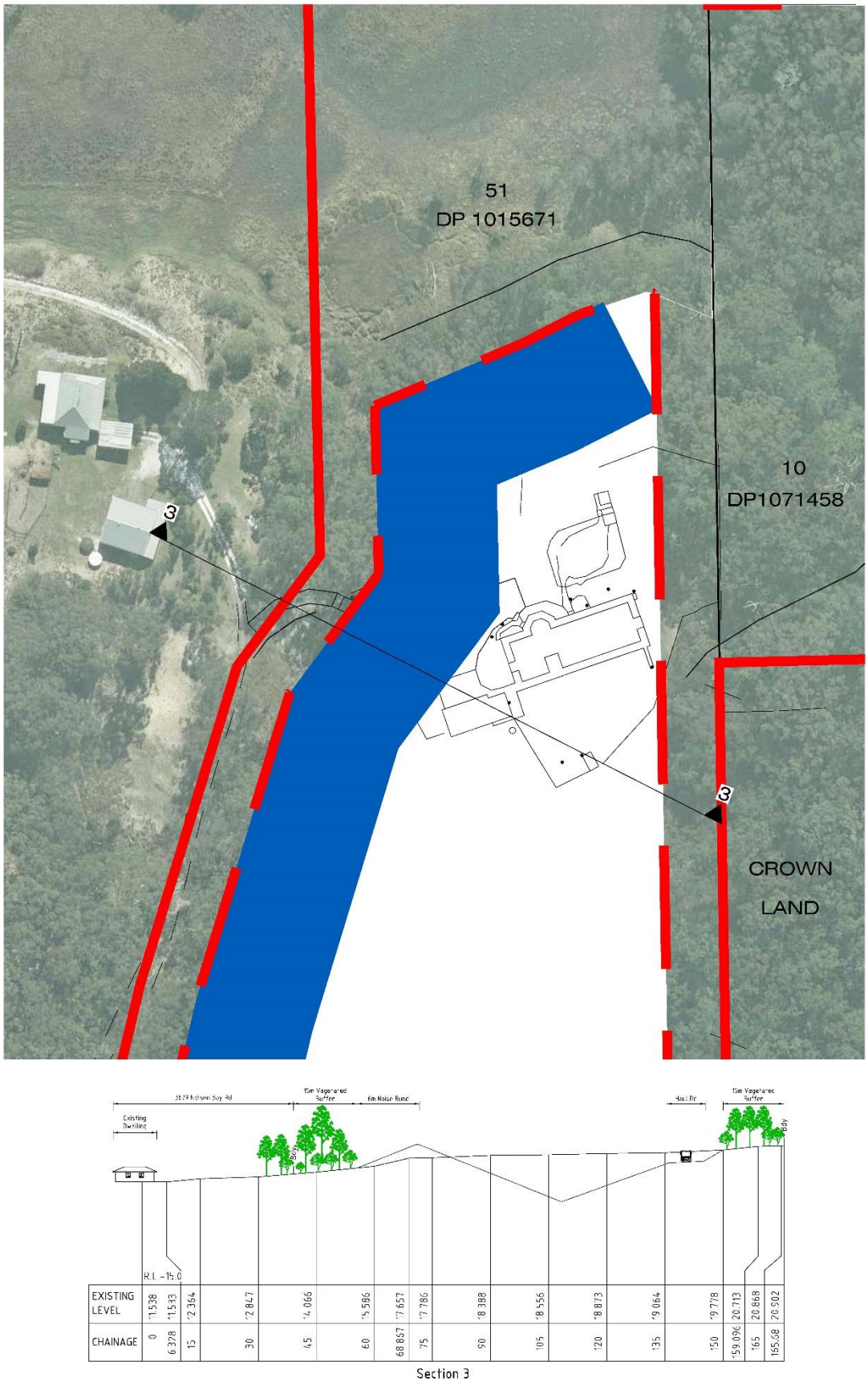


Figure 15-3 - Mound Impacts at the Eastern Part of the Operations

15.2.4 Impacts and Visual Sensitivity

Visual sensitivity is a measure of how critically a change to the existing landscape will be viewed from various viewpoints. The visual sensitivity of the development is low given that:

- the site is within a rural location with relatively high-speed passing traffic along Nelson Bay Road protected by roadside vegetation and a 15m buffer;
- the vegetation removal associated with the development will occur at the commencement of the life of the sand extraction with relatively small areas being cleared at any given time. These areas will be progressively rehabilitated so that for the Stage 2 & 3 (dredging) operations the site will be significantly revegetated;
- no residences in the rural areas of the Bobs Farm area have a direct line of sight to the proposed mine area. Therefore, the visual sensitivity remains low to non-existent from adjoining residences;
- Impacts of the barrier wall on the school is considered low as the existing 2.8m fence will be replaced with a 4m fence that is already well vegetated.
- Impacts of the barrier wall on rural properties to the north are minimal and manageable.
- Impacts and overshadowing on 772 Marsh Road are medium but considered manageable and negotiations with the owner will determine if the walls will be inserted as the current trucking operations do not cause undue conflict. Impacts on their private open space is shown to be non-existent.
- Impacts and overshadowing on 776 and 778 Marsh Road will see an increase in the height of the existing wall from 2.3m to 4m. The physical impact on private open space is marginal to non-existent.
- Operational areas will be designed to limit light spillage outside the direct confines of the processing plant and operational shed.
- the proposed sand extraction is not readily visible from any public vantage points, such as parks, lookouts or recreation areas.

In the short term, sand extraction may result in minor visual impacts from vantage points along Nelson Bay Road and the electricity easement, to the south and southwest of the site respectively. However, these impacts will be relatively short lived as extracted areas would be progressively rehabilitated. The final form of the site would see a partial return to native vegetation which will enhance visual amenity. The visual impact of the proposed development will not significantly decrease the current visual amenity.

The VIA indicates that the visual modification and sensitivity of the proposed development is low.

15.3 Heritage: Aboriginal Cultural Heritage– Desktop Assessment

15.3.1 Overview

The detailed Aboriginal Cultural Heritage Assessment (ACHA) provided in **Chapter 9** of the EIS is considered sufficient for the purposes of understanding the social impacts associated with the change to Aboriginal cultural heritage considerations at the site both in the short term. Relevant extracts of the ACHA, as relevant to the SIA are reproduced below. The ACHA was undertaken by subconsultants, AECOM.

AECOM's assessment has been compiled with reference to the NSW Department of Planning and Environment's (DP&E) Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECCW, 2005) as well as the NSW Office of Environment and Heritage's Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010), Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b) and Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011).

This ACHA was undertaken in accordance with DP&E's Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, 2005) as well as the OEH's Code of Practice and Consultation Requirements. As such, its key requirements have been:

- to conduct a search of OEH's Aboriginal Heritage Information Management System (AHIMS);
- to review the landscape (i.e., environmental) context of the Project area with specific consideration to its implications for past Aboriginal land use;
- to review relevant archaeological and ethnohistoric information for the Project area and environs;
- to prepare a predictive model for the Aboriginal archaeological record of the Project area;
- to undertake an archaeological survey of the Project area;
- to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the Project area;
- to provide RAPs with information about the scope of the proposed works and Aboriginal heritage assessment process;
- to facilitate a process whereby RAPs can:
  - contribute culturally appropriate information to the proposed assessment methodology;
  - provide information that will enable the cultural significance of Aboriginal objects and/or places within the Project area to be determined; and
  - have input into the development of cultural heritage management options; and
- to prepare and finalise an Aboriginal cultural heritage assessment report with input from RAPs.

15.3.2 Consultation with Aboriginal Groups

Aboriginal community consultation acknowledges the right of Aboriginal people to be involved, through direct participation, on matters that directly affect their heritage. Involving Aboriginal people in all facets of the assessment process ensures that they are given adequate opportunity to share information about cultural values, and to actively participate in the development of appropriate management and/or mitigations measures. The successful identification, assessment and management of Aboriginal cultural heritage values are dependent on an inclusive and transparent consultation process.

As previously indicated, Aboriginal community consultation for the ACHA was undertaken in accordance with OEH's Aboriginal Cultural Heritage Consultation Requirements for Proponents.

The consultation requirements stipulate that proponents are responsible for ascertaining, from reasonable sources of information, the names of Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places. Proponents are required to compile a list of Aboriginal people who may have an interest in the proposed Project area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places by writing to:

a) the relevant regional office of the NSW Office of Environment & Heritage (OEH)

b) the relevant Local Aboriginal Land Council(s);

c) the Registrar, Aboriginal Land Rights Act 1983 for a list of Aboriginal owners;

d) the National Native Title Tribunal for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements;

e) Native Title Services Corporation Limited (NTSCORP Limited);

f) the relevant local council(s); and

g) the relevant catchment management authorities for contact details of any established Aboriginal reference group.

In accordance with this requirement, the following agencies were contacted requesting information on relevant Aboriginal persons and organisations:

- OEH - Hunter Central Coast Region Office;
- Worimi Local Aboriginal Land Council (Worimi LALC);
- Office of the Registrar, *Aboriginal Land Rights Act 1983* (NSW);
- The National Native Title Tribunal (NNTT);
- NTSCORP Limited;
- Port Stephens Council; and
- Hunter-Central Rivers Catchment Management Authority.

Responses were received from six agencies and are attached as part of the content of the EIS.

- OEH provided the details of eight Aboriginal persons and organisations who may wish to be consulted as part of the assessment.
- The Office of the Registrar advised that the Project area is close to the Worimi Conservations Lands (WCL) which has Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* (NSW). The Office of Registrar suggested contacting the WCL Board of Management through Mr Graeme Russell (Joint Management Coordinator).
- Worimi LALC advised that they would like to register their interest in the Project.
- NTSCORP advised that although their privacy guidelines restrict them from providing proponents with contact details for Traditional Owners, they would forward our correspondence to relevant individuals, groups and organisations.
- The NNTT advised the results of searches of the *Schedule of Applications (unregistered claimant applications*), *Register of Native Title Claims*, *National Native Title Register*, *Register of Indigenous Land Use Agreements* and *Notified Indigenous Land Use Agreements*. The NNTT advised that six native title determinations (NND2005/002, NND2005/003, NND2006/006, NND2008/002, NND2012/001 and NND2012/002) apply to the search area. Associated extracts from the *National Native Title Register* indicate that all six determinations relate to native title proceedings between the Worimi LALC and the NSW State Government. Determination outcomes for all six entries are listed as "Native title does not exist".
- Port Stephens Council advised that Mr Andrew Smith, CEO of the Worimi LALC, would be the appropriate point of contact for our request.

Subsequent to receiving the Office of the Registrar's response, the Board of Management for the Worimi Conservations Lands (WCL) was contacted by letter requesting information on relevant Aboriginal persons and organisations. Mr Graeme Russell, Joint Management Coordinator for the WCL, responded providing the details of five Aboriginal organisations who may wish to be involved in the Project. Public Notification

Additional consultation requirements require that in addition to writing to Aboriginal people identified by the agencies, the proponent must also place a notice in the local newspaper circulating in the general location of the proposed project and that the notification must outline the project and identify its location. In accordance with this requirement, a public notice was placed in the Port Stephens Examiner. No responses to the notice were received prior to, or after, this date.

The consultation requirements necessitate that proponents must write to the Aboriginal people whose names were obtained through the regulatory agencies and the relevant Local Aboriginal Land Council(s) to notify them of the proposed project and invite them to register an interest in participating in a process of community consultation. In accordance with this requirement, letters inviting expressions of interest and containing summary information on the Project were sent to all Aboriginal persons and organisations identified by the regulatory agencies. A total of nine Aboriginal stakeholders were invited to register an interest in being consulted.

By close of registration, six parties had registered an interest in the assessment. The parties are detailed in **Table 15-1**.

Registered Aboriginal Party (RAP)	Date of registration	Method of registration	Primary contact person
Worimi Local Aboriginal Land Council	17-07-14	Email	Jackie Henderson
Maaiangal Aboriginal Heritage	11-08-14	Phone	Carol Ridgeway-Bissett
Lower Hunter Aboriginal Incorporated	06-08-14	Email	David Ahoy
Doo-Wa-Kee	12-08-14	Phone	Mick Leon
Mur-roo-ma Inc	30-07-14	Email with letter attachment	Anthony Anderson
Nur-run-gee Pty Ltd	31-07-14	Email with letter attachment	Leanne Anderson

Table 15-1 - Registered Aboriginal Parties (AECOM)

The aim of Stage 2 of the Consultation Requirements is to provide Registered Aboriginal Parties (RAPs) with information about the scope of the proposed project and the proposed cultural heritage assessment process. Presentation of information about the Project was provided to RAPs as part of the registration of interest process.

The aim of Stage 3 of the Consultation Requirements is to facilitate a process whereby RAPs can:

a) Contribute to culturally appropriate information gathering and the assessment methodology;
b) Provide information that will enable the cultural significance of Aboriginal objects and/or places on the proposed Project area to be determined; and
c) To have input into the development of any cultural heritage management measures.

Consultation with RAPs regarding the cultural heritage values of the Project area included:

- a request with the draft assessment methodology for any initial comments regarding the Aboriginal cultural heritage values of the Project area;
- discussion of cultural heritage values during fieldwork; and
- the provision of a draft report to all RAPs for comment prior to finalisation.

Further details of correspondence with RAPs are included in the EIS.

15.3.3 Archaeological Survey

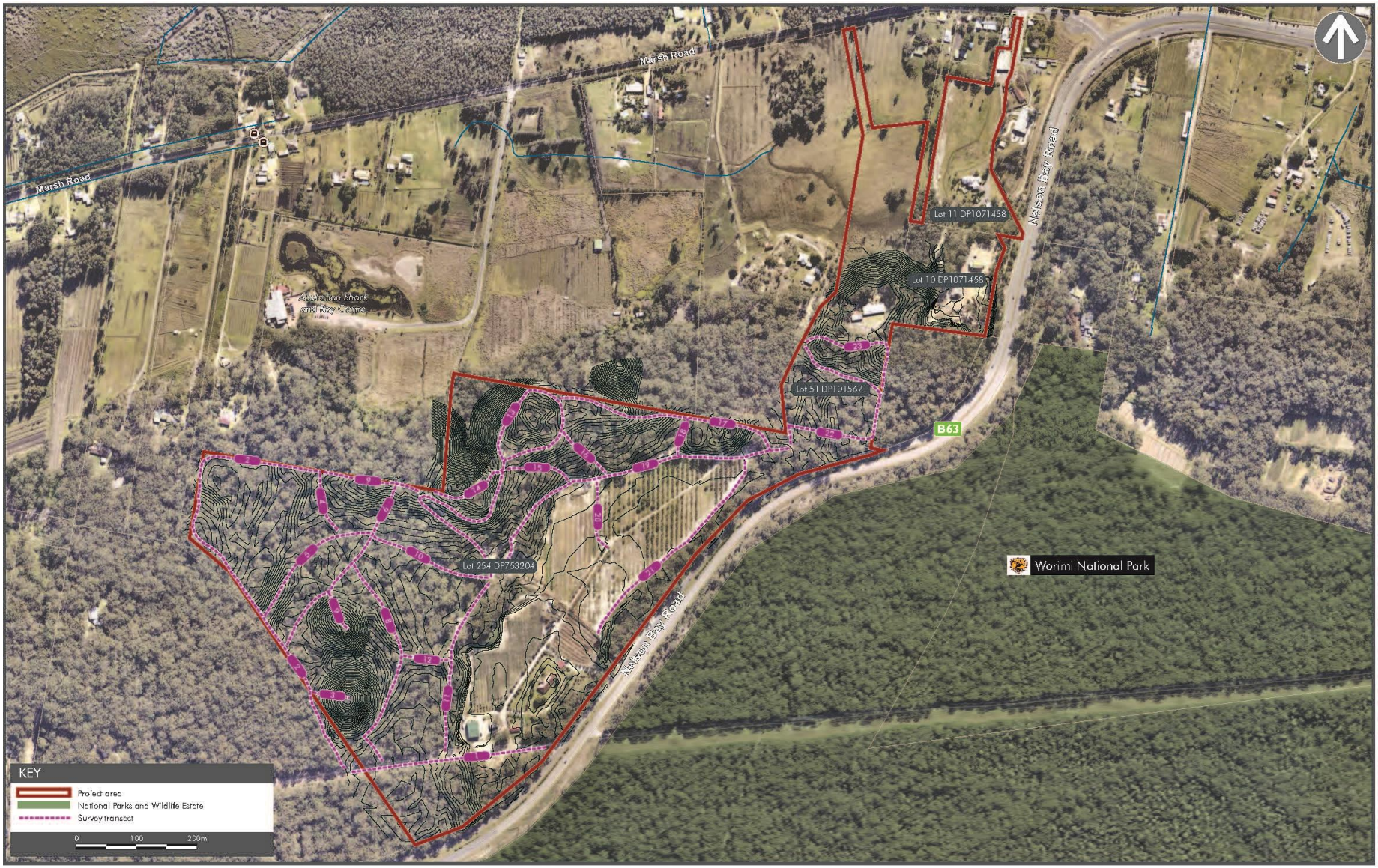
The overarching aim of the archaeological survey undertaken for this assessment was to identify and record any existing surface evidence of past Aboriginal occupation within the Project area.

Other key objectives were as follows:

- To assess levels of ground surface integrity across the project area;

- To identify areas that, irrespective of the presence or absence of surface artefacts, are likely to contain subsurface archaeological deposit; and
- To provide sufficient data to facilitate the development of an appropriate management strategy for the known and potential Aboriginal archaeological resource of the Project area.

AECOM survey transects are illustrated in **Figure 15-4**.



AECOM

SURVEY TRANSECTS

Figure 15-4 - AECOM Survey Transects (AECOM)

A total of five Aboriginal archaeological sites were identified during the survey. These consisted exclusively of low-density surface scatters of marine and/or estuarine midden shell.

Site name	Site type	Centroid coordinates		Approx. site area (m²)	Landform context / elevation	Shellfish species & counts
		MGA E	MGA N			
BF-SC1-14	Shell scatter	406361	6373319	32	Gently-inclined lower slope / 16 m AHD	Pipi (*Plebidonax deltoides*) (9 fragments)
BF-SC2-14	Shell scatter	406491	6373266	75	Low dune crest / 12 m AHD	Pipi (*Plebidonax deltoides*) (16 fragments) Oyster (*Ostrea angasi/ Saccostrea glomerata*) (1 fragment)
BF-SC3-14	Shell scatter	406549	6373306	100	Gently-inclined lower slope / 13-15 m AHD	Pipi (*Plebidonax deltoides*) (14 fragments)
BF-SC4-14	Shell scatter	406592	6373521	2050	High dune crests and intervening saddle overlooking Interbarrier Depression / 20-24 m AHD	Pipi (*Plebidonax deltoides*) (56 fragments) Oyster (*Ostrea angasi/ Saccostrea glomerata*) (25 fragments) Mud whelk (*Pyrazus ebeninus*) (3 complete shells & 58 fragments) Cockle (*Anadara trapezia*) (45 complete shells & 300 fragments)
BF-SC5-14	Shell scatter	406919	6373526	0.15	Low dune crest / 11 m AHD	Pipi (*Plebidonax deltoides*) (2 fragments) Oyster (*Ostrea angasi/ Saccostrea glomerata*) (6 fragments) Mud whelk (*Pyrazus ebeninus*) (3 fragments) Cockle (*Anadara trapezia*) (3 complete shells & 3 fragments)

Table 15-2 - Aboriginal archaeological sites identified during survey (AECOM)

A series of predictions regarding the Aboriginal archaeological record of the Project area were made. **Table 15-3** compares the predictions made with the results of the archaeological survey undertaken as basis for informing future archaeological investigations within and around the Project area.

Prediction	Assessment
Surface evidence of past Aboriginal activity within the Project area is likely to be restricted to disturbed shell midden/scatter sites. However, there remains reasonable potential for the presence of open artefact sites and scarred trees	The results of the current survey support this prediction. Identified sites consist exclusively of shell scatters in disturbed contexts. As far as was feasible, all mature trees encountered during survey were inspected for cultural scarring. However, no scarred trees were identified.
Aboriginal burials may be present within the Project area. However, it is highly unlikely that this type of site will be identified via surface survey.	No burials were identified during the current survey. However, consideration of the landform context of the Project area suggests that these features may be present in subsurface contexts. Burials are a locally and regionally rare site type.
Most, if not all, surface shell midden/scatter sites within the Project area will contain only shell.	The results of the current survey support this prediction. No flaked stone artefacts or faunal materials other than shell were identified during survey.
Large, archaeologically complex sites/deposits indicative of sustained or repeated occupation are unlikely to occur within Project area's aeolian landform units owing to an absence of pockets/areas of freshwater swamp forest	The results of the current survey support this prediction. Identified sites consist exclusively of a low-density surface scatters of marine and/or estuarine shell.
Identified surface shell midden/scatter sites will contain of mixture of estuarine and marine (i.e., beach) shellfish species, with the former predominating	The results of the current survey provide some support for this prediction. Of the five shell scatter sites identified during survey, three contain a mixture of estuarine and marine (i.e., beach) shellfish species. Estuarine species are dominant in two of these sites. The remaining two scatter sites identified during survey are characterised by a single marine species (i.e., pipi).
The largest shell midden/scatter sites within the Project area will occur on elevated, low gradient dune surfaces overlooking the Interbarrier Depression	The results of the current survey provide some support for this prediction. Newly identified shell scatter BF-SC4-14, which overlooks the Interbarrier Depression, is considerably larger than the other sites identified during survey. However, test excavation would be required to adequately test this prediction.
Aboriginal archaeological sites are highly unlikely to occur within the estuarine plain landform unit (i.e., Interbarrier Depression) owing to unfavourable occupation conditions	The validity of this prediction cannot be assessed on the basis of the survey undertaken. However, it is noted that the existing archaeological data for the Newcastle Bight embayment as a whole supports it.
Flaked stone assemblages, if present, will be dominated by flake debitage (sensu Andrefsky 2005), with formed objects (i.e., cores and retouched flakes) comparatively poorly represented;	Not applicable. No flaked stone artefacts were identified during survey.
The dominant raw material for flaked stone artefact production within the Project area will be a cream and/or grey coloured volcanic tuff, with silcrete the second most common material;	Not applicable. No flaked stone artefacts were identified during survey.
Tool types of demonstrated temporal significance, if present, will be limited to edge-ground hatchet heads and backed artefacts.	Not applicable. No flaked stone artefacts were identified during survey.

Table 15-3 - Evaluation of archaeological predictions (AECOM)

15.3.4 Archaeological Significance Assessment

Heritage sites hold value for different communities in a variety of different ways. All sites are not equally significant and thus not equally worthy of conservation and management. One of the primary responsibilities of cultural heritage practitioners,

therefore, is to determine which sites are worthy of preservation and management (and why) and, conversely, which are not. This process is known as the assessment of cultural significance.

With respect to Aboriginal sites and places, it is possible to identify two major streams in the overall significance assessment process: the assessment of scientific value(s) by archaeologists and the assessment of social (or cultural) value(s) by Aboriginal people.

As detailed by AECOM in its report, values relevant to determining cultural significance, as defined by The Burra Charter are:

Value	Definition
Aesthetic	"Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric; the smells and sounds associated with the place and its use"
Historic	"Historic value encompasses the history of aesthetics, science and society...[a] place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may have historic value as the site of an important event"
Scientific	"The scientific or research value of a place will depend on the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information"
Social	"Social value embraces the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group"

Table 15-4 - Values relevant to determining cultural significance, as defined by The Burra Charter

The scientific (or archaeological) significance of Aboriginal archaeological sites relates primarily to their potential for providing information about past Aboriginal culture and is commonly assessed on the basis of their research potential, representativeness and rarity. Other criteria, such as aesthetic value and education potential, may also be relevant.

An assessment of the scientific significance of the five Aboriginal archaeological sites identified during survey is presented in **Table 15-5**.

Site name	Site type	Significance rating	Rationale
BF-SC1-14	Shell scatter	Low	BF-SC1-14 is highly unlikely to contribute knowledge not available from another resource or site. It is a poor example of a locally and regionally common site type. Better examples of this type of site exist locally and regionally and offer comparable/greater research opportunities. Site condition is poor due to vehicle track construction and use. The potential for subsurface archaeological deposit(s) within the mapped boundaries of this site is considered to be low.
BF-SC2-14	Shell scatter	Low	BF-SC2-14 is highly unlikely to contribute knowledge not available from another resource or site. It is a poor example of a locally and regionally common site type. Better examples of this type of site exist locally and regionally and offer comparable/greater research

Site name	Site type	Significance rating	Rationale
			opportunities. Site condition is poor due to vehicle track construction and use. The potential for subsurface archaeological deposit(s) within the mapped boundaries of this site is considered to be low.
BF-SC3-14	Shell scatter	Low	BF-SC3-14 is highly unlikely to contribute knowledge not available from another resource or site. It is a poor example of a locally and regionally common site type. Better examples of this type of site exist locally and regionally and offer comparable/greater research opportunities. Site condition is poor due to vehicle track construction and use. The potential for subsurface archaeological deposit(s) within the mapped boundaries of this site is considered to be low.
BF-SC4-14	Shell scatter	Moderate	BF-SC4-14 has some potential to contribute knowledge not available from another resource or site. The site overlooks the Interbarrier Depression and contains a range of shellfish species (both estuarine and marine). BF-SC4-14 is a reasonable example of a locally and regionally common site type. Overall site condition is poor due to vehicle track construction and use. However, sections of the site (i.e., remnant land surfaces adjacent to the vehicle track that cuts through it) retain high subsurface archaeological preservation potential.
BF-SC5-14	Shell scatter	Moderate	BF-SC5-14 has some potential to contribute knowledge not available from another resource or site. Although small, the scatter contains a range of shellfish species (both estuarine and marine). BF-SC5-14 is a reasonable example of a locally and regionally common site type. The potential for intact subsurface archaeological deposit(s) within the immediate vicinity of the site is considered is very high.

Table 15-5 - Scientific significance assessment for identified surface sites

15.3.5 Social/Cultural Values

Social or cultural values refer to the spiritual, traditional, historical and contemporary associations and attachments a place or area has for Aboriginal people. As such, these values and their social significance can only be identified through consultation with Aboriginal people. Accordingly, throughout the assessment process, AECOM actively sought the opinions of RAPs on this matter, both verbally and in writing.

