Name of operation	**Cabbage Tree Road Sand Quarry**
Name of operator	**Newcastle Sand**
Development consent #	**SSD-6125**
Name of holder of development consent / project approval	**Williamtown Sand Syndicate Pty Ltd**
Mining lease #	***Not applicable***
Water licence #	***Not applicable***
MOP/RMP	***Not applicable***
Annual Review start date	**1 January 2022**
Annual Review end date	**31 December 2022**

I, **Jonathan Berry**, certify that this annual report is a true and accurate record of the compliance status of the **Cabbage Tree Road Sand Quarry** for the period **1 January 2022 to 31 December 2022** and that I am authorised to make this statement on behalf of **Newcastle Sand**.

Note.
a) The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000.

b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or $22,000, or both).

Name of authorised reporting officer	Jonathan Berry
Title of authorised reporting officer	**Compliance Manager**
Signature of authorised reporting officer	
Date	01 May 2023

Version 1.0 of 01 May 2023

STATEMENT OF COMPLIANCE

A statement of compliance is shown below in **Table 1**, where non-compliances were identified these are outlined in **Table 2**, based on the compliance status key shown in **Table 3**.

Table 1: Statement of Compliance

Where all conditions of the relevant approvals complied with?	
SSD_6125	No
EPL 21264	No

Table 2: Non-compliances relevant to the 2022 period

Relevant Approval	Condition	Condition Summary	Compliance Status (see Table 3)	Comment	Where Addressed in Annual Review
SSD_6125	Sch 2 Cond 12	Revision of plans and strategies.	**Administrative non-compliance**	All management plans were reviewed during the period with several submitted to DPE for approval, not all plan updates were finalised during the period.	Section 12.3
SSD_6125	Sch 2 Cond 18	Provide calendar year annual quarry production data.	**Administrative non-compliance**	The resource recovery form is no longer readily accessible and is completed on a financial year basis. Data consistent with the form is provided in each Annual Review.	Section 4.1
SSD_6125	Sch 3 Cond 9	Implementation of a Trigger Action Response Plan (TARP).	**Low**	Operations are changed in response to changing conditions. The AQMP includes a TARP in response to elevated PM10 criteria. TARP adherence is not strictly followed. Works are modified in response to elevated PM_{10}. Failure to adhere to TARP is due responses not being practical for operational activities. AQMP submitted for amendment, EPL and SOC amendment underway.	Section 5.1

Relevant Approval	Condition	Condition Summary	Compliance Status (see Table 3)	Comment	Where Addressed in Annual Review
SSD_6125	Sch 3, Condition 34	Finalisation of implementation of the Biodiversity Offset Strategy	**Low**	Practically the offset area is protected as if it were an offset area, though formalisation of the credit retirement process due to changing legislation and BAM methodology has been delayed.	Section 7.9
SSD_6125	Sch 5 Cond 11	Submit Annual Review by 31 March	**Administrative non-compliance**	Failed to submit annual review by 31 March 2022. Changes to reporting process were made, additional changes to be implemented.	Section 12
Statement of Commitments	SoC 8.3.2 (h)	Details to be included on website.	**Administrative non-compliance**	Website does not include details of the annual open days. It is proposed to remove this requirement from Commitments.	Section 12.1
Statement of Commitments	SoC 8.3.8 (m)	Use of tracked vehicles within the Tomago Sandbeds Special area.	**Low**	Modifications to the SoC are planned to ensure suitable operational extraction practices can be followed.	Section 12.1
Statement of Commitments	SoC 8.3.12 (b)	Bitumen seal access road to northern resource area.	**Low**	Only site entrance has been sealed to weighbridge, access through to northern resource area will be sealed following construction activities of the wash plant in Sector 3.	Nil required.
Statement of Commitments	SoC 8.3.12 (g)	Draft TARP triggers included in SOC to get operations changing in response to changing PM_{10} levels.	**Low**	Operations are changed in response to changing conditions. Failure to adhere to TARP is due responses not being practical for operational activities. AQMP submitted for amendment, EPL and SOC amendment underway.	Section 5.1, as noted above
EPL 21264	O3.8	Ceasing of operations during changing PM10 levels.	**Low**	Operations are changed in response to changing conditions. Failure to adhere to specific TARP is due responses not being practical for operational activities. AQMP submitted for amendment, EPL and SOC amendment underway.	Section 5.1, as noted above

Table 3: Compliance status key for Table 2 above.

Risk Level	Colour Code	Description
High	**Non-Compliant**	Non-compliance with potential for **significant** environmental consequences, regardless of the likelihood of occurrence
Medium	**Non-Compliant**	Non-compliance with: • Potential for **serious** environmental consequences, **but is unlikely** to occur; or • Potential for **moderate** environmental consequences **but is likely** to occur.
Low	**Non-Compliant**	Non-compliance with: • Potential for **moderate** environmental consequences, **but is unlikely** to occur; or • Potential for **low** environmental consequences, **but is likely** to occur
Administrative non-compliance	**Non-Compliant**	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions).

2022
Annual Environmental Review

Cabbage Tree Road Sand Quarry
Cabbage Tree Road, Williamtown

WILLIAMTOWN SAND SYNDICATE PTY LTD

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Document Control:

Version	Description	Date	Author
1.0	Final for submission	01 May 2023	N Ottley / J.Berry (Wedgetail Project Consulting Pty Ltd)

Contents

Tables

Figures

Appendices

1. INTRODUCTION

1.1 SCOPE

Schedule 5 Condition 11 of Development Consent SSD-6125 requires an Annual Review (AR) of the environmental performance of Cabbage Tree Road Sand Quarry. This AR has been prepared for the Cabbage Tree Road Sand Quarry to report on environmental performance in the calendar year 1 January 2022 – 31 December 2022.

Works commenced onsite on 14 August 2019 and focused on construction of the access road and office and workshop compound.

Modification 1 was approved on 26 March 2020 and permitted the transport of 5,000 tonnes of sand from the site prior to the completion of the intersection with Cabbage Tree Road. The purpose of the modification was to enable a trial on the suitability of the white sand onsite for use in glass manufacturing. The activity proposed by this modification has now been completed.

WSS was provided notice of practical completion for the Intersection from Transport for NSW on 14 May 2020, with the first truck leaving site via the completed intersection on 18 May 2020.

2021 was the first year containing a full 12 months of operational activity.

Modification 2 was approved in 2021, that permitted the use of a wash plant in place of the air separator system. During 2022, relocation of the wash plant to Sector 3 was commenced along with improvements to the design.

This AR will be distributed to the NSW Department of Planning and Environment (DPE) for review and made publicly available on Newcastle Sands website, when authorised by DPE for access by Hunter Water Corporation (HWC) and Port Stephens Council (PSC) the Community Consultative Committee (CCC) and public.

1.2 PURPOSE OF REPORT

On 9 of May 2018, Development Consent SSD-6125 was approved under Section 4.38 of the *Environment Planning and Assessment Act 1979* (EPA Act 1979). Schedule 5 Condition 11 of SSD-6125 documents the requirements of the Annual Review and is cross referenced in **Table 4** below. Management plan commitments that must be addressed in this review are cross referenced in **Table 5**.

Table 4: Annual review requirements from SSD-6125

Condition	Where Addressed
Schedule 2, Condition 18 – Production Data	
The Applicant must: *(a) from the commencement of quarrying operations provide calendar year annual quarry production data to DRG using the standard form for that purpose; and* *(b) include a copy of this data in the Annual Review.*	See 4.1 Note. No current version of this form has been able to be located.
Schedule 2, Condition 18 – Contributions to Council	
The Applicant must pay to Council an annual financial contribution toward provision of local infrastructure. The contribution must be determined in accordance with the Port Stephens S.94A Development Contribution Plan, or any subsequent relevant contributions plan adopted by Council. This contribution must be paid to Council prior to the issue of any construction certificate for the development. Any annual contributions must be paid to Council within one month of the anniversary date of this consent and reported in the Annual Review.	See 0
Schedule 3, Condition 28 – Vehicle Monitoring	
The Applicant must provide a report in each Annual Review which includes details of all fauna injured or killed by development-related vehicles, time and date of any such fauna strike, species involved, action taken following the strike and any consequent measures put in place to prevent or minimise a recurrence.	See 7.7
Schedule 3, Condition 43 (d)– Waste	
(d) report on waste management and minimisation in the Annual Review	See 7.10
Schedule 3, Condition 48 – Review of PFAS Exposure Pathways	
In conjunction with preparation of each Annual Review, unless otherwise agreed with the Secretary, the Applicant shall engage a suitably qualified and experienced independent expert, approved by the Secretary, to review the currently available information on exposure pathways for PFAS contamination originating from the Williamtown RAAF Base, as may be applicable to local residents and the development. This report must assess whether or not	See 5.2.5

Condition	Where Addressed
quarrying operations are increasing the risk of PFAS exposure for local residents and/or the environment, to the satisfaction of the Secretary. *The Applicant must ensure that the Review of PFAS Exposure Pathways reports are placed on its website and are available to the CCC and any interested person on request.*	
Schedule 5 Condition 11 – Annual Review	
By the end of March each year, or other timing as may be agreed by the Secretary, the Applicant must submit a review to the Department reviewing the environmental performance of the development to the satisfaction of the secretary. This review must:	This document
a) Describe the development (including any progressive rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year.	See 2.2
b) Include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the:	See 5
• *Relevant statutory requirements, limits or performance measures/criteria;*	See 5
• *Requirements of any plan or program required under this consent;*	See 5
• *Monitoring results of previous years; and*	See 5
• *Relevant predictions in the documents listed in condition 2(a) of Schedule 2;*	
c) Identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;	See 9
d) Identify any trends in the monitoring data over the life of the development;	See each section on monitoring.
e) Identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	See 11
f) Describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.	See 12

Table 5: Management Plan Annual Review reporting commitments

Commitment	Where addressed
Soil Water Management Plan (SWMP)	
AEMR to include: • Summary of all soil and water monitoring results and management actions undertaken in the 12-month period; • Summary of any soil or water non-compliances recorded in the 12-month period; • Summary of any soil or water related complaints recorded in the 12-month period; • Summary of corrective actions and improvements to reduce impacts to soil and water. • Review of the site water balance. • Volume of water drawn from the HWC network. • Volume of water transferred from site (e.g. septic / bunded water capture). • Comparison with estimated water use (Section 5.2). Where more than 20% above estimated maximum, review water usage areas and investigate methods to minimise usage where feasible. AEMR will be uploaded to Project website within two weeks of final report being issued.	See Section 5.4 Section 7.11 Table 21
Traffic Management Plan (TMP)	
AEMR to include summary of: • All transport monitoring results and management actions undertaken in the 12-month period; • Any transport incidents or non-compliances recorded in the 12-month period; • Any transport-related complaints recorded in the 12-month period; • Corrective actions and improvements to reduce transport impacts.	See Sections 5.6, 8.3
Heritage Management Plan (HMP)	
AEMR to include summary of: • All heritage monitoring results and management actions undertaken in the 12-month period; • Any heritage non-compliances recorded in the 12-month period; • Any heritage-related complaints recorded in the 12-month period; • Corrective actions and improvements to reduce impacts to heritage.	See Section 7.4
Biodiversity and Rehabilitation Management Plan (BRMP)	
AEMR to include summary of: • All monitoring results and management actions undertaken in the 12-month period; • Work completed in maintaining the boundary delineation. • Any non-compliances recorded in the 12-month period; • Any complaints recorded in the 12-month period; • Corrective actions and improvements to reduce biodiversity impacts or improve rehabilitation.	See Section 2.2, 7.2, and 7.5
Noise Management Plan (NMP)	
AEMR to include summary of: • All noise monitoring results and management actions undertaken in the 12-month period; • Any noise non-compliances recorded in the 12-month period; • Any noise-related complaints recorded in the 12-month period; • Corrective actions and improvements to reduce noise impacts.	See Section 5.3
Air Quality Management Plan (AQMP)	
AEMR to include summary of: • All air monitoring results and management actions undertaken in the 12-month period; • Recorded weather data in the 12-month period; • Effectiveness of trigger mechanisms; • Diesel and Electricity Use in the 12-month period; • Any air non-compliances recorded in the 12-month period; • Any air quality-related complaints recorded in the 12-month period; • Corrective actions and improvements to reduce air emissions.	See Section 5.2

1.3 PROJECT SUMMARY

The key details of the Project are shown in **Table 6** with the general arrangement and resource extent shown by **Figure 1**.

Table 6: Key Aspects of the Cabbage Tree Road Sand Project.

Aspect	Key Aspects of the Project
Key elements	Sand quarry extracting up to 530,000 tonnes per annum over a period of 6 to 15 years including the construction of an intersection with Cabbage Tree Road, sealed and gravel access roads, site office, workshop and weighbridges. Progressive rehabilitation of quarried land returning to native vegetation communities with potential future use of the facilities area.
Location	398 Cabbage Tree Road, Williamtown, within the Port Stephens local government area.
Property Titles	Four titles within the Parish of Stockton, County of Gloucester including: • Lot 1 DP 224587 at 398 Cabbage Tree Road, Williamtown • Lot 121 DP 556403 at 282B Cabbage Tree Road, Williamtown. • Lot 11 DP 629503 at 282A Cabbage Tree Road, Williamtown. • Lot 1012 DP 814078 at 282 Cabbage Tree Road Williamtown.
Land Owner	Port Stephens Shire Council under lease to Williamtown Sand with royalty of up to $17.5 million over the Project life.
Area	Total Project Area of approximately 42.3 hectares from a Subject Land Area of approximately 176.2 hectares.
Proponent	Williamtown Sand Syndicate Pty Ltd, the owner of the quarry operator Newcastle Sand.
Stakeholders	Key stakeholders include: • Adjacent landowners and local community • NSW Planning & Environment (DPE) • NSW Office of Environment & Heritage (OEH) • NSW Department of Primary Industries – Office of Water • Hunter Water Corporation (HWC) • Port Stephens Council (PSC) • Commonwealth Department of Environment.
Project Life	Up to 15 years. At expected demand the quarry will have an eight (8) year life, or six (6) years at maximum extraction rates.
Extraction Rate	Maximum of 530,000 tonnes per annum, and maximum daily rate of 3,000 tonnes.
Operating Hours	Construction of intersection, access and workshop and office: • 7:00am to 5:00pm Monday to Friday. • 8:00am to 1:00pm Saturday. • No works on Sunday or public holidays. Quarrying Operations: • 7:00am to 5:00pm Monday to Friday. • 7:00am to 4:00pm on Saturday. • No quarrying on Sunday or a Public Holiday. Loading and dispatch of trucks: • 6:00am to 6:00pm Monday to Friday. • 7:00am to 4:00pm Saturday. • No works on Sunday or public holidays.

Aspect	Key Aspects of the Project
Transport Rate	• Up to 6 laden trucks per hour (12 trips per hour) during the hours of 6 am to 7 am Monday to Friday. • Up to 10 laden trucks per hour (20 trips per hour) during hours of 7 am to 6 pm Monday to Friday (i.e. all haulage hours excluding the morning peak). • Up to 10 laden trucks per hour (20 trips per hour) during hours of 7 am to 4 pm Saturdays. • Haulage between 5 am and 6 am is subject to agreement from adjacent landowners as per Schedule 3, Condition 1. • Up to 6 vehicles of employees would be expected to arrive from approximately 5:30 am to 7 am and leave between 5 pm and 7 pm.
Resource and products	Approximately 3.25 Mt of sand, comprising the following products to be extracted from site by truck onto Cabbage Tree Road for transport to markets: • Raw fill sand. • Screened sand. • Sandy loam. • Concrete sand. • Glass sand (estimated at about 16% of total resource). The Project covers approximately 42.3 hectares (including access roads) with extraction to a depth of not more than 1m above the highest predicted groundwater level.
Extraction	• Maximum extraction rate of 530,000 tonnes per annum. • Excavator and/or bulldozer to clear vegetation and strip topsoil. • Bulldozer or grader to windrow sand. • Front-end loader to feed conveyors to convey sand to the processing plant. • Front-end loader / excavator and haul truck to convey sand when conveyor unsuitable.
Processing Methods	• Raw sand product extracted directly from face with no processing. • Sand fed into electrically powered screen. • Screened sand sold as product or fed to electrically powered air separator, or wash plant. • Products stockpiled for loading directly into truck or fill bulker bags for removal from the site by truck.
Support facilities and utilities	• Site office, workshop, stores, car parking. • Power supply from local network • Water supply from local network.
Water demand and supply	• Water required for stockpile dust suppression and gravel haul road dust suppression. • Water sourced from mains supply fed into the site from Cabbage Tree Road. • Rainwater tanks at office and workshop area to collect rainwater from rooved areas for use in dust suppression. • Water demand estimated in EIS at up to 29.65 ML/yr. • No groundwater use. • Runoff from around processing area and hard stand collected where feasible for re-use.
Employment	Full time staff for up to six persons. Opportunities for approximately 20 contract and customer truck haulage operators.
Community and amenity	The following measures are proposed to mitigate and offset adverse impacts to the community:

Aspect	Key Aspects of the Project
	• Up to $17.5 million over the Project life in royalty payments to Port Stephens Council. • A 20 m vegetated buffer from Cabbage Tree Road to minimise visual impacts for passing motorists and adjacent residents. • A 75m long roadside buffer of retained vegetation along the sides on the access from Cabbage Tree Road. • Real time triggers on air quality monitors to manage potential air quality impacts. • Six monthly attended noise monitoring and noise model confirmation based on actual data prior to extraction of areas 8, 9 or 10 (estimated at Year 6).
Biodiversity Offset Strategy	A biodiversity offset strategy that incorporates: • The in-perpetuity conservation of the remaining subject land, through the establishment of a Biobank Site (now termed Stewardship Site). • Purchase and retirement of additional Koala species credits, as required to meet credit requirements at the impact site. • Reinstatement of lost hollows with suitable nest boxes within rehabilitation area at a ratio of one to one. • Long term conservation and security of the majority of the rehabilitated lands.

