

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

The reason for these conditions is to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the on-going environmental management of the project.

The Hon Kristina Keneally MP
Minister for Planning

Sydney

2009

SCHEDULE 1

Project Application:

05_0103^B

Proponent:

Gales-Kingscliff Pty Ltd

Approval Authority:

Minister for Planning

Land:

- | | |
|-----------------|--|
| Extraction Area | <ul style="list-style-type: none">• Lot 21 DP 1082482• Lot 2 DP 216705• Altona Drive road reserve |
| Pipeline Routes | <ul style="list-style-type: none">• Lots 1 & 3 DP 828298• Lots 26C & 26D DP 10715• Lots 11 & 12 DP 871753• Lot 1 DP 1075645• Tweed Coast Road road reserve• Crescent Street road reserve• Lot 4 DP 727425• road reserve between Lot 26D DP 10715 & Lot 11 DP 871753• Elrond Drive road reserve• Turnock Street road reserve |

Project:

Cudgen Lakes Sand Extraction Project

February 2016 Modification shown in red type

TABLE OF CONTENTS

DEFINITIONS	3
SCHEDULE 2 ADMINISTRATIVE CONDITIONS	4
Obligation to Minimise Harm to the Environment	4
Surrender of Consents	4
Terms of Approval	4
Limits on Approval	4
Management Plans/Monitoring Programs	4
Protection of Public Infrastructure	4
Compliance with Relevant Legislation and Other Approvals	5
Demolition	5
Operation of Plant and Equipment	5
Section 94 Contributions	5
SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS	6
General Extraction and Processing Provisions	6
Noise	6
Air Quality	8
Soil and Water	8
Rehabilitation and Landscaping	11
Aboriginal Cultural Heritage	12
Traffic and Transportation	13
Visual Impact	13
Waste Management	13
Emergency and Hazards Management	13
Production Data	14
Temporary Processing Area	15
SCHEDULE 4 ADDITIONAL PROCEDURES	16
Notification of Landowners	16
Independent Review	16
SCHEDULE 5 ENVIRONMENTAL MANAGEMENT AND MONITORING CONDITIONS	17
Environmental Management Strategy	17
Environmental Monitoring Program	17
Incident Reporting	17
Annual Reporting	17
Independent Environmental Audit	18
Community Consultative Committee	18
Access to Information	18
APPENDIX 1: PROJECT LAYOUT PLANS	19
APPENDIX 2: STATEMENT OF COMMITMENTS	22
APPENDIX 3: NOISE MONITORING LOCATIONS	36
APPENDIX 4: INDEPENDENT DISPUTE RESOLUTION PROCESS	37

DEFINITIONS

Annual Report	The report required by condition 5 of Schedule 5
CCC	Community Consultative Committee
Council	Tweed Shire Council
Day	The period from 7.00am to 6.00pm, Monday to Saturday
DECC	Department of Environment and Climate Change
Department	Department of Planning and Environment
DPI	Department of Primary Industries
DPI – Water	Department of Primary Industries - Water
EA	Environmental Assessment of the project titled <i>Environmental Assessment of the Cudgen Lakes Sand Extraction Project</i> prepared by R W Corkery & Co. Pty Limited dated May 2008, including the response to issues raised in submissions, dated August 2008, and supplementary information provided by the Proponent on 29 April and 29 May 2009
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the <i>POEO Act</i>)
Evening	The period from 6.00pm to 10.00pm
Extraction area	The land defined as the extraction area in Schedule 1
Land	Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Minister	Minister for Planning, or delegate
MOD 1 EA	Modification application 05_0103 MOD 1 and accompanying documents titled <i>Environmental Assessment for the Modification of PA 05_0103</i> , prepared by R.W. Corkery & Co Pty Limited and dated December 2015, including the Response to Submissions dated January 2016
PASS	Potential acid sulphate soil
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or a quarrying company
Project	The development as described in the EA and MOD 1 EA
Proponent	Gales Kingscliff Pty Ltd, or its successors in title
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
SEPP	State Environmental Planning Policy
Shoulder	The period from 6.00am to 7.00am
Statement of Commitments	The Proponent's commitments in Appendix 2
Site	Land to which the Project Approval applies
Temporary Processing Area	Temporary Processing Area, as described in MOD 1 EA and depicted in Figure 3 in Appendix 1.
VENM	Virgin excavated natural material, as defined in the POEO Act

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.

Surrender of Consents

2. Within 18 months of the date of this approval, or as otherwise approved by the **Secretary**, the Proponent shall surrender all previous development consents for sand extraction on Lot 2 DP 216705 and Lot 21 DP 1082482, to the satisfaction of the **Secretary**.

Terms of Approval

3. The Proponent shall:
 - (a) carry out the project generally in accordance with the EA, MOD 1 EA and the Project Layout Plans; and
 - (b) comply with the conditions of this approval and the Statement of Commitments.

Notes

- The Project Layout Plans are shown in Appendix 1.
- The Statement of Commitments is reproduced in Appendix 2.

- 3A. If there is any inconsistency between the documents in condition 3, the most recent documents shall prevail to the extent of any inconsistency. The conditions of this approval shall prevail over documents in condition 3(a) to the extent of any inconsistency.
4. The Proponent shall comply with any reasonable requirement/s of the **Secretary** arising from the Department's assessment of:
 - (a) any reports, plans, programs or correspondence that are submitted in accordance with this approval; and
 - (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.

Limits on Approval

5. Sand extraction operations may take place until 1 July 2029.

*Note: Under this Approval, the Proponent is required to rehabilitate and revegetate the site to the satisfaction of the **Secretary**. Consequently this approval will continue to apply in all other respects other than the right to conduct quarrying operations until the site has been rehabilitated and revegetated to a satisfactory standard.*

6. The Proponent shall not remove from the extraction area, by any means, more than 650,000 cubic metres of material a year.
7. The Proponent shall not transport from the extraction area by road more than 300,000 tonnes of material per year.
8. The Proponent shall not import to the extraction area more than 45,000 tonnes per year of VENM. The Proponent shall ensure that material imported in compliance with this condition does not contain waste.

Management Plans/Monitoring Programs

9. With the prior approval of the **Secretary**, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.

Protection of Public Infrastructure

10. The Proponent shall:

- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and
- (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.

Note: This condition does not apply where such costs have already been provided by the Proponent through applicable road contribution or S94 plans (see Condition 14 below).

Compliance with Relevant Legislation and Other Approvals

- 11. The Proponent shall comply with all relevant Australian Standards and Codes (including Building Code of Australia) and obtain all necessary approvals required by State and Commonwealth legislation in undertaking the project.

Notes:

- *Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for any proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.*

Demolition

- 12. The Proponent shall ensure that all demolition work is carried out in accordance with AS 2601-2001: *The Demolition of Structures*, or its latest version.

Operation of Plant and Equipment

- 13. The Proponent shall ensure that all plant and equipment used at the site is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

Section 94 Contributions

- 14. Prior to carrying out any development, or as otherwise agreed by Council, the Proponent shall pay Council \$91,761.00 in accordance with Section 7.1 of Council's *Tweed Road Contribution Plan No.4 Version 5.1* and \$399.40 in accordance with Council's *Section 94 Plan No.18*.
- 15. After submission of each **Annual Report** and on receipt of an invoice from Council, the Proponent shall pay to Council an amount calculated by Council to be the Proponent's contribution under Section 7.2 of Council's *Tweed Road Contribution Plan No.4 Version 5.1* in respect of the heavy haulage of VENM to the site.

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

GENERAL EXTRACTION AND PROCESSING PROVISIONS

Identification of Boundaries

1. Within 1 month of the date of approval of the Landscape Management Plan (see condition 28 below), the Proponent shall:
 - (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction;
 - (b) submit a survey plan of these boundaries to the **Secretary**; and
 - (c) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.

Note: The limit of extraction includes the areas described in the EA and shown conceptually on the plans in Appendix 1.

Pipeline Corridor

2. Prior to commencing work to install pipelines in the pipeline corridors (shown conceptually in Appendix 1), the Proponent shall submit for the approval of the **Secretary**:
 - (a) a survey plan of the route of the pipeline;
 - (b) evidence that this route does not require native vegetation clearing;
 - (c) evidence that the fill sites have approval for filling; and
 - (d) in relation to the eastern pipeline:
 - (i) evidence that any vegetation cleared from the eastern pipeline corridor following the date of this approval has been lawfully carried out in accordance with another approval;
 - (ii) details of proposed measures to protect vegetation during pipeline installation, operation and removal; and
 - (iii) details of measures, developed in consultation with **OEH**, to provide opportunities for the Wallum Froglet to cross the eastern pipeline.

NOISE

Impact Assessment Criteria

3. The Proponent shall ensure that the noise generated by the project during the operating hours specified in condition 5, does not exceed the noise impact assessment criteria in Table 1.

Receiver Location	Day and Evening <i>L_{Aeq} (15 min) dB(A)</i>	Shoulder <i>L_{Aeq} (15 min) dB(A)</i>
Residences on privately owned land	47	44

Table 1: Noise Impact Assessment Criteria

Notes:

- Noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy.
- The noise limits do not apply if the Proponent has an agreement with the relevant owner/s of the residence/land to generate higher noise levels, and the Proponent has advised the department in writing of the terms of the agreement.