Opportunities for the provision of cultural information have been provided at all stages of the assessment process.

Throughout the assessment process, RAPs identified the following social or cultural values for the Project area and its associated Aboriginal archaeological record:

- The Interbarrier Depression landward of the elevated Ridge 1 dune field would have been a focal resource area for Aboriginal people camping within or passing through the Project area. However, this area would have been unsuitable for camping;
- The elevated dunes overlooking the Interbarrier Depression are likely to have been favoured for occupation owing to their proximity to this important resource area;
- The lack of freshwater sources within the Project area's elevated Ridge 1 dune field and adjoining sand plain landform units means that these areas would not have been suitable for long-term occupation;

- Identified surface sites within the Project area are typical of those encountered locally in terms of containing a mixture of estuarine and marine shellfish species;
- Local flaked stone artefact assemblages, including those from sites excavated as part of recent upgrades to Nelson Bay Road, are dominated by artefacts manufactured out of tuff;
- Dune crests associated with the two prominent conical-shaped dunes in the southwestern portion of the Project area are likely to have functioned as lookouts and may have been used as campsites; and
- The elevated Ridge 1 dune field that dominates that topography of the Project area form parts of culturally significant song line for local Worimi people.

The Aboriginal archaeological significance of the site is illustrated in **Figure 15-5.**

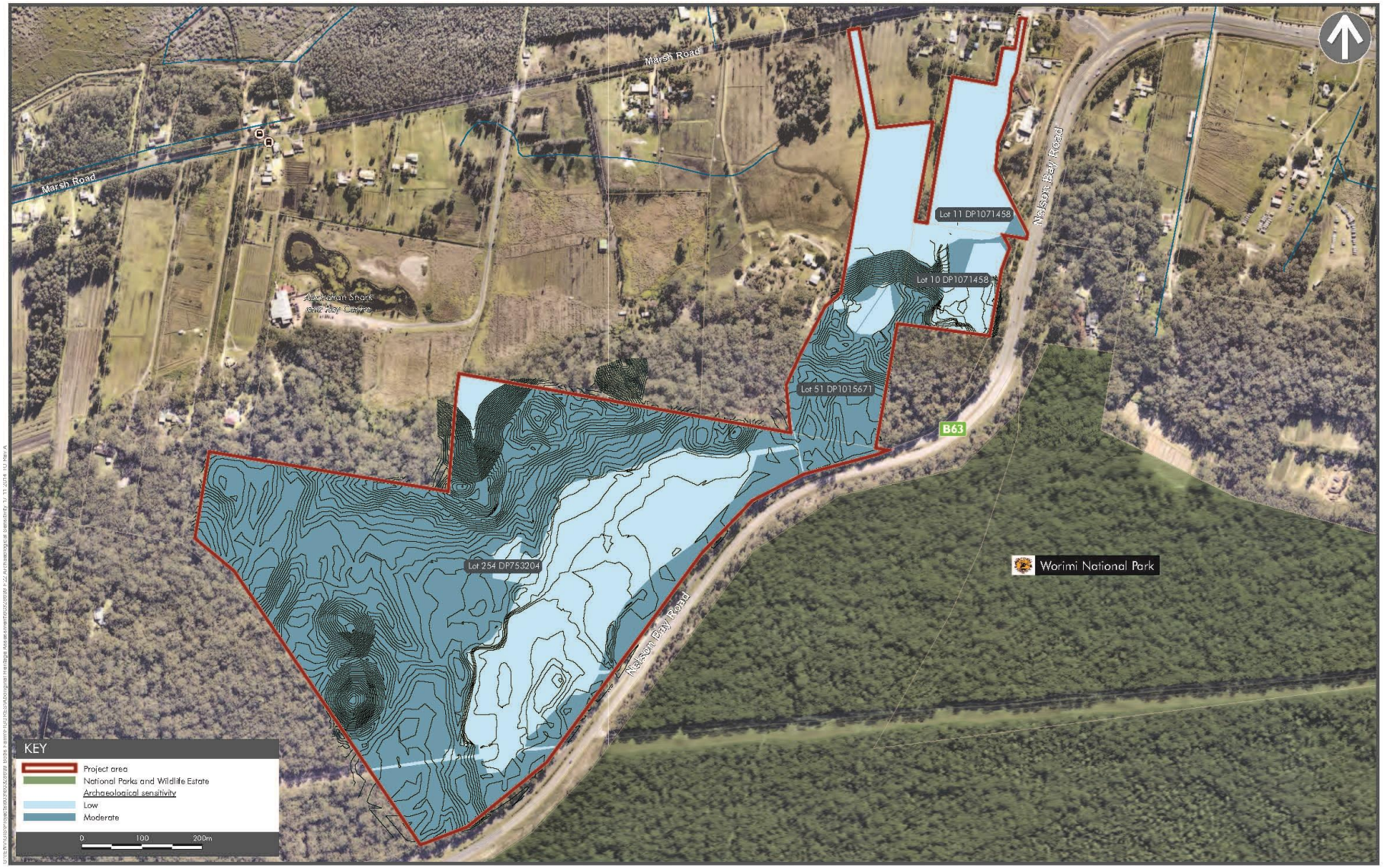


Figure 15-5 - Archaeological Significance

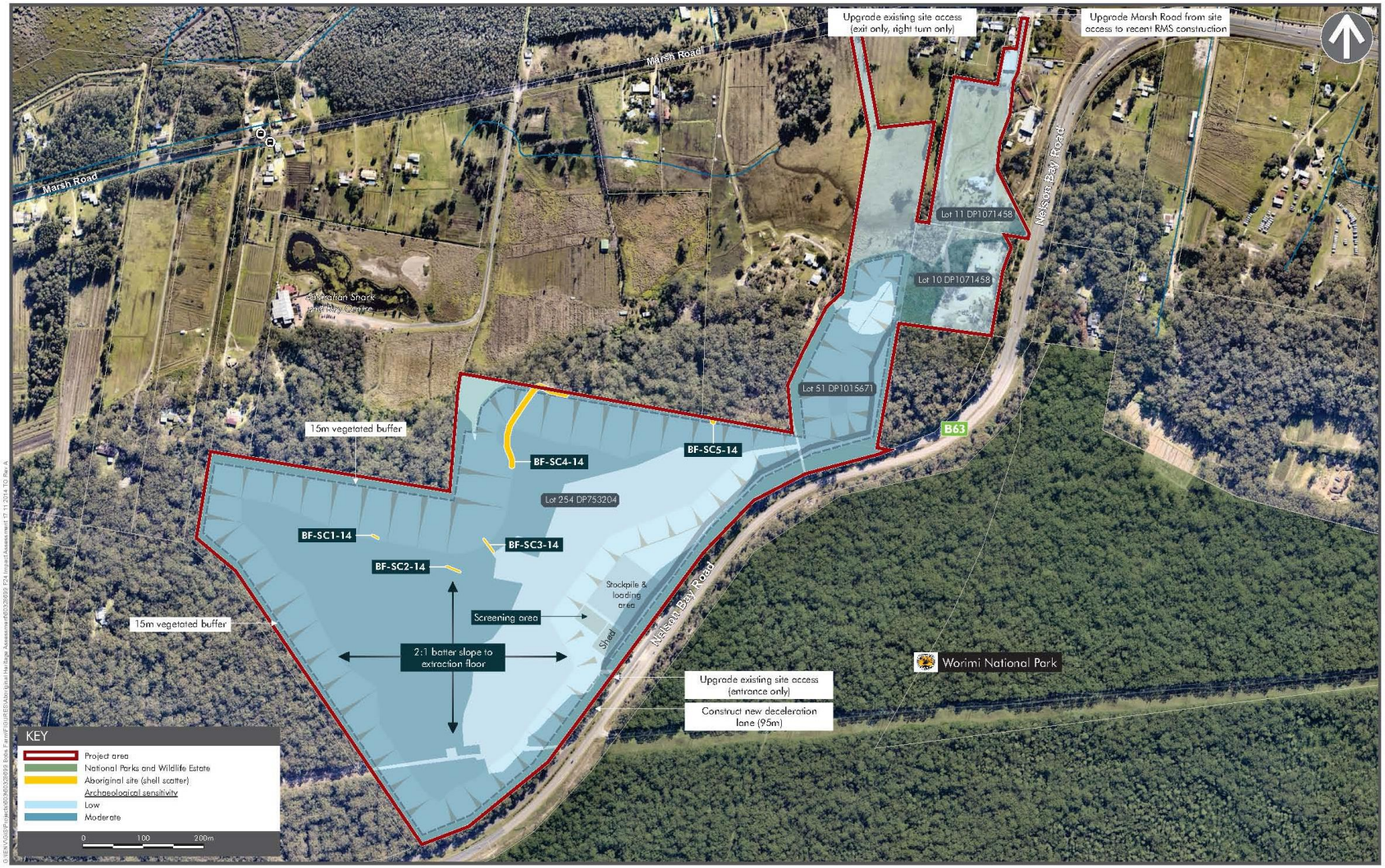
15.3.6 Impact Assessment

15.3.6.1 Impacts to Known Surface Resource

Proposed sand mining activities within the Project area are expected to directly impact all five Aboriginal archaeological sites identified within it. Consideration of the location of identified surface sites in relation to the project layout indicates that four out of five sites (or parts thereof) are located within the Project's proposed extraction area. Sites BF-SC1-14, BF-SC2-14 and BF-SC3-14 are located wholly within this area. BF-SC4-14 extends outside of the extraction area into a proposed vegetation buffer area. However, given that over 90% of the site falls within the extraction area, a complete loss of value is anticipated. Site BF-SC5-14 is located within a proposed vegetation buffer area approximately 10 m outside of the Project's proposed extraction area. However, given the character and landform context of this site, it is considered likely that subsurface archaeological deposits associated with this site extend into the extraction area. Attention is also drawn to the proximity of BF-SC5-14 to the extraction area and the high likelihood of ancillary impacts (e.g., vehicle movements, vegetation management works) throughout the operational life of the Project.

15.3.6.2 Impacts to Potential Subsurface Resource

Alongside impacts to identified surface sites, it is considered highly likely that a body of subsurface Aboriginal archaeological material will be impacted by the Project. Subsurface evidence for past Aboriginal use of the Project area is expected to be consistent with transient or short-term occupation and to be of low to moderate archaeological significance. Nonetheless, the potential for impacts to subsurface features of high scientific and cultural significance, namely Aboriginal burials, is recognised.



AECOM

IMPACT ASSESSMENT
Aboriginal Heritage Assessment
Bobs Farm Sand Project
Bobs Farm, New South Wales

FIGURE 24

Figure 15-6 - Impact Assessment

15.3.6.3 Impacts to Previously Unidentified Scarred Trees

No scarred trees were identified during the archaeological survey undertaken for this assessment, which concentrated on areas of enhanced exposure and visibility across the Project area. Nonetheless, areas of remnant bushland within the Project area, including those within the Project's proposed extraction area, contain mature native trees that may retain cultural scars. In the absence of appropriate management protocols, it is expected that any Aboriginal scarred trees located with Project's proposed extraction area would be destroyed as a result of sand mining activities within this area.

15.3.6.4 Cumulative Impact Assessment

Assessment of Ecologically Sustainable Development (ESD)

In NSW, the NPW Act provides the legislative framework for the protection of Aboriginal objects and places. The Act stipulates that such protection is to be achieved by applying the principles of Ecologically Sustainable Development (ESD). ESD requires the integration of economic and environmental considerations (including cultural heritage) in decision-making processes and, in the context of Aboriginal cultural heritage, can be achieved through the implementation of two key principles: intergenerational equity and the precautionary principle.

Intergenerational equity is the principle whereby the present generation should ensure the health, diversity and productivity of the environment for the benefit of future generations. With regard to Aboriginal heritage, intergenerational equity can be assessed in terms of cumulative impacts to Aboriginal objects and places in a region. Central to any assessment of intergenerational equity is the proposition that regions with fewer Aboriginal objects and places necessarily retain fewer opportunities for future generations of Aboriginal people to enjoy their cultural heritage. Accordingly, information regarding the known and potential Aboriginal heritage resource of a given region is critical to any assessment of intergenerational equity.

The precautionary principle holds 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 cost-effective measures to prevent environmental degradation. In NSW, the precautionary principle is relevant to OEH's consideration of potential impacts to Aboriginal cultural heritage in situations where:

- the proposed development involves a risk of serious or irreversible damage to Aboriginal objects or places or to the value of those objects or places; and
- there is uncertainty about the Aboriginal cultural heritage values or scientific or archaeological values, including in relation to the integrity, rarity or representativeness of the Aboriginal objects or places proposed to be impacted.

In these instances, OEH has indicated that a precautionary approach should be taken and all cost-effective measures implemented to prevent or reduce damage to Aboriginal objects and/or places. In addition to these measures, a cumulative impact assessment should be undertaken to gain an understanding and appreciation of the impact development will have on NSW's Aboriginal cultural heritage resource.

It should be noted that the results of cumulative impact assessments undertaken for cultural heritage sites and places, Aboriginal or otherwise, must be interpreted with

caution, not least because they are based (in part) on heritage datasets that are inevitably incomplete and contain various inconsistencies and errors.

Intergenerational Equity - Cumulative Impact Assessment

Two avenues for assessing the cumulative impact of the Project on Aboriginal heritage can be pursued:

1) A comparison, using the results of an AHIMS search, of the identified Aboriginal archaeological resource of the Project area with that of the surrounding region, defined here as an arbitrary 40 (E-W) x 20 (N-S) km area centred on the Project area; and
2) The use of existing environmental data sources (e.g., digital land use data and topographic maps) to identify the *potential shell midden resource* of the study region as a whole.

Alongside those identified within the Project area, existing shell midden[1] sites in the study region offer opportunities for future research, conservation and education. Accordingly, it is necessary to quantify the impacts of the Project on this joint resource. As indicated, a total of five shell midden sites have been identified within the Project area, all of which are expected to be directly impacted by the Project. AHIMS data indicate that these sites represent 1.8% of the existing shell midden resource of the study region, with searches of the AHIMS database on 14 November 2014 returning 267 'Valid' midden entries, 8 'Partially Destroyed' midden entries and 3 'Destroyed' midden entries for this area.

Whilst acknowledging the limitations of the AHIMS database with respect to the validity of listed site statuses, on the basis of current AHIMS data, AECOM advised that it seems reasonable to conclude that the loss of the five shell midden sites identified within the Project area would not constitute a significant adverse impact to the existing shell midden resource of the study region. Consideration of the character of these sites, which consist exclusively of low-density surface scatters of midden shell, provides further support to this suggestion as does the observation that, whilst a large number of Aboriginal archaeological investigations incorporating survey and/or excavation have been undertaken within the study region, the majority of land within this area has not been physically inspected for Aboriginal sites.

Whilst being based on the results of archaeological investigations covering only a fraction of the total study region, AHIMS-derived figures provide an insufficient picture of the cumulative impact of the Project on the shell midden resource of the study region. Accordingly, an assessment of the potential midden resource of this area is also required. For the present analysis, digital land use data and relevant topographic maps have been used to prepare a provisional assessment of this resource.

As a starting point, AECOM has advised that it is necessary to quantify the amount of land within the study region that has the potential to retain to shell midden sites/deposits similar to those identified within the Project area. A basic assumption utilised is that grossly disturbed terrain is unlikely to retain such sites whereas undisturbed/minimally disturbed terrain is likely to retain them.

Analysis of available digital land use data for the study region (**Table 15-6**) indicates that grossly modified or disturbed terrain accounts for approximately 19% (37,757 ha) of the terrestrial component of the study region. Outside of these areas, native forests and shrublands, both within and outside of formal conservation areas (i.e., National Parks, State Forests and Conservation Areas), are particularly well represented, making up around 57% of the total. Other natural features, including wetlands (i.e., coastal marshes, swamps, mangroves and mudflats) and the region's mobile dune sheet are also well represented, accounting for approximately 13% of land within the region. Grazing land makes up just over 10% of land within the region.

Viewed from an Aboriginal archaeological perspective, the land use data presented in **Table 15-6** suggests that approximately 80% of the terrestrial component of the coastal study region investigated can reasonably be considered to comprise a potential shell midden resource. As indicated, land upon which shell midden deposits are unlikely to survive accounts for around 19% of the total resource area. This figure increases to around 30% if grazing land is included. However, as indicated by the results of numerous Aboriginal archaeological investigations, both within and outside of the study region, grazed areas can and frequently do retain such sites. It can, therefore, be concluded that around 80% of land within the study region has the potential to retain shell midden sites in surface and subsurface contexts. While acknowledging the fact that the character and distribution of such sites will vary markedly in relation to a range of environmental variables, analysis of available land use data does help to quantify the extent of the region's potential Aboriginal shell midden resource. Moreover, it provides a basis from which to assess the cumulative impact of the proposed development on this resource.

With regards to the existence, outside of the Project area, of environmental contexts that have the potential to contain sites comparable to those identified within it, examination of relevant topographic maps for the study region indicates that many such contexts exist. The Worimi National Park, for example, which borders Nelson Bay Road to the south of Project area, incorporates a large component of the Ridge 1 transgressive dune sheet. Landform elements comparable to those present within the Project area, namely elevated dune crests (with steep side slopes) and low dunes and swales, abound in this park, which forms part of the broader Worimi Conservation Lands (WCL). Comparable landform elements are also present in areas of native bushland to the west of the Project area, north of Nelson Bay Road.

Land Use	Ha	%
Conservation area	12081	32.00
Native forest and shrublands	9357	24.78
Urban	5159	13.66
Grazing	4044	10.71
Wetland	2493	6.60
Beach, foredune and sand spit/estuarine sand island	2487	6.59
Mining & quarrying	846	2.24
Defence facility	608	1.61
Transportation corridors and facilities	474	1.26
Horticulture	170	0.45
Plantation	23	0.06
Intensive animal production	12	0.03
Power generation	3	0.01
Total	**37757**	**100**

Table 15-6 - Land Use Analysis (AECOM)

The Precautionary Principle

The precautionary principle holds 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 cost-effective measures to prevent environmental degradation.

AECOM has adopted a precautionary approach in its assessment of the impacts of the proposed development on the Aboriginal archaeological resource of the Project area and that this approach is reflected in its proposed management strategy.

15.3.6.5 Management Strategy

All five Aboriginal archaeological sites identified within the Project area are anticipated to be directly impacted by the Project. At the same time, it is considered highly likely that a body of subsurface Aboriginal archaeological material will also be impacted by the Project. The potential for impacts to previously unidentified scarred trees in areas of remnant native vegetation within Project's proposed extraction area is also recognised.

A Management Strategy to address the potential impacts of the Project on the known and potential Aboriginal heritage resource of the Project area has been recommended by AECOM Consultants. It is recommended that the Management Strategy is detailed in an Aboriginal Cultural Heritage Management Plan (ACHMP) for the Project, which should be prepared in consultation with RAPs, Office of Environment & Heritage and the Department of Planning & Environment. Subject to the provision of development consent and ACHMP approval by the Department of Planning & Environment, the strategy will

guide the management of Aboriginal cultural heritage within the Project area. This is anticipated to meet the requirements of the Aboriginal Community and relevant legislation.

Further details of the proposed Management Strategy are highlighted in **Chapter 9** of the EIS. In summary, the Management Plan incorporates:

1. An archaeological salvage program;
2. RAP monitoring of vegetation clearance activities;
3. Inspection of stockpiled samples of reject screen material;
4. Provision and recognition of AHIMS site cards;
5. Provision of protocols for previously unrecorded Aboriginal archaeological sites/materials;
6. Provision of protocols for human skeletal remains;
7. Aboriginal cultural heritage awareness training;
8. ACHMP reporting; and
9. ACHMP periodic review.

15.4 Community: Health, Safety, Cohesion, Capital and Resilience – Standard Assessment

The extent to which the proposed development will (and is already) causing impact (including perceived impact) on the Bobs Farm Community is provided by an assessment and understanding of:

1. The findings of previous community consultation undertaken at two (2) public meetings (25 November, 2014 and 10 November, 2018). The public meetings provided briefings of the proposed development and a forum for clarification, raising issues and asking questions; with responses being provided by the applicant.
2. Community dialogue and exchange with the press (both newspaper and television);
3. Community dialogue on the 'Say No to Bobs Farm' Facebook page; and
4. Community dialogue on the Facebook page of Ms. Kate Washington MP.

15.4.1 Public Meeting 25 November, 2014

The issues of identified concern and associated impact to the Bobs Farm Community raised at this meeting included:

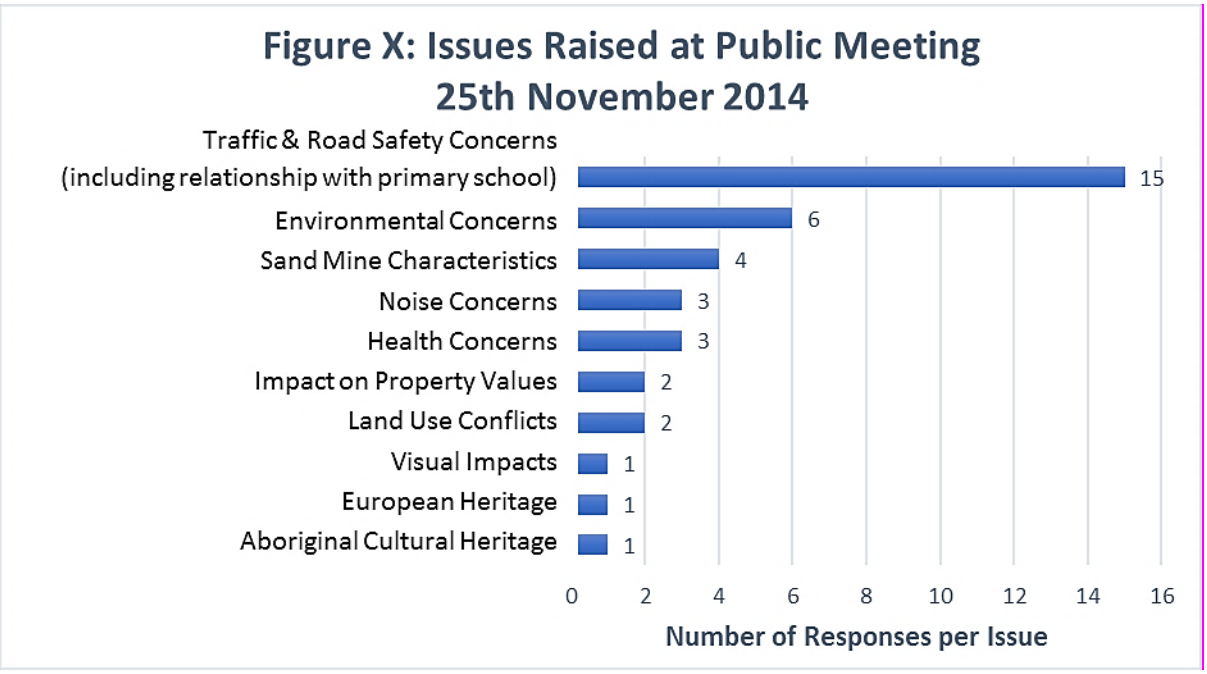


Figure 15-7 - Issues Raised by Public Participants at Public Meeting 25 November, 2014

15.4.2 Public Meeting 10 October, 2018

The primary concerns raised by the Bobs Farm Community are summarised below. A more detailed summary of matters raised by the Bobs Farm Community is included as **Appendix 2.**

1. Health: Perceived air quality impacts including the impacts associated with silica dust; including primary concerns about the health of school children at Bobs Farm Public School;
2. Health: Concerns about perceived air quality impacts associated with emissions, particle and dust deposition generally;
3. Health: Concerns about the methodology by which air quality impacts are being modelled, measured and reported;
4. School Children Safety: Concerns over truck egress and travel in close proximity to Bobs Farm Public School;
5. Safety Generally: Concerns about the additional trucks being added to the local road network;
6. School Children Learning: Issues associated with noise and vibration impacts from heavy vehicles in close proximity to Bobs Farm Public School;
7. Closure of Bobs Farm Public School: Concerns about a perceived cumulative impact by the proposed development on child health, safety and learning and associated voluntary decisions by parents to remove children from the primary school. Associated State Government school closure because of reduced student numbers and/or a decision taken by the government because of perceived project impacts on primary school children;
8. Road Network Adequacy: Concerns about the capacity of the local road network to cope with additional heavy vehicles;

9. Groundwater Availability and Quality: Concerns about mining impacts on the flow, quantity and quality of groundwater and the associated impacts on others currently utilising the groundwater resource;
10. Biodiversity Loss: Concerns about the direct mining impacts of land clearing and the associated loss of native flora and fauna; and
11. Bias of Specialist Reports: Perception that Specialist Reports informing the content of the EIS are biased as they are being funded by the developer of the project.

15.4.3 'Say No to Bobs Farm' Facebook Page

At the time of writing this report, the primary issues raised to the proposed Bobs Farm Sand Mine documented on the 'Say No to Bobs Farm' Facebook page are reproduced below (personal details have been removed for privacy reasons).

No Sand Mine in Bobs Farm

2,937 have signed. Let's get to 5,000!

Bobs Farm Community Petition to Honourable President & Members of the Legislative Assembly of NSW and 5 others

"BOBS FARM COMMUNITY IS DRAWING A LINE IN THE SAND AGAINST MINING.

What's really important is standing up an making our voices so loud, that they have no choice to ignore us.

An inappropriate development on an inappropriate site.

What we know!

- *Ammos Resource Management are proposing a 36.1 hectare Sand mine at 3631 Nelson Bay Rd Bobs Farm (currently known as the fig and olive farm). That's about 37 football fields.*
- *They will mine 10million tonne of sand over 15 years.*
- *They are hopeful to be operating in 2-3 years.*
- *180 truck movements per day on Nelson Bay Road between 7am and 6pm (one every 3 minutes). These trucks will pass alongside the Bobs Farm School, right onto marsh road then turn left towards Anna Bay and use the Port Stephens Drive round about as a U turn bay to head back out.*
- *The mine will include dredging 15m below sea level*
- *It will create 8 onsite jobs*
- *Once completed it will leave a 24.5 hectare salt water dam.*
- *They will only revegetate approx 7 hectares*
- *Possibilities for the dam include a solar power operation or tourist water park*
- *No members of the community have been contacted by the developer to discuss any issues or social impacts to our community.*

Our Concerns!