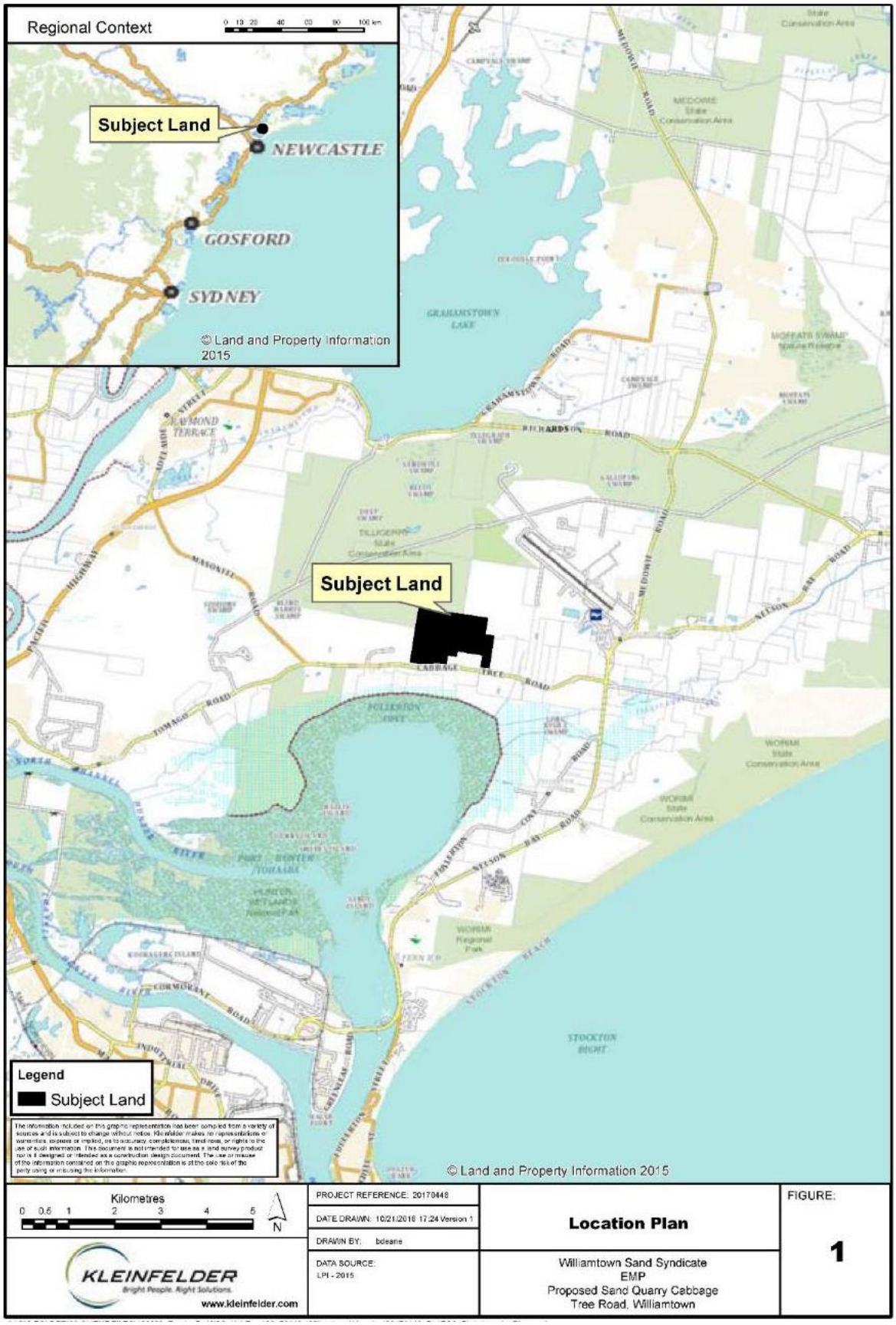


Figure 1: Location of the Cabbage Tree Road Sand Quarry

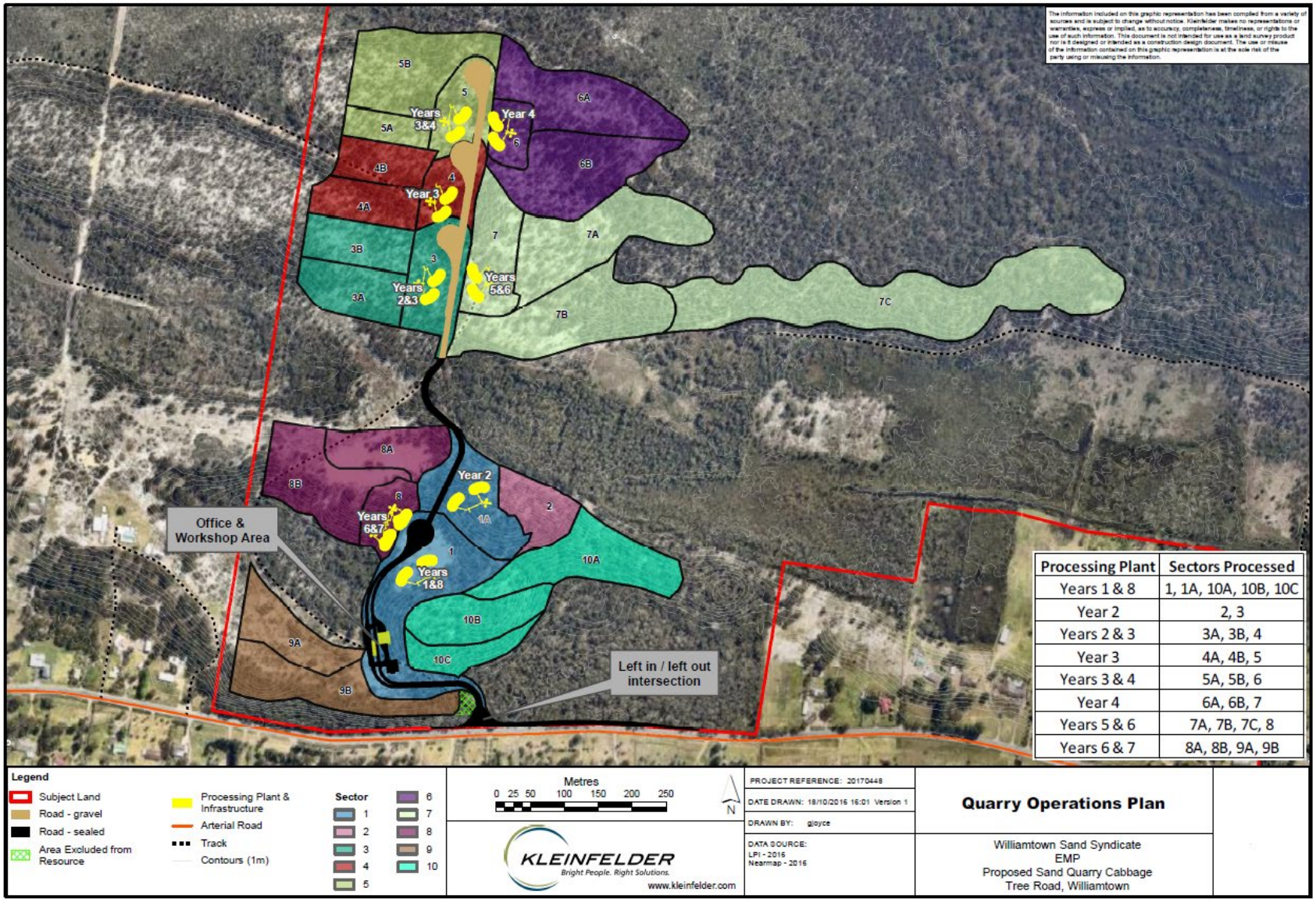


Figure 2: Resource and sequence plan (as per EIS)

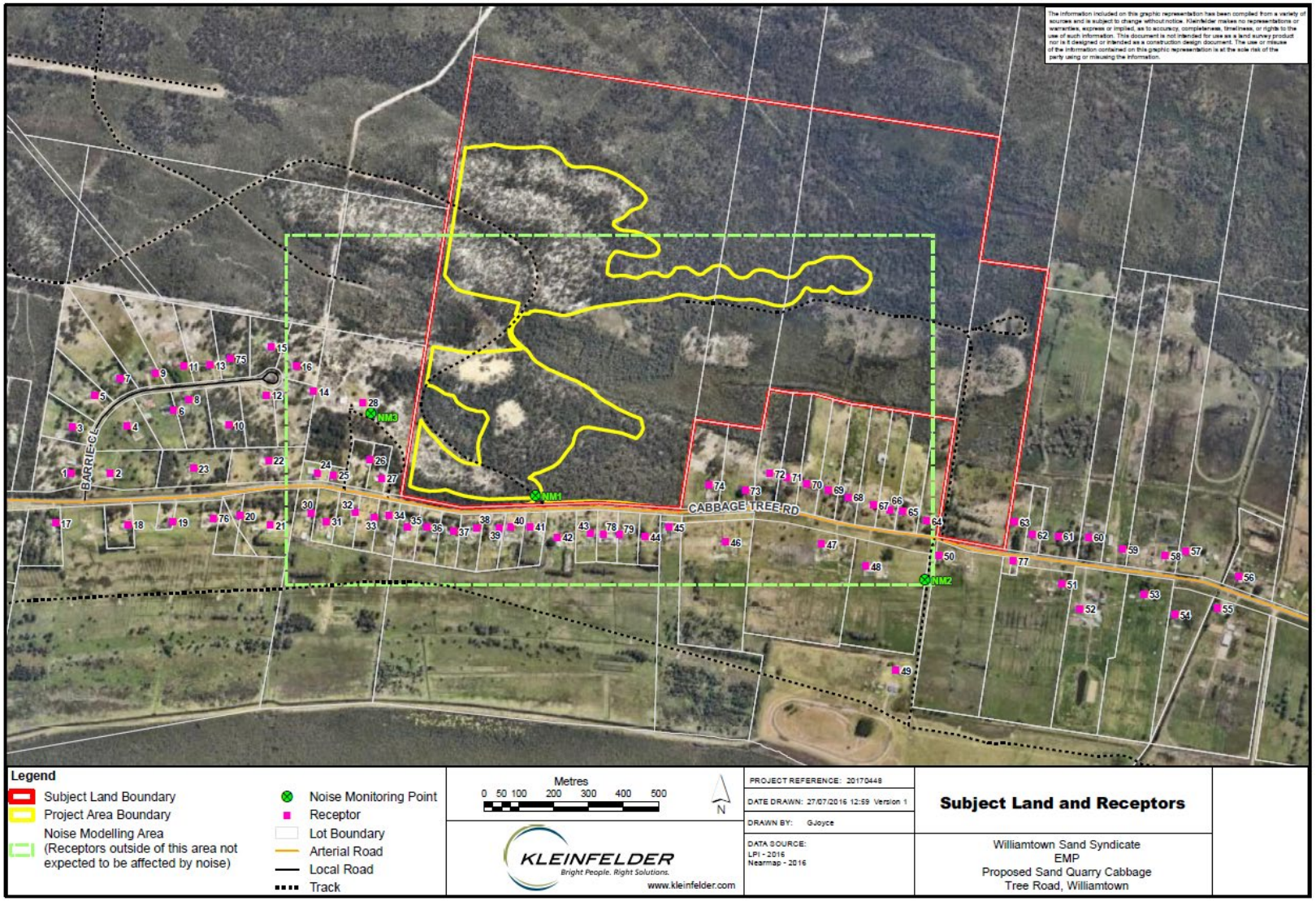


Figure 3: **Subject land, resource boundary, surrounding receptors and proposed onsite offset areas (majority of area between red and yellow boundary is onsite offset.**

1.4 ENVIRONMENTAL SETTING

Key environmental attributes of the subject land and surrounds are:

- **Landform**
  - The site is located on the southern margin of an inner coastal dune barrier system and involves the removal of vegetated Pleistocene age sand dunes that adjoin the Holocene age swamp and tidal margins of Fullerton Cove to the south (Umwelt 2015).
  - Broadly, the landform comprises a gently sloping plain from 3 m AHD in the south to 5.5 m AHD in the north with two prominent sand dunes reaching up to 17 m AHD elevation, separated by low lying swamp area of 2 m AHD that drains to the east.
- **Water**
  - The majority of the Project is above the Tomago sand beds (a source for up to 25% of Newcastle's water supply) and as such is within the Hunter Water designated special area under the Hunter Water Regulation 2010.
  - The subject land does not contain any defined natural drainage lines, suggesting vertical infiltration into the sand is dominant over runoff and horizontal movement of water.
  - The area surrounding the Project Area is frequently waterlogged during high rainfall, with the groundwater close to the surface.
  - The area lies just inside the boundary of PFAS management zones, necessitating diligence in groundwater management.
- **Ecology**
  - The low-lying Swamp mahogany – paperbark community is listed as an endangered ecological community protected under NSW legislation.
  - The subject land contains preferred and supplementary Koala habitat.
  - The Project area and subject land comprises threatened flora Earp's Gum and Camfield's stringybark protected under State and Commonwealth legislation.
- **Weather**
  - Weather data is available at the Bureau of Meteorological Station located at the Williamtown Airport approximately 4 km to the northeast of the northern portion of the
  - Summer mornings have light variable vectors that are slightly dominant from the south, until morning vectors through Autumn strengthen from the northwest and west and become dominant right through the year until November.
  - Summer afternoon vectors are typical of the coastal location with strong onshore winds from the south, southeast and east. As winter approaches vectors from the west and northwest increase, before westerly and north westerly vectors become dominant. By spring south easterly vectors increase in dominance during the lead into summer.
  - The most sensitive time of year for the Project is likely to be during winter north westerly vectors dominate throughout both morning and afternoon periods. **Figure 4** illustrates long term average temperature, evaporation and rainfall data from the Williamtown Airport Bureau of Meteorological Station.
  - Evaporation rates are highest during summer and are greater than the rate of rainfall. The evaporation rate is similar or less than rainfall rate during the months May, June and July.

The driest month on average is September, with the wettest in June.