Cumulative Noise Criteria

4. The Proponent shall take all reasonable and feasible measures to ensure that noise generated by the project combined with the noise generated by other industrial development does not exceed the following amenity criteria on any privately owned land, to the satisfaction of the **Secretary**:
 - *L_{Aeq} (11 hour)* 50 dB(A) – Day;
 - *L_{Aeq} (4 hour)* 45 dB(A) - Evening and
 - *L_{Aeq} (9 hour)* 40 dB(A) - Night

Hours of Operation

5. The Proponent shall comply with the operating hours in Table 2.

Activity	Day	Time
Site establishment, sand or soil extraction by excavator, dry processing, product transport by road, VENM receipts, other quarry related activities, maintenance (if audible at neighbouring residences)	Monday – Friday	7:00am to 6:00pm
	Saturday	7:00am to 1:00pm
	Sunday and Public Holidays	Nil
Sand extraction by dredging and pumping to the processing plant, wet processing.	Monday – Friday	7:00am to 10:00pm
	Saturday	7:00am to 4:00pm
	Sunday and Public Holidays	Nil
Sand extraction by dredging and pumping to fill sites.	Monday – Friday	7:00am to 6:30pm
	Saturday	7:00am to 1:00pm
	Sunday and Public Holidays	Nil
Operation of dredge to fill pipeline with water or pipeline flushing	Monday – Friday	6.30am to 7.00pm
	Saturday	6.30am to 1.30pm
	Sunday and Public Holidays	Nil
Maintenance (if inaudible at neighbouring residences)	Any day	Any time

Table 2: Operating Hours

Continuous Improvement

6. The Proponent shall:
- implement all reasonable and feasible best practice noise mitigation measures;
 - investigate ways to reduce the noise generated by the project; and
 - report on these investigations and the implementation and effectiveness of these measures in the **Annual Report**, to the satisfaction of the **Secretary**.

Noise Monitoring Program

7. The Proponent shall prepare a Noise Monitoring Program for the project to the satisfaction of the **Secretary**. This program must:
- be submitted to the **Secretary** for approval prior to carrying out any development on the site;
 - provide details of how the noise performance of the project would be monitored, including monitoring at the following locations:
 - Residence G;
 - Residence DD;
 - Residence F;
 - Residence B; and
 - Residence O;
include a noise monitoring protocol for evaluating compliance with the relevant noise limits in this approval.

The Proponent shall implement the approved monitoring program as approved from time to time by the **Secretary**.

Note: For more information on the monitoring locations see Appendix 3.

AIR QUALITY

Impact Assessment Criteria

8. The Proponent shall ensure that dust generated by the project does not cause exceedances of the criteria listed in Tables 3 to 5 at any privately owned land.

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³

Table 3: Short Term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³

Table 4: Long Term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month

Table 5: Long Term Impact Assessment Criteria for Deposited Dust

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

Dust Monitoring Program

9. The Proponent shall prepare a Dust Monitoring Program for the project to the satisfaction of the **Secretary**. This program must:
- be submitted to the **Secretary** for approval prior to carrying out any development on the site; and
 - include details of how the air quality performance of the project would be monitored, and include a protocol for evaluating compliance with the relevant air quality criteria in this approval.

The Proponent shall implement the approved monitoring program as approved from time to time by the **Secretary**.

SOIL AND WATER

Discharges

10. Except as may be expressly provided for by an EPL, the Proponent shall not discharge any water from the project or ancillary operational areas. The Proponent shall ensure that the extraction pits subject to sand excavation are maintained and operated to prevent discharges of any surface water.

Water Quality Objectives

11. The Proponent shall aim to meet the water quality objectives in Table 6 for water in the dredge pond and in groundwater adjacent the dredge pond, unless otherwise approved by the **Secretary**.

Pollutant	Unit of Measure	Water Quality Objectives
Turbidity	NTU	5 - 20
pH	pH	6.5 – 8.5
Oil and Grease	mg/L	10
Salinity	µS/cm	<3,000
Dissolved oxygen	mg/L	>6
Chlorophyll-a	µg/L	2-10
Faecal coliforms	Median No./100mL	<1000
Enterococci	Median No./100mL	<230
Algae and blue-green algae	No. of cells/mL (M.aeruginosa)	<50,000
	mm ³ /L (total biovolume)	<4
Sodium	mg/L	<500
Potassium ion	mg/L	<40
Magnesium ion	mg/L	<100
Chloride ion	mg/L	<1000
Sulphate ion	mg/L	<800
Bicarbonate ion	mg/L	<400
Soluble Iron ion	mg/L	<20
Soluble aluminium ion	mg/L	<0.5
Ammonium ion	mg/L	<20

Table 6: Water Quality Objectives

Notes:

- The objectives for dissolved oxygen, turbidity and algae are relevant to surface water only.
- The Department acknowledges that short term exceedances of these objectives may occur during natural events such as heavy rainfall or flooding.
- The Department acknowledges that pre-existing water quality may not meet the objectives for some analytes, including salinity. The Proponent shall strive to meet the water quality objectives through implementation of the Soil and Water Management Plan (see condition 19 below), as far as is reasonable and feasible and within the Proponent's control, to the satisfaction of the **Secretary**.

PASS Fines Management

12. The Proponent shall ensure that all excavated PASS fines material is returned to below the watertable as soon as possible to prevent oxidation, unless adequately neutralised in accordance with methods approved under the Soil and Water Management Plan (see condition 19 below).
13. The Proponent must not remove material from the site that:
- has a Chromium reducible Sulfur level exceeding 0.03% Sulfur; or
 - contains a pH less than 5.5 in 1:5 water suspension.
14. The Proponent shall ensure that PASS material to be interred in the excavation is discharged into the pond at a depth of no less than 3 metres from the water surface, and that all fines are deposited to a final depth of at least 8 metres below the water surface, unless an alternative method is approved by **DPI - Water** and the **Secretary**.

Note: Material that would settle to a depth of at least 8 metres may be placed in the pond at a depth of less than 3 metres by excavator or similar equipment.

Flood Management

15. All earthworks, including drainage and bunding works, shall be contained wholly within the site.
 16. The Proponent shall cease sand extraction and processing activities not less than 24 hours prior to the commencement of overflow from any extraction pond or as soon as notification is received of an impending flood, if notification is provided less than 24 hours prior. No sand extraction or processing shall occur while an extraction pond is overflowing.
 17. The Proponent shall ensure that the flood storage capacity of the site is not less than the pre-existing flood storage capacity at all stages of the project. Details of the available flood storage capacity shall be reported in each **Annual Report**.
 18. The top of the earth bunding around the northern and southern extraction ponds shall not exceed 1.8 m AHD. Spillways shall be provided at the eastern and western extents of each bund and shall be a minimum of 50 m wide and not exceed 1.3 m AHD. Bunds and spillways shall be suitably surfaced (for example grassed or rock lined) to avoid scour and erosion during storm and flood events.
- 18A. The Proponent shall ensure the pad of the temporary processing area does not exceed a height of 1.8 m AHD.

Management and Monitoring

19. The Proponent shall prepare a Soil and Water Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
 - (a) be prepared in consultation with **DPI - Water** and **EPA**;
 - (b) include a:
 - Water Balance;
 - Erosion and Sediment Control Plan;
 - Acid Sulfate Soil Management Plan;
 - Blue-Green Algae Management Plan;
 - Surface Water Monitoring Program; and
 - Groundwater Monitoring Program; and
 - (c) be submitted to the **Secretary** prior to starting quarrying operations, and prior to carrying out any development on the site in the case of the Erosion and Sediment Control Plan.

The Proponent shall implement the approved management plan as approved from time to time by the Secretary.

20. The Water Balance shall include:
 - (a) details of all water extracted, transferred, used and/or discharged by the quarry;
 - (b) the source of all water collected or stored on the site, including rainfall, stormwater and groundwater; and
 - (c) measures to minimise water use or water loss by the project.
21. The Erosion and Sediment Control Plan shall:
 - (a) be consistent with the relevant requirements of *Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004* (Landcom), and Council's codes including its *Code of Practice for Soil and Water Management on Construction Sites, Development Design Specification D7 – Stormwater Quality and Tweed Urban Stormwater Quality Management Plan*, except that should an inconsistency occur between these documents, the higher standard shall apply;
 - (b) identify activities that could cause soil erosion and generate sediment;
 - (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
 - (d) describe the location, function, and capacity of erosion and sediment control structures; and
 - (e) describe what measures would be implemented to maintain these structures over time.

22. The Acid Sulfate Soil Management Plan shall:
 - (a) be consistent with the *NSW Acid Sulphate Soil Advisory Committee's Acid Sulfate Soil Manual*; and
 - (b) define procedures for managing the potential acid sulfate soils on the site, including sample testing and procedures.
23. The Blue-Green Algae Management Plan shall:
 - (a) be prepared by a suitably qualified blue-green algae expert, whose appointment has been approved by the **Secretary**;
 - (b) be consistent with extant guidelines for blue-green algae management including the NHMRC's *Guidelines for Managing Risks in Recreational Water*;
 - (c) describe the measures that would be implemented to prevent and control the sources of algal blooms over the short, medium and long term; and
 - (d) define procedures for the management and notification of identified algal blooms.
24. The Surface Water Monitoring Program shall include:
 - (a) detailed baseline data on surface water quality;
 - (b) surface water impact assessment criteria;
 - (c) a program to monitor surface water levels and quality;
 - (d) a program to manage any water releases from the site;
 - (e) a program to monitor bank and bed stability; and
 - (f) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water impact assessment criteria.
25. The Groundwater Monitoring Program shall include:
 - (a) detailed baseline data on groundwater levels and quality, based on statistical analysis;
 - (b) groundwater impact assessment criteria;
 - (c) a program to monitor groundwater levels and quality;
 - (d) a program to monitor groundwater level effects on groundwater dependent vegetation, and on groundwater supply to adjoining properties;
 - (e) a protocol for the investigation, notification and mitigation of identified exceedances of the groundwater impact assessment criteria; and
 - (f) a protocol for making good any adverse effect of changes to groundwater levels or quality associated with the project on water use on surrounding properties.

Pipeline Management

26. For the life of the pipelines, the Proponent shall maintain the pipelines, ensuring that any leaks or maintenance issues are detected and repaired to the satisfaction of the **Secretary**.

REHABILITATION AND LANDSCAPING

Rehabilitation

27. The Proponent shall progressively rehabilitate the site to the satisfaction of the **Secretary**.

Landscape Management Plan

28. The Proponent shall prepare a Landscape Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
 - (a) be prepared:
 - by suitably qualified consultants, including a specialist hydrologist, coastal engineer, wetlands ecologist and landscape architect;
 - in consultation with Council, **DPI - Water** and DPI-Fisheries; and
 - in accordance with extant guidelines including the **DPI – Water's Constructed Wetlands Manual, Volumes 1 and 2** and the DPI's *Policy and Guidelines: Aquatic Habitat Management, 1999*;
 - (b) be submitted to the **Secretary** prior to starting quarrying operations on the site; and
 - (c) include a:
 - Rehabilitation Management Plan; and
 - Long Term Management Strategy.