- *Silica dust exposure - Silicosis (it's the new asbestosis).*
- *Disturbance to our groundwater*
- *The possibility of acid sulphate soils on Marsh road*
- *Noise and vibrations from mine activities and truck movements*
- *Impact of threatened flora and fauna and groundwater dependent ecosystems*
- *Loss of ancient sand dunes*
- *The potential closure of the local school which recently celebrated 100years*
- *Impacts to local farms*
- *Social impacts to our community*

What's next!

- *Help us reach 10,000 signatures to protest this development".*

15.4.4 Kate Washington MP Facebook Page

Recent post details from Ms. Washington's Facebook page include (in descending order):

23 October, 2018: Video coverage of Parliament Speech regarding extensive concerns related to the proposed sand mine. (Hansard details of the Ms. Washington's speech not currently available on line).

17 October, 2018: Details of meeting held with the Bobs Farm Community and that Ms. Washington has written to the Minister for Planning, The Minister for Environment, the Minister for Health, the Minister for Education and the Minister for Roads about the unacceptability of the proposed Bobs Farm Sand Mine and its impacts.

15 October, 2018: Advising of the Say No to Bobs Farm Sand Mine petition (as outlined on the Say No to Bobs Farm Face book page above) and invitation to support.

14 October, 2018: Providing link to NBN News Coverage

13 October, 2018: Advising of NBN News Coverage (the same evening: 13 October)

11 October, 2018: Expression of support to the Say No to Bobs Farm Facebook page.

10 October, 2018: Advising of concerns over what Ms. Washington had learned about the proposed Bobs Farm Sand Mine at the recent public meeting facilitated by Tattersall Lander (applicant) on 10 October, 2018.

30 September, 2018: Advice to the community that the Bobs Farm Sand Mine had 'resurfaced' and that a public meeting was to be held to discuss the proposed development.

15.4.5 Bobs Farm NSW Community Facebook Page

Recent posts from the Bobs Farm Community Facebook page have communicated details of public and community meetings being held relating to the proposed sand mine.

15.4.6 Petitions

1. Petition detailed above in the 'Say No to Bobs Farm' Facebook page; and
2. Petition to Parliament: Legislative Assembly

Link - advised unavailable:
change.org.au/pthe-honourable-the-president-and-members-of-the-legislative-assembly-of-nsw

Petition against the sand mine: 622 supporters (electronic provision) of the following detail:

Summary: "*The proposed sand mine at Bobs Farm will have negative environmental, economic and social impacts to public health, road safety, water security, amenity, tourism, education, and will result in imminent loss of biodiversity.*

The sand mine is located in beautiful proximity to a beautiful small school. Two hundred trucks, which equates to one truck every 2-3 minutes, Monday to Saturday will pass by the school and into a school zone. Our children catching the bus will be at risk from the massive increase in truck movements.

Mining will require the destruction of ancient sand dunes and the underground layers of ancient sands, which hold the ground water. We have been told the ground water level will drop. This may have devastating consequences for many people and families in the area that rely heavily on the underground water to irrigate crops and their properties.

Bobs Farm is an important gateway into Port Stephens and this development will have a detrimental impact on visual amenity of the Tomaree Peninsula.

The site has considerable environmental values and any further development in the area will create an adverse cumulative impact on native vegetation. In particular the site is

classed as supplementary koala habitat under the Port Stephens Council Comprehensive Koala Plan of Management (CKPoM). The plan requires its protection to assist the long-term conservation of the Koalas of Port Stephens.

Please sign and share widely to help stop this proposal".

15.4.7 Television Articles

14 October, 2018: Overview of proposed development and residents concerning, illustrating the concerns raised by the 'Say No to Bobs Farm' action group.

Link: https://www.nbnnews.com.au/2018/10/14/residents-preparing-for-sand-mine-fight/

15.4.8 Written Press Articles

Port Stephens Examiner

1. Article 2 December, 2014

Title: No sand mine in our backyard says Bobs Farm residents

Summary: Discusses local resident attendance (reported around 70 attendees) at the public meeting at Bobs Farm Community Hall, facilitated by Tattersall Lander on 25 November, 2014 to illustrate the detail of the proposed sand mine development.

Also advises of creation of a resident action group to oppose the proposed development.

2. Article 3 October, 2018

Title: Bobs Farm Sand Mine proposal is back on the table

Summary: Reports that the Bobs Farm Community has been left 'reeling' from shock announcement that the Bobs Farm Sand Mine proposal has resurface after two years of being 'put on hold'. Articles advises that another public meeting will be held on 10 October to discuss the proposed development and the associated preparation of an Environmental Impact Statement and project management. Reported action group member concern about increase in trucks along Nelson Bay Road, impacts on groundwater and the threat to species such as koalas, owls and gliders. Action group member also urged all Port Stephens families to have their say.

3. Article 18 October, 2018

Title: No Sand Mining in Bobs farm action group reformed after proposal resurfaces two years on

Summary: Discusses revival of the 'No Sand Mining in Bobs Farm' action group following resurfacing of the sand mining proposal mooted two years previously. Discusses

community fears about groundwater impacts, 180 daily additional truck movements, threat to flora and fauna and the retention of a 24.5 hectare void/dam.

Advises that at the public meeting held on 9 October (sic) the project applicant, Tattersall Lander (Bob Lander), said that the proposal would be the subject of strict planning assessments and that an Environmental Impact Statement addressing residents' concerns such as "*groundwater, air quality, dust, traffic, environmental, economic and ecology*" was being prepared.

Mr. Lander was reported as also saying: "*This will involve public exhibition and community consultation … We have also offered the residents an opportunity to form a consultative committee to meet with us to discuss ongoing issues … This is a large-scale proposal and therefore would require strict constraints, as well as provide significant employment and the opportunity for training*".

The article further advised at the conclusion of the meeting a show of hands was called for with all those in the room voting against a sand mine in Bobs Farm. Mr. Lander's response was reported upon being asked if this was a concern as "*It was not unexpected*".

The article reports additional voices in opposition to the proposal as Port Stephens Councillor John Nell, State MP Ms. Kate Washington and the elected liberal endorsed candidate, Jaimie Abbott.

An action group spokesperson was reported as saying that the residents were unlikely to take up the offer of a consultative committee because many of the residents who went through the previous sand mining campaign feel betrayed and citing

"*If approved this will be a real blow to Port Stephens … The impact on this small community will be felt loud and wide. We are concerned about the silica dust exposure particularly to our school children and the current businesses that rely on the ground water to grow their crops.*"

The article reports that residents have started a petition aiming to get 10,000 signatures protesting against the mine proposal as well as a go fund me page.

Newcastle Herald

1. Article 28 November, 2014

Title: Fears Nelson Bay Road will become an 'accidental highway'

Summary: Concerns around the cumulative impacts of additional trucks on Nelson Bay Road; associated traffic and pedestrian safety concerns. Concerns raised about the impacts of the proposed development on Bobs Farm School, including potential impacts on its longer-term future (at the time of the article it was reported that the school had 29 students).

2. Article 27 February, 2015

Title: Greens dig in against Port Stephens sand mine plans

Summary: Illustrates meeting between the then Greens 'mining spokesperson' Jeremy Buckingham and local community members opposed to two (separate) sand mines at Bobs Farm and Williamtown. With reference to Bobs Farm, Mr. Buckingham raised concern around his perception of the inappropriateness of a sand mine in a 'tourist hub' and in proximity to the Bobs Farm Primary School.

3. Article 8 April, 2015

Title: Bobs Farm residents want action on road concerns

Summary: Concern around traffic/pedestrian safety matters on Marsh Road where traffic will be increased as a result of the proposed sand mine.

Tomaree Ratepayers & Residents Association

Article 9 December, 2014

Summary: Advises of the NSW Environment Defenders Office intention to hold a 'Free Community Workshop at Bobs Farm' on 21 January, 2015. The purpose of the workshop was advised as follows:

"EDO NSW will hold a free workshop in Bobs Farm explaining how the community can have their say and respond to environmental impact statements for extractive industry project applications, including the Bobs farm Sand Project."

ABC (www.abc.net.au)

Article 4 December, 2014

Title: Bobs Farm locals worried about environmental impacts of sand mine

Summary: Concern over hydrological interference and associated impacts on local farming. Associated concerns about impacts on local ecology.

Australian Mining (www.australianmining.com.au)

Article 26 November, 2014

Title: New sand mine proposed for small NSW town

Summary: Discussion of public meeting held at Bobs Farm. Reference to Newcastle Herald article citing resident concerns over 200+ truck movements per day 'past a primary school' and general traffic considerations around additional trucks on Nelson Bay Road.

Newcastle Greens (Newcastle Greens Website)

Article 27 February, 2015

Title: Bobs Farm and Williamtown sand mine proposals irresponsible

Summary: Concerns raised around truck impacts (unspecified), air and noise pollution as well as perceived inappropriateness of location having regard to the neighbouring primary school. Concern also raised about inconsistency with the image of Port Stephens.

Labor Candidate for Port Stephens (Ms. Kate Washington)

Letter to the Newcastle Herald: 2 December, 2014

Title: Suspicion over mine justified

Summary: Discussion focuses on perception of 'vested political interest' whilst eluding to potential environmental and social impacts generally.

15.5 Water: Hydrological Flows – Standard Assessment

The detailed Groundwater Assessment (GA) provided in **Chapter 7** of the EIS is considered sufficient for the purposes of understanding the social impacts associated with any alterations to groundwater flows emanating from the proposed development of the land. Relevant extracts of the GA, as relevant to the SIA are discussed below.

15.5.1 Groundwater Impact Assessment

15.5.1.1 Numerical Groundwater Model

Overview

To assess the impact of the proposed development on the permanent groundwater system, a two-layered steady state numerical groundwater model (MODFLOW) was established for existing and proposed conditions.

In accordance with Australian groundwater modelling guidelines (June, 2012), the model is considered to represent a model in-between a 'Class 1' and 'Class 2' model confidence-level.
This degree of model confidence-level is considered appropriate for assessment purposes given the water table has minor variation over the entire site, and because although some groundwater extraction is required for water supply purposes, the principal mechanism of groundwater extraction is evaporation of the proposed dredge lake.

Objective

The objective of the model was to estimate drawdown due to:

- The dredge lake exposing groundwater to the atmosphere (i.e. facilitating evaporation).
- Pumping of groundwater to meet site operational demands.

Simulation Results

Groundwater contours from the proposed development model are provided in **Figure 15-8**. Drawdown contours are shown in **Figure 15-9** and indicate that the dredge lake, at maximum extent, could result in a maximum drawdown of approximately 1.6 m. The maximum drawdown occurs in the south western corner of the site.

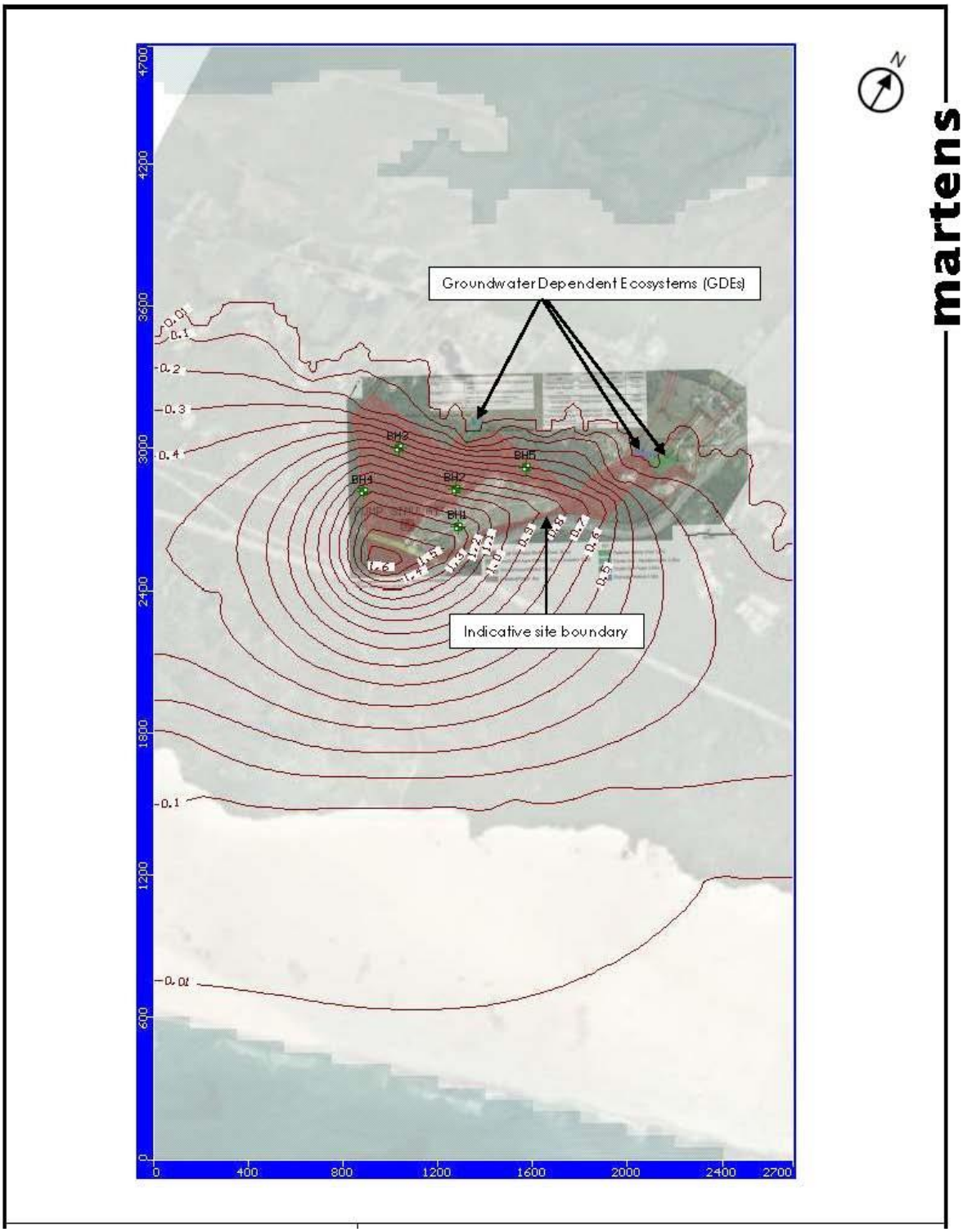


Figure 15-8 - Developed Conditions Groundwater Contours (m)

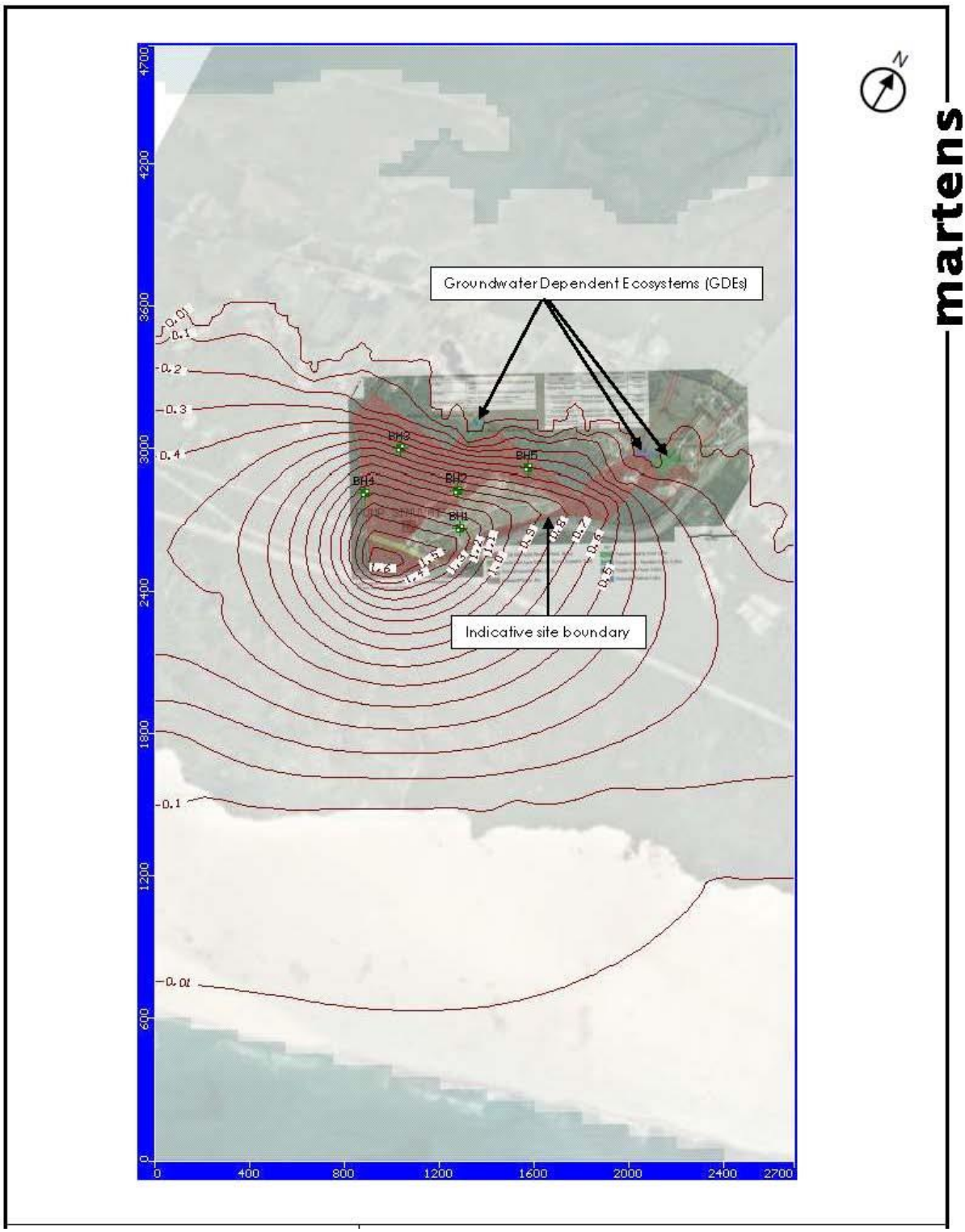


Figure 15-9 - Developed Conditions Drawdown Contours (m)

Impact on Groundwater Dependent Ecosystems

Identified vegetation communities that are exclusively reliant on groundwater are located outside of the proposed mining footprint.

Drawdown of the permanent groundwater system at these vegetation communities is modelled to be a maximum of approximately 0.07 m.

Based on the NSW Aquifer Interference Policy (NOW, 2012) and the post Water Sharing Plan local groundwater natural level range of the order of 3 m (or more), the adopted permissible drawdown at a 40 m buffer from the GDEs is 0.30 m (i.e. 10% x 3.00).

This drawdown threshold is met for vegetation communities exclusively reliant on groundwater. Consequently, based on modelling results, the proposed development does not exceed the drawdown impact criterion set out in the NSW Aquifer Interference Policy (NOW, 2012).

Impact on Existing Bores and Farm Dams

Groundwater level changes at existing surrounding bores and farm dams due to the project are anticipated to be negligible. As water table decline is not predicted to be above the stipulated threshold of 2 m (NOW, 2012), make good provisions do not apply.

Groundwater Licencing

In accordance with the Tomago, Tomaree and Stockton Groundwater Sources Water Sharing Plan (2003), a share component equivalent to the project's anticipated maximum annual groundwater take, is to be sought under an aquifer access licence.

Groundwater take will comprise:

- Evaporation from the dredge lake resulting in a volume of 89.16 ML/yr (297 mm/yr net evaporative loss over maximum dredge lake area of 30.02 ha).
- 2% of maximum plant demand (216 m³/operation day) resulting in a volume of 45.14 ML/yr. The 2% represents losses due to minor spills, splashing on plant start up, or blockages, if and when they occur. Water demand volumes and the estimated loss of 2% were provided by Quarry Mining Systems.
- Net losses from dust suppression (12 m³/operation day) resulting in a volume of 2.51 ML/yr.
- Any other groundwater extraction volumes.

Based on above, maximum groundwater take is estimated to be 137 ML/yr.

There may be an opportunity to account for groundwater gains of 4 ML/yr associated with site bioretention basin overflow. The report recommends that NSW Office of Water be consulted to confirm groundwater take for licensing, and to confirm if bioretention overflow groundwater gains can offset the estimated take of 137 ML/yr, yielding a reduced take of 133 ML/yr, should this be desirable.

A Groundwater Management Plan, detailed in **Chapter 7** of the EIS seeks to monitor and proactively manage groundwater on the site.

15.6 Biodiversity: Native Vegetation and Native Fauna – Comprehensive Assessment

15.6.1 Ecological Impacts of the Proposed Development

The detailed ecological assessment provided in **Chapter 14** of the EIS provides details of the ecological impacts emanating from the proposed development of the land. Relevant extracts of the ecological assessment are discussed below. A further assessment of the social impacts associated with the proposed development of the land is also provided.

The ecological impact assessment of the proposed development was prepared by Wildthing Environmental Consultants (2018).

A large portion of the study area occurring on Aeolian Holocene transgressive dunes is currently undeveloped and consists of uncleared tall dry open sclerophyll forest dominated by the canopy species *Eucalyptus pilularis* (Blackbutt) and *Angophora costata* (Smooth-barked Apple). An area within Lot 254 contains an Olive and Fig Orchard plus a residence, gardens and associated buildings. The lower flat ground in the north-east of Lots 10, 11 and 51 has had a long history of disturbance and largely consists of grassland/pasture. Smaller areas of Swamp Forest and Freshwater Wetland are also present on areas of low poorly drained flat land. Vegetation types are classified based on the 'best fit' vegetation type listed in the Plant Communities Types (PCT's) Database (OEH 2009). Parameters used to choose the 'best fit' Vegetation Type included over-storey and understorey floristics, soil landscape, location and topographic position. A total of three vegetation types were delineated within the study area:

- **Vegetation Type 1 -** HU860 – Smooth-barked Apple - Blackbutt - Old Man Banksia woodland on coastal sands of the Central and Lower North Coast (Moderate/Good High Condition) (35.41ha). An area of derived grassland (0.9ha) was also consistent with Vegetation Type 1;
- **Vegetation Type 2 –** HU938 – Broad-leaved Paperbark - Swamp Oak - Saw Sedge swamp forest on coastal lowlands of the Central Coast and Lower North Coast (Moderate/Good) (1.15ha);
- **Vegetation Type 3** – HU533 - Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion Moderate/Good Poor) (0.32ha).

Two additional vegetated areas were highly altered and could not be assigned a community Vegetation Type:

- Orchard, Cleared/Modified (9.6ha);
- Grassland/Pasture (4.0ha).

<u>Endangered Ecological Communities (EEC)</u>

The study area was found to contain two Endangered Ecological Communities (EECs):

- Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions - Broad-leaved Paperbark - Swamp Oak - Saw Sedge swamp forest on coastal lowlands of the Central Coast and Lower North Coast 1.15ha
- Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions - Coastal freshwater lagoons of the Sydney Basin Bioregion and South-East Corner Bioregion 0.32ha.

The areas of Swamp Sclerophyll Forest and Freshwater Wetland are located outside the proposed mining footprint and will have a buffer of at least 15m. Taking the recommendations for these two EECs into consideration the proposal is unlikely to have an adverse effect that their composition or local occurrence such that they will be placed at extinction.

Groundwater Dependent Ecological Communities (GDEs)

Identified vegetation communities within the study area that are exclusively reliant on groundwater are Broad-leaved Paperbark - Swamp Oak - Saw Sedge swamp forest and Coastal freshwater lagoon. One community, Smooth-barked Apple - Blackbutt - Old Man Banksia woodland which contains species which obtain groundwater in the capillary fringe; occurs within the proposed mining footprint. The proposed sand mine will require excavation below the groundwater level within the study area. An assessment undertaken (Martens, 2015) found drawdown of the permanent groundwater system at these vegetation communities is modelled to be a maximum of approximately 0.07 m. The adopted permissible drawdown at a 40 m buffer from the GDEs is 0.30 m (i.e. 10% x 3.00). This drawdown threshold is met for vegetation communities exclusively reliant on groundwater. Consequently, based on modelling results, the proposed development does not exceed the drawdown impact criterion set out in the NSW Aquifer Interference Policy (NOW, 2012).

Threatened Flora Species

A total of 108 individual specimens of *Diuris arenaria* (Tomaree Doubletail) were recorded within the study area as a result of targeted surveys. With the exception of one plant occurring approximately 6m to the north of the electrical easement, the remaining specimens of *D. arenaria* were found to be confined to the maintained electrical easement in the far west of the study area. Outside the study area *D. arenaria* also occurs within the same electricity easement to the west and east (ERM, 2003 & Wildthing Environmental Consultants, 2018). Within the study area the orchids are located within native derived grassland with no canopy which has been created and maintained as an electrical easement by Ausgrid. No other occurrences of *D. arenaria* were recorded over the remainder of the study area during targeted surveys. The absence of *D. arenaria* over the remainder of the study area is likely to be attributed to the density of trees and shrubs shading suitable habitat. However, suitable habitat was considered to be present within other areas of Coastal Sand Apple Blackbutt Forest with a sparse canopy cover.

No specimens of *D. arenaria* are required to be removed as a result of the proposal. The 15m buffer to the north of the electrical easement to the proposed extraction zone will also offer protection from secondary impacts such as increased weed incursion and dust. It is recommended that there is a no-go zone below the extraction zone to avoid any unintended removal/disturbance of these orchids. This will require the erection of a barrier fence on the boundary of the extraction zone. It will also be important to liaise with Ausgrid regarding maintenance of their easements to minimise impacts and support the protection of *D. arenaria*.