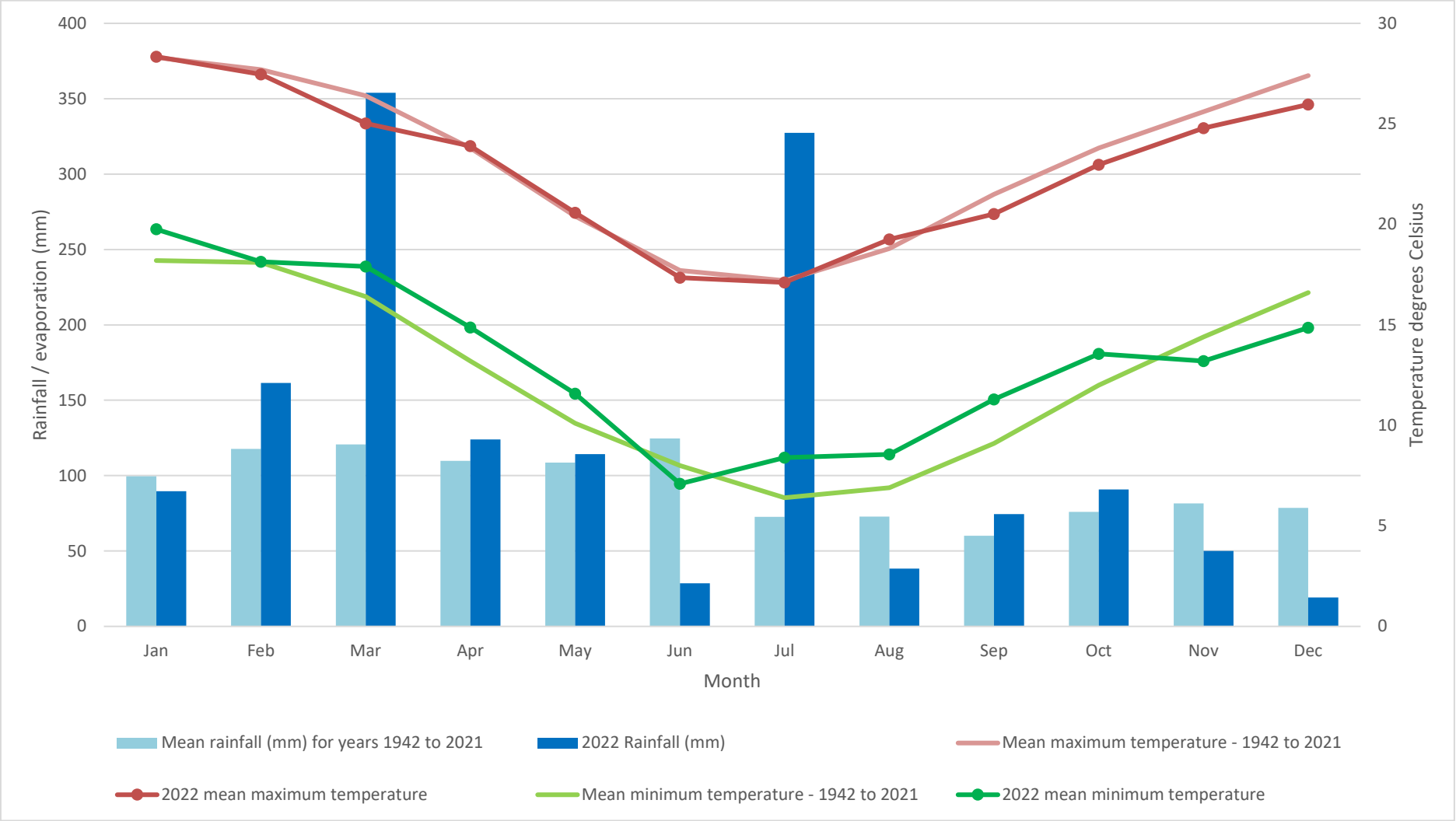


Figure 4: **Long term monthly average rainfall, evaporation, minimum and maximum temperatures against the 2022 records from the Williamtown Airport weather station**

1.5 COMMUNITY OVERVIEW

Dwellings surrounding the subject land comprise:

- No dwellings located to the north.
- East: closest dwelling is 244 m. 15 dwellings are located within 1,000 m to the east and north of Cabbage Tree Road.
- South: closest dwelling is 61 m. 29 dwellings are located within 1,000 m to the south and south of Cabbage Tree Road.
- West: closest dwelling is 83 m. 24 dwellings located within 1,000m to the west and north of Cabbage Tree Road.
- Majority of dwellings located below 3 m AHD.
- The subject land and properties immediately surrounding the area are located within the investigation zone for the RAAF PFAS contamination. It is noted that a low concentration contamination plume extends over only a portion of the site and some residences south and east of the Project.

Refer to **Figure 10** for locations of receptors surrounding the Project.

2. WORKS DURING PERIOD

Disturbance at the end of the period is shown in **Figure 5**.

2.1 ACTIVITIES DURING PREVIOUS PERIODS

Construction started on 14 August 2019 with notice of formal completion for the intersection with Cabbage Tree Road was issued on issued on 14 May 2020 by the Road and Maritime Service (now Transport for NSW). The first truck transported sand via the completed intersection on 18 May 2020.

During the 2019 reporting period the following construction activities were performed:

- Clearing of vegetation for development.
- Earthworks for infrastructure development including:
  - Intersection with Cabbage Tree Road.
  - Topsoil batters.
  - Excavation for pads for office area and operator compound.
  - Stockpiling of raw bulk excavated material for future use.
- Commencement of building of within the Stage 1 clearing area including:
  - Access Roads.
  - Office Area.
  - Operators Compound.
  - Weighbridge.
  - Workshop area.
  - Security camera installation.
  - Irrigation system for batters.

During 2020 the following construction activities were performed:

- The internal access road was sealed.
- The intersection received final notice of completion on 14 May 2020.

During 2020 the following operational activities were performed:

- Erection of frog fence around perimeter of Sector 1A and 2.
- Erection of frog fence along boundary of the access road between the northern and southern resource areas and around Sectors 3, 3A, 3B, and 4A.
- Clearing of vegetation within Sectors 1A and 2 on 23, 24, and 27 July 2020.
- Clearing of vegetation within the southern portion of Sector 3 (in the northern resource area) on 4 December 2020.

- Construction of an access road to the northern resource area (i.e. to access Sector 3 etc).
- Extraction within Areas 1, 1A, 2 and 3. During 2020, 124,310.70 tonnes of sand was extracted from the site since commencement of operations in May 2018. Prior to the completion of construction 5,000 tonnes was extracted for a glass sand trial in late March early April 2020 consistent with Modification 1.
- With no quarry floor exposed to enable any final rehabilitation, rehabilitation related activities onsite were limited to the improvement of the rehabilitation on the temporary and permanent roadside batters.

During 2021 the following operational activities were performed:

- In March 2021, Jute matting and hydromulch were applied to the batters along the access road and Sector 10C near the office, targeting areas where batter angles are steep or revegetation is limited.
- Clearing of vegetation within Sector 3, 3A and 3B and Sector 7 (part 7B and 7C).
- Continued extraction of sand from Sector 1A/2, 3 and 3A.
- Construction, commissioning, and operation of the wash plant approved under Modification 2.
- Extraction of sand within a portion of Sector 7, targeting the glass sand resource required to meet consumer manufacturing needs, and removing the underlying general sand resource to enable commencement of rehabilitation of the quarry floor in that area.
- The rehabilitation of exhausted areas including the spreading of topsoil with subsequent addition of timber from the cleared area including associated seed heads.
- Commencement of construction activities associated with the relocation of the wash plant to Sector 3 (scheduled for relocation in June 2022, completed in first quarter 2023).

2.2 ACTIVITIES PERFORMED DURING THE 2022 REPORTING PERIOD

This section provides a summary of the activities performed during the 2022 reporting period.

2.2.1 Hours of Operation (Sch3 Condition 1)

Schedule 3, Condition 1 relates to the permissible hours of operating hours, activities performed during this period are noted below:

- Quarry Operations may occur 7am to 5pm Monday to Friday, 7am to 4pm Saturday and at no time on Sunday or Public Holidays.
    - During the period all quarry operations were completed within the prescribed times.

- Loading and dispatch of laden trucks may occur from 6am to 6pm Monday to Friday and 7am to 4pm Saturday and at no time on Sunday or Public Holidays.
    - During the period all quarry operations were completed within the prescribed times.
    - It is noted that on some occasions trucks have arrived at the quarry prior to 6am, however, no loading or dispatch of laden trucks occurred outside the prescribed times.
- Maintenance may be conducted at anytime, provided that these activities are not audible at any privately-owned residence.
    - Maintenance activities have occurred outside the hours of loading and dispatch, primarily associated with the calibration of the weighbridge or minor maintenance.
- On Saturday, 8 October 2022, received an emergency request for sand from the Singleton SES in response to rising flood waters. A call was received at 5:42pm requesting an urgent sand supply. Newcastle Sand responded and provided a 32 tonne load of sand with the truck leaving the quarry at 6:30pm. This response is consistent with Schedule 3, Condition 2 of the Development Consent. The Secretary of the DPE was notified on the following Monday. Given the short duration and nature of the activity there were little or no effects on neighbouring residents.

2.2.2 Operating Conditions

Schedule 3, Condition 4 provides prescriptive conditions for vegetation clearing activities within the Southern Resource Area to ensure noise levels at neighbouring dwellings are kept to a minimum. The Condition states the following:

> *4. The Applicant must only undertake vegetation clearing operations within the Southern Resource Area under the following circumstances:*
> *(a) noise generated by the development does not exceed 47 dB(A)LAeq (15 minute);*
> *(b) bulldozer(s) or equipment with a sound power level greater than 104 dB(A) are not permitted to be used in Sectors 9B, 10A, 10B and 10C, as shown in Figure 2 of* **Appendix 1***;*
> *(c) clearing operations are limited to:*
> *• the Day period, Monday to Friday;*
> *• campaigns not exceeding 5 consecutive working days; and*
> *• no more than four campaigns in any calendar year.*

During 2021, no clearing activities were completed within the Southern Resource Area, as such no further consideration of the above requirements are necessary.

2.2.3 Transport Operating Conditions

Schedule 3, Condition 23 relates to speed limits and the number of laden trucks leaving the quarry. Condition 23 states that Newcastle Sand is to ensure:

> *(a) speed limits of 40 km/hour for vehicles entering the site on sealed roads; 60 km/hr for vehicles exiting the site; and 20 km/hour for vehicles using all other roads and areas on site are applied and enforced;*
> *(b) trucks slowing to use the intersection of the quarry access road and Cabbage Tree Road do not use engine or compression braking systems;*
> *(c) laden truck movements exiting the site do not exceed 6 per hour during the period from 6 am to 7 am, Monday to Friday;*
> *(d) laden truck movements exiting the site do not exceed 10 per hour during the period from 7 am to 6 pm, Monday to Friday; and*
> *(e) laden truck movements exiting the site do not exceed 10 per hour during the period from 7 am to 4 pm, Saturdays.*
> *Note: In this condition, "per hour" means within any period of 60 minutes following the change of hour.*

Signage is included within the quarry to guide truck drivers on required speed limits, and the intersection with Cabbage Tree Road has been designed to ensure the entry and exit speeds are maintained at appropriate levels.

The drivers code of conduct provided to all drivers during the induction includes an expectation that engine or compression braking systems are not used when entering the quarry.

The quarry weighbridge and ticket system is electronically limited to the required maximum trucking levels permitted by the Consent. This system ensures compliance with the required laden truck levels that are permitted to leave the quarry. Refer to Section 5.6 for further details on the truck monitoring.

Schedule 3, Condition 23A states:

> *The Applicant must ensure that if agreement is reached with adjoining residents under condition 1 of this Schedule, laden truck movements exiting the site do not exceed 6 per hour during the period from 5 am to 6 am, Monday to Friday.*

No agreement has been reached to enable early truck movements and no laden trucks were dispatched during this period was undertaken.

2.2.4 Overview of Activities Completed

During the 2022 reporting period the following activities were performed:

- Seed collection was undertaken in areas prior to clearing:
  - July through Sectors 4 & 4B
  - September through Sector 5 & 5A
  - October through Sector 5B south
  - November through Sector 6 & 6A targeting shrubs.

- Clearing of vegetation was undertaken in the following areas:
  - 31 January and 1-2 February – Sector 4A
  - 14-16 June – Sector 7C
  - 18-20 July – Sectors 4 & 4B
  - 7-8 September – Sectors 5 & 5A
  - 10-11 October – Sector 5B (southern portion)
  - 31 October to 4 November – Sector 7C
  - 22-24 November – Sector 5B (northern portion)
- Continued progressive extraction of sand from previously listed cleared areas.
- Extraction of sand within a portion of Sector 7C, targeting the glass sand resource required to meet consumer manufacturing needs, and removing the underlying general sand resource to enable commencement of rehabilitation of the quarry floor in that area.
- Construction activities associated with the relocation of the wash plant to Sector 3 began, with relocation to be completed in February 2023).
- The first of several phases of rehabilitation have been completed the floors of Sectors 3A, 3B, 4A, 4B and a portion of Sector 7. This process includes the spreading of topsoil with subsequent addition of timber from the cleared area including associated seed.
- Planting of native tubestock was completed in April 2022 along temporary batter of Sector 10C.
- Removal of lantana and non-woody weeds was undertaken in May, June and August 2022 through Sectors 1, 8, 8B and 9A.
- Maintenance of existing access from BH10 to BH11 as well as a vehicle track from the eastern gate to Sector 7.

Survey plans by Centurion Civil illustrating area cleared at the end of the period and the proximity to the maximum extraction depth are shown in Figures 5, 6, 7 and 8. Extraction levels are consistent with the quarry approval and are more than 0.7m above the maximum predicted water table as prescribed by the Maximum Extraction Depth Report.

The Groundwater elevation TARP trigger level was exceeded between March and December. This was due to the above average rainfall for much of the year (see **Section 5.4.2**). Groundwater levels are monitored monthly (and by continuous logger in select bores) to evaluate proximity of workings to groundwater. In the event that a borehole exceeds its' TARP trigger level, it is monitored weekly until it returns below this level.

Photograph 1: Temporary batter stabilisation of the batter of Sector 10C adjacent to the Office and access road. Jute matting and hydromulch applied in March 2021.

Photograph 2: Tubestock in batter of Sector 10C and the access road, planted in March 2022.

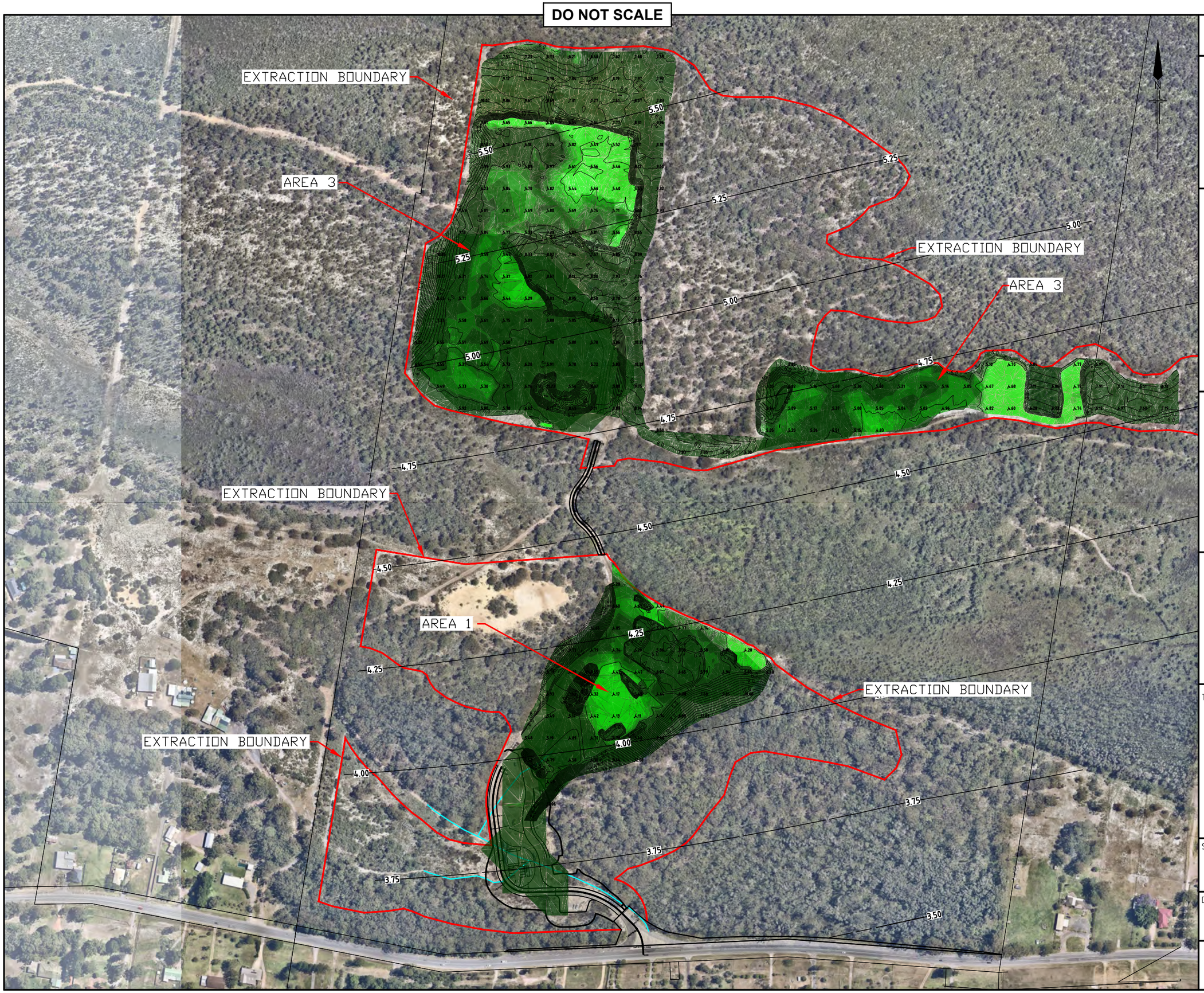
Photograph 3: Roadside drainage with check dams drying following heavy rainfall.

Photograph 4: Sector 3 looking northwest, processing plant during construction.

Photograph 5: Top of haul road, looking northwest, processing plant during construction.

Photograph 6: Topsoil stockpiled on the floor of Sector 4B, wash plant fines blended into floor.