The Proponent shall implement the approved management plan as approved from time to time by the Secretary.

Note: The Department accepts that the initial Landscape Management Plan may not include the detailed Long Term Management Strategy. However, a conceptual strategy must be included in the initial plan, along with a timetable for augmentation of the strategy with each subsequent review of the plan.

29. The Rehabilitation Management Plan must include:
- (a) the rehabilitation objectives for the site and pipeline corridors;
 - (b) a description of the short, medium, and long term measures that would be implemented to:
 - rehabilitate and stabilise the site and pipeline corridors; and
 - manage the restored vegetation and wetland habitat established on the site;
 - (c) detailed performance and completion criteria for the rehabilitation and stabilisation of the site;
 - (d) consideration of outcomes if VENM material received for backfilling is less than optimum;
 - (e) a detailed description of how the performance of the rehabilitation of the site would be monitored over time to achieve the stated objectives;
 - (f) a detailed description of what measures would be implemented over the next 5 years to rehabilitate and manage the landscape of the site and revegetation areas including the procedures to be implemented for:
 - progressively rehabilitating and stabilising areas disturbed by quarrying;
 - implementing revegetation and regeneration within the disturbance areas;
 - protecting areas outside the disturbance areas, including vegetation adjoining pipelines;
 - managing impacts on fauna, including measures to enable Wallum Froglet to cross the eastern pipeline;
 - controlling terrestrial and aquatic weeds and pests;
 - controlling access; and
 - reducing the visual impacts of the project;
 - (g) a description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and
 - (h) details of who is responsible for monitoring, reviewing, and implementing the plan.
30. The Long Term Management Strategy must:
- (a) define the objectives and criteria for quarry closure and post-extraction management;
 - (b) investigate options for the future use of the site;
 - (c) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and
 - (d) describe how the performance of these measures would be monitored over time.

Rehabilitation Bond

31. Prior to starting quarrying operations on the site, the Proponent shall lodge a rehabilitation bond for the project with the Secretary. The sum of the bond shall be calculated at:
- (a) \$2.50/m² for the total area to be disturbed and/or revegetated in each 5 year review period (see condition 32 below); and
 - (b) \$1.50/m² for the total area of land previously disturbed and/or rehabilitated by the project, to the satisfaction of the Secretary.

Notes:

- If the rehabilitation and revegetation works are completed to the satisfaction of the Secretary, the Secretary will release the rehabilitation bond.
- If the rehabilitation and revegetation works are not completed to the satisfaction of the Secretary, the Secretary will call in all or part of the rehabilitation bond, and arrange for the satisfactory completion of the relevant works.

32. Within 6 months of each Independent Environmental Audit (see condition 6 of schedule 5) excluding the inaugural audit, unless the Secretary directs otherwise, the Proponent shall review, and if necessary revise, the sum of the rehabilitation bond to the satisfaction of the Secretary. This review must consider:
- (a) the effects of inflation;
 - (b) any changes to the total area of disturbance; and
 - (c) the performance of the rehabilitation and revegetation to date.

ABORIGINAL CULTURAL HERITAGE

Aboriginal Cultural Heritage Management Plan

33. The Proponent shall prepare an Aboriginal Cultural Heritage Management Plan to the satisfaction of the **Secretary**. This plan must:
- (a) be prepared in consultation with the relevant Aboriginal communities;
 - (b) be submitted to the **Secretary** for approval prior to carrying out any development; and
 - (c) include a:
 - description of the Aboriginal cultural heritage induction protocol for employees;
 - description of the process for Aboriginal inspection of excavations for the northern pipeline corridor;
 - description of the measures that would be implemented if any new Aboriginal objects or skeletal remains are discovered during the project either within or beyond the area of disturbance; and
 - description of the process for identifying a long-term storage location should Aboriginal relics be discovered within the project site requiring salvage.

The Proponent shall implement the approved management plan as approved from time to time by the Secretary.

TRAFFIC AND TRANSPORTATION

Road Works

34. Prior to despatch of sand by road, the Proponent shall:
- (a) upgrade the intersection of Tweed Coast Road and Crescent Street for right turning vehicles to AUSTROADS CHR treatment; and
 - (b) upgrade the intersection of Tweed Coast Road and Crescent Street for left turning vehicles to AUSTROADS Figure 6.24 left turn treatment,
- to the satisfaction of Council.

Note: In the event that the Tweed Coast Road is upgraded prior to the commencement of the despatch of sand by road, the Proponent shall pay \$105,000 (indexed annually by CPI) to Tweed Shire Council as a contribution to intersection works on Tweed Coast Road and Crescent Street for trucks entering onto Tweed Coast Road from Crescent Street.

Road Haulage

35. Trucks are not permitted to enter the site prior to 7.00am on any day.

Note: This condition does not apply to delivery of material if that delivery is required by police or other authorities for safety reasons, and/or the operation or personnel or equipment are endangered. In such circumstances, notification is to be provided to DECC and the affected residents as soon as possible, or within a reasonable period in the case of emergency.

36. The Proponent shall prepare a Traffic Safety Plan for the project to the satisfaction of the **Secretary**. This plan must:
- (a) be prepared in consultation with the **RMS** and Tweed Shire Council;
 - (b) include measures to minimise the risk to other road users from project-related vehicles on public roads during construction and operation, including vehicles proceeding across Altona Drive between the southern and northern parts of the site;
 - (c) prohibit trucks departing the site from turning right from Crescent Street to Tweed Coast Road; and
 - (d) be submitted to the **Secretary** prior to commencing construction work.

The Proponent shall implement the approved safety plan as approved from time to time by the Secretary.

37. Product and VENM trucks are not to utilise Altona Drive west of the site or Crescent Street south of Altona Drive, except for the purpose of delivery or collection local to those streets.
38. The Proponent shall ensure that all loaded vehicles:
- (a) entering or leaving the site have their loads covered; and

- (b) leaving the site are cleaned of materials that may fall on the road before they are allowed to leave the site.

Parking

- 39. The Proponent shall provide sufficient parking on-site for all project-related traffic and visitors, in accordance with Council's parking codes and to the satisfaction of the **Secretary**. No on street parking shall be undertaken.

VISUAL IMPACT

Visual Amenity

- 40. The Proponent shall minimise the visual impacts of the project to the satisfaction of the **Secretary**.
- 41. The Proponent shall establish and subsequently maintain the vegetation screen around the extraction area within 12 months of the date of this approval.

Note: The vegetation screen shall be detailed in the Landscape Management Plan required under condition 28.

Lighting Emissions

- 42. The Proponent shall:
 - (a) take all practicable measures to mitigate off-site lighting impacts from the project; and
 - (b) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*, to the satisfaction of the **Secretary**.

Advertising

- 43. The Proponent shall not erect or display any advertising structure(s) or signs on the site without the written approval of the **Secretary**.

Note: This does not include business identification, traffic management and safety or environmental signs.

WASTE MANAGEMENT

- 44. The Proponent shall minimise the amount of waste generated by the project to the satisfaction of the **Secretary**.

EMERGENCY AND HAZARDS MANAGEMENT

Dangerous Goods

- 45. The Proponent shall ensure that the storage, handling, and transport of dangerous goods are conducted in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

Safety

- 46. The Proponent shall secure the project to ensure public safety to the satisfaction of the **Secretary**.

Bushfire Management

- 47. The Proponent shall:
 - (a) ensure that the project is suitably equipped to respond to any fires on-site; and
 - (b) assist the rural fire service and emergency services as much as possible if there is a fire on-site.

PRODUCTION DATA

- 48. The Proponent shall:
 - (a) provide annual production data to the DPI using the standard form for that purpose; and
 - (b) include a copy of this data in the **Annual Report**.

TEMPORARY PROCESSING AREA

49. The Proponent shall ensure that the office facilities for the temporary processing area:
- (a) are designed with ventilation emanating from the side facing away from the Kingscliff Waste Water Treatment Plant; and
 - (b) have air conditioning facilities installed prior to occupation.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. If the results of monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, then the Proponent shall notify the **Secretary**, affected landowners, and/or existing or future tenants accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the relevant criteria.

INDEPENDENT REVIEW

2. If a landowner considers that the project is exceeding the impact assessment criteria in schedule 3, then he/she may ask the **Secretary** in writing for an independent review of the impacts of the project on his/her land.

If the **Secretary** is satisfied that an independent review is warranted, the Proponent shall within 3 months of the **Secretary** advising that an independent review is warranted:

- (a) consult with the landowner to determine his/her concerns;
 - (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the **Secretary**, to conduct monitoring on the land, to determine whether the project is complying with the relevant criteria in schedule 3, and identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and
 - (c) give the **Secretary** and landowner a copy of the independent review.
3. If the independent review determines that the project is complying with the relevant criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the **Secretary**.
 4. If the independent review determines that the project is not complying with the relevant criteria in schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:
 - (a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria; and
 - (b) conduct further monitoring to determine whether these measures ensure compliance; or
 - (c) secure a written agreement with the landowner to allow exceedances of the relevant criteria in schedule 3,to the satisfaction of the **Secretary**.

If the additional monitoring referred to above subsequently determines that the project is complying with the relevant criteria in schedule 3, or the Proponent and landowner enter into a negotiated agreement to allow these exceedances, then the Proponent may discontinue the independent review with the approval of the **Secretary**.

5. If the landowner disputes the results of the independent review, either the Proponent or the landowner may refer the matter to the **Secretary** for resolution.

If the matter cannot be resolved within 21 days, the **Secretary** shall refer the matter to an Independent Dispute Resolution Process (see Appendix 4).