Despite targeted searches no additional threatened flora species were recorded within the study area during fieldwork. The study area was considered to contain potential habitat for an additional 11 of the 30 threatened flora species addressed in the report:

- *Diuris praecox* (Newcastle Doubletail);
- *Corybas dowlingii* (Red Helmet Orchid);
- *Cryptostylis hunteriana* (Leafless Tongue Orchid);
- *Rhizanthella slateri* (Eastern Underground Orchid);
- *Pterostylis chaetophora* (Tall Rustyhood);
- *Maundia triglochinoides* (Maundia);
- *Persicaria elatior* (Tall Knotweed);
- *Zannichellia palustris* (Horned Pondweed);

- *Eucalyptus parramattensis* subsp. *decadens* (Drooping Red Gum);
- *Melaleuca biconvexa* (Biconvex Paperbark);
- *Syzygium paniculatum* (Magenta Lilly Pilly);

Of these threatened flora species, the most likely habitat within the study area was considered to be present for *D. praecox*. Specimens of *D. praecox* are known to be present approximately 200m to the south-west within the same electrical easement which runs through the study area. Due to the absence of preferred habitat and lack of nearby local records the study area was only considered to provide marginal habitat for the remaining flora species.

Threatened Fauna

A total of eight threatened fauna species were recorded within the study area during fieldwork:

- *Glossopsitta pusilla* (Little Lorikeet)
- *Haliaeetus leucogaster* (White-bellied Sea Eagle);
- *Petaurus norfolcensis* (Squirrel Glider)
- *Pteropus poliocephalus* (Grey-headed Flying-fox)
- *Scoteanax rueppellii* (Greater Broad-nosed Bat)
- *Falsistrellus tasmaniensis* (Eastern Falsistrelle)
- *Miniopterus australis* (Little Bentwing-bat)
- *Miniopterus schreibersii oceanensis* (Large Bentwing-bat)

As a result of secondary evidence an additional two threatened fauna species were also noted within the study area:

- *Ninox strenua* (Powerful Owl)
- *Phascolarctos cinerea* (Koala)

Of the remaining 90 assessed threatened fauna species, the study area was found to contain suitable habitat for 43. Taking the habitat and local records into consideration the most likely of these 43 species to utilise the study area would include *Daphoenositta chrysoptera* (Varied Sittella), *Tyto novaehollandiae* (Masked Owl), *Dasyurus maculatus* (Tiger Quoll), *Saccolaimus flaviventris* (Yellow-bellied Sheathtail Bat) and *Mormopterus norfolkensis* (Eastern Freetail-bat). The proposal will result in a significant loss of habitat for a number of the addressed species particularly species such as *P. norfolcensis.* However, taking into consideration the relatively large amount of similar habitat in the local area and given the recommendations of the report, the proposal is unlikely to disrupt the life cycle the addressed threatened species such that local extinction would occur.

Endangered Populations

Within the NSW North Coast Bioregion and Port Stephens LGA the population of the Emu has been listed as Endangered. The Emu was not recorded within the study area during the survey. Open Forest vegetation that covers the majority of the study area would provide some habitat for this species, which prefers more open habitat. Taking into consideration the large amount of suitable habitat along Stockton Bight and the lack of recent local records, the proposal is unlikely to result in the local extinction of a viable local population of the Emu.

Habitat types within the study area

The main habitat types within the study area are currently:

- Dry Sclerophyll Forest (34.5 ha);
- Swamp Sclerophyll Forest (1.15 ha);
- Freshwater Wetland (0.32 ha);
- Orchard (9.6 ha);
- Cleared Open Areas (4 ha).

In general, the habitats within the study area offer a wide range of habitat opportunities for a range of native species. The habitats to be affected by the proposal range from less ecologically significant areas such as cleared areas and orchards to relatively intact Dry Sclerophyll Forest that is capable of offering suitable resources to both resident and transitory species.

Habitat Fragmentation and Corridors

The study area forms part of a significant ecological corridor that runs down the coast from the Tomago Sandbeds in the south along the Stockton Bight to the Tomaree Peninsula in the north. The ecological corridor occurring along Stockton Bight is restricted by the bare shifting sand dunes to the east and largely cleared agricultural land to the west. The Lower Hunter and Central Coast Regional Biodiversity Conservation Strategy (House, 2003) also identifies the Coastal Sand Apple – Blackbutt Forest occurring along the Stockton Bight dune system as a regionally significant habitat linkage. The Hunter Regional Plan 2036 (NSW Government, 2016) also shows the site to occur within a Biodiversity Corridor. The fragment of vegetation that the study area is situated has also been mapped as a key habitat (NPWS 2002). The proposal will result in the removal of approximately 25.90ha of key habitat largely consisting of Coastal Sand Apple Blackbutt Forest from the north-east section of the corridor. The section of the corridor where the study area is located is approximately 1.5km wide.

The proposal will result in the reduction in the width of the corridor by approximately 600m (the majority of habitat occurring on the northern side of the dual carriage way of Nelson Bay Road). The wider southern portion of the regional corridor occurring south of Nelson Bay Road is located on the protected Worimi Conservation Lands. Within the vicinity of the study area the ecological corridor is traversed by the dual carriage way of Nelson Bay Road to the immediate south-east and a power easement which runs east-west through the southern portion of the study area. Cleared agricultural land also borders parts of the north-east boundary. The proposal will result in a reduction in connectively to smaller areas of open forest habitat contained within Lots 1, 2 & 521 to the immediate north of the study area. Considering the presence of the dual carriageway of Nelson Bay Road (without a treed traffic island) the proposal will also result in a reduction in connectivity for open forest areas within Lot 10 and the adjoining crown reserve (Lot 7374). A 15m vegetated buffer zone around the sand mine footprint together with adjoining habitat such as the road reserve along Nelson Bay Road will still provide connectivity to these areas of habitat outside the permanent artificial lake. The connectivity to these areas will also improve after the mine site has been progressively revegetated.

Hollow-bearing Tree Survey

A total of 1217 habitat (hollow-bearing) trees were identified within the study area as a result of a hollow-bearing tree survey. The vast majority of hollow-bearing trees were present within Smooth-barked Apple - Blackbutt - Old Man Banksia woodland on coastal sands assemblage.

Many of these trees were considered to be significant as a result of their very large size as well as the variety and number of hollows they contained. Hollows were available for roosting or nesting avifauna species, arboreal mammals, reptiles and tree roosting microchiropteran bat species.

Considerations under the Port Stephens Comprehensive Koala Plan of Management CKPoM)

The Port Stephens CKPoM assessment found the study area was largely composed of Supplementary Koala habitat and to a lesser extent Mainly Cleared Land. Two smaller areas of preferred Koala habitat occupy the areas of Swamp Sclerophyll Forest located within the north and north-east of the study area within Lot 10 and 254. *Eucalyptus robusta* (Swamp Mahogany) was the only preferred Koala Feed Tree Species recorded within the study area. A total of 19 individual specimens of *E. robusta* were found to be confined to two areas of Swamp Sclerophyll Forest within the study area. No Koalas were recorded within the study area during the survey period. A small number of specimens of *E. robusta* within Lot 10 had scratches and characteristic 'pock marks' consistent with that of the Koalas although no faecal pellets were found under the trees. According to database records contained in the NSW Wildlife Atlas (OEH, 2015) and Hunter Koala Preservation Society (2015) a small number of records of Koalas occur within proximity to the study area. The evidence suggests that the study area, particularly the area of Swamp Sclerophyll Forest in the far north is utilised infrequently by a small number of Koalas. The CKPoM requires a 50m buffer from the areas of Preferred Koala Habitat over Supplementary and Mainly Cleared habitat. The proposal will result in the loss of Supplementary Koala Habitat however no areas of Preferred Koala Habitat will be removed.

Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act (1999).

Consideration has been given to the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act (1999). No nationally threatened communities were present within the study area. One nationally threatened species *Pteropus poliocephalus* (Grey-headed Flying-fox) was recorded foraging within the site during fieldwork. An additional threatened species *Phascolarctos cinereus* (Koala) was also identified as utilising the study area from the presence of scratches on preferred feed tree species. The proposal will result in a reduction in habitat for both these two nationally threatened species however is unlikely to have a significant impact.

Three listed migratory species; White-bellied Sea-Eagle, Rufous Fantail and Cattle Egret were recorded within the study area during fieldwork. Considering the relative commonality of these three migratory species and large amount of suitable habitat in the locality it is unlikely that these species or any of the addressed listed migratory species would be significantly impacted by the proposal.

Impact Assessment

The proposed Sand Mine will result in the following direct and potential impacts or losses:

- Approximately 25.90ha of Coastal Sand Smooth-barked Apple Blackbutt Forest;
- Approximately 9.5ha of Orchard;
- Approximately 25.90ha of Supplementary Koala Habitat;
- Approximately 25.90ha of known habitat for ten affected threatened fauna species; *Glossopsitta pusilla* (Little Lorikeet), *Ninox strenua* (Powerful Owl), *Haliaeetus leucogaster* (White-bellied Sea Eagle), *Petaurus norfolcensis* (Squirrel Glider), *Scoteanax rueppellii* (Greater Broad-nosed Bat), *Falsistrellus tasmaniensis* (Eastern

Falsistrelle), *Miniopterus australis* (Little Bentwing-bat), *Miniopterus schreibersii oceanensis* (Large Bentwing-bat), *Phascolarctos cinereus* (Koala) and *Pteropus poliocephalus* (Grey-headed Flying-fox);
- Suitable habitat for a number of additional threatened and other flora and fauna species likely to utilise the study area;
- Approximately 877 hollow-bearing trees;
- Habitat Fragmentation;
- Injury/Mortality to native fauna during felling of trees.

The proposed Sand Mine will result in the following potential indirect impacts;
- Increased spread of noxious weeds;
- Increased spread of pest fauna species;
- Edge effects;
- Impact on Groundwater Dependent Ecosystems (GDE's) through changes to groundwater levels;
- Increase in noise from machinery;
- Increase in artificial lighting. Increased lighting may be the result of security lighting.

Mitigation Measures

A number of mitigation measures have been specified to minimise the impact of the loss of habitat. The measures will include:
- Provision of compensatory habitat (Offsetting) using the Biobanking Assessment Methodology (DECC, 2009);
- Protection of remaining habitat/vegetation;
- Protection of fauna during habitat removal;
- Provision of mitigation measures for affected species such as translocation of specimens of *Diuris arenaria* (Tomaree Doubletail);
- Rehabilitation of extraction area;
- Monitoring of groundwater levels and groundwater dependant ecosystems within proximity to the extraction area;
- Reduction of ongoing mine impacts such as noise and artificial lighting.

To help ensure these measures are carried out a detailed vegetation/habitat management plan will need to be developed to address any impacts associated with the proposed sand mine to ensure the long-term viability of remaining and rehabilitated habitat.

Offset Requirements using the Biobanking Assessment Methodology (DECC, 2009)

The FBA Credit Calculator generated a Credit Profile for the Development Area. The Development Biobank Credit Reports generated by the Credit Calculator are provided below.

Table 15-7 - Biobank Credit Calculator

Plant Community Type	Area (ha)	Credits
HU860 – Smooth-barked Apple - Blackbutt - Old Man Banksia woodland on coastal sands of the Central and Lower North Coast	35.41	1681

HU938 - Broad-leaved Paperbark - Swamp Oak - Saw Sedge swamp forest on coastal lowlands of the Central Coast and Lower North Coast	1.15	8.17
HU533 - Coastal freshwater lagoons of the Sydney Basin Bioregion and South-East Corner Bioregion	0.32	1.31

The proposed sand mine will result in an incremental loss of habitat for a number of the addressed threatened species occurring within the local area. Taking into account the relatively large amount of similar habitat along Stockton Bight and given the recommendations which include a Biobanking Offset it is believed that the proposal is unlikely to disrupt the life cycle of any addressed threatened species, endangered population or endangered ecological community such that local extinction would occur.

15.6.2 Social Impact Assessment of Ecological Impacts

Land clearing caused by the proposed sand mine is the single largest contributor to a change is social environment, and consequently, responsible for adverse social impact. Land clearing is defined as a Key Threatening Process in Schedule 4 of the *Biodiversity Conservation Act 2016.*

Clearing is defined by the NSW Scientific Committee as the destruction of a sufficient proportion of one or more strata (layers) within a stand or stands of native vegetation so as to result in the loss, or long-term modification, of the structure, composition and ecological function of stand or stands. The definition of clearing does not preclude management activities to control exotic species, or Australian species growing outside their natural geographic range.

The NSW Scientific Committee, established by the then Threatened Species Conservation Act 1995, has made a Final Determination in 2001 to list "Clearing of native vegetation" as a Key Threatening Process.

Clearing has been identified as a threat to a number of species, communities and populations listed under the Biodiversity Conservation Act 2016 and could cause species, populations or ecological communities that are not threatened to become threatened. The determination applies to clearing as a process, regardless of the species, populations and ecological communities affected in a particular instance.

The Scientific Committee (2001) found that:

1 Clearing of native vegetation is recognised as a major factor contributing to loss of biological diversity;
2 Land Clearance is listed as a Key Threatening Process under the Commonwealth's Environment Protection and Biodiversity Act, 1999;
3 In New South Wales since 1788 at least 61% of the original native vegetation has been cleared, thinned or substantially or significantly disturbed (Environment Protection Authority 1997). The proportion of area cleared varies between region and community type (Native Vegetation Advisory Council 1999) and in some cases has exceeded 90% (for example - South East Grassy Forests - (Keith & Bedward 1999);

Clearing of any area of native vegetation, including areas less than 2 hectares in extent, may have significant impacts on biological diversity;

Some examples of the impacts of the clearing of native vegetation on biological diversity described by the NSW Scientific Committee (2001) are:

Destruction of habitat results in loss of local populations of individual species: Destruction of habitat is the major cause of loss of biological diversity. For species of restricted distribution, clearing of native vegetation may result in total extinction, for more widespread species there may be loss of local genotypes.

Fragmentation: Clearing of native vegetation often results in fragmentation, the process by which initially contiguous areas of habitat are separated into a number of smaller areas. Fragmentation impacts include the creation of small isolated populations with limited gene flow between populations, leading to inbreeding depression and reduced potential to adapt to environmental change. Fragmentation also leads to the loss or severe modification of the interactions between species, including those interactions that are important for the survival of species. Small isolated populations may be subject to local extinction from stochastic events. The hostility of the surrounding (cleared) environment is a major factor in limiting movement of organisms between patches. The physical environment within patches may be altered as a result of creation of edges and anthropogenic influences. Important variables that must be considered in assessing the impacts of fragmentation include the distance apart of the fragments, the area of the fragments and their shape. Increasing the edge/area ratio increases the impacts of edge effects such as changed microclimate and susceptibility to invasion by non-indigenous species. This response of particular species to fragmentation will be affected by the mobility of the species (both as adult and in dispersal stages) and the scale of the fragmentation relative to the environmental scale of the species habitat.

Expansion of dryland salinity: The evidence of a relationship between the clearing of native vegetation and dryland salinity is substantial. There is evidence that increases in land salinisation can be attributed to rising groundwater consequent on clearing of native vegetation. There is evidence of a relationship between increases in stream salinity and the proportion of catchments cleared.

Riparian zone degradation: Riparian zones and the organisms inhabiting them have been substantially altered as a result of clearing of native vegetation. Clearing of native riparian vegetation has led to bank erosion, reduced nutrient filtering capacity and changes to stream behaviour. Aquatic communities throughout catchments and in coastal waters have been impacted by sedimentation and other changes following clearing of native vegetation.

Increased greenhouse gas emissions: Clearing of native vegetation results in emissions of greenhouse gases, both from burning of cleared vegetation and from the loss of soil organic matter. Agricultural practices after clearing may further contribute to greenhouse gas emissions.

Increased habitat for invasive species: The creation of increased edge habitat and disturbed habitat may permit the establishment and spread of exotic species which may displace native species. A number of native species may also have increased as a result of clearing of native vegetation (for example noisy miner).

Loss of leaf litter layer: Clearing of leaf litter and fallen logs, often associated with clearing and/or burning of the understorey for clearing, removes habitat for a wide variety of vertebrates and invertebrates which live in the leaf litter and in the fallen logs - including reptiles, small mammals, invertebrates, for example, spiders, molluscs, millipedes, ants etc.

These impacts may affect ecological functioning. Loss of the leaf litter also exposes bare soil which will be susceptible to soil erosion and drying, and hence affects the soil biota, and may make sites more vulnerable to weed invasion.

Loss or disruption of ecological function: Survival of ecological communities relies on the maintenance of ecological processes and interactions. Loss of habitat and fragmentation may disrupt these processes. For example, small fragments may not be large enough to support viable populations of pollinators or seed dispersers so that reproduction of plant species will be impaired. Disruption of ecological processes may continue long after initial clearing of native vegetation has occurred, with consequent continued decline in biological diversity. In cleared and/or fragmented landscapes there may be an extinction debt, whereby, as a consequence of reduction in population size and disturbance to population structure, future local population extinction is inevitable.

Changes to soil biota: Clearing of native vegetation and its replacement by pasture or crops, and the subsequent management of these agricultural systems, may be accompanied by changes to the soil biota, both through the introduction of exotic species and declines in native species.

Land clearing puts a strain not only on native animal populations but on the earth itself. By removing plants and trees the land is being left exposed, which can cause soil erosion. Soil erosion is the loss of natural nutrients in the earth that help plants to grow. Leaving land bare to the elements can also cause a problem in dry land salinity. Dry land salinity is the rise of salt to the surface of the ground by means of groundwater. When plants are removed from the earth their root systems go with them. These root systems are responsible for keeping the groundwater levels down and therefore the salt content low in the soil. When the roots are removed the ground water levels rise along with the salt. This not only causes a desert like landscape but also makes it near impossible for plants to flourish, whether they be native or agricultural plants. This in turn affects the health of nearby streams, creeks and rivers, and ultimately affects the drinking water of animal and human populations. Additionally, the emission of greenhouse gases can occur when trees and logs are left after being felled. As the debris rots the greenhouse gasses are released into the air which some scientists believe deplete the ozone layer.

The composition of species communities is changing rapidly through drivers such as habitat loss and climate change, with potentially serious consequences for the resilience of ecosystem functions on which humans depend.

Critical processes at the ecosystem level influence plant productivity, soil fertility, water quality, atmospheric chemistry, and many other local and global environmental conditions that ultimately affect human welfare. These ecosystem processes are controlled by both the diversity and identity of the plant, animal, and microbial species living within a community. Human modifications to the living community in an ecosystem as well as to the collective biodiversity of the earth can therefore alter ecological functions and life support services that are vital to the well-being of human societies. Substantial changes have already occurred, especially local and global losses of biodiversity. The primary cause has been widespread human transformation of once highly diverse natural ecosystems into relatively species-poor managed ecosystems. Recent studies suggest that such reductions in biodiversity can alter both the magnitude and the stability of ecosystem processes, especially when biodiversity is reduced to the low levels typical of many managed systems. Available evidence has identified the following certainties concerning biodiversity and ecosystem functioning:

- Human impacts on global biodiversity have been dramatic, resulting in unprecedented losses in global biodiversity at all levels, from genes and species to entire ecosystems;
- Local declines in biodiversity are even more dramatic than global declines, and the beneficial effects of many organisms on local processes are lost long before the species become globally extinct;
- Many ecosystem processes are sensitive to declines in biodiversity;
- Changes in the identity and abundance of species in an ecosystem can be as important as changes in biodiversity in influencing ecosystem processes. From current research, we have identified the following impacts on ecosystem functioning that often result from loss of biodiversity:
- Plant production may decline as regional and local diversity declines;
- Ecosystem resistance to environmental perturbations, such as drought, may be lessened as biodiversity is reduced;
- Ecosystem processes such as soil nitrogen levels, water use, plant productivity, and pest and disease cycles may become more variable as diversity declines. Given its importance to human welfare, the maintenance of ecosystem functioning should be included as an integral part of national and international policies designed to conserve local and global biodiversity.

15.7 Conclusions: Additional Social Impact Assessment Requirements

The additional Social Impact Assessment Requirements outlined in **Table 14-2** as required by the Departmental Guideline Worksheets 1 and 2 have been further assessed in this chapter of the SIA.

The Social Impact Assessment matters outlined in this chapter, along with those matters identified in other specialist reports, are further evaluated in the following chapter. Proposed mitigation measures follow in **Chapter 17**.

16 EVALUATION OF SOCIAL IMPACTS

16.1 Evaluation of Negative Social Impacts

The Departmental Guideline requires that the SIA component of the EIS include an evaluation of each potential negative social impact **without mitigation**.

The guideline requires that the following matters be taken into consideration:

1. Who is expected to be adversely affected (directly/indirectly or cumulatively)
2. When the potential negative impact is expected to occur
3. The four impact characteristics assessed by scoping (extent, duration, severity, sensitivity)
4. The potential level of social risk posed by the negative social impact **from the perspective of those expected to be affected** (as opposed to risk of the project) having regard to consequence and likelihood levels

Table 16-1 summarises matters 1-4.

Social Impact Matters		Who is Impacted* Without Mitigation	When Does the Impact Occur? (which phase of the development)	Social Risk Rating having regard to points 3 and 4 above
Amenity	acoustic	identified sensitive receptors VIPAC report	operational	low
	visual	public, school students, identified sensitive receptors Tattersall Lander report	construction/operational/post closure	moderate
	odour	NA		
	microclimate	community generally	construction/operational/post closure	low
	particle deposition	identified sensitive receptors in VIPAC report	operational	low
Access	access to property	NA		
	utilities	NA		
	road and rail network	road users along mine vehicle road network and residences adjoining that network (note: Nelson Bay Road is only at 50 percent capacity)	operational	low
	offsite parking	NA		
	egress from the property	public school students, pedestrians in the vicinity of egress point, adjoining and adjacent residents	construction/operational	high

Built Environment	public domain	NA		
	public infrastructure	NA		
	other built assets	NA		
Heritage	natural	NA		
	cultural	community generally	construction/operational/closure/post closure	low
	Aboriginal cultural	Aboriginal community/community generally	construction/operational/closure/post closure	moderate
	built	community generally	construction/operational/closure/post closure	low
Community+	Health+	school children/community generally	preconstruction/construction/operational/ closure/post closure	high
	Safety+	school children/community generally	preconstruction/construction/operational/ closure/post closure	high
	services and facilities	NA		
	cohesion, capital and resilience+	school children/community generally	preconstruction/construction/operational/ closure/post closure	high
	housing	NA		
Economic+	natural resource use+	community members utilising groundwater	operational/closure/post closure	high
	livelihood+	community members utilising groundwater	operational/closure/post closure	high
	opportunity cost	NA		
Air	particulate matter	identified sensitive receptors VIPAC report	operational	low
	gases	NA		
	atmospheric emissions	NA (no impact VIPAC report)		
	total suspended particles	NA (no impact VIPAC report)		
Biodiversity	native vegetation	community generally	construction/operational/closure/post closure	high
	native fauna	community generally	construction/operational/closure/post closure	high
Land	stability and/or structure	NA (localised to site)		
	soil chemistry	community members utilising groundwater (risk of ASS/PASS and leaching impacts)	operational/closure/post closure	moderate
	capability	NA (localised to site)		
	topography	NA (localised to site)		
Water	water quality	NA		
	water availability	NA		
	hydrological flows	community members utilising groundwater	operational/closure/post closure	high
	coastal hazards	NA		

Risks	flood waters	NA		
	bushfire	community generally	preconstruction/construction/operational/ closure/post closure	low
	undermining	NA		
	steep slopes	NA		

*+ (Note: In some instances, impacts based on perception of impacts and/or social wellbeing and/or resilience considerations)

Table 16-1 - Social Impacts Without Mitigation: Perceived Risk

16.2 Evaluation of Positive Social Impacts

16.2.1 Provision of a sand resource

The sand resource, consisting of a variety of different sand types, has many uses ranging from production of concrete to utilisation in such products as LED TVs. There is an entire range of over 30 uses proposed, from general sand fill right through to LED screens with LED screens utilising the high-quality sand.

16.2.2 Construction Phase Employment

The calculated capital investment (CIV) of the project is $4.45million. Much of the expenditure is expected and likely to be locally orientated with some of the materials and associated services expected to be provided from within the region. This expenditure includes materials for access roads, equipment and the construction of buildings.

The initial construction phase is anticipated to provide employment of approximately 10-15 workers.

The project construction phase activities are therefore likely to boost the local economy and regional economy directly.

16.2.3 Operational Phase Employment

The project will require 7-10 persons for operational activities in addition to 50-70 transport contract drivers.

It is anticipated that all of the employees will be hired/sourced from the Port Stephens LGA. The employment of these works will be a significant permanent arrangement for them and their families and additionally there will be a significant additional direct and indirect economic benefit associated with the increase in local and regional expenditure of wages including the 50-70 contract drivers.

The operating phase of the project will be a long-term activity that has been estimated to continue for 15 years, subject to market forces and client demands. Annual operating expenditure will include fuel, repairs and maintenance, employee's salaries, power and rates to Local Government. The proposed quarry will also produce an income from sales through the supply of sand products to the regional area including Maitland, Newcastle, Lake Macquarie, the MidCoast and Hunter Valley as well as the Central Coast and Sydney markets. Some sand products would also be available to supply overseas contracts.

Conservatively assuming the annual tonnage from the operations will be at a maximum of 750,000 tonnes per annum and that the sales income from quarry materials will be

approximately $16.00/tonne, excluding transport costs, it is estimated that gross income from the quarry sales is likely to be approximately $12 million per year.

17 RESPONSES TO SOCIAL IMPACTS: MITIGATION AND MANAGEMENT

Other EIS specialist reports provide recommendations for mitigation of specific impacts, including social impacts, however likely. The detail of proposed mitigation measures is included in each of the individual specialist reports. In summary, however, primary project mitigation and management measures are highlighted below.