DO NOT SCALE



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DRAWN:	CJ
CHECKED:	MH
DATUM:	AHD
ISSUE DATE:	20/01/2023
REVISION:	A

CLIENT & JOB:

WILLIAMTOWN SAND SYNDICATE

CABBAGE TREE ROAD SAND PIT

CENTURION SURVEY PTY LTD

ABN: 66 605 045 314
P: (02) 4967 5927
M: 0429 987 821
Unit 11 56 Industrial Dr
Mayfield NSW 2304

TITLE:

SURVEY EXTRACTION COMPLIANCE

STATUS: @ 15/12/2022

DRAWING NUMBER: 0163-2212-01

SHEET 1 OF 4 SHEETS

A3

DO NOT SCALE

DEPTH COMPLIANCE COMPARISON TO 0.7m ABOVE MAXIMUM PROBABLE GROUND WATER LEVEL

LOWER VALUE		UPPER VALUE		COLOUR
-0.35	to	-0.3	m	
-0.3	to	-0.2	m	
-0.2	to	-0.1	m	
-0.1	to	0.0	m	
0.0	to	0.1	m	
0.1	to	0.2	m	
0.2	to	0.5	m	
0.5	to	1.0	m	
1.0	to	2.0	m	

ACCESS ROAD TO NORTHERN PRECINCT

NOTE: THIS AREA HAS NOT BEEN CLEARED AT THIS POINT IN TIME

EXTRACTION BOUNDARY

NOTE: THIS AREA HAS NOT BEEN CLEARED AT THIS POINT IN TIME

NOTE: THIS AREA HAS NOT BEEN CLEARED AT THIS POINT IN TIME

EXTRACTION BOUNDARY

CONTOURS 0.7m ABOVE MAXIMUM PROBABLE WATER TABLE LEVEL

NOTES:
1. SPOT LEVEL IDENTIFY ACTIVE FLOOR AREA WHICH WAS SURVEYED 15/12/2022.

SOUTHERN PRECINCT (AREA 1)
CURRENT EXTRACTION FLOOR COMPLIANCE 15/12/2022

SCALE: 1:1250

FILE:	0163_CS_Extraction_Plans_221215.dwg
SURVEYED:	CJ
DRAWN:	CJ
CHECKED:	MH
DATUM:	AHD
ISSUE DATE:	20/01/2023
REVISION:	A

CLIENT & JOB:

WILLIAMTOWN SAND SYNDICATE

CABBAGE TREE ROAD SAND PIT

CENTURION SURVEY PTY LTD

ABN: 66 605 045 314
P: (02) 4967 5927
M: 0429 987 821
Unit 11 56 Industrial Dr
Mayfield NSW 2304

TITLE:

SURVEY EXTRACTION COMPLIANCE

STATUS: @ 15/12/2022

DRAWING NUMBER: 0163-2212-02

DO NOT SCALE

DEPTH COMPLIANCE COMPARISON TO 0.7m ABOVE MAXIMUM PROBABLE GROUND WATER LEVEL

LOWER VALUE		UPPER VALUE		COLOUR
-0.35	to	-0.3	m	
-0.3	to	-0.2	m	
-0.2	to	-0.1	m	
-0.1	to	0.0	m	
0.0	to	0.1	m	
0.1	to	0.2	m	
0.2	to	0.5	m	
0.5	to	1.0	m	
1.0	to	2.0	m	

CURRENT EDGE OF CLEARING
LIMIT OF SURVEY

EXTRACTION BOUNDARY

CONTOURS 0.7m ABOVE MAXIMUM PROBABLE WATER TABLE LEVEL

NORTHERN PRECINCT (AREA 3)
CURRENT EXTRACTION FLOOR COMPLIANCE 15/12/2022

CURRENT EDGE OF CLEARING
LIMIT OF SURVEY

EXTRACTION BOUNDARY

NOTES:
1. SPOT LEVEL IDENTIFY ACTIVE FLOOR AREA WHICH WAS SURVEYED 15/12/2022.

SCALE: 1:1250

FILE:	0163_CS_Extraction_Plans_221215.dwg
SURVEYED:	CJ
DRAWN:	CJ
CHECKED:	MH
DATUM:	AHD
ISSUE DATE:	20/01/2023
REVISION:	A

CLIENT & JOB:

WILLIAMTOWN SAND SYNDICATE

CABBAGE TREE ROAD SAND PIT

CENTURION SURVEY PTY LTD

ABN: 66 605 045 314
P: (02) 4967 5927
M: 0429 987 821
Unit 11 56 Industrial Dr
Mayfield NSW 2304

TITLE:

SURVEY EXTRACTION COMPLIANCE

STATUS: @15/12/2022

DRAWING NUMBER: 0163-2212-03

SHEET 3 OF 4 SHEETS

A3

DO NOT SCALE

DEPTH COMPLIANCE COMPARISON TO 0.7m ABOVE MAXIMUM PROBABLE GROUND WATER LEVEL

LOWER VALUE		UPPER VALUE		COLOUR
-0.35	to	-0.3	m	
-0.3	to	-0.2	m	
-0.2	to	-0.1	m	
-0.1	to	0.0	m	
0.0	to	0.1	m	
0.1	to	0.2	m	
0.2	to	0.5	m	
0.5	to	1.0	m	
1.0	to	2.0	m	

NOTES:
1. SPOT LEVEL IDENTIFY ACTIVE FLOOR AREA WHICH WAS SURVEYED 15/12/2022.

EXTRACTION BOUNDARY

EXTRACTION BOUNDARY

EXTRACTION BOUNDARY

CONTOURS 0.7m ABOVE MAXIMUM PROBABLE WATER TABLE LEVEL

NORTHERN PRECINCT
CURRENT EXTRACTION FLOOR
COMPLIANCE 15/12/2022

SCALE: 1:1250

FILE:	0163_CS_Extraction_Plans_221215.dwg
SURVEYED:	CJ
DRAWN:	CJ
CHECKED:	MH
DATUM:	AHD
ISSUE DATE:	20/01/2023
REVISION:	A

CLIENT & JOB:

WILLIAMTOWN SAND SYNDICATE

CABBAGE TREE ROAD SAND PIT

CENTURION SURVEY PTY LTD

ABN: 66 605 045 314
P: (02) 4967 5927
M: 0429 987 821
Unit 11 56 Industrial Dr
Mayfield NSW 2304

TITLE:

SURVEY EXTRACTION COMPLIANCE

STATUS: @ 31/03/2022

DRAWING NUMBER: 0163-2212-04

SHEET 4 OF 4 SHEETS

A3

2.3 FORECAST FOR FUTURE OPERATIONS

Throughout the next period (calendar year 2023) the operations will continue to be developed and refined with the operations responding to the sand resource and market demands.

Extraction will continue in Sectors 5A, 5B, 6, 6A and 6B, moving into Sector 7 and 7A. No additional clearing and extraction in Sector 7C is considered likely in 2023 based on current glass sand demand.

By the end of 2023, rehabilitation of the extracted portions of Sectors 1A, 3A, 3B, 4, 4A, 4B, 5, 5A, 5B, 6A, 6B, 7 and 7A will be expected to be completed in 2023.

3. APPROVALS AND LICENCES

3.1 NSW DEVELOPMENT CONSENT

Project Approval was granted under the *Environmental Planning and Assessment Act 1979* by the NSW Independent Planning Commission on 9 May 2018 (amended by Modification 1 in March 2020 and by Modification 2 March 2021) subject to Development Consent SSD-6125 conditions (**Appendix 1**).

Modification 1 provided for a glass sand trial to occur prior to the formal completion of the intersection and weighbridge to enable the sand to be assessed for suitability for use in glass manufacture in Sydney.

Modification 2 provided for the use of a wash plant onsite in place of the approved air separator. Both pieces of plant are permitted onsite, but only one is to operate at any one time. The wash plant is intended to minimise double handling of sand resources and improve utilisation of the available resource through the reduction of the silt content.

Modification 3 was submitted in December 2022 and is currently in the assessment process.

3.2 COMMONWEALTH APPROVAL

Commonwealth Approval was granted on 12 December 2018 to undertake the project. Conditions of the approval are based largely on the NSW approval with some additional checks and to ensure compliance.

3.3 PERMITS AND LICENCES

3.3.1 Environment Protection Licence

Environment Protection Licence (EPL) 21264 has been issued by the NSW Environment Protection Authority (EPA) under the *Protection of Environment Operations Act 1997*. Pursuant to Schedule 1, Clause 16 “Crushing, grinding or separating” and Clause 19 “Extractive activities”.

3.3.2 Further Permits and Licences

The following permits and licences are required and in place to construct and operate the quarry:

- Permit under Section 138 of the *Roads Act 1993* from PSC / RMS.
  - *This has been attained and is no longer required with the completion of the intersection.*
- Hunter Water agreement to undertake extractive industries within the Tomago Special Area.
  - *This has been attained.*
- Lease for the land with Port Stephens Council.
  - *This has been attained.*

3.4 LEGISLATION

In addition to specific requirements referred to project approvals and licences, the Project is to be conducted in accordance with all relevant Commonwealth and New South Wales legislation outlined in **Table 7**.

Table 7: NSW and Commonwealth legislation applicable to the Project.

Act	Jurisdiction
Environment Protection and Biodiversity Conservation Act 1999	Commonwealth
Environmental Planning and Assessment Act 1979	New South Wales
Biodiversity Conservation Act 2016	New South Wales
Biosecurity Act 2015	New South Wales
Protection of the Environment Operations Act 1997	New South Wales
Roads Act 1993	New South Wales
Waste Avoidance and Resource Recovery Act 2001	New South Wales
Water Management Act 2000	New South Wales

4. ADMINISTRATIVE CONDITIONS

4.1 SCHEDULE 2 CLAUSE 18 – PRODUCTION DATA

Quarry production commenced on 18 May 2020 with the first product truck (outside of the glass sand trail) being dispatched from site. Production since the quarry commenced including 2022 is summarised below in **Table 8**.

As shown by **Table 8,** three quarters of sand sold from the quarry was washed sand in 2022. Production rates for 2022 were above the expected production level within the EIS, but less than the maximum production rate.

On a cumulative basis since commencement, the quarry is slightly ahead of the expected extraction rate from the quarry, but below the maximum permitted extraction.

Table 8: Production data

Product Type	2020	2021	2022	Percentage for 2022	Cumulative Tally	Percentage
Natural Sand * Screened only or raw sand (includes sales of landscape, screened, glass and fill sand)	129,311	222,245	112,950.11	25%	464,506.11	50%
Natural Sand * Estimated of sand washed in wash plant (includes sales of concrete sand – adjusted for the wash plants operational time a nd washed sand)	-	138,500	330,617.89	75%	469,117.89	50%
Annual Total of 'Natural Sand'*	**129,311**	**360,745.16**	**443,568.00**		**933,624.16**	
Approved Maximum and Assessed Rate	530,000	530,000.00	530,000.00	84%	1,590,000.00	59%
Anticipated production in EIS	250,000	300,000.00	336,000.00	132%	886,000.00	105%
Cumulative planned production in EIS	250,000	550,000.00	886,000.00	105%		
Actual Cumulative Extracted Total	**129,310.70**	**490,055.86**	**933,623.86**			
* 'Natural Sand' is the reportable attribute for Regional NSW Extractive Materials Return 2020, no current form has been located						

Table 9: Employment and trucking data

Aspect	Comment
Employment	Approximately six full time equivalent employees were employed at the quarry for most of 2022, consistent with 2021. By the end of the period there are now nine full time employees and one part time employee. This includes contract machinery operators but excludes truck drivers.
Total No. of Trucks	12,885 trucks collected sand from the quarry.
Truck Drivers	512 different truck drivers with minimum of one load, maximum of 320 loads completed by one driver, averaging 25 loads per driver.

The Regional NSW Extractive Materials Return 2020 form has been located and is assumed to be the standard DRG form for the purpose of Condition 18, this appears to be primarily for estimation of royalty payments for extraction from mineral lease or licence, or other Crown land leases. The quarry makes royalty payments to Port Stephens Council, no other royalty payments apply. This form notes the inclusion of production data for “Natural Sand”, the gross value of all sales (commercially sensitive) and the number of employees. Enquires have been made to relevant departments to ascertain the most up to date form, however, no information has been forthcoming. The information provided below is considered consistent with the information noted in the condition.

4.2 SCHEDULE 2 CLAUSE 21 – CONTRIBUTIONS TO COUNCIL

No Construction Certificates have been required for the earthworks and installation associated with temporary structures which construction has been limited to, therefore no Contributions were required during the reporting period.

A levy to the Council has been paid in accordance with the lease agreement for each tonne of sand sold from the quarry.

During 2022 this levy amounted to approximately **$2,217,840** dollars, bringing the cumulative levy paid to Council since commencement to over **$4.6 million dollars**.

5. MONITORING RESULTS

5.1 RAINFALL

As shown within **Figure 9** below, 2021 started the year with cumulative rainfall levels recovering from below average rainfall since late 2018, and by February / March 2021 has entered a phase of above average cumulative rainfall. On a monthly basis, 5 months of 2022 received below average rainfall, while seven months received rainfall above average, including, March and July 2022 where over 233mm and 254mm were received respectfully. Rainfall in 2022 totalled over 400mm above the long term annual average.

Cumulatively since January 2019, more than 625mm of rainfall has been received above the long term average.

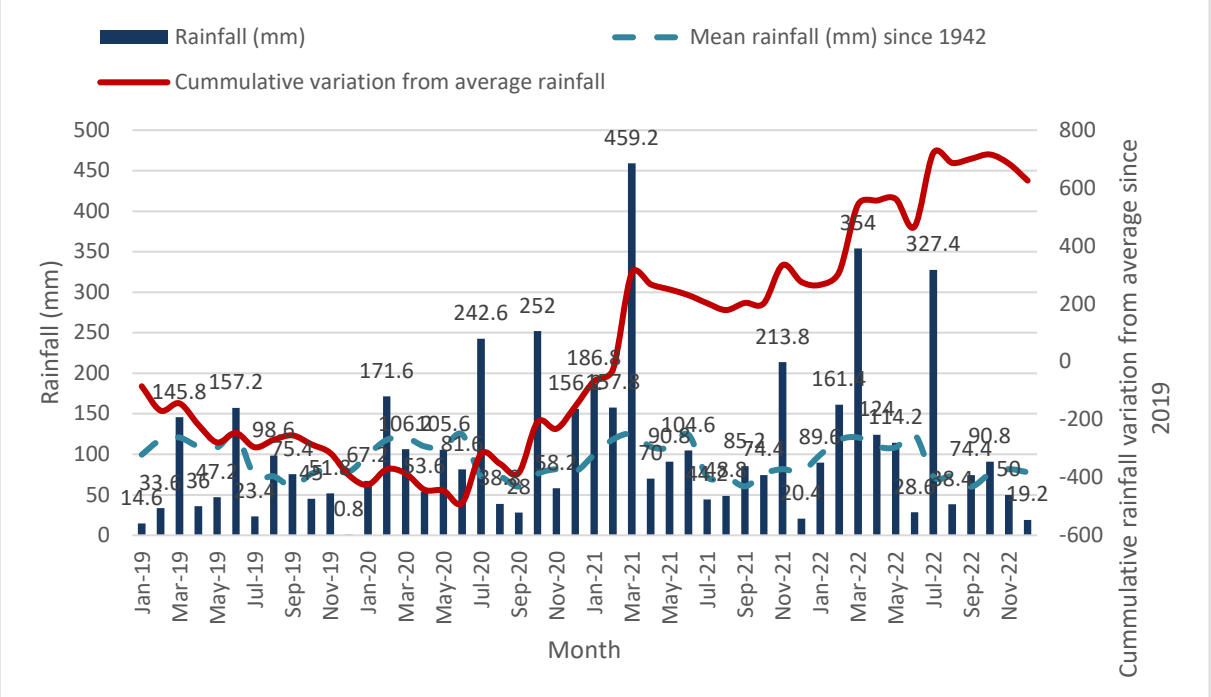

Figure 9: Monthly Rainfall Totals (Williamtown RAAF) and variation from average

5.2 AIR QUALITY

This section addresses compliance with the approved Air Quality Management Plant (AQMP) required by Condition 9 of Schedule 3 of the Development Consent (SSD-6125). The monitoring network was established at all air quality monitoring sites by 14 September 2019 and has been operating since that time.

5.2.1 Regulatory Requirements

Air Quality is governed by the regulatory approved AQMP and EPL, based on maintaining air quality criteria established within the Development Consent. The AQMP provides a formal framework for ongoing monitoring of air quality at the site to manage the potential impact of sand extraction on air quality. The AQMP has been under revision since February 2022 with the DPE.

5.2.2 Air Quality Monitoring Network

The air quality monitoring network comprises of the following key components:

- Two Beta Attenuation Monitors (BAM) real-time compliance monitors (RT1 and RT2) measuring PM_{10} installed between the quarry and dwellings to the south and west of the quarry. Each real-time monitor is fitted with wind direction sensors to enable contributions from the quarry to be better determined.
- A High-Volume Air Sampler (HVAS) with a PM_{10} inlet is located to the east of the quarry.
- A HVAS measuring TSP is located to the south of the quarry, adjacent to RT2.

The network has been established prior to the commencement of quarrying onsite to better establish site-specific background conditions.

Locations of the installed air quality monitoring units are provided in **Figure 10.**

WSS utilise local meteorological data to observe current and predicted wind speed and direction data and also generate site specific meteorological data records. The current method is to access Bureau of Meteorology forecasts on a daily basis to allow preparedness for elevated wind and potential air quality control requirements.