SCHEDULE 5 ENVIRONMENTAL MANAGEMENT AND MONITORING CONDITIONS

ENVIRONMENTAL MANAGEMENT STRATEGY

1. The Proponent shall prepare an Environmental Management Strategy for the project to the satisfaction of the **Secretary**. This strategy must:
 - (a) be submitted to the **Secretary** prior to starting quarrying operations on the site;
 - (b) provide the strategic context for environmental management of the project;
 - (c) identify the statutory requirements that apply to the project;
 - (d) describe in general how the environmental performance of the project would be monitored and managed;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the construction, operation and environmental performance of the project;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the life of the project;
 - respond to any non-compliance;
 - manage cumulative impacts; and
 - respond to emergencies; and
 - (f) describe the role, responsibility, authority, and accountability of the key personnel involved in the environmental management of the project.

The Proponent shall implement the approved strategy as approved from time to time by the Secretary.

ENVIRONMENTAL MONITORING PROGRAM

2. The Proponent shall prepare an Environmental Monitoring Program for the project to the satisfaction of the **Secretary**. This program must be submitted to the **Secretary** prior to starting quarrying operations on the site, and consolidate the various monitoring requirements in schedule 3 of this approval into a single document.

INCIDENT REPORTING

3. Within 24 hours of detecting an exceedance of the limits/performance criteria in this approval or the occurrence of an incident that causes (or may cause) material harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.
4. Within 6 days of notifying the Department and other relevant agencies of an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that:
 - (a) describes the date, time, and nature of the exceedance/incident;
 - (b) identifies the cause (or likely cause) of the exceedance/incident;
 - (c) describes what action has been taken to date; and
 - (d) describes the proposed measures to address the exceedance/incident.

ANNUAL REPORTING

5. Within 12 months of the date of this approval, and annually thereafter, the Proponent shall submit an **Annual Report** to the **Secretary** and relevant agencies including Council. This report must:
 - (a) identify the standards and performance measures that apply to the project;
 - (b) describe the works carried out in the last 12 months;
 - (c) describe the works that will be carried out in the next 12 months;
 - (d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
 - (e) include a summary of the monitoring results for the project during the past year;
 - (f) include an analysis of these monitoring results against the relevant:
 - impact assessment criteria/limits;
 - monitoring results from previous years; and
 - predictions in the EA;
 - (g) identify any trends in the monitoring results over the life of the project;
 - (h) identify any non-compliance during the previous year;

- (i) describe what actions were, or are being, taken to ensure compliance; and
- (j) list the sources of VENM material received at the site and the tonnage of materials received from each source during the period to which the **Annual Report** refers.

INDEPENDENT ENVIRONMENTAL AUDIT

6. Within 2 years of the start of quarrying operations on site, and every 5 years thereafter, unless the **Secretary** directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
 - (a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the **Secretary**;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the project, and its effects on the surrounding environment;
 - (d) assess whether the project is complying with the relevant standards, performance measures and statutory requirements;
 - (e) review the adequacy of any strategy/plan/program required under this approval; and, if necessary,
 - (f) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.
7. Within 1 month of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the **Secretary** and relevant agencies, with a response to all of the recommendations in the audit report.
8. Following each Independent Environmental Audit, the Proponent shall review and if necessary revise each of the environmental management and monitoring strategies/plans/programs in schedules 3 and 5, to the satisfaction of the **Secretary**. The revised strategies/plans/programs shall be submitted to the **Secretary** within 6 months of completing the audit.

COMMUNITY CONSULTATIVE COMMITTEE

9. Prior to starting quarrying operations on the site, the Proponent shall establish a CCC for the project. This CCC must be established and operated in accordance with the *Guideline for Establishing and Operating Community Consultative Committees for Mining Developments*, and to the satisfaction of the **Secretary**.

*Note: With the approval of the **Secretary**, the Proponent may combine the CCC with the CCC for the Hanson Tweed sand extraction operation.*

ACCESS TO INFORMATION

10. Within 1 month of the approval of any plan/strategy/program required under this approval (or any subsequent revision of these plans/strategies/programs), or the completion of any independent environmental audit or **Annual Report**, the Proponent shall:
 - (a) provide a copy of the relevant document/s to Council and relevant agencies; and
 - (b) ensure that a copy of the relevant document/s is made publicly available on site and/or at the Proponent's regional office and on the Proponent's website, to the satisfaction of the **Secretary**.
11. During the project, the Proponent shall:
 - (a) make a summary of monitoring results required under this approval publicly available at the Proponent's regional office and on the Proponent's website; and
 - (b) update these results regularly (at least every 3 months), to the satisfaction of the **Secretary**.