Issue	Mitigation/Management Measure
Noise & Vibration	Construction and maintenance of acoustic barriers, walls and bunds, as per the Noise Assessment.
	No haulage truck movements prior to 7am.
	Limitations of 180 truck movements per day in the worst-case weather conditions
Air Quality	General Dust Control Measures to include stockpile watering or screening, low silt gravels or sealing used on haul roads, wheel washes or shaker bars on exit roads.
	Implementation of an Air Quality Management Plan
	Installation of a TEOM machine and weather station on site
Ecological	Provision of compensatory habitat (Offsetting)
	Protection of remaining habitat/vegetation
	Protection of Fauna during vegetation removal
	Provision of mitigation measures for affected species
	Rehabilitation of extraction area
	Monitoring of groundwater levels and groundwater dependent ecosystems within proximity of the sand mine.
	Active control of extraneous noise and artificial lighting
Traffic	Upgrading of Marsh Road from the exit location to the RMS constructed turning bay.
	Truck movements will be prohibited from turning left onto Marsh Road.
	Truck movements will turn left onto Nelson Bay Road and U-turn at the roundabout at Port Stephens Drive.
Water	A Water Management Plan will be prepared to focus on inspections, monitoring of water quality treatment structures, a contingency and response plan, reporting and auditoring
	Generated sewage will be collected and reticulated by a secondary sewage treatment system.
	Implementation of a Groundwater Management Plan with monitoring data presented in an annual report to Council.
Aboriginal Heritage	A management strategy be included in an Aboriginal Cultural Heritage Management Plan in consultation with relevant stakeholders
	A comprehensive archaeological salvage program will be undertaken prior to ground clearance works within the native vegetations areas.
	Inspections of stockpiled samples of reject screen material will be available to RAPS on a monthly basis for the first 12 months of active mining.
Historic Heritage	A project Environmental Management Plan is to include contingency policies for the management of unexpected finds and skeletal remains.
Visual	Acoustic bunds are to be vegetated as they are constructed
	Rehabilitation of the progressive final landform profiles is to be in accordance with the Mine Closure Plan.

Issue	Mitigation/Management Measure
Waste	General Non-recyclable waste will be transferred to a Registered Facility.
	Recyclable waste will be transferred to a Resource Recovery Facility.
	Chemical Containers will be removed in accordance with approved methods.
	Organics will generally be used on site. Excess organics will be transferred to appropriate processing facilities.
	Screened tailings will be used onsite or incorporated in products to be used by others.
Bushfire	Management of separation distances, ignition sources, development of emergency planning procedures.
	Provision of a separation distance (minimum of 10 m) between stockpiles of combustible material and remnant vegetation
	Emergency planning procedures in the event of a fire occurring on the site
	Fitting of earth moving machinery with spark arresting mufflers.
	Haul trucks to have serviceable exhaust systems to prevent accidental ignition of vegetation
	Training of onsite personnel with the use of fire extinguishers and water carts.
	Managing operations and the site to minimise likelihood of ignition sources through good 'housekeeping' (for example, all waste in bins to be emptied on a regular basis)
	Equipping the operations to assist in the management of any fires on-site, including presence of fire extinguishers, water cart (as contracted), and the site front-end loader and bulldozer for any requisite firefighting purposes

Table 17-1 - Project Statement of Commitments: Management/Mitigation Measures

Mitigation measures proposed in each of the specialist reports are likely to satisfy statutory authorities and servicing agencies, along with the Aboriginal community.

Social well-being is a vital component of the Bobs Farm Community. Whilst the mitigation measures described above will, over time, likely resolve a proportion of the impacts raised by the community, it is difficult, because of individual beliefs, belief systems, personal characteristics and the like to produce a 'cure-all' series of social impact/other impact mitigation recommendations which will satisfy the community's perception of impacts.

The following recommendations are made, however, to assist the community in resolving outstanding and ongoing concerns.

1. A social impact monitoring program will be developed and will include methodologies to mitigate community impacts (preferably in associated with recommendation 2, below)
2. Asking the community (again) to consider forming a Community Consultative Committee
3. Ongoing dialogue with local residents will be undertaken on a regular basis via the following:

- Dedicated phone hot lines for regulation, compliance and emergency matters
- Community events (e.g. charity fundraisers)
- Community information sessions

- Annual community reports
- Annual dialogue with neighbours: formal and informal

18 COST-BENEFIT ANALYSIS

18.1 Economic Impacts

18.1.1 Construction Phase

The calculated capital investment (CIV) of the project is $4.45million. Much of the expenditure is expected and likely to be locally orientated with some of the materials and associated services expected to be provided from within the region. This expenditure includes materials for access roads, equipment and the construction of buildings.

The initial construction phase is anticipated to provide employment of approximately 10-15 workers.

The project construction phase activities are therefore likely to boost the local economy and regional economy directly.

18.1.2 Operational Phase

The project will require 7-10 persons for operational activities in addition to 50-70 transport contract drivers.

It is anticipated that all of the employees will be hired/sources from the Port Stephens LGA. The employment of these works will be a significant, permanent arrangement for them and their families and additionally there will be a significant additional direct and indirect economic benefit associated with the increase in local and regional expenditure of wages including the 50-70 contract drivers.

The operating phase of the project will be a long-term activity that has been estimated to continue for 15 years, subject to market forces and client demands. Annual operating expenditure will include fuel, repairs and maintenance, employee salaries, power and rates to Local Government. The proposed quarry will also produce an income from sales through the supply of sand products to the regional area including Maitland, Newcastle, Lake Macquarie, the MidCoast and Hunter Valley as well as the Central Coast and Sydney markets. Some sand products would also be available to supply overseas contracts.

Conservatively, assuming the annual tonnage from the operations will be at a maximum of 750,000 tonnes per annum and that the sales income from quarry materials will be approximately $16.00/tonne, excluding transport costs, it is estimated that gross income from the quarry sales is likely to be approximately $12 million per year.

18.2 Assessment of Costs and Benefits

18.2.1 Costs

The costs of the proposed project are determined by the assessment of adverse impacts of the project. The EIS provides this assessment for a wide range of environmental variables and has concluded that, whilst the project does have some impacts, the management of those impacts can be appropriately limited with the application of a mitigation measures and rigorous management practices. The project as a whole is not considered to result in a

significant impact on the site and surrounding environment. To clarify, the predicted impacts of the proposed development are considered to be reasonable and manageable.

18.2.2 Benefits

As previously discussed, the capital investment value of the project is $4.45 million. The gross (gate) value in current terms is of the resource proposed for extraction is 10 million tonnes which equates to a value of $160 million.

In regard to the immediate local community, as discussed, there will be the significant employment of construction and full-time operational staff including rehabilitation workers. In addition, the operations will require around 50-70 transport contractors for haulage, who are also expected to be sourced from the local area. There will also be the additional employment of around 20 construction personnel for the initial preparation of the mine operations.

The proposed quarry is unlikely to adversely affect the economic well-being of the local economy. Expenditure from the operators and their employees will significantly benefit the local and regional economies, through the direct spending of wages and the employment of the services of local contractors, consultants, tradespeople, transport operators, laboratory technicians and other associated service providers.

In addition, the proposed quarry will supply around 10 million tonnes of sand for a myriad of uses into the local, regional, Sydney and potentially overseas markets. In the context of the overall market needs for these sand products, the potential uptake of this resource is significant. The estimated supply to the Sydney market would see the current shortfall in supply in that area, substantially restocked for many years.

Local and State Governments will receive economic benefits, including revenue from taxes and levies. In addition, the Federal Government will also receive revenue from the proposed quarry, through means including Company Tax, excise on imported equipment and goods, fuel excise and other taxes such as the GST and Income Tax.

18.2.3 Summary

The proposed development is considered to provide an overall economic benefit to the community, both locally and in the wider regional context. This benefit, when compared to the assessment of adverse impacts, or costs, which have been determined to be acceptable with the application of appropriate mitigation measures and rigorous management protocols, is considered to outweigh the costs. This position is fully supported primarily by the predicted impacts being able to be ameliorated by the proposed mitigation strategies and rigorous management protocols.

Whilst the proposed sand mine is relatively large, the direct and indirect economic benefits of the construction and operational phases of the project are considered to provide a net benefit to the State of NSW as well as the local and regional economies.

The SIA has discussed the potential for the proposed development to impact the community and provided a series of recommendations accordingly.

19 CONCLUSION

The Social Impact Assessment has been prepared having regard to the specific requirements of the Departmental Guideline.

Social impact analysis and assessment, including the correlation with environmental and economic impacts, has been the primary focus of this report. Both the SIA and the EIS have provided extensive recommendations around mitigation of impacts, including detailed Statements of Commitment.

As is the case with many resource extraction projects, the perceived and experienced social impacts/ issues are often greatest for those living in closest proximity to the proposal, or those who perceive they will be most directly impacted by the development. Consequently, should the development application be approved, an appropriate social impact monitoring program should be developed to assess the degree to which impacts are occurring and appropriate methodologies by which to mitigate any impacts.

It will be vital for the proponent to maintain an ongoing dialogue with local residents throughout the operation of the sand mine in relation to issues of relevance and importance to the community.

REFERENCES

ABC (2014)
AECOM (2015) Bobs Farm Sand Project Aboriginal Cultural Heritage Assessment
Australian Bureau of Statistics (2011) Australian 2011 Census
Australian Bureau of Statistics (2016) Australian 2016 Census
Australian Mining (2014)
Bobs Farm Community Facebook Page
Kate Washington MP Facebook Page
Kate Washington (2 December, 2014) Letter to the Newcastle Herald
Lawton, J.H. et al (1999): Issues in Ecology, Biodiversity and Ecosystem Functioning: Maintaining Natural Life Support Processes, Ecological Society of America
Martens Consulting Engineers (2014) Preliminary Groundwater Assessment Proposed Sand Quarry: 51 Nelson Bay Rd, Bobs Farm, NSW.
Martens Consulting Engineers (2015) Preliminary Geotechnical and Acid Sulfate Soils Assessment - Proposed Sand Quarry at 3631, 3679 and 3721 Nelson Bay Road and 774 Marsh Road, Bobs Farm, NSW
NBN News (October 14, 2018)
Newcastle Greens (2015)
Newcastle Herald (2014 and 2015) Various Articles
NSW Department of Planning (2007) Guidelines for the Establishment and Operation of Community Consultative Committee for Mining Projects
NSW Department of Planning & Environment (2017) Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development
NSW Department of Planning & Environment (2017) Draft Environmental Impact Assessment Guidance Series
NSW Scientific Committee (2001) Land Clearing Key Threatening Process
Port Stephens Council (2018) Port Stephens Local Environmental Plan 2013
Port Stephens Examiner (2014 and 2018) Various Articles
Say No to Bobs Farm Facebook Page
Seca Solution (2014) Bobs Farm Sand Quarry Traffic Impact Assessment
Tattersall Lander Pty. Ltd. (2018) Draft Environmental Impact Statement Bobs Farm Sand Mine
Tomaree Ratepayers & Residents Association (9 December, 2014)
Vanclay (2003) International Principles for Social Impact Assessment
Vipac Engineers & Scientists (2015) Bobs Farm Sand Mine Noise Impact Assessment
Vipac Engineers & Scientists (2016) Bobs Farm Sand Mine Air Quality Impact Assessment

Appendix 1: Scoping Worksheets 1 and 2

Environmental Impact Statement (EIS) scoping worksheet for:		Bobs Farm Sand Mine Social Impact Assessment									Date:			
What matters might be impacted?			What activities might cause an impact?	What are the characteristics of the impact?						How will the impact be managed?	What are the community and other stakeholder views?	What level of assessment and engagement is required in the EIS preparation phase?		
Social and environmental matters I.e. natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *Click on the matter for a description, or the link above for full glossary*			Without any mitigation, is the proposal likely to impact on the matter? *(Select from list)*	If there is a 'likely' impact: 1. list the activities expected to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. construction noise will be heard at nearby school* If 'unlikely', briefly explain why. Has the impact been actively avoided through project design or site location? *(Manual entry)*	Is the impact, without mitigation, expected to cause a material effect with regard to its... *(Answer 'Y', 'N' or '?')* *Click on characteristic for description, or the link above for further detail* extent?	duration?	severity?	sensitivity?	Does the impact need assessment in the EIS? *(Auto fills)*	Is the impact, without mitigation, expected to have a material cumulative effect with other impacts (including from other projects)? *(Select from list)*	What safeguards and management measures are expected to be required to address the impact? *(Select from list)*	Are there community or other stakeholder concerns regarding the impact or activity? *(Based on engagement with community and other stakeholders)* *(Select from list)*	Expected level of assessment and/or engagement required *(Auto fills)*	Relevant section in Scoping Report *(Manual entry)*
What does the proposal mean for people?	AMENITY	acoustic	Likely	Mining and truck haulage (Phase 1: Impacts on R2, R3, R5, R7) (Phase 2: Impacts on R1, R2, R5, R7, R13) (Phase 3: Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) (Phase 4 Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) R4 is Bobs Farm Public School	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		visual	Likely	Vegetation removal; acoustic wall along haulage route	Y	Y	N	Y	Yes	No	Project Specific	No	Key Issue	See Table 14.1
		odour	n/a									No	No assessment necessary - Worksheet only	
		microclimate	Unlikely	Microclimate considerations not a major impact of the proposed development	N	?	N	N	Yes	No	Unknown	No	Key Issue	See Table 14.1
		particle deposition	Likely	Mining /truck haulage. Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. However, during all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply with required criteria	Y	Y	N	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
	ACCESS	access to property	Unlikely	Access to the site is from Nelson Bay Road to the south, away from sensitive receptors	N	N	N	N	No	No	Project Specific	No	Key Issue	See Table 14.1
		utilities	n/a									No	No assessment necessary - Worksheet only	
		road and rail network	Unlikely	Road network will easily accommodate additional traffic generated by the proposed development. Nelson Bay Road is currently at only 50 percent capacity. As advised by traffic impact assessment: specialist report	Y	Y	N	N	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		offsite parking	n/a									No	No assessment necessary - Worksheet only	See Table 14.1
		egress from the property	Likely	Proximity of truck haulage to Bobs Farm School and other sensitive receptors	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	See Table 14.1
	BUILT ENVIRONMENT	public domain	n/a									No	No assessment necessary - Worksheet only	
		public infrastructure	n/a									Yes	No assessment necessary - Worksheet only	
		other built assets	n/a									No	No assessment necessary - Worksheet only	
		other - please specify	n/a										No assessment necessary - Worksheet only	
	HERITAGE	natural	n/a									No	No assessment necessary - Worksheet only	
		cultural	Unlikely	As advised by cultural heritage assessment: specialist report	N	N	N	N	Yes	No	Project Specific	No	Key Issue	See Table 14.1
		Aboriginal cultural	Likely	As advised by Aboriginal cultural heritage assessment: specialist report	Y	N	N	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	See Table 14.1
		built	Unlikely	As advised by cultural heritage assessment: specialist report	N	N	N	N	Yes	No	Project Specific	No	Key Issue	See Table 14.1
		other - please specify	n/a										No assessment necessary - Worksheet only	
	COMMUNITY	health	Likely	Mining and truck haulage noise impacts (Phase 1: Impacts on R2, R3, R5, R7) (Phase 2: Impacts on R1, R2, R5, R7, R13) (Phase 3: Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) (Phase 4 Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) R4 is Bobs Farm Public School. Mining and truck haulage air quality impacts: Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. During all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply with required criteria. Mental health considerations due to existing perception of the impact of mining operations, particularly the perceived impact on Bobs Farm School is of concern	Y	Y	?	?	Yes	Unknown	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		safety	Likely	Community perception of safety impact: perception of conflict between mine trucks and school children/pedestrians	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	See Table 14.1
		services and facilities	n/a										No assessment necessary - Worksheet only	
		cohesion, capital and resilience	Likely	Resilience an issue considering existing community views. Considerations and concerns around existing perceptions related to fear, adaptation to change, mental health and wellbeing.	Y	Y	Y	Y	Yes	Unknown	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		housing	n/a									No	No assessment necessary - Worksheet only	
		other - please specify	n/a										No assessment necessary - Worksheet only	

Environmental Impact Statement (EIS) scoping worksheet for:		Bobs Farm Sand Mine Social Impact Assessment										Date:		
What matters might be impacted?			What activities might cause an impact?	What are the characteristics of the impact?						How will the impact be managed?	What are the community and other stakeholder views?	What level of assessment and engagement is required in the EIS preparation phase?		
Social and environmental matters I.e. natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *Click on the matter for a description, or the link above for full glossary*			Without any mitigation, is the proposal likely to impact on the matter? *(Select from list)*	If there is a 'likely' impact: 1. list the activities expected to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. construction noise will be heard at nearby school* If 'unlikely', briefly explain why. Has the impact been actively avoided through project design or site location? *(Manual entry)*	Is the impact, without mitigation, expected to cause a material effect with regard to its... *(Answer 'Y', 'N' or '?')* *Click on characteristic for description, or the link above for further detail*				Does the impact need assessment in the EIS? *(Auto fills)*	Is the impact, without mitigation, expected to have a material cumulative effect with other impacts (including from other projects)? *(Select from list)*	What safeguards and management measures are expected to be required to address the impact? *(Select from list)*	Are there community or other stakeholder concerns regarding the impact or activity? *(Based on engagement with community and other stakeholders)* *(Select from list)*	Expected level of assessment and/or engagement required *(Auto fills)*	Relevant section in Scoping Report *(Manual entry)*
					extent?	duration?	severity?	sensitivity?						
What does the proposal mean for the natural environment?	ECONOMIC	natural resource use	Unlikely	As advised by groundwater assessment: specialist report	Y	?	N	Y	Yes	Unknown	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		livelihood	Unlikely	As advised by groundwater, air quality and noise assessments: specialist reports	?	?	N	?	Yes	Unknown	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		opportunity cost	n/a									No	No assessment necessary - Worksheet only	
		other - please specify	n/a										No assessment necessary - Worksheet only	
	AIR	particulate matter	Likely	Mining and truck haulage. Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. During all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply with required criteria	Y	N	N	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		gases	n/a									No	No assessment necessary - Worksheet only	
		atmospheric emissions	n/a									Yes	No assessment necessary - Worksheet only	
		total suspended particles	n/a									Yes	No assessment necessary - Worksheet only	
	BIODIVERSITY	native vegetation	Likely	Land Clearing - Direct and potential impacts or losses (approximate areas): 25.9 ha of Coastal Sand Smooth-Barked Apple Blackbutt Forest; 25.9 ha of Supplementary Koala Habitat; 9.5 ha of orchids; 877 hollow bearing trees; 25.9 ha of suitable habitat for a number of additional threatened flora species; habitat fragmentation; edge effects; spread of noxious weeds. The following additional key threatening processes will impact directly or indirectly on native vegetation: Loss of Hollow-Bearing Trees; Removal of dead wood and dead trees; Predation by the European Red Fox (Vulpes vulpes); Predation by the Feral Cat (Felis catus); Predation and hybridation of Feral Dogs (Canis lupis familiaris); Competition and grazing by the feral European Rabbit (Oryctolagus cuniculus); Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants; Invasion and establishment of exotic vines and scramblers; Loss or degradation (or both) of sites used for hill-topping by butterflies.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		native fauna	Likely	Land Clearing - Direct and potential impacts or losses (approximate areas): animal mortality from clearing activities; 25.9 ha of known habitat for 10 threatened fauna species (Little Lorikeet; Powerful Owl; White-Bellied Sea Eagle; Squirrel Glider; Greater Broad-Nosed Bat; Eastern Falsistrelle; Little Bentwing Bat; Large Bentwing Bat; Koala; Grey-Headed Flying Fox) 25.9 ha of Supplementary Koala Habitat; 877 hollow bearing trees; 25.9 ha of suitable habitat for a number of additional threatened fauna species; habitat fragmentation; edge effects; spread of pest fauna species; spread of noxious weeds. The following additional key threatening processes will impact directly or indirectly on native vegetation: Loss of Hollow-Bearing Trees; Removal of dead wood and dead trees; Predation by the European Red Fox (Vulpes vulpes); Predation by the Feral Cat (Felis catus); Predation and hybridation of Feral Dogs (Canis lupis familiaris); Competition and grazing by the feral European Rabbit (Oryctolagus cuniculus); Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants; Invasion and establishment of exotic vines and scramblers; Loss or degradation (or both) of sites used for hill-topping by butterflies.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		other - please specify	n/a										No assessment necessary - Worksheet only	
	LAND	stability and/or structure	Likely	Mining: will affect the stability and structure of the land	Y	Y	?	?	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	See Table 14.1
		soil chemistry	Likely	Mining is likely to encounter ASS and PASS	?	Y	Y	?	Yes	Unknown	Project Specific	No	Key Issue + CIA	See Table 14.1
		capability	Likely	Mining: will affect the capacity of the land to sustain a range of land uses in the long term	Y	Y	?	?	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	See Table 14.1

Environmental Impact Statement (EIS) scoping worksheet for:			Bobs Farm Sand Mine Social Impact Assessment hh							Date:				
What matters might be impacted?			What activities might cause an impact?	What are the characteristics of the impact?						How will the impact be managed?	What are the community and other stakeholder views?	What level of assessment and engagement is required in the EIS preparation phase?		
Social and environmental matters I.e. natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *Click on the matter for a description, or the link above for full glossary*			Without any mitigation, is the proposal likely to impact on the matter? *(Select from list)*	If there is a 'likely' impact: 1. list the activities expected to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. construction noise will be heard at nearby school* If 'unlikely', briefly explain why. Has the impact been actively avoided through project design or site location? *(Manual entry)*	Is the impact, without mitigation, expected to cause a material effect with regard to its... *(Answer 'Y', 'N' or '?')* *Click on characteristic for description, or the link above for further detail* extent?	duration?	severity?	sensitivity?	Does the impact need assessment in the EIS? *(Auto fills)*	Is the impact, without mitigation, expected to have a material cumulative effect with other impacts (including from other projects)? *(Select from list)*	What safeguards and management measures are expected to be required to address the impact? *(Select from list)*	Are there community or other stakeholder concerns regarding the impact or activity? *(Based on engagement with community and other stakeholders)* *(Select from list)*	Expected level of assessment and/or engagement required *(Auto fills)*	Relevant section in Scoping Report *(Manual entry)*
What risks does the proposal face?	WATER	topography	Likely	Mining: will affect the existing topography of the land	Y	Y	?	?	Yes	Unknown	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		other - please specify	n/a										No assessment necessary - Worksheet only	
		water quality	Unlikely	As advised by groundwater impact specialist report	?	?	?	?	Yes	Unknown	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		water availability	n/a									Yes	No assessment necessary - Worksheet only	
		hydrological flows	Likely	As advised by groundwater impact specialist report albeit groundwater specialist report advises negligible impact	Y	Y	N	Y	Yes	Unknown	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	See Table 14.1
		other - please specify	n/a										No assessment necessary - Worksheet only	
	RISKS	coastal hazards	n/a									No	No assessment necessary - Worksheet only	
		flood waters	n/a									No	No assessment necessary - Worksheet only	
		bushfire	Likely	Natural or human cause: site is designated as bushfire prone land	Y	N	Y	?	Yes	Yes	Project Specific	No	Key Issue + CIA	See Table 14.1
		undermining	n/a									No	No assessment necessary - Worksheet only	
		steep slopes	n/a									No	No assessment necessary - Worksheet only	
		other - please specify	n/a										No assessment necessary - Worksheet only	

Social impact assessment (SIA) scoping worksheet for:			Bobs Farm Sand Mine Social Impact Assessment			Date:				
Scoping results from EIS Worksheet						Is there a social impact?		What information will be required to assess the social impact?		
Social and environmental matters *Click on a matter below for brief description, or refer to full glossary*			Outline of impact *(Auto fill from EIS worksheet)*	Is a material effect on the matter expected? *(Auto fill from EIS worksheet)*	Is there community or other stakeholder concerns regarding the impact or activity? *(Auto fill from EIS worksheet)*	With regard to the matter expected to be impacted, will there be a social impact? *Select this cell for brief description, or click link above for further detail* Yes/No *(Select from list)*	If yes, outline the social impact *(Manual entry, if not already covered in column D)* If no, outline why *(Manual entry)*	Are impacts on the matter expected to require a non-SIA specialist study? *(Auto fill from EIS worksheet, then manually enter non-SIA report type)*	Will the non-SIA specialist study address the social impact? *Click on link above for further detail on potential classifications* *(Select from list)*	Level of assessment for the social impact in the SIA *Click on link above for further detail on potential classifications* *(Auto fills)*
What does the proposal mean for people?	AMENITY	acoustic	Mining and truck haulage (Phase 1: Impacts on R2, R3, R5, R7) (Phase 2: Impacts on R1, R2, R5, R7, R13) (Phase 3: Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) (Phase 4 Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) R4 is Bobs Farm Public School	Yes	Yes	No	Project detail and proposed noise mitigation measures	Yes - Air Quality	Yes - fully	No SIA required
		visual	Vegetation removal; acoustic wall along haulage route	Yes	No	Yes	Some public view of mine, extension of haul road fencing causing visual change and overshadowing	Yes - Visual Impact	Yes - fully	Desktop SIA
		odour			No					
		microclimate	Microclimate considerations not a major impact of the proposed development		No					
		particle deposition	Mining /truck haulage. Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. However, during all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply with required criteria	Yes	Yes	No	Project detail and proposed air quality mitigation measures	Yes - Air Quality	Yes - fully	No SIA required
	ACCESS	access to property			No					
		utilities			No					
		road and rail network			Yes	No	Existing road capacity can satisfactorily support the increase in traffic generated	Yes - Traffic and Transport	Yes - fully	No SIA required
		offsite parking								
		egress from the property	Proximity of truck haulage to Bobs Farm School and other sensitive receptors	Yes	Yes	No	Traffic management techniques, frequency, noise and dust mitigation	Yes - Traffic and Transport	Yes - fully	No SIA required
	BUILT ENVIRONMENT	public domain			No					
		public infrastructure			Yes	No	Appropriate traffic and servicing management		Yes - fully	No SIA required
		other built assets			No					
		other - please specify								
	HERITAGE	natural								
		cultural			No					
		Aboriginal cultural	As advised by Aboriginal cultural heritage assessment: specialist report	Yes	Yes	Yes	ACH Management Plan	Yes - ACHA	Yes - fully	Desktop SIA
		built			No					
		other - please specify								
	COMMUNITY	health	Mining and truck haulage noise impacts (Phase 1: Impacts on R2, R3, R5, R7) (Phase 2: Impacts on R1, R2, R5, R7, R13) (Phase 3: Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) (Phase 4 Impacts on R1, R2, R3, R4, R5, R7, R13, R 21, R22) R4 is Bobs Farm Public School. Mining and truck haulage air quality impacts: Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. During all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply with required criteria. Mental health considerations due to existing perception of the impact of mining operations, particularly the perceived impact on Bobs Farm School is of concern	Yes	Yes	Yes	Existing Perception of Air Quallity, Noise, Traffic, Biodiversity and Groundwater Impacts	- air, noise, traffic, biodiver	Yes - in part	Standard SIA
		safety	Community perception of safety impact: perception of conflict between mine trucks and school children/pedestrians	Yes	Yes	Yes	Perception of traffic safety impact	Yes - Traffic and Transport	Yes - in part	Standard SIA
		services and facilities								
		housing								