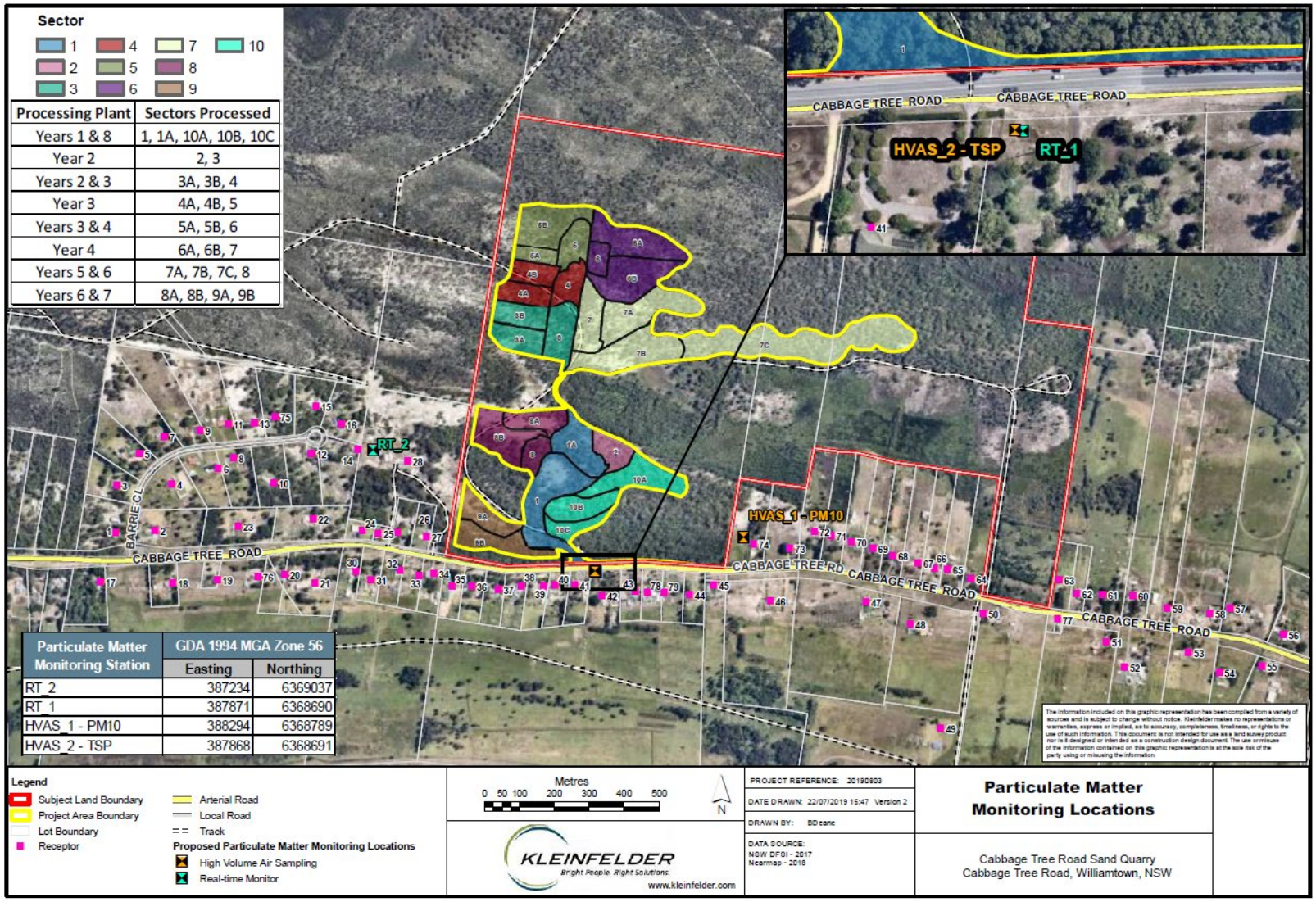

Figure 10: **Air Quality Monitoring Network Locations**

5.2.3 Air Quality Criteria

Newcastle Sand *"must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria"* in **Table 10** at any residence on privately-owned land.

Table 10: Air Quality Criteria

Pollutant	Averaging Period	Criteria*
Particulate matter < 10 µm (PM_{10})	Annual	[a c] 25 µg/m^3
Particulate matter < 10 µm (PM_{10})	24-hour	[b] 50 µg/m^3
Total suspended particulates (TSP)	Annual	[a c] 90 µg/m^3

Where:

a – Cumulative impact (i.e. increase in concentrations due to the project plus background concentrations due to all other sources)

b – Incremental impact (i.e. increase in concentrations alone, with zero allowable exceedances of the criteria over the life of the project)

c – Excludes extraordinary events such as bushfire, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by DPIE.

* Based on standard air quality assessment criteria in the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW 2007*

5.2.4 Review of Air Quality Results

Data represented below summarises the air quality monitoring results at each of the monitoring sites for the reporting period.

5.2.4.1 High Volume Air Samplers (HVAS)

Figure 11 and **Figure 12** shows the monitoring results for PM_{10} and TSP in µg/m^3. Measured over 24 hours every 6 days for each of the monitoring locations during the reporting period.

At the end of 2022 the rolling annual average PM10 reached **9.9 µg/m^3**, down from **12.3 µg/m^3** in 2021, against the limit of 25 µg/m^3. Therefore there has been no exceedance of annual average PM10 levels.

For TSP, at the end of 2022, the rolling annual average reached **22.6 µg/m^3** down from the **28.6 µg/m^3** in 2021, against the limit of 90 µg/m^3. Therefore there has been no exceedance of criteria for annual average TSP levels during this period.

The reduced dust levels is likely a consequence of continued higher than average rainfall, improved quarry operations and stabilisation and activities onsite moving north.

The HVAS monitor for PM_{10} showed good correlation to the BAM monitor, with the BAM monitor annual average reaching **10.5 µg/m^3**.

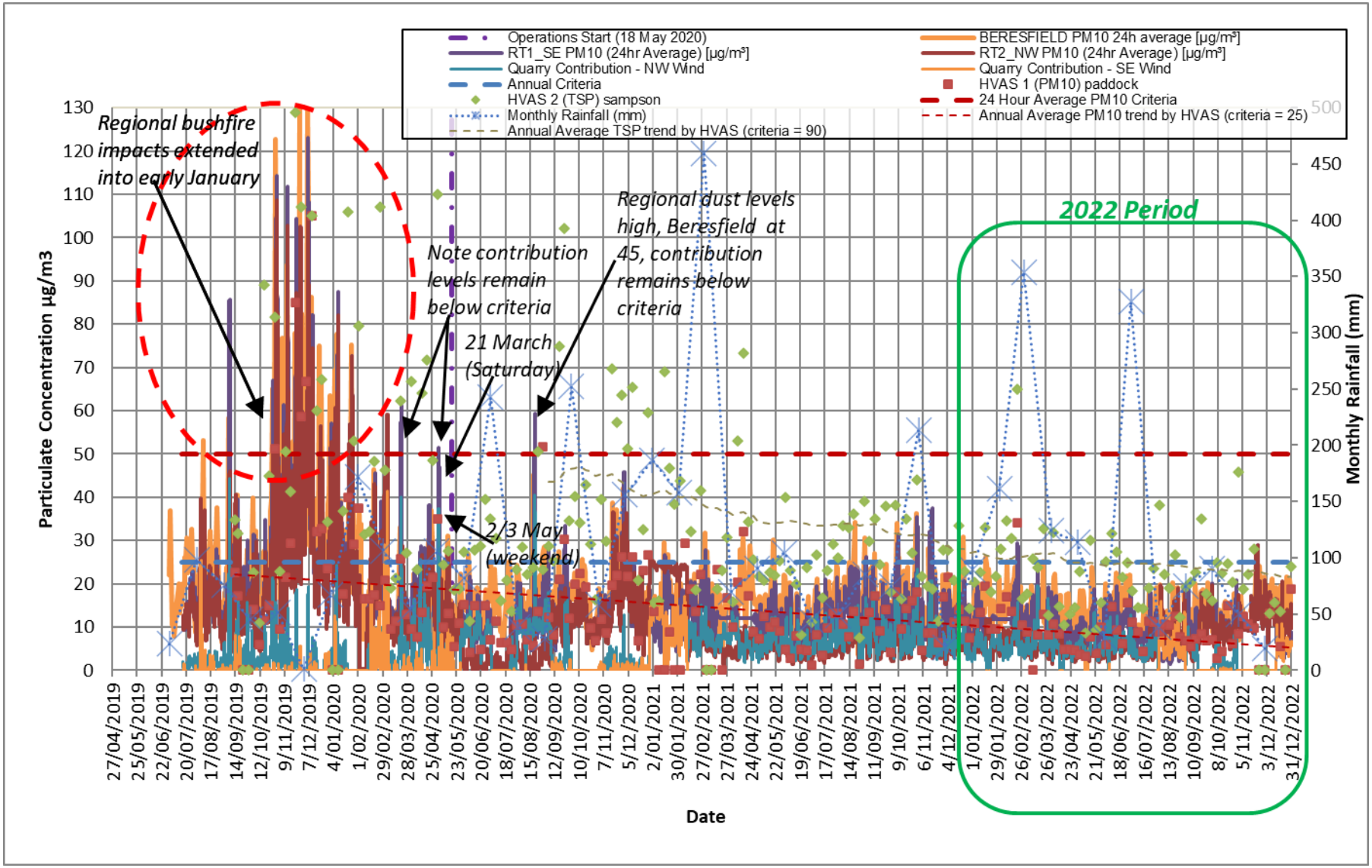

Figure 11: **Air quality sample results from HVAS and BAM stations from 14 September 2019 to 31 December 2022, shows DPIE Beresfield site for context on regional conditions.**

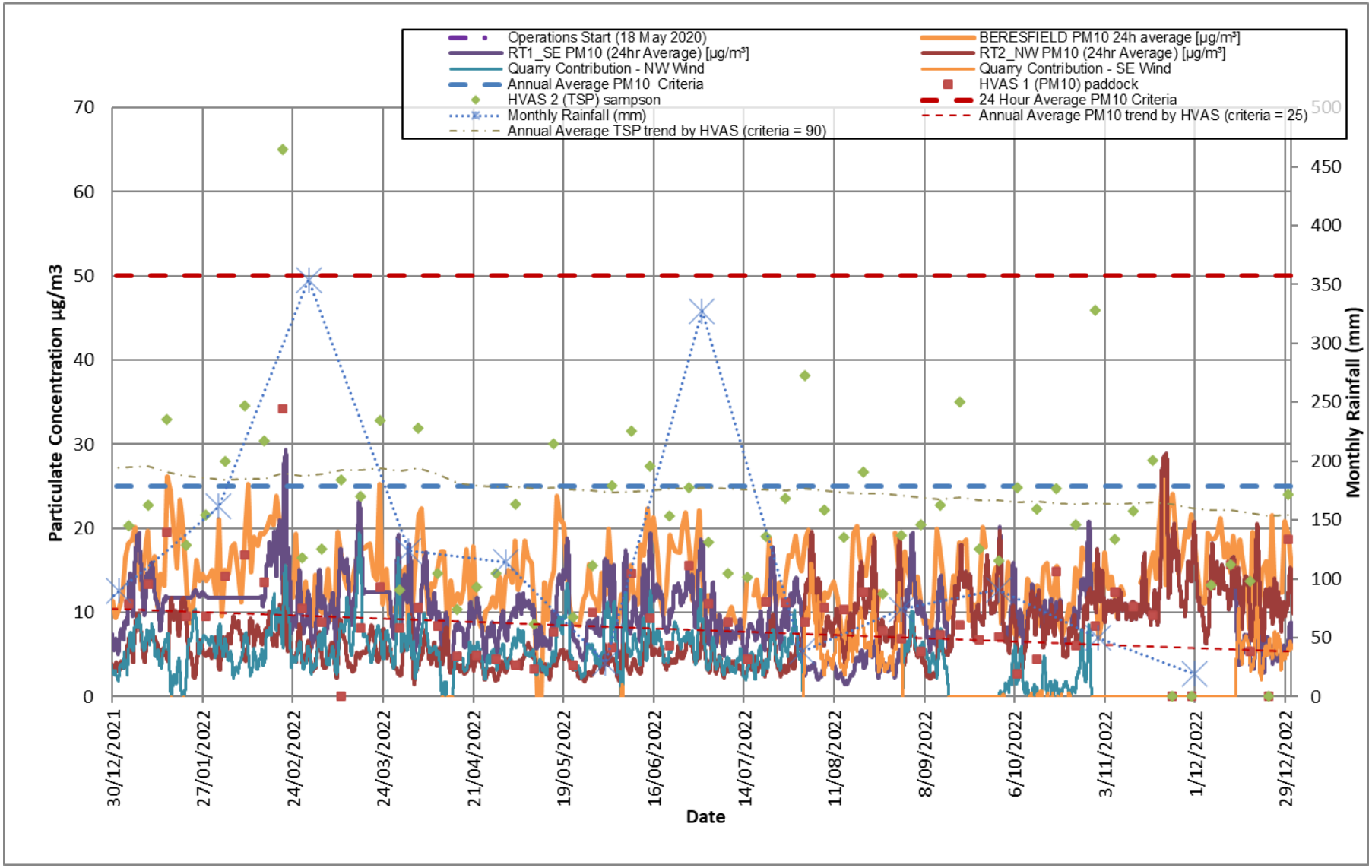

Figure 12: **Air quality sample results from HVAS and BAM stations from for 2022, shows DPIE Beresfield site for context on regional conditions.**

5.2.4.2 BAM Monitoring

Two real-time monitors, which measure PM_{10} on a real-time continuous basis, have been installed as a management tool for quarry operations to guide proactive and reactive mitigation measures. The air quality management framework is based on a series of staged reactive measures taking into consideration the prevailing winds and measured PM10 levels, that enable the quarry operators to make proactive decisions on what changes may be required to site operations to maintain air quality levels below the relevant criteria.

RT1 is located to the west of the quarry, while RT2 is to the south. RT1 enables the determination of reasonable background conditions during a north-westerly wind such that the contribution of the quarry to the dust measured at RT2 can be determined, and vice-versa during a south-easterly wind.

The strongest and most persistent winds occur from the north west direction, and are considered to be the weather conditions onsite likely to have the greatest potential for air quality impacts at receptors south of the quarry. Notwithstanding both potential quarry contributions (i.e. north westerly wind or south easterly wind) are shown within **Figure 11**. It should noted these are potential contributions only and assume worst case, the dust source may be unrelated to the quarry.

The HVAS monitor for PM_{10} showed good correlation to the BAM monitor, with the BAM monitor annual average reaching **10.5 µg/m³**. Over the same period the average at the Beresfield DPIE monitoring station, located 13 km west (and upwind) of the site was 14.3 µg/m³.

Monitoring results for the reporting period are shown in **Figure 11,** Figure 12 and below in **Table 11**. The BAM results are generally consistent with those measured by the HVAS units. The annual average results from the BAM units show RT2 (south of the quarry), has on average been higher showing the quarry has contributed to an increase in air quality levels. There has been no exceedance of the Annual Average or 24-hour average criteria.

Table 11: BAM monitoring results for 2022

BAM Monitoring Station	Rolling 2019 4 Month Average (µg/m³)	Rolling 2020 12 Month Average (µg/m³)	Rolling 2021 12 Month Average (µg/m³)	Rolling 2022 12 Month Average (µg/m³	Annual average criteria (µg/m³)
RT1 (south of Cabbage Tree Road)	26.1 (4 months only), includes extraordinary events.	15.0	12.6	10.5	25 #
RT2 (north of Cabbage Tree Road)	23.8 (4 months only), includes extraordinary events.	12.6	7.4	7.1	
# – Excludes extraordinary events such as bushfire, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by DPIE.					

5.2.5 Trigger Response Effectiveness

The air quality management plan provides for a series of control measures to actively reduce air quality emissions from the quarry through the use of the near-real-time BAM air quality monitors. The Stage 1 trigger is routinely applied, even in the absence of any specific triggers.

While the staged trigger response framework is considered to be in general useful in promoting improvements in air quality, the specific actions are no longer considered universally appropriate at the quarry (i.e. triggers should respond to dust generating activities occurring at that time, not a pre-set list of activities). In response to this, an amendment to the AQMP has been sort, that will include adjustments to the same trigger response system that was incorporated into the EPL conditions and a resulting amendment to the EPL.

5.2.6 Monitoring Performance for the Period

Over the period there has several occurrences where various components of the monitoring system have not performed as expected. On each occasion the matter was addressed in the following manner:

- Observation of problem.
- Local technician or quarry manager inspect the unit and where possible resolves issue.
- Where local technician or quarry manager is unable to resolve matter seek assistance of installer via phone (Thomson Environmental Services – TES - installed and supported operations).
- If matter cannot be resolved over the phone, arrange for TES technician to attend site and resolve issue.
- Where TES technician cannot resolve issue, a substitute monitor, where available, is installed while the monitor is fixed.

Table 12 provides notes with respect to the performance of the BAM units and notable local issues that may have affected air quality during the period. During early 2022, an intermittent electrical fault was detected on the RT1 monitor that resulted in power failures following some wet weather events. Additionally, failures with the logger at RT2 during September and October resulted the faulty parts being serviced and then sent for repairs. Both issues have now been resolved, and the monitors through 2022 have typically been more stable than previous periods.