APPENDIX 1 PROJECT LAYOUT PLANS

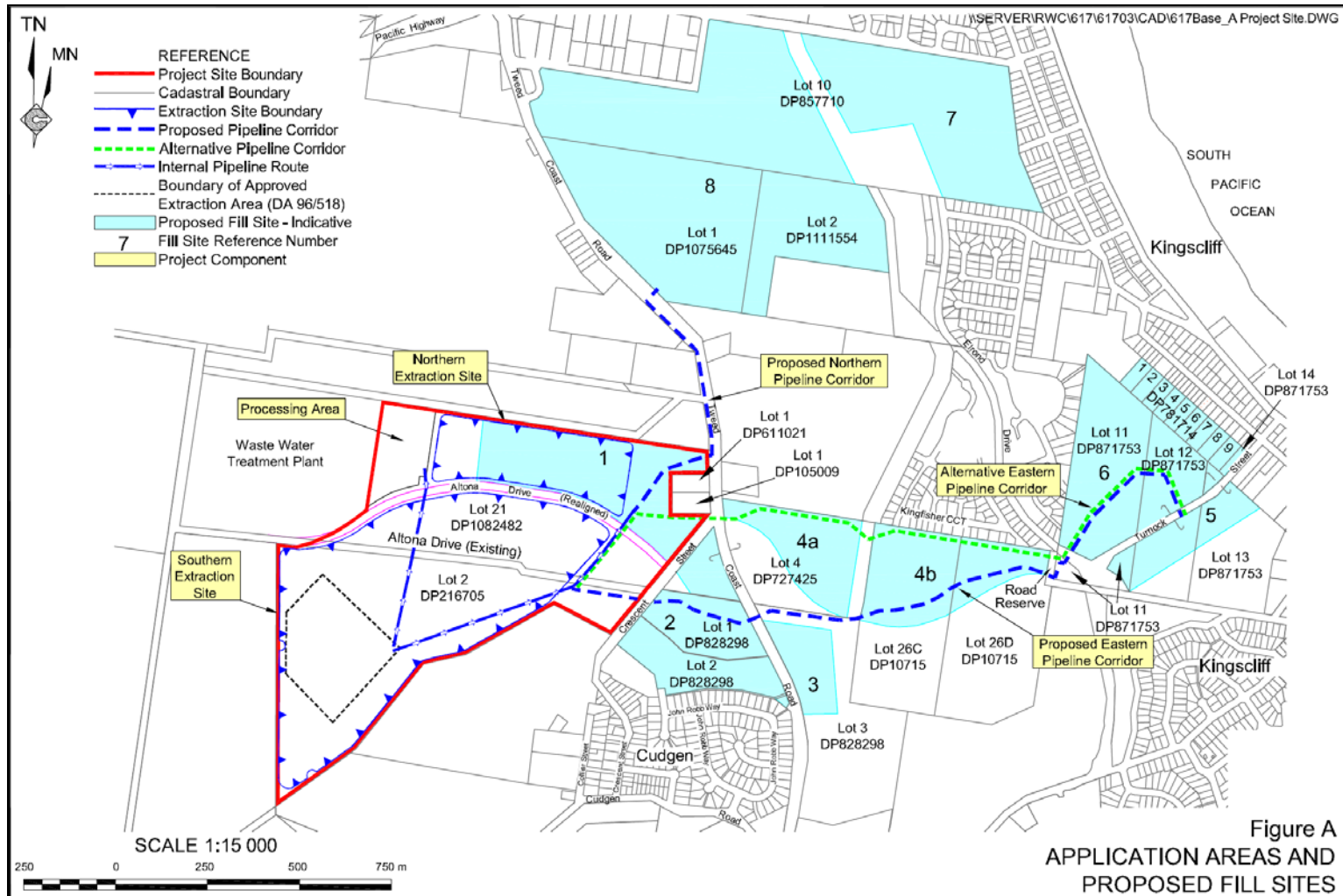


Figure 1 – Application Areas

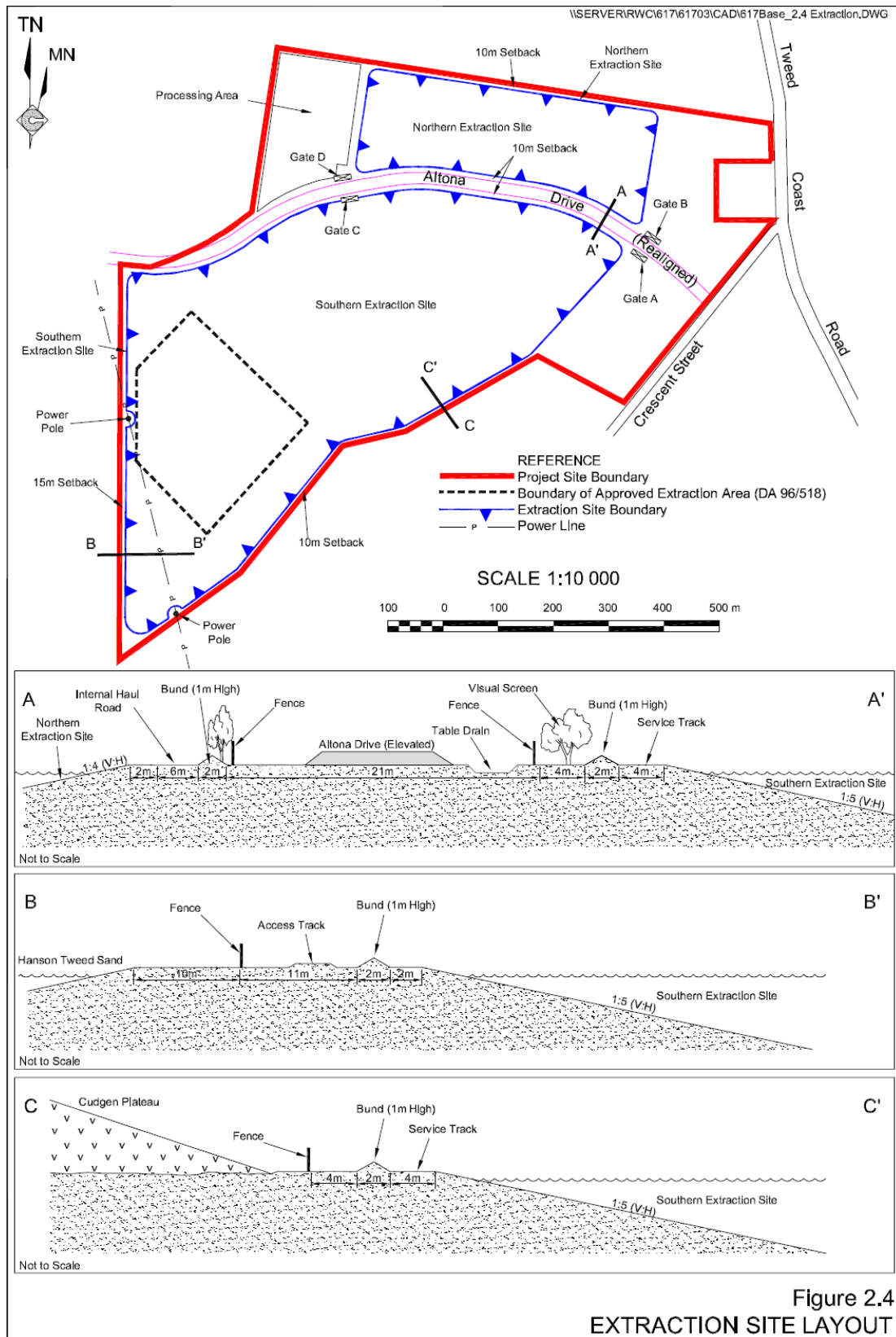


Figure 2 – Extraction Site Layout

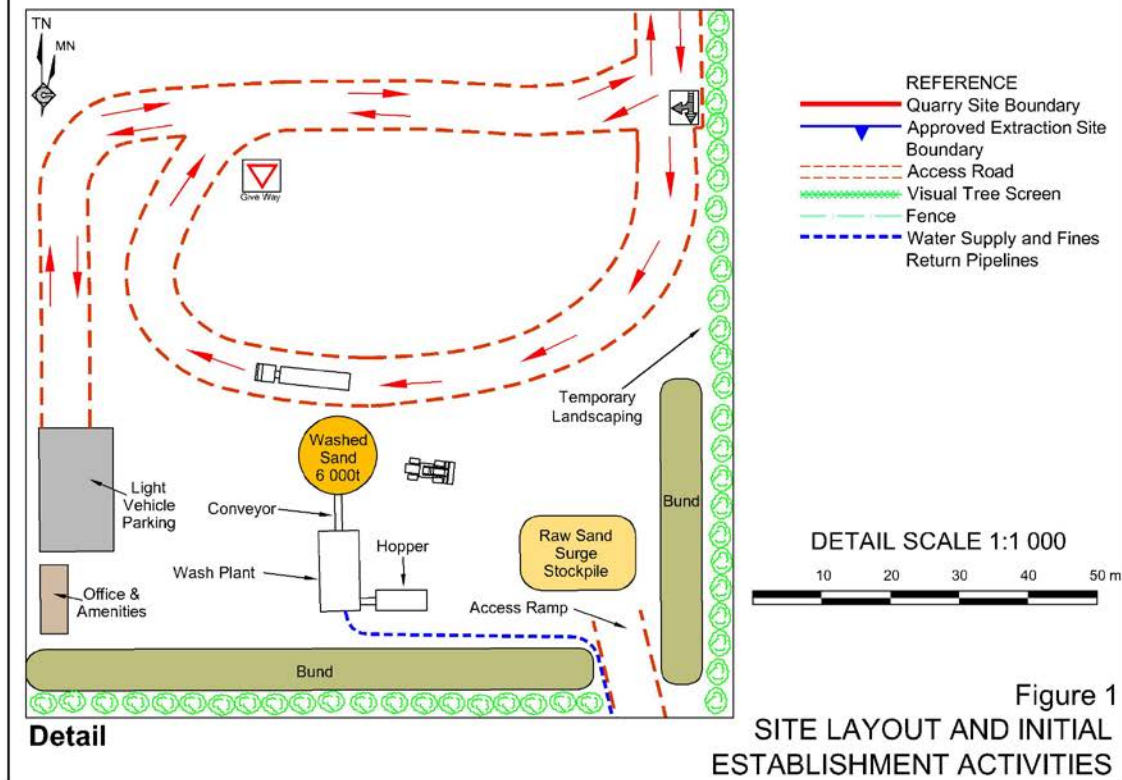
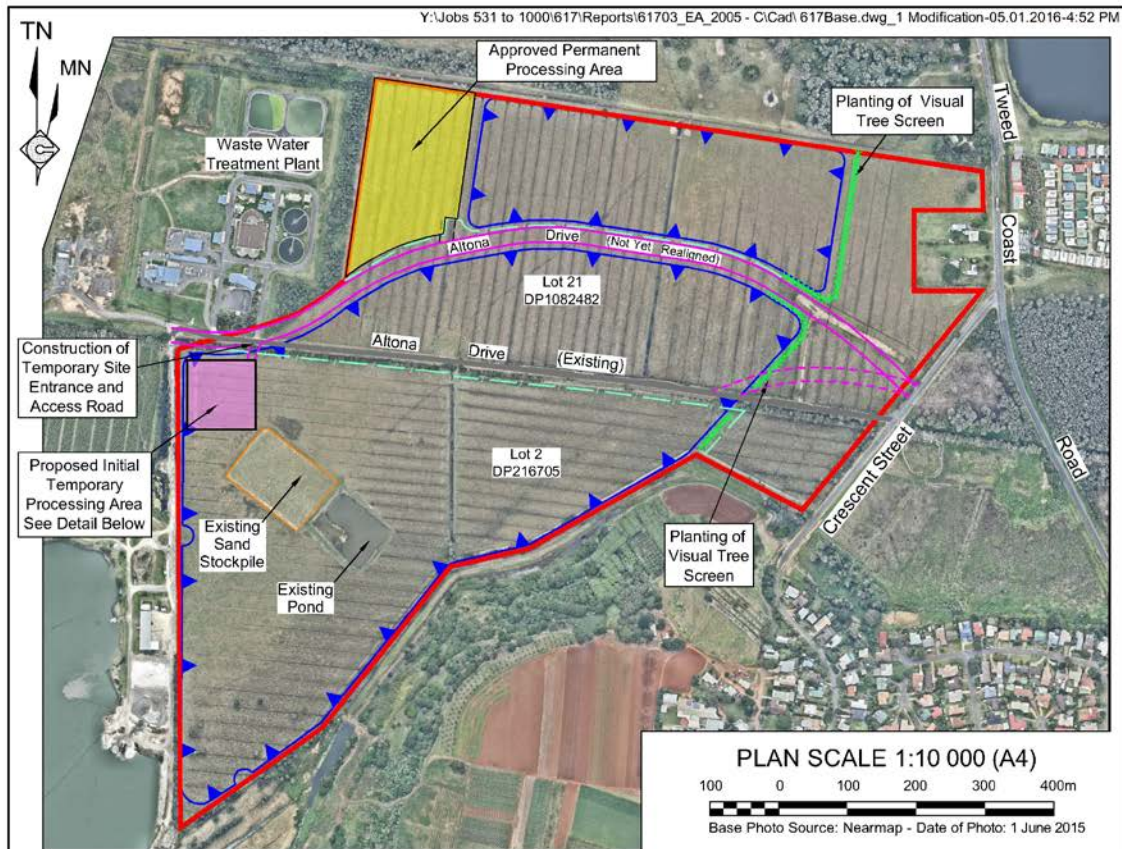


Figure 3 – Temporary Processing Area

**APPENDIX 2
STATEMENT OF COMMITMENTS**

Desired Outcome	Action	Timing
1. Area of Activities		
All approved Project components are constructed and activities are undertaken in the area(s) nominated on the approved plans and figures (unless moved slightly to avoid individual trees within the pipeline corridors).	1.1 Survey and mark the boundaries of the areas of disturbance.	Prior to site establishment and each extraction stage.
2. Sand Extraction and Processing		
Final extraction boundaries remain stable.	2.1 Ensure extraction batters for all long-term boundaries are formed no steeper than 1:5 (V:H).	Continuous.
Extraction and processing rates do not exceed assessed maximum rates.	2.2 Ensure the extraction rate is contained to limit initial drawdown levels (see Commitments 7.1 and 7.3).	During initial operational stages.
	2.3 Ensure total extraction rates do not exceed 650 000m ³ per year.	Continuous during operations.
	2.4 Ensure no more than 200 000m ³ (300,000 tonnes) of sand is processed per year.	Continuous during operations.
3. Operating Hours		
Management of operating hours of work in accordance with project approval conditions.	3.1 Undertake all site establishment activities between 7:00am and 6:00pm Monday to Friday and 7:00am to 1:00pm Saturdays.	During Site Establishment.
	3.2 Undertake all sand extraction (dredging to processing area) and processing between 7:00am and 10:00pm Monday to Friday and 7:00am to 4:00pm Saturdays.	During operations.
	3.3 Undertake all sand extraction (dredging to fill sites) between 7:00am to 6:30pm Monday to Friday and 7:00am to 1:00pm Saturdays.	During operations.
	3.4 Undertake all soil removal and sand extraction (excavation) between 7:00am and 6:00pm Monday to Friday and 7:00am to 1:00pm Saturdays.	During operations.
	3.5 Undertake all product distribution and VENM receipt between 7:00am and 6:00pm Monday to Friday and 7:00am to 1:00pm Saturdays.	During operations.
	3.6 Undertake audible site maintenance between 7:00am to 6:00pm Monday to Friday and 7:00am to 1:00pm Saturdays.	During operations.
	3.7 Undertake inaudible site maintenance at any time.	During operations.
4. Waste Management		
Minimisation of general waste creation and maximisation recycling wherever possible.	4.1 Dispose all recyclables and general waste in appropriate waste receptacles.	As required.
Minimisation of the potential risk of environmental impact due to waste creation, storage and / or disposal.	4.2 Place all oversize materials within the VENM(a) receipt area.	As required.
	4.3 Inter any oversize materials suspected of being acid generating to settle beneath at least 8 m of water.	As required.