Social impact assessment (SIA) scoping worksheet for:			Bobs Farm Sand Mine Social Impact Assessment			Date:				
Scoping results from EIS Worksheet						Is there a social impact?		What information will be required to assess the social impact?		
Social and environmental matters *Click on a matter below for brief description, or refer to full glossary*			Outline of impact *(Auto fill from EIS worksheet)*	Is a material effect on the matter expected? *(Auto fill from EIS worksheet)*	Is there community or other stakeholder concerns regarding the impact or activity? *(Auto fill from EIS worksheet)*	With regard to the matter expected to be impacted, will there be a social impact? *Select this cell for brief description, or click link above for further detail* Yes/No *(Select from list)*	If yes, outline the social impact *(Manual entry, if not already covered in column D)* If no, outline why *(Manual entry)*	Are impacts on the matter expected to require a non-SIA specialist study? *(Auto fill from EIS worksheet, then manually enter non-SIA report type)*	Will the non-SIA specialist study address the social impact? *Click on link above for further detail on potential classifications* *(Select from list)*	Level of assessment for the social impact in the SIA *Click on link above for further detail on potential classifications* *(Auto fills)*
		cohesion, capital and resilience	Resilience an issue considering existing community views. Considerations and concerns around existing perceptions related to fear, adaptation to change, mental health and wellbeing.	Yes	Yes	Yes	Ability to adapt to change; well-being given existing perceptions about the sand mine and associated impacts	s - air, noise, traffic, biodiver	Yes - in part	Standard SIA
		other - please specify								
		natural resource use	As advised by groundwater assessment: specialist report	Yes	Yes	No	As advised by groundwater assessment	Yes - Groundwater	Yes - fully	No SIA required
	ECONOMIC	livelihood	As advised by groundwater, air quality and noise assessments: specialist reports	Yes	Yes	No	As advised by specialist reports	Yes - Groundwater, air, noise	Yes - fully	No SIA required
		business opportunity			No					
		other - please specify								
	AIR	particulate matter	Mining and truck haulage. Frequency analysis has identified that the highest number of days the PM 10 24-hour criteria will be exceeded is 1 day per annum only at R8 and R10 (different receptor descriptions to noise report) during all Stages except Production Stage 3. During all stages the TSP, PM 10 (annual), PM 2.5 (24 hour and annual) and dust deposition predictions comply with required criteria	Yes	Yes	No	Proposed air quality mitigation measures	Yes- Air Quality	Yes - fully	No SIA required
		gases			No					
		atmospheric emissions			Yes	No	Proposed air quality mitigation measures	Yes- Air Quality	Yes - fully	No SIA required
		total suspended particles			Yes	No	Proposed air quality mitigation measures	Yes- Air Quality	Yes - fully	No SIA required
al environment?		native vegetation	Land Clearing - Direct and potential impacts or losses (approximate areas): 25.9 ha of Coastal Sand Smooth-Barked Apple Blackbutt Forest; 25.9 ha of Supplementary Koala Habitat; 9.5 ha of orchids; 877 hollow bearing trees; 25.9 ha of suitable habitat for a number of additional threatened flora species; habitat fragmentation; edge effects; spread of noxious weeds. The following additional key threatening processes will impact directly or indirectly on native vegetation: Loss of Hollow-Bearing Trees; Removal of dead wood and dead trees; Predation by the European Red Fox (Vulpes vulpes); Predation by the Feral Cat (Felis catus); Predation and hybridation of Feral Dogs (Canis lupis famililaris); Competition and grazing by the feral European Rabbit (Oryctolagus cuniculus); Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants; Invasion and establishment of exotic vines and scramblers; Loss or degradation (or both) of sites used for hill-topping by butterflies.	Yes	Yes	Yes	Adverse impact on neighbourhood and ecology generally, visual change, fauna displacement/injuries/fatalities	Yes - Biodiversity	No	Comprehensive SIA

Social impact assessment (SIA) scoping worksheet for:			Bobs Farm Sand Mine Social Impact Assessment			Date:				
Scoping results from EIS Worksheet						Is there a social impact?		What information will be required to assess the social imapct?		
Social and environmental matters *Click on a matter below for brief description, or refer to full glossary*			Outline of impact *(Auto fill from EIS worksheet)*	Is a material effect on the matter expected? *(Auto fill from EIS worksheet)*	Is there community or other stakeholder concerns regarding the impact or activity? *(Auto fill from EIS worksheet)*	With regard to the matter expected to be impacted, will there be a social impact? *Select this cell for brief description, or click link above for further detail* Yes/No *(Select from list)*	If yes, outline the social impact *(Manual entry, if not already covered in column D)* If no, outline why *(Manual entry)*	Are impacts on the matter expected to require a non-SIA specialist study? *(Auto fill from EIS worksheet, then manually enter non-SIA report type)*	Will the non-SIA specialist study address the social impact? *Click on link above for further detail on potential classifications* *(Select from list)*	Level of assessment for the social impact in the SIA *Click on link above for further detail on potential classifications* *(Auto fills)*
What does the proposal mean for the natur	BIODIVERSITY	native fauna	Land Clearing - Direct and potential impacts or losses (approximate areas): animal mortality from clearing activities; 25.9 ha of known habitat for 10 threatened fauna species (Little Lorikeet; Powerful Owl; White-Bellied Sea Eagle; Squirrel Glider; Greater Broad-Nosed Bat; Eastern Falsistrelle; Little Bentwing Bat; Large Bentwing Bat; Koala; Grey-Headed Flying Fox) 25.9 ha of Supplementary Koala Habitat; 877 hollow bearing trees; 25.9 ha of suitable habitat for a number of additional threatened fauna species; habitat fragmentation; edge effects; spread of pest fauna species; spread of noxious weeds. The following additional key threatening processes will impact directly or indirectly on native vegetation: Loss of Hollow-Bearing Trees; Removal of dead wood and dead trees; Predation by the European Red Fox (Vulpes vulpes); Predation by the Feral Cat (Felis catus); Predation and hybridation of Feral Dogs (Canis lupis famililaris); Competition and grazing by the feral European Rabbit (Oryctolagus cuniculus); Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants; Invasion and establishment of exotic vines and scramblers; Loss or degradation (or both) of sites used for hill-topping by butterflies.	Yes	Yes	Yes	Adverse impact on neighbourhood and ecology generally, visual change, fauna displacement/injuries/fatalities	Yes - Biodiversity	No	Comprehensive SIA
		other - please specify								
	LAND	stability and/or structure	Mining: will affect the stability and structure of the land	Yes	Yes	No	Design and stabilisation techniques and no off site impacts	Yes - Engineering	Yes - in part	No SIA required
		soil chemistry	Mining is likely to encounter ASS and PASS	Yes	No	No	ASS and PASS Management Plan	- Groundwater and Geotech	Yes - in part	No SIA required
		capability	Mining: will affect the capacity of the land to sustain a range of land uses in the long term	Yes	Yes	No	Preferred long term land use options considered	Yes - Engineering	Yes - in part	No SIA required
		topography	Mining: will affect the existing topography of the land	Yes	Yes	No	Design and Stabilisation techniques and as advised by groundwater assessment	Yes - Engineering	Yes - in part	No SIA required
		other - please specify								
	WATER	water quality	As advised by groundwater assessment		Yes	No	As advised by groundwater assessment	Yes - Groundwater	Yes - in part	No SIA required
		water availability			Yes	No	As advised by groundwaterassessment	Yes - Groundwater	Yes - in part	No SIA required
		hydrological flows	As advised by groundwater impact specialist report albeit groundwater specialist report advises negligible impact	Yes	Yes	Yes	Minor impact on water flow as advised by groundwater assessment	Yes - Groundwater	Yes - in part	Standard SIA
		other - please specify								

Glossary of Matters			
What does the project mean for people?	Matter		Meaning for purpose of EIS and SIA Worksheets
	AMENITY	acoustic	Acoustic qualities, characteristics and attributes that people value about a place and contribute to its overall character or enjoyment. Includes interruption to human activity due to noise.
		visual	Visual qualities, characteristics and attributes people value about a place and contribute to its overall character or enjoyment. Includes privacy (being free from scrutiny or being observed in private settings, such as one's own home).
		odour	Odorous qualities, characteristics and attributes that interfere with the overall character or enjoyment of a place. Includes interruption to human activity due to odour.
		microclimate	Qualities, characteristics and attributes people value about the climate in a localised area or region (temperature, rainfall, wind, sunlight access).
	ACCESS	access to property	Includes vehicular, pedestrian and cyclist access to public and private property, and access to public and private property for people with disability.
		utilities	Access to, and availability of public utilities, including electricity, gas, reticulated water, sewerage, drainage and telecommunications.
		road and rail network	Existing road and rail network capacity, and traffic on State, Regional and Local Roads and at road intersections.
		offsite parking	Access to, and availability of, parking on the project site, offsite and in surrounding areas during construction and/or operation.
	BUILT ENVIRONMENT	public domain	Spaces and streets in and around cities, towns and villages that are publicly accessible and collectively belong to all. They are shared, communal spaces in which people recreate, play, socialise, commute, eat, watch, gather and celebrate.
		public infrastructure	Physical condition and structural integrity of roads, rail, wharves, bridges, dams, pavements, etc.
		other built assets	Physical condition and structural integrity of other built assets.
	HERITAGE	natural	Elements of the natural environment that are of significance to world, national, State or local heritage due to their natural, historical, scientific, cultural, social or aesthetic value.
		cultural	Places and objects that are of significance to world, national, State or local heritage due to their historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value.
		Aboriginal cultural	Places and objects (and associated practices) that are of significance to Aboriginal people.
		built	Elements of the built environment (buildings, infrastructure, precincts, streetscapes), that are of significance to world, national, State or local heritage due to their historical, cultural, social, archaeological, architectural, or aesthetic value.
	COMMUNITY	health	Physical and mental health and wellbeing.
		safety	Freedom from injury or harm (including crime), and exposure to safety risks.
		services and facilities	Availability of, and access to, services and/or facilities (e.g. public transport, education and training, healthcare, emergency services, justice, disability, aged care, waste, recreational, sport, arts and cultural, child and family services, postal, private sector goods and services).
		housing	Availability of, and access to, adequate housing, and people's choices about where they live.
		cohesion, capital and resilience	Cohesion can be understood as the bonds and relationships people have with their family, friends and the wider community that build trust, shared values, feelings of belonging, community participation and reciprocity. Capital consists of the networks and the shared norms, values and understandings that facilitate cooperation within and among communities. It is accumulated when people interact with one another, whether informally (for example, with family and friends) or more formally (for example, in groups and organisations in the wider community). Resilience relates to a community's ability to adapt to change, cope with unexpected crises, draw upon resources to cope with risks, maintain a good standard of living and support the wellbeing of its members.
	ECONOMIC	natural resource use	Availability of, and access to, natural resources for economic use, including minerals, water, forestry, soils, etc.
		livelihood	A person's ability to make a living.
		opportunity cost	The real marginal cost of a resource or action. It is the value forgone by using the resource or by acting in one way rather than another.

Glossary of Matters			
	Matter		Meaning for purpose of EIS and SIA Worksheets
What does the project mean for the environment?	AIR	particulate matter	Fine and coarse airborne particles including dust, dirt, soot, smoke, and liquid droplets.
		gases	Gases that cause air pollution and potential health problems including carbon monoxide, volatile organic compounds, ozone, nitrogen dioxide and sulfur dioxide.
		atmospheric emissions	Long-term change in the pattern of weather, which can cause changes in oceans, land surfaces and ice sheets.
	BIODIVERSITY	native vegetation	Vegetation native to NSW, including its value as corridors, habitat and food source.
		native fauna	Species, populations, and communities, including threatened, endangered, critically endangered.
	LAND	stability and/or structure	Physical properties of soils, structure and aggregate properties, and sub-soil rock formation.
		soil chemistry	Chemical characteristics of soil, affected by mineral composition, organic matter and environmental factors.
		capability	Inherent physical capacity of the land to sustain a range of land uses and management practices in the long term without degradation to soil, land, air and water resources.
		topography	Slope, elevation, aspect and size of the land.
	WATER	water quality	Suitability of surface water and groundwater for relevant environmental values (including human uses), e.g. aquatic ecosystems, primary industries (irrigation and general water uses, stock drinking water, aquaculture and human consumption of aquatic foods), drinking water, recreation, industrial water, and cultural and spiritual values.
		water availability	The quantity of surface water and groundwater available for water users and the environment.
		hydrological flows	The natural movement of water across the landscape or under the ground, seasonal wetting and drying regimes, tidal movements.
What risks does the project face?	RISKS	coastal hazards	Physical phenomena that expose a coastal area to risk of property damage, loss of life and environmental degradation.
		flood waters	Natural or man made flooding that might affect the project.
		bushfire	The potential for bushfire to impact on the project.
		undermining	Excavation of the earth beneath (e.g. from mining or tunnelling).
		steep slopes	Land the surface of which generally has a slope greater than 18 degrees from the horizontal.

Impact Rating Guide		
Characteristic	**Definition**	**Material effect examples (indicative only, not exhaustive)**
Extent	The geographical area affected by the impacts (or the number or propotion of people or population groups who are affected)	• Impacts beyond the site boundary • Impacts on moderate to large geographical areas (e.g. suburb or region, or larger) • Impacts affect a large proportion of a population group • Impacts will have ripple effects on multiple matters
Duration	The geographical area affected by the impacts (or the number or propotion of people or population groups who are affected)	• Permanent impact • Life of the project or longer • Specific project phase (or multiple) • Frequently occurring impact
Severity	Scale or degree of change from the existing conditions as a result of an impact.	• Scale or extent of change from existing condition is substantial • Will take substantial time and effort to reverse or aemeliorate • Ecological or community function, process, health, lifestyle or livelihood is expected to change substantially or be substantially disrupted / come to a halt
Sensitivity	Susceptibility or vulnerability of people, receivers or receiving environment to adverse changes caused by the impact, or the importance placed on the matter being affected. Attributes of sensitivity include: • conservation status • intactness • uniqueness or rarity • resilience to change and capacity to adapt • replacement potential • impacts on vulnerable people • of value or importance to the community.	• Disturbance of listed heritage, including Aboriginal cultrual heritage • Impacts on sensitive receivers (e.g. hospital, school, residential area) • Unique or widely recognised assets or values will be disturbed

Appendix 2: Summary of Issues, Comments and Questions Raised by Attendees and Applicant Responses: Public Meeting 10 October, 2018

Summary of Issues, Comments and Questions Raised by Attendees and Applicant Responses
at
Bobs Farm Sand Mine Public Meeting
held at
Bobs Farm Community Hall on 10 October, 2018

Meeting Facilitated by Tattersall Lander Pty. Ltd.
(acting as applicant for the proponent of the proposed Bobs Farm Sand Mine)

Issues, Comments and Questions Raised by Meeting Attendees and Responses Provided by the Applicant are Taken from Recorded Meeting Transcript* of Tattersall Lander Pty. Ltd.

*Permission for recording of the Public Meeting was provided by the meeting audience.
Note 1. The Public Meeting was attended by Ms. Kate Washington, BA LLP MP: Member of the Legislative Assembly
Member for Port Stephens, Shadow Minister for Early Childhood Education, Shadow Minister for the Hunter, Member of the Australian Labor Party.
Note 2: Where italics are utilised, they are for the purposes of emphasis.

Issues/Comments/Questions from Meeting Attendees	Comments
Extent and Details of Mining	
How vertically extensive is the proposed mining?	Applicant advised that it is intended to mine to -15m AHD (in Mining Phase 3).
When is it proposed that the sand mine will be operational?	Applicant advised that if approval is given, it is anticipated that the mine will be operational in approximately 3 years.
What are the days and hours proposed for dredging?	Applicant advised that the dredge would be operational subject to any prescribed detail included in any conditions of consent and that it would also be market driven. If there is no demand for the sand, the dredge will not be operational (nor will trucks be moving sand from the mine).
Why hasn't the adjoining/adjacent land, also owned by the proponent, been	The applicant advised that there is no intention to include any additional land as part of the proposed development at this time.

considered for alternative vehicular egress? This would provide a more feasible alternative for truck egress rather than adjacent to the primary school.	
How will mining batters be engineered to prevent the wind blowing the sand?	Applicant advised that there will not be large scale open clearing with wind left to blow sand away. The intention is that there will be one working face only and that the face will be progressively rehabilitated.
Will you and how will you address OH&S issues?	Applicant advised that all OH&S requirements will be fulfilled, including requirements for truck drivers, who will be contractors. Applicant also advised OH&S matters are part of the SEAR's [Secretary's (Department of Planning & Environment) Environment Assessment Requirements] that need to be considered.
Will the sand mining be halted over peak periods, i.e. When the children are coming in? Christmas Time?	Applicant advised that there will be 'normal shut down periods. There are also other mechanisms proposed that can shut the mine down. It's proposed that there is an on-line instantaneous weather station on the site so that when wind is increasing and dust is 'getting up' with adverse weather conditions which may potentially cause impacts on the community, the mine operators will know about potential associated impacts on a minute by minute basis (inference that mining operations can be stopped under adverse weather conditions etc.).
Following from applicant's response immediately above: comment (incomplete) made about the detail of the weather station and associated measurement of impacts: "*That's not correct. You can't do that. If they're doing PM Particle Mass*	Applicant advised that in addition to the weather station, the air quality team (engaged to prepare the specialist air quality report for the project) has recommended that a TEOM (Tapered Element Oscillating Microbalance) station be installed as a proactive management tool (providing instantaneous feedback to mine management/operators) rather than being reactive and saying, for instance, that there was a problem a month ago (inference that the mine management/operators wish to be proactive rather than reactive).

that's their way of running it and it will take a higher … ".	
Following from the comment and applicant response above: "*Everyone is obviously admitting that there is a real danger in the dust but you're saying there isn't. So why would the mine need to include this equipment* (inference to TEOM and weather station) *if there's no problem? When you go on to the website* (unstated)*, their* (unstated) *number one concern is silica dust. They'll kill us, they are trying to kill us. That's it so they don't have to* (unstated) *… so the proactive thing would be not to put a sand mine where there are people*".	
Post Mining Details	
Will the post mining landform be a large pool of water?	Applicant advised 'Yes'.
What are the proposed post mine land uses?	Applicant advised that options being presented in the EIS are: 1. Motel accommodation and water sports including skiing and diving; and 2. A Solar Farm

How far is the edge of the proposed dam going to be from the powerlines and if the mine is going to be 15 metres deep, what is going to stop the edge of the bank eroding into the water? Are you going to import rocks?	Applicant advised that there has been a geotechnical assessment which has already assessed the long-term viability of the batter profile; it's a 1 in 2.5 batter.
Following immediately from the question above: 'How wide is the land going to be?' (inference relating to the land, the subject of the dam).	Applicant sought clarification: 'The distance off the easement or the difference off the transmission line?'.
Following immediately from the question above: 'From one side of it to the other'.	Applicant advised '60 metres'.
Following immediately from the comment above: '120 metres full width?'.	Applicant advised no, mining is only occurring on one side and that there's the easement to consider, so one side in the order of 60-70 metres.
Sand Resource	
Why does the proponent want to extract the sand resource? Money?	Applicant advised that the sand resource is a valuable commodity in high demand for use as a primary resource and has many uses ranging from production of concrete to utilisation in such products as LED TVs.
What is the type of sand being extracted? What uses are intended for sand coming from the mine?	Applicant advised that the sand resource is for use as a primary resource and has many uses ranging from production of concrete to utilisation in such products as LED TVs. The applicant noted that there is an entire range of over 30 uses proposed, from general sand fill right through to LED screens with LED screens utilising the high-quality sand.

Is the sand being mined silica sand?	Applicant advised that some of the sand proposed to be mined is silica sand, the highest-grade class for LED TVs, adding that silica sand is a high grade of sand which is not always readily available.
Are there a variety of different sands to be mined?	Applicant advised that there are a variety of different sands which are proposed to be mined and subsequently made available for different uses, also noting that sand can be round, it can be angular and that it can be of certain size. The applicant added further (as an example) that the sand is not of the quality required for fracking related to coal seam gas extraction because it doesn't constitute that level of quality.
Mining Benefits	
Who benefits from mining the sand resource?	Applicant advised that several parties will benefit from the sand resource; including the proponent, employees of the sand operation and consumers utilising products which are proposed to be derived in whole or in part from mined sand at this location.
How many people benefit from this resource? How many people gain from the sand mine? Money?	Applicant advised an unawareness of the structure of the company.
Rather than focusing on the small number of those who would benefit from the mine it should a case of examining how many people who would be disadvantaged by the proposed sand mine.	
Whilst it may be possible to meet government requirements, there seems to be no consideration for the community. The proposed mine is to the	

detriment of this community. This community suffers because of some resource that somebody wants it to sell. We all have the same resource; we will all sell (assumption: sell the resource).	
Why would you want to undertake sand mining if there are no royalties involved?' Further question added: Why did person X (disclosed at the meeting but removed for privacy considerations) get fined for not paying royalties? There was extensive coverage in newspapers documenting fines for non-payment'.	Applicant advised that the question would be taken on notice.
Who benefits? The Local Government because they own the rights to the mine?	Kate Washington MP responded no, it's a private company and the benefit goes to the company.
How many jobs will the sand mine generate?	Applicant advised that there will be around 8 full-time jobs. (Note: Point of clarification The project will require 7-10 persons for operational activities in addition to 50-70 transport contract drivers.)
Air Quality and Related Health Considerations	
Air quality is the number one issue, the primary	

concern for this application.	
Is there potential for the silica sand to be airborne and impact on surrounding properties and on the health of surrounding residents as well as school children?	Applicant advised that the specialist air quality assessment specifies that sand mine related air quality impacts will generally not exceed acceptable limits and that overall, dust is not expected to be a nuisance for sensitive receptors.
Silica, a component of the sand proposed to be mined is a known carcinogen. How can you contemplate putting children at risk by mining it? Silicosis is the 'new' asbestos. Belief that the proposed mine is equivalent to putting an asbestos mine on the site.	Applicant advised that the specialist air quality assessment is rigorous and specifies that sand mine related air quality impacts will generally not exceed acceptable limits and that overall, dust is not expected to be a nuisance for sensitive receptors.
After the applicant stating above that the air quality assessment is rigorous, the following comments were made: "*800 pages is actually nothing when you're writing a report. Excuse me I'd just like you to know something… both my wife and I are researchers… we're scientists. Our specialty is Air*	

*Quality and Health. We're members of the International Society of BIOQ and other member organisations like the World Health Organisation, the CDC that's the Centre for Disease Control and the US EPA. In Australia there's a number of Professors and Associated Professors and researchers from many Universities here in Australia, and I can tell you what you are saying here is ********* (expletive removed). I can tell you straight away you have no understanding of what you're talking about… 2 point… for your information 2 point… sounds impressive… 2-point PM… It's just a Particle Mass and it's a way of measuring… it's an archaic way of measuring. The world has changed since that and the coal mines brought that in obviously to stop people complaining about health effects.*	

When you're talking about particle size, especially crystalline… crystalline is a particle … there are only 2 of them in the world. One is man-made and one is natural, man-made is asbestos. The other one is silica, which creates silicosis. To say that the particle will not go into the air, I can prove to you right now with a particle counter that they do… it's… it's… the science has gone way past this, and if you say that it won't affect these kids…. It'll affect everyone. *I can tell you for a fact that crystalline silica can be suspended in the air from one site from 10 kilometres away and we can measure that today. So, I can't see… it's a known carcinogen how you can put a… it's illegal to do it with asbestos which is a crystalline, the same as the silica… so how can… How can a mine go ahead in a community where there's a school and*	

people like us… children, they will get affected I'll tell you the truth… what happens with this… this silica… it will affect the kids because it will be low to moderate? Low to moderate means that you will start being affected in 15 to 20 years' time. *When does the mine… How long's the lease of the mine? 15 years? Oh, it's gone. Yep and that's it. It won't be here… It's not going to happen I can tell you that now.* *We'll all be getting sick. I can give you every scientist in the world on Air Quality, and I will if I have to, to convey this because it's a carcinogen… end of story. You can't put a carcinogen into the air deliberately… that's… that's… that's… that's the law. I mean there's laws for asbestos, they apply to silica, crystalline silica… because they're both the same particle… I'm just*	

saying… I'm not trying to be… I just can't see how anyone could still relate crystalline silica to a 2.5 PM Particle Mass. *There are 6 Channel Laser Particle Counters that can count all 60 different particle sizes. We can do that instantly, it takes 9-minute samples. My wife here is one of the main instigators of putting together an online calculator or analytics program that we can actually get a report within 1 minute or less… and so we can… people can… these people can… they can just get online, and if they've got a particle counter we can tell them what's there*".	
Following from immediately above, the comment was made: "*… I can start the experiments tomorrow with the school, with the community… make… make equipment available, so that we can get a*	

background level… all that type of stuff tomorrow… That's what I'm talking about… Is that necessary or… or… cause it is dangerous".	
Fear that silica dust will be deposited into water tanks and will subsequently cause ill health from water ingestion.	Applicant advised that the specialist air quality assessment specifies that sand mine related air quality impacts will generally not exceed acceptable limits and that overall, dust is not expected to be a nuisance for sensitive receptors.
The proposed life of the mine is 15 years: it may take 15 years for the health impacts associated with silica dust to become apparent: by that time the mine will have closed.	Applicant advised that the specialist air quality assessment specifies that sand mine related air quality impacts will generally not exceed acceptable limits and that overall, dust is not expected to be a nuisance for sensitive receptors.
It will be like the other one (mine). They exceed the dust particle rules. There's been a lot of controversy over it. That coal mine has not been closed down (specific mine unstated). Once a mine is operational it doesn't appear to matter.	
Community advised it does not wish to be in the same position 15 years from now as Williamtown is currently.	