Table 12: Operational performance notes

Month	Comments
March 2022	RT1 – After hours, moisture related, average between last two data points adopted
March 2022	RT1 – Moisture and/or logger related issue - high rainfall - not dust related
March 2022	RT1 – Humidity or logger issue, average used.
April 2022	RT1 – Moisture related, humidity error expected or logger issue. Logger error, machine restarted
September 2022	RT2 – Logger error.
October to December 2022	RT2 – Logger error. Logger removed and sent for repairs.

5.2.7 Air Quality Complaints

No complaints were received in relation to air quality during the recording period.

5.3 NOISE & VIBRATION MONITORING

5.3.1 Operational Noise Monitoring

With the quarry becoming operational in May 2020 noise monitoring has been undertaken on a quarterly basis as prescribed within the NMP and EPL. Monitoring occurred during 2022 as follows:

- 21, 22 and 23 March 2022
- 27, 28 and 29 June 2022
- 19, 20 and 21 September 2022
- 28, 29 and 30 December 2022

Under each monitoring event completed, that occurs for the 30-minute (morning-shoulder) and 1.5-hour (day) compliance measurement periods, the noise from sand quarry was inaudible at the monitoring location. On each occasion, traffic was the dominant noise source.

5.3.2 Noise Data Trends Over Life of Project

Since the quarry becoming operational in May 2020, the quarry (and its noise sources) have been progressively moving away from the residences located south of Cabbage Tree Road. Noise from the operations was audible at times during construction especially during road construction, but since June 2020, the first operational noise monitoring event, noise from the quarry has been inaudible during each event.

5.3.3 Noise Complaints

Two complaints related to noise were recorded during the reporting period. Both of these were for the use of airbrakes in the slipway access to the quarry.

On both occasions, Newcastle Sand contacted the haulage companies to notify them of the incidents. Additionally, after the second event, an email was sent out to all haulage contractors to remind them of the driver's code of conduct with an emphasis on no compression braking will be tolerated and to respect our neighbours.

5.4 WATER MONITORING

Throughout the reporting period water monitoring data continued to be collected and with the change in water levels will continue to contribute to extending the baseline data collected since 2019 and data collected during the EIS. Kleinfelder are engaged to conduct water monitoring on behalf of Newcastle Sand.

A summary of water monitoring for 2022 prepared by Kleinfelder has been included in **Appendix 5,** documenting the following keys aspects:

- Sampling undertaken during 2022.
- Monitoring results recorded in 2022.
- Comparison of results with the adopted site-specific water quality triggers.
- Consideration of prevailing trends.
- Conclusion that the monitoring demonstrates that the quarry has a neutral effect on the Hunter Water catchment.

Water monitoring regulated by the approved Soil and Water Management Plan (SWMP) required by the Development Consent. Version 3 of the SWMP was approved in July 2021 that included provision for the wash plant and adjusted the water quality trigger values based on the additional data that was collected.

The trigger values from the 2021 SWMP generally remain suitable for future monitoring. However, iron, zinc, pH and copper have shown considerable natural fluctuations at specific sampling locations, which may require updating their respective trigger values (potentially with a higher value set for specific locations) to better compensate for natural processes such as above average rainfall and other seasonal changes.

5.4.1 Water Monitoring Network

Water monitoring was initiated in February 2019 and has continued through 2021. Sampling times were generally consistent, undertaken each time within the middle of the month.

During June and July of 2022 BH1 and BH12 were decommissioned and replaced by BH1A and BH12A in similar areas, though outside the extraction footprint during August 2022. The newly installed wells were added to the monthly gauging works, and sampled consistent with the removed wells for the remainder of the year and the maximum groundwater depth predicted through the modelled floor heights.

The water monitoring network is presented in **Figure 13**.

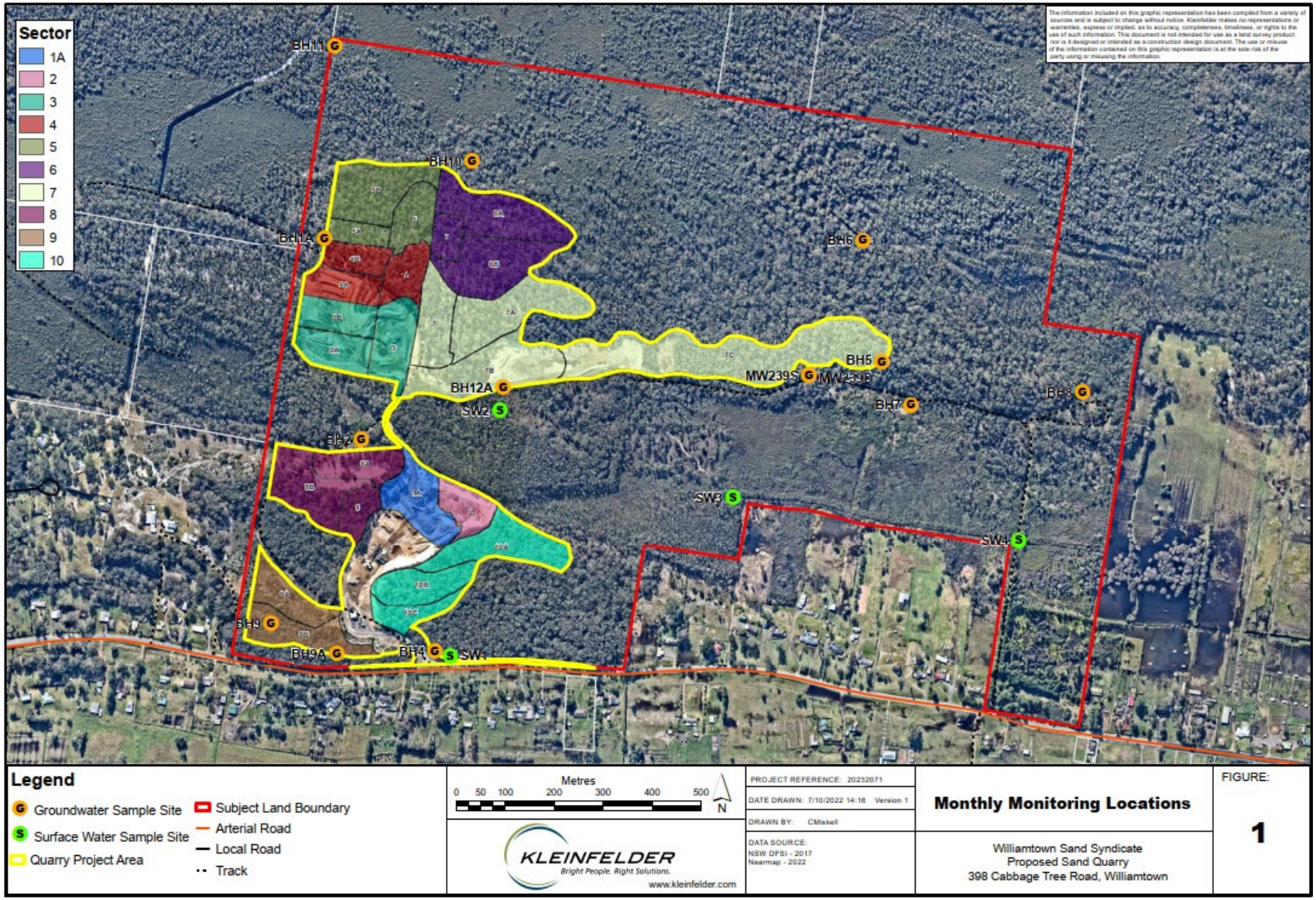

Figure 13: Water Monitoring Network - Monitoring Locations

5.4.2 Water Levels

Overall, trends in groundwater elevations (mAHD) across the Site indicate a gradual increase in groundwater elevations throughout the 2022 monitoring period up until July before plateauing and slowly decreasing for the remainder of the year, finishing on average slightly lower (121 mm) than the previous December 2021 levels.

Across the Site, an average increase of 0.6m in groundwater elevation recorded when compared to the previous July 2021 levels.

The floor of the quarry is based on maintaining a 0.7m buffer above the maximum predicted ground water level. During 2022, there were thirty-two (32) instances of Trigger Action and Response Plan (TARP) trigger level exceedances during 2022, all occurring from March to December. This was following a rainfall total of 354mm in March 2022 and above average rainfall for much of the remainder of the year, recorded at the Williamtown RAAF weather station (# 61078).

Groundwater levels for key bores that include loggers are shown within **Appendix 6**. It should be noted there are small variations between manual dipping levels and logger levels, as such dipped levels are considered more accurate, while the loggers provide a more consistent stream of information to better evaluate water level response to rainfall.

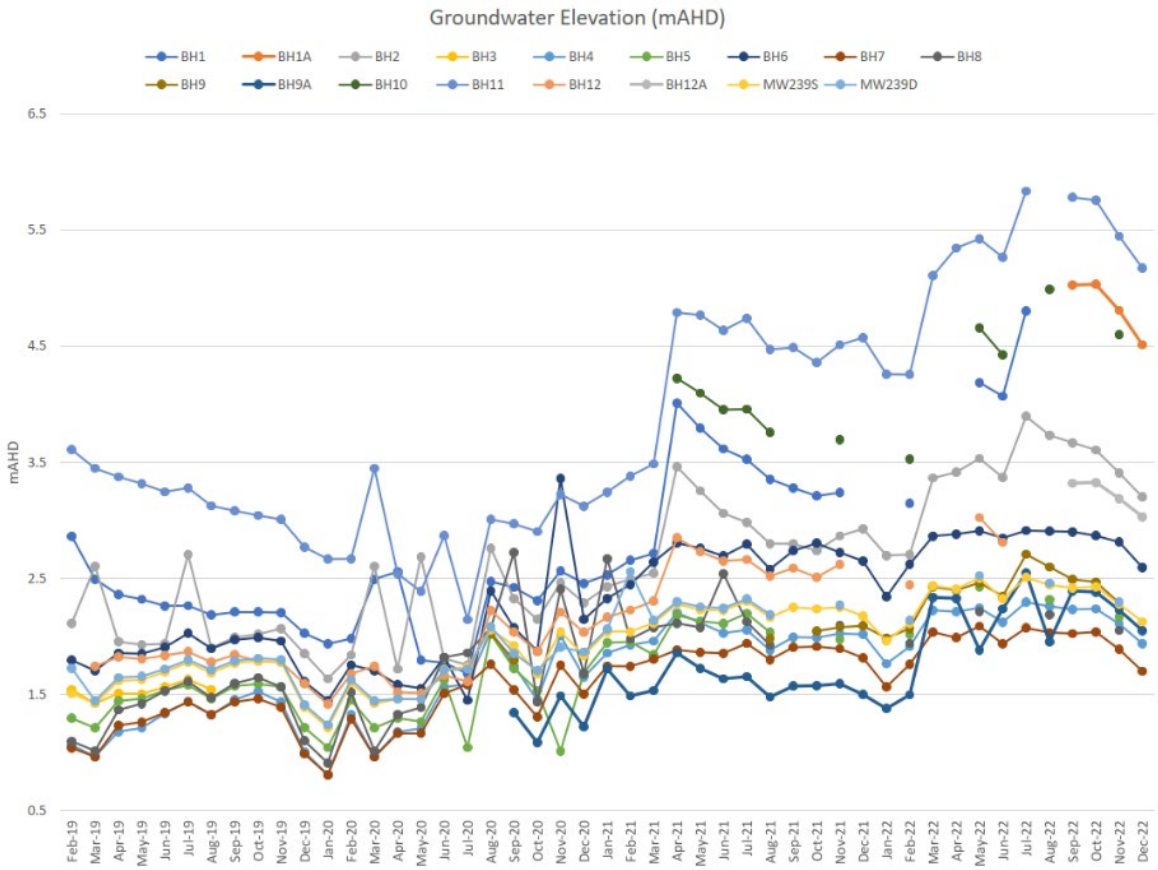

Figure 14: Monthly groundwater elevation from manual gauging from 2019 to end of period.

Groundwater levels are evaluated on a monthly basis against the trigger action response plan levels defined within the Maximum Extraction Depth Report, each of these is presented within the Monthly Water Monitoring Reports in **Appendix 5**, with a summary of the groundwater levels against the trigger action response plan shown below in **Table 13**.

Groundwater Exploration Services Pty Ltd was engaged consistent with the TARP to review groundwater levels and notices of the changing levels were sent DPE and HWC.

While water quality levels were high in the period, the key intent of the 0.7m buffer to groundwater according to HWC (. Simpson pers comm) is to ensure the rehabilitated landform can maintain a woodland consistent with the pre-existing landform (i.e. not resulting in swamp). The levels experienced are unlikely to result in any change in the intended woodland, and will remain consistent with adjacent woodland of similar elevation.

Table 13: Groundwater levels with evaluation against the TARP levels

Bore ID	Surface RL (m AHD)	Maximum Predicted Groundwater Level (m AHD) - quarry floor must remain 0.7m above this level	2022 groundwater elevation by manual gauging			Proximity to quarry floor level (m)
			Min (m AHD)	Max (m AHD)	Range (m)	
BH1	8.21	4.50	3.147	4.804	1.657	0.396
BH01A	-	4.80	4.81	5.034	0.224	0.466
BH2	7.4	3.8	2.699	3.897	1.198	0.603
BH4	2.81	3.00	1.766	2.296	0.53	1.404
BH5	6.76	4.00	2.021	2.429	0.408	2.271
BH6	3.01	4.40	2.344	2.914	0.57	2.186
BH7	2.6	3.7	1.567	2.09	0.523	2.31
BH8	3.28	4.00	1.942	2.217	0.275	2.483
BH9	17.07	3.00	1.988	2.709	0.721	0.991
BH9A	17.07	3.00	1.38	2.548	1.168	1.152
BH10	6.08	4.90	3.529	4.991	1.462	0.609
BH11	6.02	5.50	4.259	5.837	1.578	0.363
BH12	8.06	4.00	2.445	3.026	0.581	1.674
BH12A	-	4.00	3.19	3.329	0.139	1.371
MW239S	3.09	3.90	1.962	2.51	0.548	2.09
MW239D	2.97	3.90	2.14	2.525	0.385	2.075
Key.	*TARP Level 0: More than 0.5m of maximum predicted groundwater level*			*TARP Level 1: Within 0.5m of maximum predicted groundwater level*		
	TARP Level 2: Within 0.25m of maximum predicted groundwater level			*TARP Level 3: Above maximum predicted groundwater level*		

5.4.3 Water Quality and Data Trends

A summary of the water quality trends is shown below in **Table 14**. Graphical representation of these trends are included in the attached **Appendix 5**. Overall, it is evident that the significant rainfall in 2022 resulted in a range of changes across the site, there is dominant trend suggesting quarrying activities has had any influence on water quality.

Table 14: Summary of data trends from 2022 monitoring results

Analyte	Comment	Overall Trend Comment
Hydrocarbons	Single detection at BH4, unlikely to be related to quarrying, given location adjacent to busy roadway.	**No trend**
Barium	Barium concentrations have remained relatively stable to decreasing since January 2021.	**Overall decreasing trend**
Chromium	Concentrations were either below or marginally elevated above the LOR.	**Stable overall**
Cobalt	Spike at SW3 and SW4 in August.	**Stable overall**
Copper	Seasonal peak between April and October at BH4, but half of that recorded in 2021. Spike in May. A previous investigation into copper concentrations at BH4 during 2021 did not identify any relationship to the quarry and is likely related to elevated groundwater levels and historical anthropogenic sources.	**Stable overall** Seasonal trend at BH4
Iron	Increase at BH6 from May to November before dropping in December. Increase at SW3 from February to May and SW4 in November. It is worth noting SW3 and SW4 are within a low-lying man-made irrigation channel, where iron oxides within the natural sediments would be expected to mobilise in response to changing water levels.	**Stable overall** Some historic variations
Manganese	Upward trend at SW4 from August to November. Increase from September to November at wash plant	**Stable overall** Some historic variations
Nickel	Decreasing trend at SW2. BH11 not sampled in April due to wet weather access issues.	**Stable overall**
Zinc	BH2 above trigger level from August to November. A trigger investigation was undertaken during September 2022 due to two consecutive months of elevated zinc concentrations which concluded that natural fluctuations in metals, due to the reducing environment, is the likely cause triggered by above average rainfalls recorded throughout 2022.	**Stable overall**
PFAS	Concentrations of Total PFAS in groundwater have generally been below the LOR throughout the 2022 monitoring program with the exception of BH4 and BH12. PFAS compound 6:2 FTS was identified at both BH4 and BH12 in February at concentrations of 0.06 µg/L and 0.07 µg/L. This is the second detection of 6:2 FTS at BH4, with the first occurring in November of 2021 (0.15 µg/L). No other PFAS compounds were detected at groundwater locations throughout 2022. Concentrations of Total PFAS in surface waters have generally been below the LOR throughout historical monitoring, this trend was continued this year with no reported concentrations above LOR during 2022.	**Below LOR**

Analyte	Comment	Overall Trend Comment
	Since sampling began at the wash plant in August 2021, PFAS has been detected in both wash plant water (WPW) and wash plant fines (WPF on multiple occasions, albeit below the trigger values). PFOS (maximum of 0.0012 mg/kg) was detected during February, May and August sampling of the WPF this year. PFPeA (0.0002mg/kg) was also detected for the first time in the WPF sample during the February sampling event. PFOA was reported in two WPW samples during November and December 2022 at concentrations of 0.01 µg/L. PFHxS, PFOS or the sum of these PFAS compounds was reported above LOR during January, February, July, October, November and December sampling in WPW with a maximum concentration of 0.02 µg/L for PFHxS, 0.03 for PFOS and 0.05 for PFHxS+PFOS which are all below trigger values.	
pH	Laboratory analysed pH units in groundwater were reported to be generally consistent with historical variations, except for BH6 which returned a pH 3.92. SW4 recorded a drop in pH in February.	**Slight downward trend across site**
Sodium	BH4, BH7 and MW239S all significantly lower than the historical results. Sodium in surface waters were generally consistent or slightly lower than historical results.	**Stable overall**
Magnesium	Downward trend across site.	**Downward trend across site**
Sulphate	Generally slight decrease in concentrations across site. Increases reported for BH1, BH5 and BH8.	**Slight downward overall** Some variations
Chloride	Spike at BH7 and MW239S.	**Stable overall**
Total Phosphorous	Spike at SW2 in February.	**Stable overall**
Total Nitrogen	Spikes observed in SW2 in February.	**Stable for groundwater**
Total Hardness ($CaCO_3$)	Downward trend at BH6, BH7 and MW239S. Upward trend at BH1, BH9A, SW1 and SW3. Remaining sample points stable.	**Variable**
Electrical Conductivity	BH7 and MW239S significantly lower. Slight decrease in SW1 and SW3.	**Slight downward overall**
Total Dissolved Solids	Decreasing for BH4 and BH9A. SW1 and SW3 generally decreased from the 2021 monitoring period. SW2 and SW4 identified a general stable trend.	**Stable to decreasing trend**

5.4.4 Trigger Value Evaluation

Based on the continued monitoring completed onsite and the change in rainfall an evaluation of the suitability of adopted water quality triggers is summarised below for those analytes that showed some variation through 2022.