Desired Outcome	Action	Timing	
5. Rehabilitation			
The creation of a stable final landform, available for the proposed future use(s) of recreation and nature conservation.	5.1	Progressively backfill the northern extraction pond to the natural ground level.	When suitable backfill and backfill areas are available
	5.2	Progressively backfill selected finalised sections of the southern extraction pond to create wetland areas.	When suitable backfill and backfill areas are available
	5.3	Stabilise all earthworks and disturbed areas no longer required for Project-related activities in order to minimise erosion and sedimentation, dust lift-off and to reduce visual intrusion.	As areas become available.
	5.4	Conduct ongoing annual rehabilitation monitoring and maintenance.	Ongoing.
	5.5	Cross-rip all unsealed roads and remove all buildings and structures not required for the final land use.	Following completion of operations.
	5.6	Prepare a Rehabilitation Management Plan.	Prior to the commencement of extraction operations.
6. Flooding and Drainage			
Minimisation of potential flooding impacts upon the Project and surrounding land users and property.	6.1	Construct and maintain shallow spillways (approximate elevation 1.3m AHD) within the bunds surrounding the extraction ponds at the eastern and western extent of the bunding adjacent the deepest part of the extraction pond.	Continuous whilst bunding in place.
	6.2	Remove sections of bunding once floodwaters have peaked to allow floodwaters trapped behind the bunds to drain freely to the western drainage channel as the flood recedes.	During flood event.
	6.3	Fill the processing area approximately 0.75m to 1.0m above natural ground level (1.55m AHD to 1.8m AHD) to prevent inundation of the processing area during local catchment floods.	During site establishment.
	6.4	Block the entrance to the processing area with sand relocated from on-site stockpiles prior to a forecast Tweed River overbank flood to reduce the level of inundation within the processing area.	Prior to forecast Tweed River overbank flood.
Minimisation of potential flooding impacts upon the Project and surrounding land users and property.	6.5	Maintain drainage paths outside of the bunded and filled areas to allow floodwaters to drain freely.	Continuously.
	6.6	Prepare a flood evacuation plan to ensure that personnel respond appropriately to a warning of an imminent Tweed River overbank flood.	Prior to commencement of operations.

Desired Outcome	Action	Timing
	6.7 Realign the western drainage channel parallel to and south of Altona Drive to provide a more efficient drain and allow faster drainage of floodwaters towards the Tweed River.	During realignment of Altona Drive (separate approval).
7. Groundwater		
Minimisation of potential groundwater quality or quantity impacts upon surrounding groundwater users (including groundwater-dependent ecosystems).	7.1 Commence extraction within the southern extraction pond at an equivalent rate of 100 000m ³ per year and progressively ramp up in increments of up to 100 000m ³ .	Commencement of extraction within southern extraction area.
	7.2 Ensure the maximum extraction rate within the southern extraction pond does not exceed 450 000m ³ per year during the first two years of operations or until a sufficient size extraction pond is created to allow extraction at a rate of 650 000m ³ per year.	During the first 2 years of operation.
	7.3 Adjust sand extraction rates to ensure that groundwater drawdown levels remain within the predicted limits.	Ongoing during operations.
	7.4 Install a height gauge within the Southern Extraction Pond so that water levels can be monitored daily to m AHD.	Following commencement of sand extraction.
	7.5 Undertake standard monitoring for pH, EC, temperature, REDOX potential and groundwater level (m AHD) at the monitoring locations nominated in the Groundwater Monitoring Plan.	Monthly during the first year of operations and subject to review, extend to quarterly.
	7.6 Undertake comprehensive monitoring for pH, EC, temperature, REDOX potential, groundwater level (m AHD), dissolved oxygen, calcium, magnesium, sodium, potassium, bicarbonate, sulfate, chloride, filterable iron, aluminium and arsenic. Monitoring will be undertaken by a suitably qualified or trained person at the monitoring locations nominated in the Groundwater Monitoring Plan and analysis undertaken at a NATA accredited laboratory.	Quarterly during the life of operations.
Minimisation of potential groundwater quality or quantity impacts upon surrounding groundwater users (including groundwater-dependent ecosystems).	7.7 Continue groundwater monitoring following the cessation of extraction and placement of VENM.	Quarterly, following completion of operations for 12 months and annually thereafter for 5 years.
	7.8 Regularly review monitoring data.	Quarterly during the first year of operations and six monthly following the first year.
	7.9 Provide a summary of the monthly / quarterly data relevant to each bore to the respective landowners.	Ongoing during monitoring.

Desired Outcome	Action	Timing
	7.10 Compile an annual summary of all monitoring results and forward to DPI - Water as part of the annual return for the site.	Ongoing during monitoring.
	7.11 Coordinate all monitoring activities with those already underway by Hanson Construction Materials and Australian Bay Lobster to ensure meaningful analyses can be obtained from all monitoring on the flood plain.	Ongoing during monitoring.
	7.12 Consult with each likely affected landowner and investigate complaints of poor water quality in neighbouring dams/bores.	Ongoing during operations.
	7.13 Undertake a more detailed sampling and analysis program to identify the source of the drawdown or contamination in the event the following is detected. <ul style="list-style-type: none"> Deterioration in groundwater quality outside of the effects of drought or flood due to on-site activities. Significant variations in groundwater level outside drought or flood conditions due to on-site activities. Formation of a cone of depression or a groundwater mound that extends beyond the site boundary. 	If and when listed event occurs.
Minimisation of potential groundwater quality or quantity impacts upon surrounding groundwater users (including groundwater-dependent ecosystems).	7.14 Negotiate an agreement with each affected landholder in the event water quality or quantity is adversely affected to either: <ul style="list-style-type: none"> deepen the existing bore or install a replacement bore; pay a cash compensation equal to the assessed cost of deepening the bore; provide an alternative water supply, such as from the extraction ponds or groundwater bore registered to the Proponent; or provide an appropriately sized rainwater storage tank to enhance property water storage. 	When the water quality or quantity of available groundwater is adversely affected.
	7.15 Investigate and secure a suitable alternative water supply (or other form of compensation) for R.W. Julius commensurate with the agreed legal water usage from groundwater supplies from Lot 1 DP598073.	Prior to commencement of dredging.

Desired Outcome	Action	Timing
	7.16 Monitor, using data loggers, water levels and water usage rates within the dams on the R. Julius property that would potentially be affected.	Measurements to occur on a monthly basis during ongoing operations.
	7.17 Implement the provision of an alternative water supply or other agreed compensation.	In the event water supplies are adversely affected.
	7.18 Provide copies of any negotiated agreements to the Department of Planning and Department of Water and Energy for their records.	In the event an agreement is negotiated.
8. Surface Water		
Prevention of discharge of dirty, acidic or otherwise contaminated water from the Project Site.	8.1 Reduce sand extraction and temporarily cease VENM placement if a significant deterioration in extraction pond water quality occurs, until the source is identified and appropriate amelioration measures are implemented.	In the event significant deterioration of extraction pond water occurs.
	8.2 Regularly monitor surface water to provide an accurate assessment of the adequacy of practices implemented as part of the operation.	Ongoing.
9. Acid Sulfate Soils and Sediments, Soil Contamination and Agricultural Suitability		
Minimisation of PASS and VENM(b) acidification and adequate treatment and storage of these materials.	9.1 Convey return water (from both the wash plant and fill sites) in a manner which ensures fines / silts remain in suspension and do not settle in the return pipelines. If a pipeline is not used, undertake sluicing in a manner that ensures turbulent flow and sufficient velocity to prevent the deposition of fines material within the drainage line.	Ongoing during processing and hydraulic transportation of fill sand.
	9.2 Return all separated fines to the extraction ponds for final placement with the return outlet located at a minimum 3m below the water surface within the extraction ponds.	During return of fines to extraction ponds.
	9.3 Settle silts/fines arising from processing a minimum depth (typically 8m) below the surface of the southern extraction pond.	During internment of silts / fines.
	9.4 Do not extract residual clay material from the base of the sand resource.	Ongoing during extraction.
	9.5 Ensure a suitably qualified or trained person assesses imported material (VENM) in accordance with the ASSMAC guidelines and confirms its classification as VENM prior to acceptance at the Project Site.	Ongoing during VENM receipt.

Desired Outcome	Action	Timing
	9.6 Place VENM(b), received at the premises which is intended to be: <ul style="list-style-type: none"> • dredged or interned within the southern extraction pond to settle at a minimum of 8m below the surface water; or • placed within the northern extraction area a minimum depth of -2.0m AHD; within a nominated period.	Within 24 hours of the time of its excavation at the originating site.
The level of documentation for managing and reporting matters relating to Potentially Acid Sulfate Soils and Sediments is comprehensive and appropriately maintained.	9.7 Compile a site specific Acid Sulfate Soil and Sediment Management Plan for the Project in accordance with relevant legislation and in consultation with government agencies, in particular DPI - Water and DECC. Ensure the management plan covers both the management of acid generation during extraction operations and the management of potentially acid generating VENM(b).	Prior to commencement of quarrying operations.
	9.8 Retain records of monitoring on site together with the application rates of the alkaline amendment used as neutralising agents. Provide these records to statutory authorities upon request.	Ongoing.
The level of documentation for managing and reporting matters relating to Potentially Acid Sulfate Soils and Sediments is comprehensive and appropriately maintained.	9.9 Obtain documentation for each truck load of VENM(b) received at the Project Site that demonstrates that the excavation of VENM(b) and its transport and handling has been conducted in accordance with the NSW ASS Manual to prevent the generation of acid.	Ongoing during VENM receipt.
	9.10 Submit to the DECC(EPA) an annual return (in accordance with the issued Environment Protection Licence) which outlines the results of all required monitoring.	Annually.