Environmental Considerations	
Are the rare on-site orchids to be retained?	Applicant advised 'Yes'
Following immediately from above: do the orchids grow under the easement?	Applicant advised 'Yes'
Has the adjoining land, also owned by the proponent, been considered for biodiversity credits for the threatened species on the site? e.g. for the Powerful Owl, Sugar Gliders and Squirrel Gliders?	Applicant advised that this has not been considered at this time.
Following immediately from above: Were the threatened species on the site Powerful Owls and Gliders?	Applicant advised that there were threatened species on the site and also feeding habitat for quite a few species on the site. Applicant further advised that under the Biodiversity Conservation Act requires that such matters are now 'captured' and put through a calculator for the purposes of determining requirements for biodiversity offsets.
Is the flooded gum area on the site a threatened community?	Applicant advised 'Yes'.
You're not touching the Groundwater Dependent Ecosystem on the site?	Applicant advised that the proposed mine does not touch the Groundwater Dependent Ecosystem whilst also noting that groundwater 'rules' specify that the maximum water draw down at 40 metres from the edge of Groundwater Dependent Ecosystems is 0.3 metres.
You are rehabilitating 9 hectares of land?	Applicant advised that rehabilitation will occur in the area that is above the water table.
With regard to revegetation there's money to be set aside in 15 years? Will it be	Applicant advised that there is little need to have a sinking fund for rehabilitation. Any approval will mandate a requirement to have certain land revegetated before the next stage of mining is permitted to commence. If it's

set aside prior to this? It's too easy for companies to 'go bust' in 14 years.	not completed to the requirements of any consent granted, there is an 'automatic blockage' to mining the next stage.
There is an inability to revegetate land that is going to become a 24-hectare void and there is also an inability to revegetate in sand.	Applicant advised that the area above the water table would be revegetated. The applicant also advised that there would be enough top soil set aside (along with endemic seeds and chosen plant species) so that revegetation would be effective.
Can you provide a timeframe for rehabilitation? Is there a timeframe for when stage one will be finished? It sounds like the area affected by stage one will not have to be rehabilitated until stage one mining is complete.	Applicant advised that there is no specific timeframe. The applicant further advised that part of the Statement of Commitments in the EIS contains details of sequential rehabilitation as mining moves away from the mine face. Upon moving from the mine face, the procedure is to continually go back and rehabilitate. Otherwise there will be a huge stockpile of mulched vegetation which contains endemic seed stock and which will 'cook' in the heat if left in the pile. The seeds need to be active. The intention is to rehabilitate on a regular basis.
Following immediately from the above question: You mentioned that Stage Two couldn't commence until rehabilitation had occurred for Stage One so in effect, rehabilitation of Stage One wouldn't technically have to occur until the mine was ready to commence Stage Two.	Applicant advised that the commitment for continuous rehabilitation will be a mandatory part of mining operations. There are 'natural blockages' in both the process and in the mining operation (the inference being that rehabilitation must occur in the manner prescribed).
Groundwater Considerations	

Concern over the impact that mining will have on groundwater and the subsequent impacts on individual properties. Associated concern over the rigour and process (modelling versus actuality) by which the groundwater assessment has been undertaken.	Applicant advised: • the specialist groundwater report discusses the potential for sand mining impacts on groundwater in the locality • the groundwater assessment has indicated compliance with relevant legislation and associated requirements • groundwater will revert to a stabilised regime • there are requirements to obtain an Aquifer Interference Licence from the NSW Office of Water (Department of Industry) pursuant to the *Water Management Act 2000* • there are requirements to ascertain any impacts on Groundwater Dependent Ecosystems.
Proposed development will impact on existing bores in the locality and their associated capture of groundwater.	Applicant advised awareness of 13 registered bores in the locality as well as corresponding associated extraction rates and function.
How are you aware of individual property water extraction rates?	Applicant advised that extraction rates are assumed on the type of use specified on the licence of a registered bore, e.g. domestic, irrigation.
Concerns that groundwater will become contaminated as a result of the sand mining.	Applicant advised that groundwater contamination is not expected to occur as a result of the proposed development. Applicant further advised that the groundwater assessment has considered the presence/absence of Acid Sulfate Soils and that an Acid Sulfate Soil Management Plan has been developed.
Can you confirm that the proposed development seeks to mine one metre below current groundwater levels and float a dredge?	Applicant advised that the proposed sand mine does seek to mine one metre below current groundwater levels and float a dredge.
Following immediately from the question above: For every metre of sand you	Applicant advised that that was not the case as groundwater will naturally form a continuous surface.

take out it has got to be replaced by one metre of water. That is going to drop the total groundwater level in the surrounding area. It may not happen immediately but you're relying on rainfall to fill that back up to the present water level.	
The mining will be taking the ground pressure off. Salt water is currently pressurised at that hill (referred to in slide showing proposed mine). Once mining takes the pressure of that hill it (inference salt water) will be constantly flowing through our dam. When you take pressure off that hill, we're going to have salt water coming back into our dam: that is what is going to happen.	Applicant advised that is not going to happen. The movement of groundwater is north from the site.
Following immediately from the comment above: Yes, to Marsh Road.	Applicant commented 'And it heads towards Tilligerry Creek'.
Following immediately from the comment above: 'To Marsh Road, under pressure by the sand hill. *"I'll take*	Applicant advised there's a groundwater monitoring plan which will be in effect. There is also a Groundwater Assessment that has shown the impact even on Groundwater Dependent Ecosystems … 40 metres away our impact is less than 0.3 metres.

you in the back paddock and you'll see … what I'm saying is as soon as you hit the sand barrier, up comes the water table, real quick and it actually goes … I've got a dam at home … it's pressurised from the sand hill behind it because the sand hill has head pressure … without that head pressure our properties are one metre below high tide … go for a walk along Marsh Road, it's a levy bank … and it's blowing over on high tide'. Without that pressurised sand hill pushing freshwater north of Tilligerry Creek we are going to have salt water over 10 years, 15 years, probably 30 years when the mine has closed. And it's happening with Rose Farm … it shut down because they bored it, they 'pulled too much bore'".	
Following immediately from the comments above: Have you got any case studies to back that up?	Applicant commented partly (before a further comment interrupted as documented immediately below): '*The guy who does this …* '.

Following immediately from the question above: "The guy who does this wouldn't know how to use a shovel. He's sitting at a computer in an office, he wouldn't know anything about this area … I think we are reminded that the whole system is 'screwed' … the developer is paying those consultants to write a report … I've worked for consultants and you write what the person who is paying you wants you to write … it's ridiculous. I'm not making a particular case of you (the applicant company), I'm just saying the whole process is ridiculous and bad ".	
Accusations over hiding details related to groundwater impact	Applicant advised that groundwater impacts are clearly articulated in the specialist report which will be available for public viewing as part of the exhibition of the EIS. Applicant advised that he is happy to discuss the detail as part of any Consultative Committee discussions or otherwise during public exhibition of the EIS.
Traffic & Transport Considerations including Truck Egress and AADT/Peak Volumes, Existing Road Network and	

Associated Transport Impacts	
What are the truck egress locational movements from the site?	Applicant advised that trucks are proposed to exit the site at Marsh Road, turning right and travelling to the intersection of Marsh Road and Nelson Bay Road. Trucks are then required to turn eastwards at this intersection, travelling to the roundabout at Port Stephens Drive. Those trucks wishing to travel westwards will utilise the roundabout to turn and travel in that direction (the majority of trucks). Trucks wishing to continue east will travel straight through the roundabout.
Where is the truck egress location relative to the Bobs Farm Primary School?	Applicant advised that the proposed egress point is directly to the east of the house which adjoins the primary school to the east.
The truck egress point is far too close to the school, presenting noise and safety concerns.	The applicant advised that all heavy vehicles will turn away from the school along Marsh Road to the intersection with Nelson Bay Road. Heavy vehicles will not be permitted to travel past the school (exclusion zones are proposed to be enforced). The Noise Impact Assessment has advised that noise impacts are within acceptable limits.
What about trucks? How many of them are there?	Applicant advised a maximum of 18 heavy vehicles per hour.
The proposed sand mine will cause (at a maximum) the addition of 18 heavy vehicles per hour to Nelson Bay Road. The localised and cumulative traffic impact of this addition is unacceptable.	Applicant advised that the Traffic Impact Assessment stipulates that the proposed development will have a negligible impact upon road safety and road function in the general locality of the subject site. The additional traffic generated by the proposed development is able be satisfactorily accommodated (both currently and with accepted temporal projection) by the existing road hierarchy at acceptable levels of service. The applicant added further: At the moment Nelson Bay Road is a 4-lane road. It has a capacity that starts to be considered in excess of 12,000 vehicles in one direction per day. At the moment, traffic counters have Nelson Bay Road at under 8,000 vehicles so there can be a 50% increase in vehicles before the capacity becomes an issue. Part of the Traffic Impact Assessment has to calculate a forward projection; the number, the percentage increase, and

	calculate about 20 years forward; to see whether or not any of the intersections (including the round-a-bout at Port Stephens Drive) has been impacted adversely.
Following immediately from the above comment: What about Janet Parade with the other sand mine proposed there? It's a single-lane road	Applicant advised that is part of the cumulative impact assessment.
Is it the case that this development can't go ahead until Nelson Bay Road has been duplicated?	Applicant advised: 'No, that's not the case'.
The Janet Parade development can't go ahead. In their EIS it stated that the road wasn't 'up to scratch'. If you're going to put another 7,000 trucks or whatever, through that single-lane road down there … (inference it will not be permitted).	Applicant advised: It's not 7,000
Following immediately from above: It might be 2-lane up here, but it's going to be 1-lane down there	Applicant advised that those are matters that the Traffic Impact Assessment and the Roads & Maritime Services will assess.
As a member of staff and a teacher at the school attendee interested to	Applicant advised that it was originally proposed that the trucks start at 6 o'clock. The applicant further advised that the Noise Impact Assessment has indicated that from 6 to 7 that no trucks be operational. From 7 through to 6 is the next 'noise window', which is referred to as daytime (inference, hence the

know how many trucks are proposed and what times of day do they start and finish and what are the movements per hour?	proposed mine operating hours from 7 a.m. to 6 p.m.). The original application sought 200 truck movements a day. On that basis, the noise report suggested an inadequacy so that the maximum number has been reduced to 180 a day. The maximum number of trucks proposed per hour is 18.
Following immediately from above Kate Washington MP asked: Is that in and out? Or is that just out?	Applicant advised: 'Out'.
Our classrooms are demountable and a lot of them actually shake as a bus goes past.	
Will the 3-tonne load limit on Marsh Road need to be upgraded?	The applicant advised that the Council will require upgrading of Marsh Road between the proposed egress point and the intersection of Marsh Road/Nelson Bay Road and, subsequently, may change the load limit relevant to that section of road. The load limit of the remainder of Marsh Road will be unaffected by the proposed sand mine. No heavy vehicles from the proposed mine site will be permitted to travel west along Marsh Road.
Why can't the egress point be in the same location as the proposed ingress point to the south, therefore removing any potential traffic impact on school students/parents collecting their children?	The applicant advised that an acceleration lane in that location, being on an uphill incline and requiring extensive distance along with land acquisition in the order of up to1.5 km, would be 'extraordinarily expensive'.
The acceleration lane won't be required to be 1.5km long. There's already one at another sand mine	

and it's only 200 metres long.	
Trucks moving past the school will create adverse air quality impacts for the school students and dust will settle on school buildings and on school grounds.	Various air quality measures are to be undertaken to minimise dust including the sealing of haul road 3 and applying low silt gravel to the remaining two haul roads. Watering of the haul roads will also occur when dust is visible, especially during dry conditions. Any product stockpiles will be watered and/or screened. A wheel wash will also be present at the exit of the site to reduce the likelihood of dust visibly accumulating on the road.
We don't want more people being killed on Nelson Bay Road. There's been an accident just here, just this afternoon	Applicant advised: 'Sorry, yes'.
Social Impact Assessment Process and Community Consultation	
Will all individuals be interviewed as part of preparation of the Social Impact Assessment? Community member stated that they were uncertain how the community can be fully consulted without personal interviews being undertaken. Two community members specifically requested that the applicant undertake individual interviews with them.	Applicant advised that individual interviews are not a mandatory requirement for preparation of the Social Impact Assessment. Applicant also advised that more detailed conversations about community concerns could be had as part of the consultative committee should the community wish to form one.

When you report on the consultation, on this meeting, will you report on the strength of feeling from this meeting or will you just tell them that we had a meeting?	Applicant advised that the recording is taken (community agreed to permit recording when asked at the start of the meeting) and which incorporates the comments that can be heard and those comments are summarised in a table. Applicant further advised that the Department of Planning & Environment does not permit the applicant to disregard any particular matter that the community raises. Additionally, the community was informed that this is not the end of the consultation process. Once the Department is satisfied that all adequacy issues have been addressed, the application will be publicly exhibited for comment. (Inference that public submissions can be lodged during the exhibition period).
Impacts Generally	
How will we know what the impacts are if we are not living with them? Everything you're talking about is going to be affecting our life, our daily life. And it will be so close that we won't be able to enjoy our outside life.	Applicant advised that all impacts will be fully considered as part of the specialist reports and the EIS. The Department of Planning & Environment will determine the application by way of either approval or refusal.
"*The mining licence is for 15 years. In 15 years, they'll be pulling out, so when you get sick… when your grandchildren can't come and visit you or your grandchildren start getting sick when they're in their twenties…* *I will be retiring in three years… just when you'll be*	

starting so we'll be out the back all the time…".	
Formation and Function of a Consultative Committee	
The meeting was invited by the applicant to form a Consultative Committee for the purpose of engaging in detailed dialogue with the applicant about the proposed development, the development process, the detail of the EIS, including specialist reports and post mining considerations.	The meeting participants did not elect to form a Consultative Committee during the evening of the public meeting. (Note: It is further understood from a press article (Port Stephens Examiner: 18 October, 2018) that the community is unlikely to take up the offer of forming a Consultative Committee).
Who would set the terms of reference for any Consultative Committee and would members be permitted to fully discuss matters raised in the committee with the rest of the community?	Applicant advised the view that the Consultative Committee would be there to discuss technical and community matters raised by the application and that an agenda would be set for meetings. Applicant advised that there are no concerns about discussing matters raised at the Consultative Committee meetings with the wider community. Applicant put the view that the numbers of people on the Consultative Committee would need to be reasonable and manageable such that the Committee didn't become unwieldy and ineffective.
Would the Consultative Committee be formed and active prior to the lodgement of the application or would it be formed and effected during the course of exhibition of the EIS?	Applicant advised that the Consultative Committee could be formed to take effect from the exhibition of the EIS but that it would likely continue on an ongoing basis during the course of resolving issues coming out of the submissions about the proposed development as made to the Department of Planning & Environment.

Would the Consultative Committee have access to independent advice for the purposes of understanding the EIS and the specialist reports?	Applicant advised that if the community wishes to object to any of the specialist reports/the EIS, the community is within their rights to seek independent advice.
Application Lodgement	
Kate Washington MP asked for an explanation of what the Department of Planning & Environment has raised regarding adequacy issues which require resolution prior to lodgement of the application	Applicant advised that certain matters related to community consultation, compulsory acquisition (a recent Departmental policy), traffic, biodiversity, noise and air quality are the adequacy requirements that the Department has raised and that those matters require resolution prior to the application being exhibited. The Department raised questions about air quality and PM 2.5. (Note: Adequacy matters detailed by the Department of Planning & Environment are: Additional Legislation; Consultation; Groundwater; Air Quality; Biodiversity; Traffic & Transport; Hazards; Visual Considerations; Social and Economic)
Kate Washington MP and the community asked about the process from here to the lodgement of the development application.	Applicant advised that the matters currently raised by the Department of Planning & Environment related to the adequacy of information are currently being finalised, after which, that detail will be lodged with the Department. Applicant further advised that the application will be exhibited for public comment by the Department once all necessary information has been lodged and is found to be adequate.
Kate Washington MP asked about the timeframe for lodging the documentation with the Department and when it is anticipated that the application will be made available for public comment?	Applicant advised that it is hoped that all adequacy documentation would be ready in a matter of weeks and that such lodgement is proposed prior to Christmas. It is possible that the Department may require that the public exhibition is after the Christmas Holidays if a suitable 'block of time' is not available prior to then.

Following immediately from above Kate Washington MP then asked if the 'block of time' was the 30 days that had been referred to previously	Applicant advised: 'Yes'
Which Department will the application be lodged with?	Applicant advised NSW Department of Planning & Environment
Following immediately from the above question: Who is the Minister responsible for the Department of Planning & Environment and where is the Minister located?	Applicant and Kate Washington MP advised Anthony Roberts MP, Sydney.
Environmental Impact Statement (EIS) Exhibition	
How long must the EIS be publicly exhibited?	Applicant advised that EIS must be publicly exhibited for a minimum of 30 days and that the community can make submissions to the Department of Planning & Environment during that period. The applicant also advised the public meeting that a period of extension for the public exhibition can be granted by the Department. The applicant also advised that the local member (present at the meeting; Kate Washington MP) can assist in facilitating that request although anyone may ask for and be granted an extension.
Given the possibility of the exhibition period being after the Christmas Holidays, are you saying that the exhibition and public consultation may occur in February?	Applicant advised that he was not prepared to prescribe any likely timeframe stating that, in the first instance, the Department must sign off on documented adequacy considerations. It is then up to the Department to establish a timeframe for public exhibition.
Specialist Reports	

Concern that the specialist reports informing the EIS are funded by the developer and are, therefore, biased.	Applicant advised that specialist reports are proponent funded as is usually the case.
Where are copies of the specialist reports that can be reviewed by the community? Question asked 'Are they being hidden from the community'?	Applicant advised that all specialist reports will be available to the community for review and provision of any associated comment once the Department of Planning & Environment provides them as part of the exhibition of the EIS.
Consent Authority	
Who is the consent authority for the proposed development?	Applicant and Kate Washington MP responded State Government via Department of Planning & Environment.
Kate Washington MP commented that a similar application at Cabbage Tree Road was determined by the Independent Planning Commission rather than the Department of Planning & Environment because of the nature and extent of public opposition to it. Ms. Washington advised that the application had to be assessed by the Independent Planning Commission because there were enough community	

submissions opposing the development to cause that to occur.	
Following immediately from above, questions were asked about who constitutes the Independent Planning Commission and whether they are actually independent.	Kate Washington MP advised that the Independent Planning Commission comprises a rotating group of people and clarified that they are independent and not political.
Comments from the 'Say No to Bobs Farm' Facebook Page	
Community advised that the presentation given at the public meeting appeared to focus on community concerns around traffic, groundwater and biodiversity. Why hasn't the meeting also discussed other impacts?	Applicant advised that traffic, groundwater and biodiversity considerations appeared to be the issues most discussed on the 'Say No to Bobs Farm' Facebook page and responses to those concerns have been one point of focus for the meeting. That is not to say that other matters such as air quality and noise considerations aren't important and have also been discussed at the community meeting. All specialist reports will be available from the Department of Planning & Environment website at the time of public exhibition of the EIS.
Following immediately from above, Kate Washington MP asked for clarification asking which website?	Applicant advised that the 'Say No to Bobs Farm' Facebook page was reviewed to establish community concerns. The Department of Planning & Environment website will have links to the EIS and specialist reports once the application is exhibited for public comment.
Generic Opposition to the Sand Mine	
A question was asked about the number of the persons attending the	It appeared from viewing that all adult attendees raised their hand in opposition. A comment was made by an attendee: '*We all oppose it*'.

public meeting who are opposed to the sand mine. A show of hands was requested to demonstrate those at the meeting opposed to the sand mine.	
A question was asked whether there was anyone present from the community who was in support of the mine.	A comment was made by an attendee: '*zero … one? …one? … No surprises there'*.
If the mine was opposed by the majority of this community, would it still go ahead?	Kate Washington MP commented: 'Yes'. Applicant advised that a development application will be lodged with the Department of Planning & Environment and the community has a right to object to the development. The applicant further advised that the Department of Planning & Environment will decide whether to approve or refuse the application. The Department has to consider the validity of all the reports, which the community may have a completely different view of, and decide.
Bobs Farm Primary School Generally	
The sand mine will inevitably cause the closure of school. Who decides that the school will be closed?	
The Bobs Farm school, who were celebrating their centenary 2 weeks ago, will be no longer in 3 years.	
Are you trying to say that it is unlikely that the dust from	Applicant advised: 'Yes'.

the mine won't go on to Bobs Farm Public School?	
Following immediately from the above question: "*That's a load of '****'* (expletive removed*). Our most precious things in the world are our children. If I had children in there I'd be taking them out of the school because the dust gets in there and travels; you have to have a big southerly come up and it's going to blow into Bobs Farm School and the children are going to suffer … not next year or the year after, 20 or 15 years down the track … just like asbestos. It's going to get into their lungs and that's it. Silica is a known carcinogen; so how can you release a known carcinogen into the air and expose all these people? Whose wisdom is that ?*".	
Trucks moving in proximity to the school every 3 minutes will cause a noise impact causing students to	The applicant advised that the Noise Impact Assessment concluded that with mitigation measures noise impacts would be within acceptable limits.

have difficulty concentrating. Community member advised that their children did attend the Bobs Farm Primary School and that they couldn't hear the teacher at an assembly when a school bus went by. How are children going to listen, hear and concentrate every 3 mins a day? Are you going to sound proof the whole school? Are you going build them a sound proof assembly so that they can have their morning assemblies and so that the teacher can talk to the children and the Principal and be heard? Further comment by a different community member: "*Oh no, they'll have their dust masks kids… they'll be right*".	
General Questions/Comments	
How many mining applications for which you were the applicant have	Applicant advised that no refusals or approvals were forthcoming from the State Government. Applicant further advised that two development

been refused by the State Government?'	applications were currently being prepared by the company for sand mining: Bobs Farm and Anna Bay.
What is your experience in the preparation of EISs? Comment made inferring that the applicant had limited experience in that regard.	Applicant advised that the company has around 15-20 approvals for development applications which are designated development, each requiring the preparation of an EIS.
Who is the consultant being utilised to examine biodiversity matters for the Bobs Farm Sand Mine?	Applicant advised Wildthing Environmental Consultants
A comment was made about selection of Wildthing to undertake biodiversity assessments for the Bobs Farm Sand Mine citing preference for others.	
The Environmental Defenders Office assisted the community previously when the Bobs Farm Sand Mine was first mooted.	The applicant made the point that engagement with the Environmental Defenders Office (EDO) was, in fact, a suggestion/comment made by the applicant at the previous community meeting and the same opportunity is available to the community to engage again with the EDO.
Following immediately from above, a question was asked related to engagement of the Environmental Defenders Office: "*So, we're just helping you 'fire-proof' your job?*".	The applicant asked what was meant by 'fire-proofing' a job to which the questioner responded: "*If we find a little loop hole' we're just going to help you get it rectified*". The applicant responded by stating that if an issue is found which we have not adequately addressed, the community has the right to raise it and we have the requirement to address it. The community has the right to raise any issues with the Department of Planning & Environment, including on-line lodgement, emails and the like. The reference number for the application is SSD6395.

	The applicant added that any issue raised with the Department throughout the exhibition of the application will be considered by the consent authority regardless of whether the submission comes from the public or from a Consultative Committee (if the community decides it wishes to form one).
Are you confident that this development will proceed?	Applicant advised reasonable confidence that the development proceed because all of the specialist reports are indicating compliance with the relevant rule book(s).
What is to stop the group preparing our own 'application' refuting what they're putting in for their Environmental Impact Statement?	Kate Washington MP advised It's a matter of countering… you'd have to counter all the elements.
Why is the proponent's exploration licence lodged over numerous properties that are not part of the proposed development application? Is it because they're thinking that they may have to acquire other land?	The applicant advised that the answer to that question was unknown and was of the understanding that the licence would be over the same area as the land which is the subject of the development application. The applicant further advised that the extent and detail of the exploration licence would be on the Department of Primary Industries (Mineral Resources) website and that the question would be taken on notice and a further response provided if required. A further comment was provided by the applicant that sand is not a crown mineral, so there are no royalties paid.
Does the developer live locally? (Understanding that he lives in Sydney).	Applicant advised 'I think the developer lives locally'.
Are there power lines running across the land which is the subject of the proposal and are you building a dam alongside it?	Applicant advised 'Yes', there's a 33KV line running across the land and there will be a dam built beside it.

Accusation that the applicant is hiding the noise impact assessment.	
The mine is going to go ahead isn't it?	Applicant advised that an application for the sand mine will be lodged with the NSW Department of Planning & Environment.
The people that bought the land (assumption of proposed mine site) chose to live here with us and now they're doing this to the community, where's their social conscience? Their kids go to public… private school	
Question about whether it would be acceptable to make comment on behalf of the No Sand Mining Committee? Comment made: "*So, David, who is the President of the Committee is apparently not here… apologises for not being here. We will obviously have a community meeting without the applicant to discuss what views were put forward for us today, and how we're going to go*	Applicant advised to the question: 'Of course'.

forward as a community… whether you want to do the consultative group thing, or whether we keep the current committee going. And you'll be able to… We'll let you know via the Facebook page and also via a letter drop".	

Appendix 3: Public Notices and Copies of Tattersall Lander Presentations Public Meetings

Proposed
Bobs Farm Sand Mine
Public Meeting at Bobs Farm Hall, Marsh Road

Tuesday,
25th November 2014
at 6pm

Tattersall Lander Pty Limited, on behalf of Ammos Resource Management Pty Limited, is proposing to undertake a sand mining development on land off Nelson Bay Road at Bob Farm. The land is currently used for agricultural purposes as a fig and olive farm and will include other adjoining properties.