While several triggers were exceeded on a month-to-month basis, only copper exhibited changes in concentrations, particularly at BH4 that may warrant an amendment of the copper concentrations. There are no known sources from the quarrying activities that are considered likely to result in these changes in copper.

Table 15: Trigger value evaluation based on additional data collection.

Analyte	Comment	Change Required?
Electrical Conductivity	The trigger range remains suitable.	**No**
pH	The upper limit of 6.5 was exceeded at SW1, but dropped to within range, while the lower limit was exceeded at SW2, but returned to within range.	**No** Exceedances do occur but are rare.
PFAS	PFOS was detected at WPW in January, July and October to December, as well as at WPF in February. All samples were slightly above concentrations equivalent to the LOR (0.01µg/L). Additionally, PFAS compounds PFOA (0.01µg/L) was detected at WPW in November and December, and 6:2 FTS (0.02µg/L) was detected at BH4 and BH12 in February 2022. Trigger values have not been established for these analytes, except for PFOA which was established to be 0.56µg/L.	**No** Considering that PFAS concentrations have remained well below the site-specific trigger values at all onsite locations, it can be concluded that the trigger values remain suitable for future monitoring.
Copper	BH4 experienced elevated concentrations of copper during May 2022 monitoring event with concentrations reaching 0.097mg/L, exceeding the former site-specific trigger value for this location (0.083mg/L). The site-specific trigger values were adjusted in July 2021 following the development of the SWMP, increasing the copper trigger value at all locations to 0.083mg/L. Changes in copper appear to be related to seasonal trends associated with rainfall and increases in groundwater elevation that typically occur over winter.	**Yes** Due to the strong evidence for natural increases in background concentrations, it is recommended that the trigger value for copper be reviewed and raised (possibly just for BH4, the subject of previous trigger investigations).
Arsenic	All concentrations have remained below the trigger at most locations during the baseline data gap monitoring period.	**No** Given that arsenic levels had returned to average conditions by the following month, the current site-specific trigger value of 0.003mg/L remains suitable for all onsite locations.
Barium	All concentrations have remained below the LOR at most locations during the baseline data gap monitoring period.	**No** Barium concentrations have not risen above this value at any location. Therefore, the revised site-specific trigger value is deemed suitable.
Lead	All concentrations have remained below the LOR at most locations during the baseline data gap monitoring period.	**No** Overall, the site-specific trigger value for lead remains suitable for the site, given that it accurately represents background concentrations.
Nickel	All concentrations have remained below the trigger at most locations during the baseline data gap monitoring period.	**No** No other site listed reported elevated concentrations of nickel above the site-specific trigger value. Therefore, the current trigger value remains appropriate for the site.

Analyte	Comment	Change Required?
Chromium	All concentrations have remained below the trigger at most locations during the baseline data gap monitoring period.	**No** Overall, the site-specific trigger value for chromium remains suitable for the site, given that it accurately represents background concentrations.
Iron	Iron reported exceedances of the site-specific trigger value (4.1 mg/L) at BH6 in November and SW2 in February.	**No** Given that current iron concentrations reflect the background conditions observed in 2019, the current site-specific trigger value remains suitable for all onsite locations.
Manganese	All concentrations have remained below the trigger at most locations during the baseline data gap monitoring period.	**No** The current trigger value remains appropriate for the site.
Zinc	Zinc reported exceedances of the trigger value (0.085 mg/L) at BH1 in February and BH2 between August and November. During most monitoring rounds, concentrations were reported to be below the LOR.	**No** The current site-specific trigger value for zinc remains suitable for the site, given that it accurately represents background concentrations.
Cobalt	All concentrations have remained below the trigger at most locations during the baseline data gap monitoring period.	**No** Given that current cobalt concentrations reflect the background conditions observed in 2019, the current site-specific trigger value of 0.006 mg/L remains suitable for all onsite locations.

5.4.5 Conclusion

Kleinfelder concluded, the sampling program was successfully completed to meet the requirements of the EPL as well as the SWMP.

The SWMP developed in July 2021 also details a reduced groundwater and surface water monitoring scope. Following a review of the baseline water quality data gap monitoring, as well as historical data from 2019 to 2021, it can be concluded that the reduced scope continues to be appropriate given the low concentrations of TPH, TRH, BTEX, PFAS and most metals reported during each monthly groundwater monitoring event.

As discussed in Section 6 of the 2022 Water Quality Report (see **Appendix 5**), the trigger values that were developed as part of the 2021 SWMP generally remain suitable for future monitoring. However, iron, zinc, pH and copper have shown considerable natural fluctuations at specific sampling locations (BH2, BH4 and BH6) these Trigger Values will be reviewed and updated in the next update of the SWMP to ensure their respective trigger values better compensate for natural processes such as above average rainfall and other seasonal changes.

The majority of the increasing trends across the Site in 2022 are considered likely to be derived from periods of above average rainfall which were recorded for most of the year, and the resulting infiltration through the highly permeable sands which mobilises sorbed metals. With isolated elevations or elevated trends observed mostly upgradient of the quarry activities, there is no evidence to suggest that quarrying activities have contributed to these results, therefore, it can be considered that the quarry has neutral effects on water quality in the local area.

5.5 FAUNA MONITORING

5.5.1 Frog Monitoring

Targeted fauna monitoring for the Mahony's Toadlet *(Uperoleia mahonyi)* and Wallum Froglet *(Crinia tinnula)* was conducted by Wedgetail ecologists during two discreet monitoring events that were conducted during peak breading season (Spring to Autumn) after a moderate rainfall event had occurred, consistent with the BRMP. The surveys are undertaken at sites were Mahony's Toadlet was recorded in optimal conditions in 2018. The surveys were undertaken on 2 February and 15 November 2022.

During February 2022, there was less pooling water present at most of the survey locations. The Wallum Froglet was detected at one location. A total of seven different frog species were recorded in the February survey.

During November 2022, conditions were optimal with recent rainfall sufficient to pool within the survey locations. The Wallum Froglet was detected at one location. A total of six different frog species were recorded in the November survey.

During January 2023, there was less pooling water present at most of the survey locations. The Mahony's Toadlet and Wallum Froglet were both detected at one location. A total of four different frog species were recorded in the January survey.

The surveys highlight the importance of not only receiving adequate rainfall, but also for pooling water to be present during surveys to detect these frog species. Pooling water in this sandy environment is related to proximity of the groundwater, extended dry periods result in reduced groundwater levels and quicker absorption of rainfall events.

Despite the species absence during the February 2022 monitoring, Mahony's Toadlet was detected within the site during unrelated surveys. Pit-fall trapping surveys on the 16 and 18 February 2022 detected several individuals of Mahony's Toadlet.

The survey report is included as **Appendix 7.**

5.5.2 Surveillance Cameras

Fauna surveillance cameras installed on the property have been operational for a cumulative total of 187 days during 2022, these cameras are periodically moved around the site and positioned in various locations to assist in the monitoring of the following aspects:

- Feral animals.

- Perimeter fence and koala exclusion / inclusion.
- Frog fence exclusion.

During 2022, the cameras identified numerous feral and native animals. A copy of the summary report is enclosed in **Appendix 8**. Refer to Section 7.8 for feral animals, while the following native fauna were identified onsite by these cameras:

- Double-barred Finch.
- Tawny Frogmouth.
- Eastern Grey Kangaroo.
- Red-necked Wallaby.
- Swamp Wallaby.
- Koala.
- Long-nosed Bandicoot.
- Short-beaked Echidna.
- Eastern Brown Snake.
- Lace Monitor.
- Red Fox.
- Feral Cat.
- Unidentified frog.

An identified frog was observed in the camera unsuccessfully attempting to go over the frog fence, suggesting the fence has some effect on reducing the presence of frogs within the quarry area.

5.5.3 Nest Box Monitoring

On 25 and 27 May 2022, Ecologists from Wedgetail Project Consulting inspected nest boxes previously installed by Kleinfelder. A total of 183 nest boxes were inspected within the Onsite Biodiversity Offset Areas, checking for structural integrity and for signs of use. At the time of inspection, the trees were also tagged with ID numbers to assign one single identification number applicable to all installations of nest boxes, collectively.

Of the 183 nest boxes planned for inspected, 1 box has not been installed at height and is sitting at the base of the tree, 2 boxes were damaged and in need of repair and 8 were wet inside and may require readjustment. The remaining 172 nest boxes is in excess of the required nest box installations as many of the recorded hollows during initial surveys have either burnt out in past fires or found to be false hollow recordings, which is expected for revegetation areas less than 45 years old.

The remaining 172 nest boxes were found to be structurally sound, and associated data was collected including habitation. Of those nest boxes, four (4) contained Squirrel gliders (*Petaurus norfolcensis* – see **Plate 1** & **Plate 2**), seven (7) contained Brown antechinus

(*Antechinus stuartii* – see **Plate 3** & **Plate 4**), four (4) contained unidentified microbats (*Nyctophilus* sp. – see **Plate 5**), one (1) contained a Lace monitor (*Varanus varius* – see **Plate 6**) and 38 boxes contained nesting materials.

Plate 1: Pair of Squirrel gliders (*Petaurus norfolcensis*)

Plate 2: A pair of Squirrel gliders (*Petaurus norfolcensis*)

Plate 3: Brown antechinus (*Antechinus stuartii*)

Plate 4: Brown antechinus (*Antechinus stuartii*)

Plate 5: Unidentified species of microbats (*Nyctophilus sp.*)

Plate 6: A Lace monitor (*Varanus varius*)

5.6 TRUCK MONITORING

The quarry weighbridge system provides for the logging of all sand sales for the quarry. The system has been established and calibrated by an accredited contractor and limits the tickets that can be issued during any one hour to the levels prescribed by the Development Consent. On a monthly basis, a summary of the records is uploaded to the Newcastle Sand website (www.newcastlesand.com.au). A copy of these records is included within **Appendix 13**.

Figure 15 shows the daily tally of laden trucks leaving the quarry, as can be seen from the tally there has been an increase in truck movements over time, but demand is often project and weather related, with wet weather often resulting in reduced demand for concrete sand. The trend shown in **Figure 15** shows a gradual increasing trend in truck numbers since the commencement of the quarry.

Key statistics relating to the truck monitoring are summarised below:

- The busiest day occurred on Wednesday 23 November 2022 with 110 laden trucks leaving the quarry of a maximum possible of 116 laden trucks.
- Truck haulage occurred on a total of 293 days of a possible 301 days.
- On days where truck haulage occurred the quietest day was where one laden truck left the quarry.
- On 17 days during the period, five or less laden trucks left the quarry.
- The biggest month occurred in November 2022 with 1819 laden trucks.
- Maximum number of trucks per hour was 10 laden trucks, consistent with the approval.

Complaints have been received during the period relating to trucks. Refer to Section 8.

Newcastle Sand is actively working with haulage contractors to improve driving behaviours through the induction of all drivers and provision of the Drivers Code of Conduct. Where drivers have arrived prior to opening time, Newcastle Sand implements disciplinary action in order to attempt to limit recurrence. However, it is noted that the ability and perhaps permissibility of Newcastle Sand to control truck driver behaviour outside the bounds of the quarry is limited.

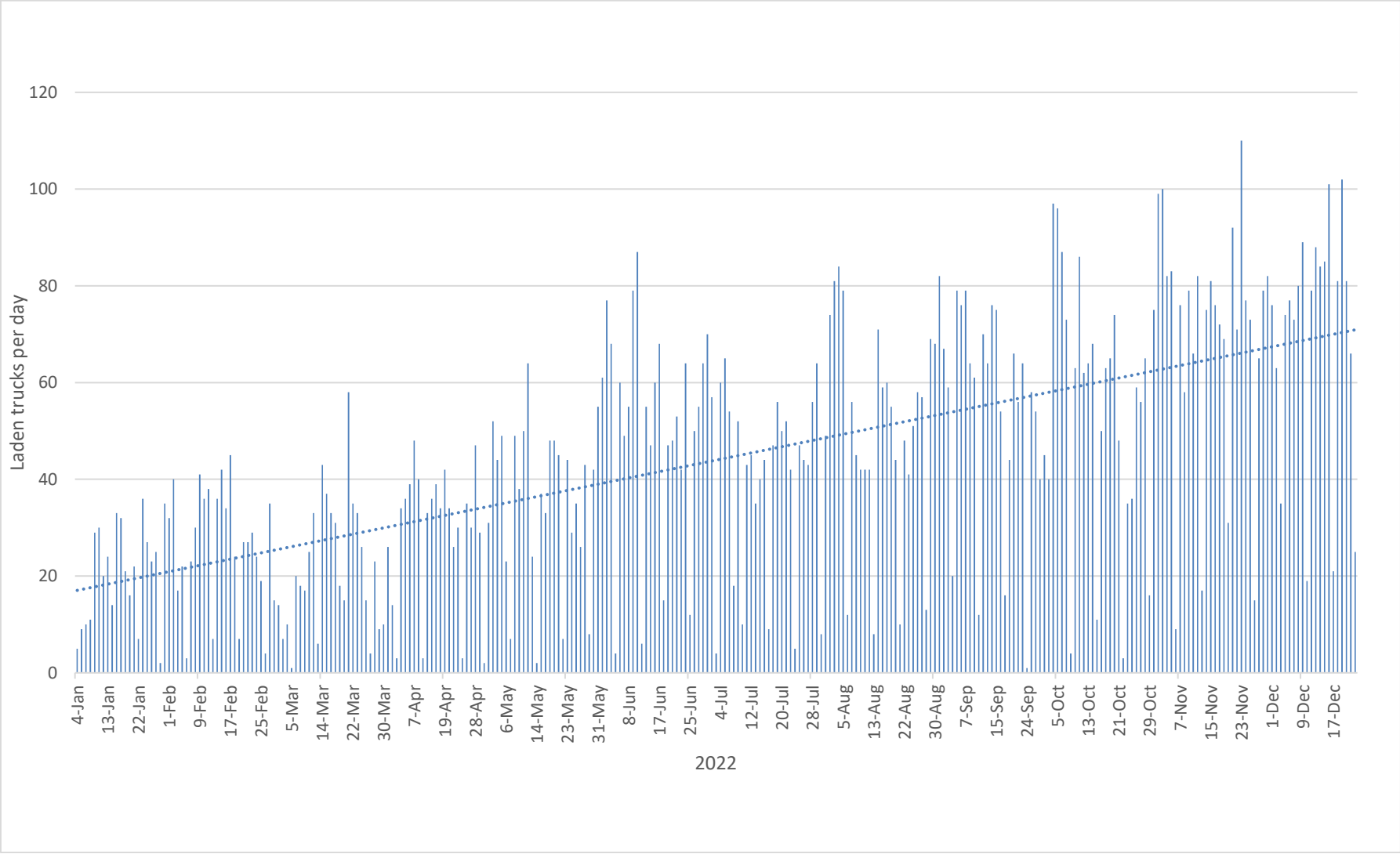

Figure 15: **Tally of daily laden trucks leaving the quarry with sand (approved maximum is 116 trucks per day on a weekday and 90 per day on a Saturday).**

6. SCHEDULE 2 CLAUSE 48 – REVIEW OF PFAS EXPOSURE PATHWAYS

A review of the currently available information regarding the PFAS contamination originating from the Base and assessed Site derived soil, groundwater and surface water data was undertaken to determine whether quarrying operations will increase the PFAS exposure to nearby residents.