Desired Outcome	Action	Timing
	9.11 Retain documentation for each truck load of VENM(b) received at the site which indicates: <ul style="list-style-type: none"> the details of the originating site (name, address, owner and developer, contact details); the details of the transportee (name, address, contact details, vehicle registration); date and time of the extraction of the VENM(b); pH of the VENM(b) at the time of its extraction, and at the time immediately prior to its placement underwater; and the name of the person (certified practicing soil scientist) who assessed the material and classified it as VENM(b). 	Ongoing during VENM(b) receipt.
	9.12 Ensure verification of neutralising agent application volumes and verification results are available.	Prior to burial of VENM(b).
Prevention of any off-site impacts as a result of acidification of soil, sediments or water.	9.13 Treat stripped topsoil/loam at determined rates prior to use in earth bunds or rehabilitation.	During stripping programs.
	9.14 Treat and validate washed sand where required.	Ongoing during processing operations.
	9.15 Collect and analyse soil samples at a rate of 4 per hectare.	Prior to removal of topsoil and loam.
	9.16 Incorporate an alkaline amendment into the topsoil / loam at the calculated rate (based on the results of sampling).	Prior to removal or following placements on treatment pads.
	9.17 Complete the validation sampling of treated soil at a rate one sample per 1 000m ³ .	Following treatment and prior to placement of soil.
Prevention of any off-site impacts as a result of acidification of soil, sediments or water.	9.18 Construct bunding around the extraction and processing areas to control drainage.	During site establishment and ongoing adjustments during operations.
	9.19 Ensure all surface water and runoff from the extraction and processing areas drains or is pumped into the extraction ponds.	Ongoing throughout operations.
	9.20 Process extracted material via a hydrocyclone (such as would be used within the wash plant) or similar to hydraulically separate the fines (potentially containing pyrite) from the sand resource (except when material has been treated to ameliorate acid potential).	Ongoing during processing operations.
	9.21 Treat all material not processed using a hydrocyclone or similar with alkaline amendments.	Ongoing during processing.

Desired Outcome	Action	Timing
Demonstration that adverse impacts arising from Potentially Acid Sulfate Soils and Sediments are not evident on site.	9.22 Undertake validation testing of extracted sand and stripped topsoil/loam as described in Table 4.9 of the Environmental Assessment and in accordance with the NSW ASS Manual (ASSMAC, 1998) and amended laboratory methods.	As required and ongoing during operations.
	9.23 Audit the effectiveness of the operational safeguards and monitoring by an external environmental consultant.	Initially quarterly and reducing to annually during operations.
	9.24 Test the pH of the water into which the VENM(b) is placed to ensure it is not less than 6.5 at any time.	Ongoing during disposal of VENM.
	9.25 Undertake monitoring as outlined in Table 4.10 of the Environmental Assessment in relation to VENM(b) receipt and processing / internment.	Ongoing during disposal of VENM.
	9.26 Test the pH of the VENM(b) immediately prior to under-water disposal / backfilling to ensure the pH is not less than 5.5.	Prior to underwater disposal on VENM(b).
	9.27 Undertake a internal environmental audits of VENM(b) receipt and treatment during the initial stages of the operation to ensure appropriate treatment is being conducted and records are up to date.	Monthly during VENM(b) receipt.
Appropriate procedures are in place to manage any departures from nominated procedures or criteria.	9.28 Complete the following in the event that validation or monitoring criteria are exceeded for topsoil, loamy sand or sand. <ul style="list-style-type: none"> • Test the acid neutralising capacity of the stripped topsoil or hydraulically separated sands. • Incorporate alkaline amendments at the appropriate rate if the measured acid neutralising capacity is insufficient to neutralise the existing and potential acidity. • Undertake validation testing following treatment of loamy sand and unprocessed sand and apply additional alkaline amendments as required. Repeat process until compliance with action criteria is met. 	In the event validation or monitoring criteria are exceeded.
	9.29 Terminate VENM(b) receipt at the premises if the pH of the water falls below accepted levels, until approval to continue is received in writing from the DECC(EPA).	In event extraction pond waters pH is <6.5 or <1 pH unit below background levels.

Desired Outcome	Action	Timing
	9.30 Complete the following in the event monitoring criteria are exceeded for imported VENM(b). <ul style="list-style-type: none"> • Sample at the maximum rate of one sample / 1 000m³ and test for SCR and total actual acidity. • Treat the material with the calculated amount of alkaline amendment if any records indicate SCR >0.03% or total actual acidity >18mol H+/t. • Treat the material with the calculated amount of alkaline amendment. Undertake verification testing at the rate of 1 sample/per 1 000m³ to confirm SCR <0.03% and total actual acidity <18mol H+/t prior to final placement or further processing. 	In the event monitoring criteria are exceeded.
Appropriate procedures are in place to manage any departures from nominated procedures or criteria.	9.31 Undertake the following as soon as possible after becoming aware that any waste/material accepted at the premises is not VENM. <ul style="list-style-type: none"> • Notify the EPA in writing. • Remove the material/waste from the premises and dispose of it at a facility licensed to take such waste. • Implement a procedure to audit all further incoming loads from that waste origin site prior to accepting any further waste, until such time as the results of such audits demonstrate that the waste origin site's screening and assessment procedures have been corrected to prevent further miss-classification of waste. 	In the event waste / material not classified as VENM accepted onto the Project Site.
	9.32 Introduce hydrated lime at the appropriate rate if the extraction pond water quality fails accepted levels and ensure target pH level of 6.5 to 8.5 is not "overshot" leading to severely alkaline conditions (pH>9.0).	In event pH of extraction ponds fall below 6.5.
10. Flora and Fauna		
Minimisation of short and long term impacts on flora within the Project Site and pipeline corridors.	10.1 Progressively rehabilitate completed works within the Project Site to maximise cover of native vegetation in appropriate areas and minimise opportunities for erosion and weed invasion.	As areas become available for rehabilitation.
	10.2 Define and clearly mark vegetation for retention prior to the commencement of site establishment to ensure that native vegetation clearing is confined only to those areas required for Project operations.	Prior to commencement of site establishment activities.
	10.3 Control noxious weeds on the Project Site.	Ongoing.

Desired Outcome	Action	Timing
	10.4 Place pipelines within pipeline corridors so as to avoid the need to clear trees or shrubs wherever possible.	During placement of pipes.
Establishment of native vegetation with ecological and conservation value.	10.5 Utilise local native plant species recommended by Idyll Spaces (2008) for rehabilitation and landscaping. Within and adjacent the final lake (Note: vegetation set back from the final lake would reflect the specific land use – eg. sporting fields, gardens, etc).	During rehabilitation and landscaping activities.
	10.6 Undertake replacement planting of the same tree species within the same area in the unlikely event that a small number of trees are required to be removed for the laying of the pipelines.	In the event trees are required to be removed within the pipeline corridor.
11. Aquatic Ecology		
Minimisation of short and long term impacts on aquatic ecology within and surrounding the Project Site.	11.1 During the realignment of the western drainage channel as part of the realignment of Altona Drive. <ul style="list-style-type: none"> maintain the original connection to other upstream and downstream drainage channels; avoid stranding native fish and, where possible, relocate them to similar habitat; ensure fish free passage through the channel is made available where permanent crossings are to be constructed (eg. access road crossings); and consult with DPI and DECC officers during the realignment process. 	During the realignment of Altona Drive and the western drainage channel.
	11.2 Create wetlands along finalised sections of the southern extraction pond (see Commitment No. 5.2).	Ongoing.
	11.3 Develop a Blue-Green Algae Management Plan incorporating a monitoring program.	Prior to the commencement of sand extraction.
	11.4 Undertake frequent and regular monitoring of temperature, dissolved oxygen, nutrients, colour and concentrations of blue-green algae.	Weekly during summer and monthly monitoring during winter.
	11.5 Obtain samples and readings from the upper 0.5m of the water at least at four locations around the periphery of the dredge pond and two in the centre.	Ongoing.