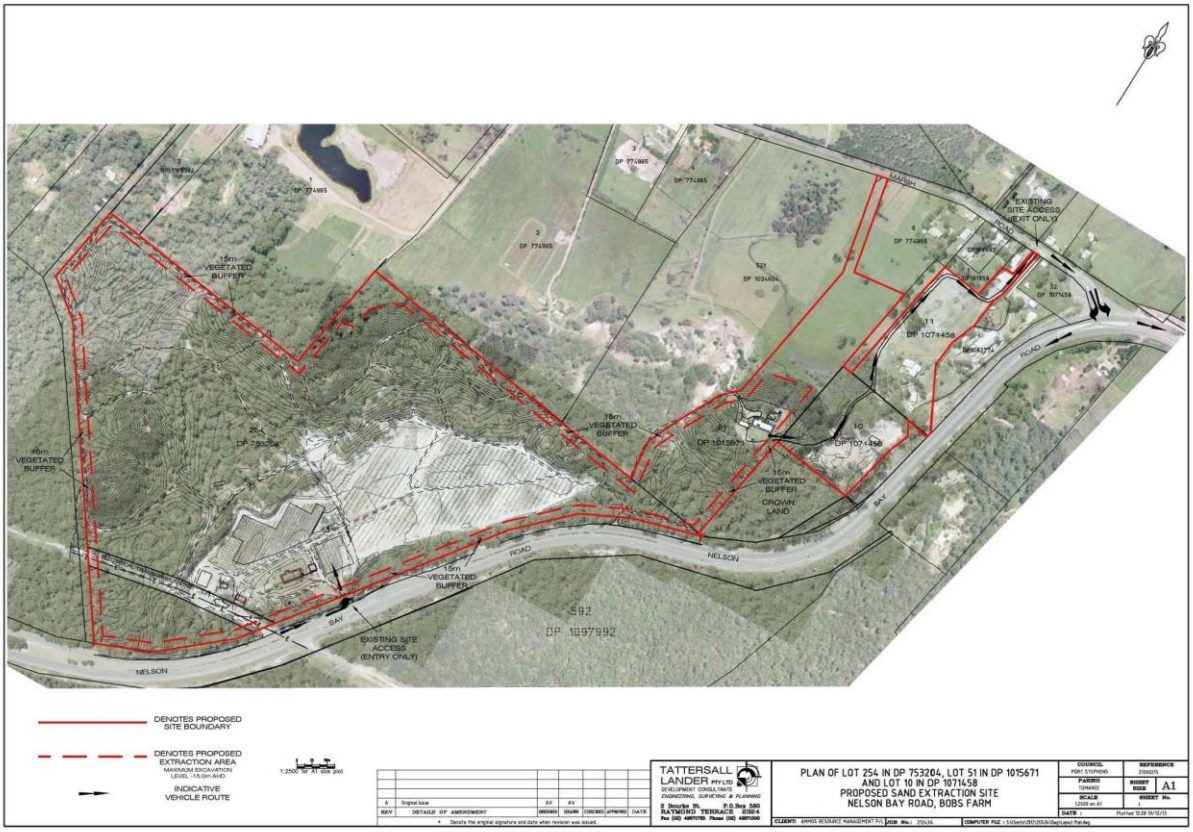
This project will form part of an Environmental Impact Assessment (EIS) being prepared to support an Application for Development Consent under Part 4. Division 4.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act) for the project which will involve the establishment of a sand quarry with a yearly production rate of up to 750,000 tonnes/year.

The Public Meeting will be provided with a detailed briefing on proposed operational details and the Local Community are invited to raise any relevant issues.

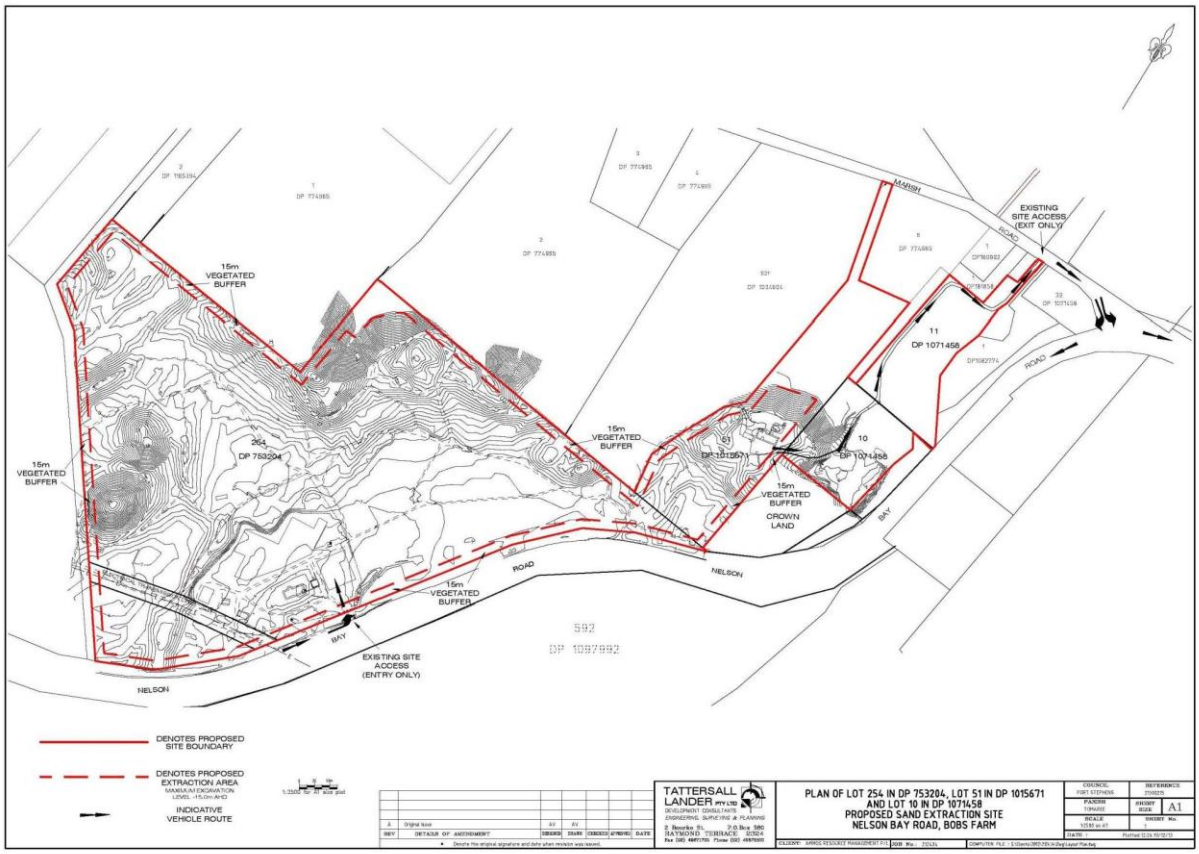
For further information
please contact Bob Lander
0408 497 657

Bobs Farm Sand Mine

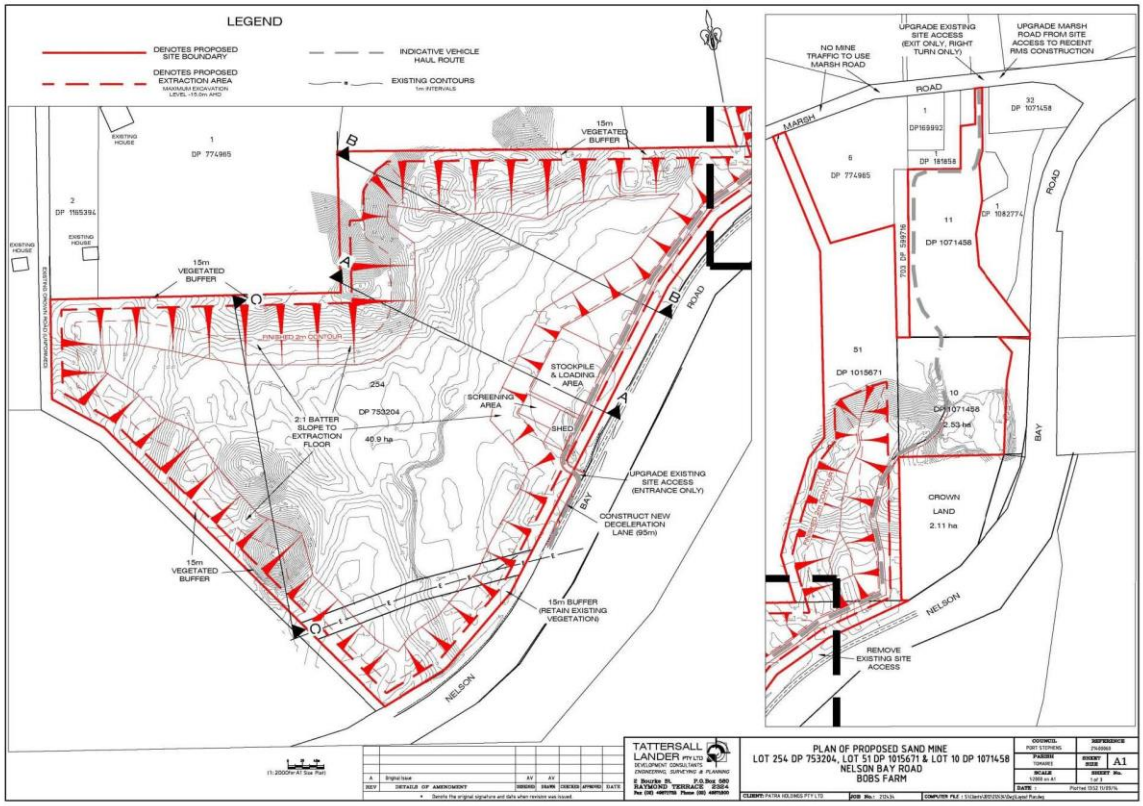
Site Plan


15m VEGETATED BUFFER
EXISTING SITE ACCESS (EXIT ONLY)
ROAD
DP 774985
DP 1074458
DP 753204
DP 1015671
DP 1097992
NELSON BAY ROAD
CROWN LAND
EXISTING SITE ACCESS (ENTRY ONLY)
NELSON
DENOTES PROPOSED SITE BOUNDARY
DENOTES PROPOSED EXTRACTION AREA
MAXIMUM EXCAVATION LEVEL -15.0m AHD
INDICATIVE VEHICLE ROUTE
TATTERSALL LANDER PTY LTD
DEVELOPMENT CONSULTANTS
ENGINEERING SURVEYING & PLANNING
PLAN OF LOT 254 IN DP 753204, LOT 51 IN DP 1015671
AND LOT 10 IN DP 1071458
PROPOSED SAND EXTRACTION SITE
NELSON BAY ROAD, BOBS FARM
A1

Site Plan


15m VEGETATED BUFFER
15m VEGETATED BUFFER
15m VEGETATED BUFFER
15m VEGETATED BUFFER
15m VEGETATED BUFFER
CROWN LAND
EXISTING SITE ACCESS (EXIT ONLY)
EXISTING SITE ACCESS (ENTRY ONLY)
MARSH
ROAD
NELSON BAY ROAD
NELSON
BAY
254 DP 753204
11 DP 1071458
10 DP 1071458
592 DP 1087892
DENOTES PROPOSED SITE BOUNDARY
DENOTES PROPOSED EXTRACTION AREA
INDICATIVE VEHICLE ROUTE
TATTERSALL LANDER PTY LTD
PLAN OF LOT 254 IN DP 753204, LOT 51 IN DP 1015671
AND LOT 10 IN DP 1071458
PROPOSED SAND EXTRACTION SITE
NELSON BAY ROAD, BOBS FARM
A1

Site Plan – Operational Issues



Bobs Farm Sand Mine

The Planning Process is for an Environmental Impact Statement (EIS) that will be prepared to support the Application and address the Director General's Requirements (DGR's) for SSD 14/6395.

Bobs Farm Sand Mine

Matters required to be addressed by the issued DGR's include:-

1. Aboriginal Cultural Heritage
2. Historical Heritage
3. Traffic
4. Noise and Vibration
5. Greenhouse Gases
6. Air Quality
7. Surface Water Management Plan

Bobs Farm Sand Mine

Matters required to be addressed by the issued DGR's include:-

8. Groundwater Management Plan
9. Acid Sulphate Soil Management plan
10. Geotechnical Reporting
11. Impact on Soil Resources
12. Sea Level Rise Mitigation
13. Ecology

Bobs Farm Sand Mine

Matters required to be addressed by the issued DGR's include:-

14. Flood Study
15. Quarry Operations
16. Native Vegetation

Bobs Farm Sand Mine

Questions from the Community ???

Appendix 4: Bobs Farm Demographics & Associated Context

People	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Male	233	52.0	35,289	49.4	3,686,014	49.3	11,546,638	49.3
Female	215	48.0	36,092	50.6	3,794,217	50.7	11,855,248	50.7
Aboriginal/Torres Strait	12	2.7	3,448	4.8	216,176	2.9	649,171	2.8

Age	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Median Age	45		45		38		38	
0-4 years	22	5.0	3,806	5.3	465,135	6.2	1,464,779	6.3
5-9 years	23	5.2	4,400	6.2	478,184	6.4	1,502,646	6.4
10-14 years	18	4.1	4,350	6.1	443,009	5.9	1,397,183	6.0
15-19 years	42	9.5	4,200	5.9	448,425	6.0	1,421,595	6.1
20-24 years	30	6.8	3,561	5.0	489,673	6.5	1,566,793	6.7
25-29 years	19	4.3	3,266	4.6	527,161	7.0	1,664,602	7.1
30-34 years	16	3.6	3,335	4.7	540,360	7.2	1,703,847	7.3
35-39 years	21	4.7	3,549	5.0	499,724	6.7	1,561,679	6.7
40-44 years	20	4.5	4,334	6.1	503,169	6.7	1,583,257	6.8
45-49 years	43	9.7	4,459	6.2	492,440	6.6	1,581,455	6.8
50-54 years	45	10.1	5,002	7.0	485,546	6.5	1,523,551	6.5
55-59 years	30	6.8	5,002	7.0	469,726	6.3	1,454,332	6.2
60-64 years	40	9.0	5,078	7.1	420,044	5.6	1,299,397	5.6
65-69 years	33	7.4	5,468	7.7	384,470	5.1	1,188,999	5.1
70-74 years	20	4.5	4,588	6.4	292,556	3.9	887,716	3.8
75-79 years	10	2.3	3,141	4.4	217,308	2.9	652,657	2.8
80-84 years	12	2.7	1,988	2.8	155,806	2.1	460,549	2.0
>85 years	0	0.0	1,840	2.6	167,506	2.2	486,842	2.1

Registered Marital Status	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Married	172	44.2	29,965	51.0	2,965,280	48.7	9,148,218	48.1
Separated	21	5.4	2,133	3.6	190,198	3.1	608,059	3.2
Divorced	35	9.0	6,252	10.6	512,298	8.4	1,626,890	8.5
Widowed	16	4.1	3,956	6.7	331,653	5.4	985,204	5.2

Never Married	145	37.3	16,500	28.1	2,094,460	34.4	6,668,910	35.0

Social Marital Status	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Registered marriage	151	44.4	25,956	50.9	2,612,630	48.3	8,001,141	47.7
De facto marriage	42	12.4	5,327	10.4	506,133	9.4	1,751,731	10.4
Not married	147	43.2	19,703	38.6	2,290,887	42.3	7,024,973	41.9

Education	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Preschool	11	10.3	1,233	6.1	132,047	5.7	347,621	4.8
Primary - Government	13	12.1	4,287	21.2	417,465	18.0	1,314,787	18.2
Primary - Catholic	0	0.0	779	3.9	122,099	5.3	380,604	5.3
Primary - Non-Government	10	9.3	662	3.3	67,611	2.9	231,490	3.2
Secondary - Government	21	19.6	2,938	14.6	269,249	11.6	827,505	11.5
Secondary - Catholic	0	0.0	603	3.0	117,689	5.1	338,384	4.7
Secondary - Non-Government	3	2.8	776	3.8	79,915	3.4	280,618	3.9
Technical	8	7.5	1,209	6.0	144,103	6.2	424,869	5.9
University	7	6.5	1,576	7.8	376,133	16.2	1,160,626	16.1
Other	0	0.0	348	1.7	63,673	2.7	198,383	2.8
Not Stated	34	31.8	5,772	28.6	535,266	23.0	1,707,023	23.7

Level of Highest Education	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
>=Bachelor level degree	41	10.4	6,470	11.0	1,424,716	23.4	4,181,406	22.0
Diploma	25	6.3	5,289	9.0	543,142	8.9	1,687,893	8.9
Certificate 4	11	2.8	2,352	4.0	167,947	2.8	551,767	2.9
Certificate 3	93	23.5	10,981	18.7	730,498	12.0	2,442,203	12.8
Year 12	37	9.3	6,232	10.6	930,654	15.3	2,994,097	15.7
Year 11	20	5.1	2,237	3.8	203,574	3.3	941,531	4.9
Year 10	49	12.4	9,743	16.6	702,178	11.5	2,054,331	10.8
Certificate 2	0	0.0	67	0.1	4,849	0.1	13,454	0.1
Certificate 1	0	0.0	3	0.0	625	0.0	2,176	0.0
<Year 9	42	10.6	6,109	10.4	513,209	8.4	1,529,897	8.0
No Educational Attainment	6	1.5	164	0.3	54,870	0.9	145,844	0.8
Not Stated	47	11.9	7,099	12.1	627,465	10.3	1,974,794	10.4

Ancestry	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Australian	213	36.9	31,220	32.1	2,261,062	22.9	7,298,243	23.3
English	178	30.8	30,967	31.9	2,302,481	23.3	7,852,224	25.0
Scottish	45	7.8	8,045	8.3	587,052	5.9	2,023,470	6.4
Irish	34	5.9	7,519	7.7	741,671	7.5	2,388,058	7.6
German	24	4.2	2,936	3.0	236,146	2.4	982,226	3.1

Country of Birth	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Australia	361	81.9	57,604	80.7	4,899,090	65.5	15,614,835	66.7
England	19	4.3	2,805	3.9	226,564	3.0	907,570	3.9
New Zealand	7	1.6	920	1.3	117,136	1.6	518,466	2.2
Germany	4	0.9	376	0.5	29,541	0.4	102,959	0.4
Netherlands	4	0.9	348	0.5	16,900	0.2	70,172	0.3
Ireland	3	0.7	290	0.4	24,038	0.3	74,888	0.3

Religious Affiliation	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Anglican	149	33.0	18,043	25.3	1,161,810	15.5	3,101,185	13.3
No Religion	116	25.7	18,283	25.6	1,879,562	25.1	6,933,708	29.6
Catholic	64	14.2	15,442	21.6	1,846,443	24.7	5,291,834	22.6
Not Stated	38	8.4	6,754	1.1	684,969	9.2	2,238,735	9.6
Pentecostal	20	4.4	-	-	77,402	1.0	260,558	1.1
Uniting Church	-	-	3,545	5.0	217,258	2.9	870,183	3.7

Language (other than English)	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
German	4	0.9	175	0.2	23,033	0.3	79,353	0.3
English only	404	90.8	63,841	89.5	5,126,633	68.5	17,020,417	72.7
Any other Non-English	9	5.8	1,460	5.1	735,563	26.5	1,971,011	22.2

Employment	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Worked full-time	108	50.0	15,985	53.0	2,134,521	59.2	6,623,065	57.7
Worked part-time	77	35.6	10,281	34.1	1,071,151	29.7	3,491,503	30.4
Away from work	17	7.9	1,687	5.6	174,654	4.8	569,276	5.0

Unemployed	14	6.5	2,212	7.3	225,546	6.3	787,452	6.9

Hours Worked	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
1-15 p/w	27	12.8	3,634	13.0	364,637	10.8	1,218,823	11.4
16-24 p/w	20	9.5	3,115	11.1	352,817	10.4	1,079,236	10.1
25-34 p/w	29	13.7	3,525	12.6	353,702	10.5	1,193,445	11.2
35-39 p/w	34	16.1	5,148	18.4	645,428	19.1	2,031,263	19.0
>40 p/w	78	37.0	10,839	38.8	1,489,099	44.1	4,591,801	43.0

Occupation	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Technicians/Trade Workers	34	16.3	4,940	17.7	429,239	12.7	1,447,414	13.5
Labourers	30	14.4	3,151	11.3	297,887	8.8	1,011,520	9.5
Managers	29	13.9	3,023	10.8	456,072	13.5	1,390,047	13.0
Professionals	28	13.4	4,019	14.4	798,126	23.6	2,370,966	22.2
Clerical/Administrative Workers	25	12.0	3,601	12.9	467,977	13.8	1,449,681	13.6
Sales Workers	24	11.5	2,905	10.4	311,414	9.2	1,000,955	9.4
Machinery Workers/Drivers	18	8.6	2,272	8.1	206,839	6.1	670,106	6.3
Community/Personal Service	16	7.7	3,562	12.7	350,261	10.4	1,157,003	10.8

Median Weekly Incomes	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Personal	541		563		664		662	
Family	1,478		1,402		1,780		1,734	
Household	1,286		1,158		1,486		1,438	

Travel to Work	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Car (as driver)	134	66.0	19,643	70.3	1,953,399	57.8	6,574,571	61.5
Worked at Home	23	11.3	1,367	4.9	163,026	4.8	503,582	4.7
Car (as passenger)	14	6.9	1,280	4.6	144,820	4.3	489,922	4.6
Truck	7	3.4	334	1.2	32,908	1.0	85,892	0.8
Other	3	1.5	1,151	4.1	18,811	0.6	73,512	0.7

Unpaid Work	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Domestic work (last week)	262	68.2	40,923	69.6	4,127,723	67.7	13,143,914	69.0

Cared for children (last 2 weeks)	91	23.7	15,700	26.7	1,659,250	27.2	5,259,400	27.6
Assitance to disabled persons (last 2	43	11.2	7,523	12.8	709,415	11.6	2,145,203	11.3
Voluntary work (last 12 months)	84	21.8	10,788	18.3	1,103,790	18.1	3,620,726	19.0

Family Composition	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Couple Family without Children	51	42.9	8,804	45.3	709,524	36.6	2,291,987	37.8
Couple Family with Children	46	38.7	7,267	37.4	887,358	45.7	2,716,224	44.7
One Parent Family	22	18.5	3,167	16.3	310,906	16.0	959,543	15.8
Other Family	0	0.0	208	1.1	32,438	1.7	102,559	1.7

Single Parents	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Male		43.5		19.8		17.8		18.2
Female		56.5		80.2		82.2		81.8

Employment Status of Parents	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Both employed (full-time work)	15	15.8	2,403	14.9	360,916	22.6	1,084,006	21.6
Both employed (part-time work)	3	3.2	670	4.2	63,106	4.0	203,596	4.1
One employed full-time, one part-tin	24	25.3	3,142	19.5	329,567	20.6	1,086,460	21.7
One employed full-time, one not woi	9	9.5	1,963	12.2	240,084	15.0	749,886	15.0
One employed part-time, one not wc	11	11.6	1,004	6.2	96,933	6.1	302,037	6.0
Both not working	25	26.3	5,081	31.6	334,742	21.0	1,006,697	20.1
Other	4	4.2	774	4.8	80,905	5.1	264,145	5.3

Dwelling Count	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Occupied private dwellings	147	89.1	26,302	79.1	2,604,320	90.1	8,286,073	88.8
Unoccupied private dwellings	18	10.9	6,934	20.9	284,741	9.9	1,039,874	11.2

Dwelling Structure	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Separate house	132	89.8	20,932	79.6	1,729,820	66.4	6,041,788	72.9
Semi-detached	0	0.0	361	13.7	317,453	12.2	1,055,016	12.7
Flat/apartment	0	0.0	1,004	3.8	519,390	19.9	1,087,434	13.1
Other	15	10.2	621	2.4	23,580	0.9	64,425	0.8

Bedrooms/Residents	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Average No. Bedrooms/dwelling	3.3		3.3		3.0		3.1	
Average No. Residents/dwelling	2.8		2.5		2.6		2.6	

Tenure	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Owned Outright	61	43.0	10,180	38.7	839,665	32.2	2,565,695	31.0
Owned with a Mortgage	62	43.7	8,021	30.5	840,004	32.3	2,855,222	34.5
Rented	14	9.9	6,939	26.4	826,922	31.8	2,561,302	30.9
Other Tenure Type	0	0.0	332	1.3	23,968	0.9	78,994	1.0
Not Stated	5	3.5	825	3.1	73,763	2.8	224,869	2.7

Household Composition	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Family Households	112	75.7	19,001	72.3	1,874,524	72.0	5,907,625	71.3
Single Person Households	33	22.3	6,637	25.3	620,778	23.8	2,023,542	24.4
Group Households	3	2.0	647	2.5	109,004	4.2	354,917	4.3

Household Income	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
<$650 gross weekly income		18.3		23.6		19.7		20.0
>$3000 gross weekly income		14.3		9.5		18.7		16.4

Mortgage/Rent	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Median Rent	235		300		380		335	
Median Mortgage Repayments	2,000		1,690		1,986		1,755	

Number of Motor Vehicles	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
None	0	0.0	1,074	4.1	239,625	9.2	623,829	7.5
1	35	25.9	9,295	35.4	946,159	36.3	2,881,485	34.8
2	39	28.9	9,709	36.9	887,849	34.1	2,999,184	36.2
3	56	41.5	5,043	19.2	435,053	16.7	1,496,382	18.1
Not Stated	5	3.7	1,165	4.4	95,623	3.7	285,197	3.4

Dwelling Internet Connection	Bobs Farm	%	Port Stephens	%	NSW	%	Aus	%
Internet not accessed from dwelling	27	17.8	4,337	16.5	381,709	14.7	1,172,415	14.4

Internet accessed from dwelling	114	75.0	21,095	80.2	2,149,040	82.5	6,892,165	83.2
Not Stated	11	7.2	861	3.3	73,565	2.8	221,494	2.7

Aboriginal/Torres Strait People	**Bobs Farm**	**%**	**Port Stephens**	**%**	**NSW**	**%**	**Aus**	**%**
Male	5	38.5	1,718	49.8	107,368	49.7	322,171	49.6
Female	8	61.5	1,735	50.2	108,809	50.3	326,996	50.4
Median Age	29		21		22		23	