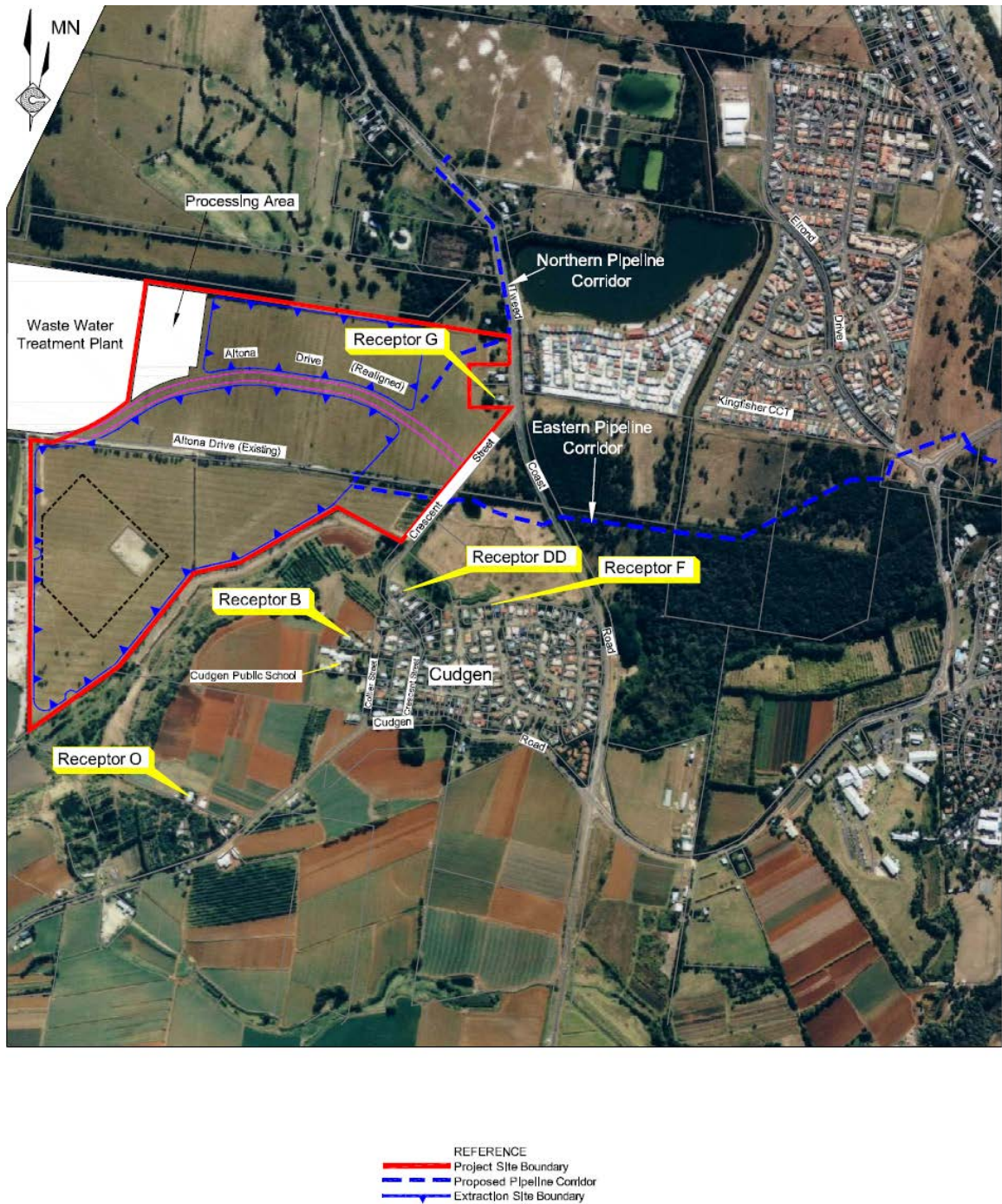
Desired Outcome	Action	Timing
12. Traffic and Transport		
Vehicle movements related to the Project do not have undue effects on traffic flow and accident rates on the surrounding road network.	12.1 No vehicles permitted to turn right from Crescent Street to Tweed Coast Road. (Note: Light vehicles travelling south from the Project Site would be directed to travel on Crescent Street/Cudgen Road.	Continuous or until upgrade of Crescent Street / Tweed Coast Road intersection.
	12.2 No heavy vehicles to turn right from Altona Drive to Crescent Street.	Continuous.
	12.3 Weigh all product trucks using the on-site weighbridge and ensure all RMS weight restrictions are adhered to.	Ongoing during product despatch.
	12.4 Inform all truck drivers and staff of road rules, speed restrictions and considerate driving practices.	On engagement of each driver.
Vehicle movements related to the Project do not have undue effects on traffic flow and accident rates on the surrounding road network.	12.5 Ensure all drivers are aware of all relevant operational hours (See also Commitment No. 3.5).	On engagement of each driver.
	12.6 Undertake mechanical road sweeping of Altona Drive and site access roads.	As required for project-related mud/sand tracking.
	12.7 Cover all product loads to reduce dust lift off.	Continuous during product despatch.
	12.8 Realign Altona Drive in accordance with DA 05/1450.	Prior to sand extraction within the southern extraction site reaching the existing alignment of Altona Drive.
	12.9 Construct the upgraded intersection of Altona Drive and Crescent Street together with a short section of road to link with the existing Altona Drive and an additional two passing bays along the existing alignment of Altona Drive.	Prior to despatch of products from the processing area or the receipt of VENM.
	12.10 Construct the four entrances to the Project Site from Altona Drive with the sealed carriageway of Altona Drive flared out to 9m wide for approximately 15m in advance of each access (from the right hand turn perspective) using a 25m transitional length. Ensure the access road is 10m wide at its intersection with Altona Drive providing a 15m inside radius for the left hand turn out.	During site establishment and realignment of Altona Drive.
	12.11 Implement appropriate management controls including the use of warning signs and manual traffic control during the laying of pipelines adjacent to Tweed Coast Road and during the underboring of the road crossings.	As required during site establishment.

Desired Outcome	Action	Timing
	12.12 Establish a telephone complaints line, advertised in the local telephone directory, to enable any traffic-related incidents, unsafe operation or general concern to be reported. Investigate all complaints and act decisively on substantiated incidents.	Ongoing during site establishment and operations.
	12.13 Implement a truck driver's code of conduct required to be signed by all Company employed or contracted truck drivers. The code will outline each truck driver's responsibility and the process to be undertaken in the event of a complaint.	Prior to product despatch or VENM receipt.
13. Noise		
All activities are undertaken in such a manner as to reduce the noise level generated, minimise impacts on surrounding landholders and/or residents and ensure noise levels remain below relevant DECC criteria.	13.1 Acoustically treat the dredge including the enclosure of the engine with acoustic louvres and install a high performance muffler.	Prior to hydraulic extraction.
	13.2 Undertake a series of tests prior to commissioning the sand processing plant to ensure compliance with the noise limits at all locations and confirm that the equipment to be used on the Project Site have sound power levels comparable to those used within the noise modelling assessment.	Prior to commissioning of processing plant.
	13.3 Install an acoustic fence on the processing area bund (see Figure 2.6) to increase the height of the noise barrier on the southern side of the processing area.	Prior to commissioning processing plant.
	13.4 Enclose the noisier components of the equipment to promote noise reduction of the plant.	Prior to commissioning processing plant.
	13.5 Fit all mobile vehicles on the site with broadband type reversing beepers or alternative safety devices such as strobe lights and / or cameras.	Prior to use of vehicle.
	13.6 Regularly service all equipment on site to ensure sound power levels of each item remains at or below that nominated for noise modelling purposes.	Ongoing.
	13.7 Maintain the internal road network to an acceptable standard to limit body noise from empty trucks.	Ongoing.
	13.8 Strictly adhere to all approved hours of operation.	Continuous.
	13.9 Undertake a program of noise monitoring to confirm that noise emission levels from the site establishment and construction period are within acceptable limits at the surrounding assessment locations.	Site establishment.

Desired Outcome	Action	Timing
	13.10 Undertake an ongoing monitoring program to demonstrate that noise emissions from the Project Site are within the Project specific noise limits at the surrounding assessment locations.	Annually or biennially.
	13.11 Regularly review the extent of noise monitoring throughout the life of the Project to ensure meaningful data is being collected.	Ongoing.
14. Air Quality		
Site activities are undertaken without exceeding DECC air quality criteria or adversely impacting on surrounding receivers.	14.1 Install water sprays to control dusts generated during screening and dry processing.	During processing and blending.
	14.2 Undertake progressive rehabilitation / stabilisation of available areas of disturbance (eg. finalised sections or backfilled areas of the extraction ponds).	As areas become available.
	14.3 Clean accumulated tracked road mud, dry dusts, sand or spillages on Altona Drive using a street sweeper.	As required.
	14.4 Cover product trucks loads to prevent wind-borne losses and spillages.	Continuously for <u>all</u> product trucks.
	14.5 Prepare an air monitoring program to ensure that DECC air quality goals for dust (TSP, PM ₁₀ and deposited dust) are met.	Prior to commencement of operations.
	14.6 Undertake monitoring in accordance to the DECC document " <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> " (DECC, 2005), and more specifically, in accordance with AS 2922-1987 " <i>Ambient Air – Guide for the Siting of Sampling Units</i> " (NSW DECC Method AM-1) and AS 3580.9.6-2003 " <i>Particulate Matter – PM₁₀ – high volume sampler with size-selective inlet</i> ".	During monitoring.
	14.7 Annually review the dust monitoring program to ensure that the data being collected is meaningful.	Annually.
	14.8 Ensure the screening and blending plant does not exceed a daily <u>average</u> processing rate greater than 100tph.	During screening and blending.
15. Aboriginal Heritage		
Site activities are undertaken without impacting upon any known Aboriginal heritage items.	15.1 Invite any Aboriginal stakeholders to observe during the burying of the pipelines within the northern pipeline corridor.	During installation of northern pipeline.
	15.2 Stop works at and adjacent to any Aboriginal sites or relics, if found.	During site establishment, construction or operational works.

Desired Outcome	Action	Timing
	15.3 Contact the regional archaeologist of the Coffs Harbour DECC and relevant Aboriginal Stakeholders if any Aboriginal sites or relics, if found.	During site establishment, construction or operational works.
Site activities are undertaken without impacting upon any known Aboriginal heritage items.	15.4 Receive authorisation from the DECC and Tweed Byron LALC prior to proceeding with any works in the vicinity of any identified Aboriginal sites or relics, if found.	During site establishment, construction or operational works.
	15.5 Prepare a simple Cultural Heritage Information booklet for use in induction of employees and contractors.	Prior to commencement of site establishment.
	15.6 Undertake agency consultation with Aboriginal representatives in relation to the ongoing management of identified items of Aboriginal heritage.	In the event items of Aboriginal heritage are identified within the Project Site.
16. Visibility		
Reduced visual amenity impacts upon surrounding landholders and the local community.	16.1 Surround the processing area by a 3m high bund planted with native shrub species.	During site establishment.
	16.2 Plant a visual screen between the eastern extent of the extraction sites and Tweed Coast Road providing visual screening from motorists on Tweed Coast Road.	During site establishment.
	16.3 Progressively rehabilitate the Project Site such that non-vegetated areas would be minimised.	As areas become available.
	16.4 Maintain the Project Site in a clean and tidy condition at all times.	Continuous.
	16.5 Implement air quality controls (see Commitment No. 14).	Ongoing.
	16.6 Position and direct floodlights or other lighting to minimise light emissions, with lighting not required at any given time not used.	Ongoing.

APPENDIX 3 NOISE MONITORING LOCATIONS



**APPENDIX 4
INDEPENDENT DISPUTE RESOLUTION PROCESS**