During 2022, sand quarrying activities were ongoing at the Site and expanded into the northern Site area. Construction of a new sand wash plant in this northern section begun in December 2022.

Considering the information reviewed, the following is concluded:

- Base-sourced PFAS is, and has historically been, unlikely to be transported to the Site via wind, surface water or groundwater – the Site does not appear to have received PFAS from the Base and does not appear to be acting as a local tertiary PFAS source.
- PFAS was not detected in surface waters during 2022.
- The higher-than-average rainfall measured during 2022 had great impact upon ground water elevations during this year, and a probable positive impact on surface water PFAS concentrations buffering outside movements of contaminates onto the site.
- The water table exceeded the maximum inferred water level at five locations ten separate times this year. With 32 total occasions of TARP level exceedances. However, the groundwater level remained at least 0.166 m below the base of quarry operations meaning that any potentially contaminated groundwater did not breach the surface.
- The regular PFAS detections within the wash plant fines requires further investigation to determine source and suitability of material if it is proposed to be used offsite (including the PFAS TCLP requirements). Where disposed of onsite, as currently undertaken no further evaluation is considered necessary given the low concentrations.

Please refer to **Appendix 12** for the full report.

7. ENVIRONMENTAL PERFORMANCE

7.1 CLEARING AND REHABILITATION AREAS

Table 16 provides summary clearing and rehabilitation since commencement of the quarry. The areas for 2022 show long term rehabilitation areas have increased substantially and temporary stabilisation has increased. The active extraction or operational area has increased during the period, but is expected to reduce as rehabilitation following relocation of the wash plant continues and rehabilitation will increase substantially with rehabilitation of Sector 1A/2. Total disturbance is approximately 50% of the approved footprint, and consistent with the expected Project duration. Details of rehabilitation progress are shown in Section 7.5 and **Appendix 15**.

Table 16: Clearing and rehabilitation area at the end of period.

Year	Total Area Disturbed	Area Cleared	Long Term Operational Area[1]	Active Extraction / Operational Area[2]	Temporary Stabilisation[3]	Long Term Rehabilitation[4]
2019 August 2019 to 31 December 2019 Construction	3.98 ha **3.98 ha Total**	3.98 ha 3.14 in Area 1 and 0.36 ha on intersection, 0.48 in Area 9 for stockpiling topsoil	1.5 ha	~2.95 ha	~0.35 ha	~0.20 ha
2020 Construction and operations	3.93 ha **7.91 ha Total**	3.93 ha 2.57 ha of Sector 1A, 2 in June 1.36 ha of Sector 3, 3A, 3B in December	2.3 ha	6.5 ha	0.85 ha	~0.20 ha
2021	3.49 ha **11.40 ha Total**	3.49 ha Part of Sectors 3, 3B, 7B and 7C	3.93 ha	5.77 ha	1.22 ha	0.48 ha
2022	9.60 ha **21.00 ha Total**	9.60 ha Sectors 4, 4A, 4B, 5, 5A, 5B & 7C	4.20 ha	7.91 ha	4.17 ha Good cover: 0.71 Average cover: 1.31 Low cover: 2.15	6.03 ha

[1] Includes office, roads and associated drainage, processing and associated feed stockpiles and hard stand areas.
[2] Includes areas partially extracted, areas, interim topsoil stockpiles and short-term batters (less than 1 year).
[3] Includes batters or long-term topsoil or timber stockpiles that will be disturbed in the longer term (i.e. in 2-5 years).
[4] Includes those areas that are rehabilitated without expectation of future disturbance.

7.2 CLEARING ACTIVITIES

The clearing process typically involves the following process:

- Confirmation of the area to be cleared and resource boundary.
- Pre-clearance ecological survey of area, including marking of habitat trees and recording of hollows using flagging tape and or spray paint.
- Mulching along inside of resource boundary.
- Erection of frog exclusion fencing.
- Where necessary mulching/ mowing of undergrowth to improve access for inspections and visibility of surface.
- Inspection for items of Aboriginal Heritage by Registered Aboriginal Parties (RAPs).
- Survey of the area by radiation specialist to account for unexpected buried radioactive monazite mineral sands left by RZM.
- Nocturnal survey of clearing area the night before clearing.
- Diurnal surveys each morning prior to clearing.
- Clearing of non-habitat trees, leaving habitat trees to stand for two nights prior to clearing.

Clearing activities and associated ecological inspections were undertaken consistent with the BRMP, copies of these letters are included within **Appendix 10**.The following clearing events were undertaken during 2022:

- 31 January and 1-2 February – Sector 4A
- 14-16 June – Sector 7C
- 18-20 July – Sectors 4 & 4B
- 7-8 September – Sectors 5 & 5A
- 10-11 October – Sector 5B (southern portion)
- 31 October to 4 November – Sector 7C (small section for white sand target)
- 22-24 November – Sector 5B (northern portion).

7.2.1 Habitat Trees and Nest Boxes

Table 17 below provides a summary of the hollow inspection, removal and nest box replacement progress. As shown, based on current clearing, there are currently 83 extra hollows installed in adjoining vegetation than required to be installed given the current extent of clearing.

Table 17: Hollow and nest box replacement summary

Year	Hollows recorded in EIS	Hollows recorded in Preclearance Surveys#			Actual Hollows Removed	Required nest box replacement based on hollow removed		
		Small	Medium	Large		Small[1]	Medium[2]	Large[3]
August 2019 to 31 December 2019 Construction	-	7	0	0	**6***	6	0	0
2020 Sectors 1A and 2	-	15	46	3	**64***	15	46	3
2020 – access road	-	6	0	0	**0**	0	0	0
2020 – Sectors 3,3A, 4, 4A	-	14	0	0	**0**	0	0	0
March 2021 – Sectors 7B/ 7C	-	16	15	4	**5**	1	3	1
Jan / Feb 2022 Sector 4A	-	10	0	0	**-**	0	0	0
June 2022 Sector 7C	-	11	2	7	**13**	9	1	3
July 2022 Sector 4 & 4B	-	4	0	0	**0**	0	0	0
September 2022 Sector 5 & 5A	-	0	0	0	**0**	0	0	0
October 2022 Sector 5B	-	0	0	0	**0**	0	0	0
November 2022 Sector 7C	-	5	6	1	**12**	5	6	1
November 2022 Sector 5B north	-	0	0	0	**0**	0	0	0
Total	**99** **S-42| M-28| L-29**	**88**	**63**	**15**	**100**	**36**	**56**	**8**
		166				**100**		
Actual installed nest boxes						**75**	**79**	**29**
						183		
Net balance of hollows removed to hollows installed	**+83** (including 3 requiring maintenance and 8 potentially needing adjustment to being wet)							

- #. Past fires have resulted in burnt and broken limbs likely to result in false identification of hollows when inspecting from the ground level.
- *Actual hollows removed is likely to be significantly lower, but was not recorded by consultant.
- 1. Small boxes suited to pygmy possums / micro bats.
- 2. Medium boxes suited to gliders.
- 3. Large boxes suited to possums.

7.3 RADIATION SURVEY

During the preparation of the EIS a risk was identified by stakeholders of the potential presence of a waste monazite dump within the Subject Land. Monazite is a naturally occurring radioactive mineral sand occurring in low concentrations in the Pleistocene sands. The mineral sands comprised approximately 0.5 to 3% of the sand processed by RZM, of this monazite made up less than 1% of the mineral sands extracted. The monazite was separated from other mineral sands at the processing site in Tomago in the late 1970s and early 1980s, the monazite was thought to be returned to the sand beds from the processing site, though this is poorly recorded), as the site was used by RZM for disposal of some fines materials, it was thought to potentially be within the subject land. While the fines disposal area and expected dump location is located outside the resource area, a conservative Condition of Consent was included to ensure radioactive survey of the resource before extraction to reduce the risk of exposure to this monazite dump.

A radiation survey was undertaken to determine if the extraction area contained any radioactive anomalies. The radiation survey was completed by Bartolo Safety Management Service on 16 November 2022, the survey area was intended for the remainder of the northern resource extraction that had been subject to past RZM Mining activities. The survey was undertaken for Sectors 6, 6A, 7, 7A and 7B, with some restrictions noted in the report around the difficulty in access given undergrowth.

No significant radioactive anomalies were identified during the surveys and as such there is no need for any avoidance or additional management actions. A copy of the report is enclosed in **Appendix 9**.

7.4 HERITAGE MANAGEMENT

7.4.1 Aboriginal Heritage

AHIMS site #38-4-1381 is located within Sector 8 and has not been disturbed.

The approved Aboriginal Cultural Heritage Management Plan (ACHMP) provides for the management of cultural material on the site in consultation with the Registered Aboriginal Stakeholders (RAPs). To account for the limited visibility during initial surveys and reduce the risk of destroying insitu camp sites, the ACHMP provides the for the following procedure:

- Inspection of the extraction area prior to extraction, prior to topsoil stripping.
- Regular inspection of screen reject material. Screened material, was initially stockpiled for inspection, but is now laid out on a batter slope to provide improved visibility of the material, with an added benefit of provided batter stabilisation.
- RAPs collect store and then rebury artefacts onsite in nominated areas at end of the quarry life.

Consultation with the RAPs was undertaken during the period with inspections typically aimed to cover the next several areas planned for extraction, the relevant surveys for this period were:

- October 2021
- February 2022
- September 2022

It has been agreed by RAPs that in areas that were subject to past mining, that the inspection of the screened material is generally adequate to recover material, and further that the need to recover these artefacts is further reduced if the area is protected from future development.

7.4.2 Historic Heritage

No historic heritage items were identified during this period.

7.5 REHABILITATION

Table 16 provides a running tally of the areas cleared and under rehabilitation.

7.5.1 Rehabilitation Bond

Under Schedule 3, Condition 38 of the consent a rehabilitation bond is to be calculated and verified by a suitably qualified quantity surveyor or expert to determine the bond necessary to cover the costs of the implementation of the Biodiversity and Rehabilitation Management Plan (BRMP) for the first three years of quarrying operations at the quarry (i.e. through to May 2023).

DPE approved the bond on 29 January 2020, for a total of $259,278 (exclusive of GST), with payment of the bond on 5 February 2020.

The previously approved quantity surveyor has been engaged to review and update the estimate.

7.5.2 Seed Collection

Seed collection was conducted by Hunter Indigenous Plants and Wedgetail during 2022. Available seed was harvested during tree clearing operations on the following dates:

- 18-20 July – Sectors 4 & 4B
- 10-11 October – Sector 5B (southern portion)
- 10 November – Sectors 6, 6A & 6B (uncleared)

Collected seed from site has focussed on predominantly canopy species and has been sent to Tilligerry Habitat for germination and are to be planted in rehabilitation areas in 2023.

7.5.3 Topsoil and Vegetation Management

During the period, vegetation from the areas cleared was initially windrowed then carted to areas where topsoil had been spread for distribution, by excavator over topsoiled areas.

Topsoil was stripped at depths up to 300mm thick and carted to areas where extraction had been completed and stockpiled in low mounds for short periods (related to machinery availability) prior to spreading.

As the extraction continues, the handling and rehabilitation sequences are continuously being refined to improve rehabilitation outcomes.

7.5.4 Temporary Stabilisation Methods

The following measures have been evaluated since commencement of operations:

- The use of polymer sprays to seal the sand surface was evaluated in 2019, these products, while potentially effective, come at very high costs and are damaged easily within a sandy environment. There may be opportunity for use of this product in small area, however widespread use is unlikely to be economically feasible.
- Steep batters on the edge of Sector 10 adjacent to the office area were pinned with jute matting and hydromulch with a native seed mix applied to improve stability in 2021. This provided good stability improvements, but where seed growth has been limited, the jute matting is subject to weathering and is likely to require replacement within two years.
- Batters along the edge of Sector 8 and the access road are being progressively covered in screened material.
- Medium term batters that can be constructed to suitable slopes have been selected for placement of topsoil and timber consistent with long term rehabilitation areas, these areas are irrigated initially with a sprinkler system, many of the areas initially stabilised require no further dust suppression due to vegetation growth.
- The topsoil / subsoil stockpile from the road and workshop area, has some vegetation regrowth on batters and has had additional topsoil placement in 2020 to improve stability. This area is now stable and will not require further access until rehabilitation of Sector 8 / 9.
- The most effective method currently observed is battering to lower grades that enable revegetation to more readily occur.

7.5.5 Long Term Rehabilitation

Sectors 3A, 3B, 4A, 4B, 7B and 7C have been extracted to the quarry floor and rehabilitation in this area has commenced.

Areas under long term rehabilitation were subject to the following process:

- Application of topsoil to typical depth of up to 300mm subject to availability.
- Spreading of timber branches and brush matting.

Key aspects to observations and actions within the rehabilitation areas are as follows:

- Timber management:
    - The approved management limited the timber density at up to 20% cover for any timber larger than 100mm in diameter. This density on first application appears high and potentially restrictive of regrowth, however, it would appear the timber cover may initially delay germination, but after 12 months germination rates have increased significantly.
    - Timber habitat stacks have been introduced in the rehabilitation to provide more variability to the habitat and reduce cover.
    - An application to modify the consent has been made that includes provision for alternate use of timber (e.g. mulching).
    - The timber laid across the site is very effective in restricting unauthorised access to rehabilitation (e.g. trail bikes and machinery).
    - The timber laid across the site is effective in reducing dust generation.
- Topsoil management, limiting compaction in the timber application process is under on ongoing review. Reduced compaction is anticipated to improve germination timing.

The rehabilitation of Sector 1A and 2 has been restricted due to the processing limitations associated with the transfer of the wash plant to the new location.

7.5.6 Rehabilitation Monitoring

In November 2022 the first round of flora monitoring was conducted on the rehabilitation of areas 3A, 7B and 7C (see **Appendix 14**). Monitoring was conducted in accordance with the Biodiversity and Rehabilitation Management Plan (BRMP) Section 8.3 Bi-annual Monitoring.

Given the very early stage of the revegetation, the results are promising with a considerable number of species recorded, including many of the key species. A lack of mid-storey and only a few canopy species is an issue that can be rectified by the installation of tubestock (with seeds collected and provided to nursery for germination).

With regards to the Performance Criteria stipulated in Section 9.1 of the BRMP, the rehabilitation is on track for Year 1 criteria or corrective actions – i.e., propagation of tubestock including key canopy species is underway.

7.6 FAUNA EXCLUSION FENCING

Frog exclusion fencing was installed along the edges of the disturbance area prior to and following clearing activities. The exclusion fencing is specified for the purpose of minimising

the movement of frogs from wetter areas outside the disturbance area into the disturbance footprint. This movement would be expected to occur in mid- late Autumn, with frogs moving in the opposite direction (i.e. from areas potentially within the disturbance area to wetter areas outside it) in Spring.

Frog monitoring was undertaken during Summer and Spring 2022, this included inspection of the frog exclusion fencing.

Koala exclusion fencing was erected in April 2019. The fencing design was amended in consultation with DPE and koala specialists to be barrier fencing that would slow the movement of koalas, but not preclude koala movement, aiming to minimising koala travel along and around fencing. The fencing has crossing fixtures at approximately 200m intervals.

Fauna cameras have been placed along the koala exclusion fencing. In August 2022, a koala was identified on a wildlife camera on the northwest corner of Sector 7A crossing the frog exclusion fencing.

7.7 FAUNA INCIDENTS

No fauna incidents occurred during the reporting period. As a result, no changes to current controls in place regarding fauna interactions have been implemented or are proposed as the results suggest they are adequate. They will continue to be monitored and revised if necessary.

7.8 WEEDS AND PESTS

7.8.1 Pest Survey and Management

During the reporting period, animal footprints have been observed within the sand on several occasions and in various locations. It is presumed that these are either wild dogs or foxes, however, they may also be domestic animals being walked in the area or roaming from neighbouring properties.

Additionally, fauna surveillance cameras installed on the property identified the following non-native species across the site:

- Fox (*Vulpes vulpes*).
- Feral cat (*Felis catus*).
- Rat (*Rattus sp.*) – potentially native.

In October 2022, two fox dens were identified near the entry of the site, adjacent to the entrance road. The presence of foxes was confirmed with wildlife cameras. In November, Apex Enviro Solutions was contracted to destroy the den. For full details, refer to the Pest Animal Control Report in **Appendix 13**.

7.8.2 Weed Survey and Control

WSS undertake progressive weed management on site using manual removal techniques and herbicide application if considered necessary. The presence of weeds on rehabilitation areas are inspected by the WSS staff and removed periodically based on the Weed Identification Booklet (produced by Kleinfelder).

Wedgetail Project Consulting also frequently undertake weed inspections on a regular (monthly) basis including on spot removal of weeds identification of areas for future treatment. Treatment targets common priority weeds and Weeds of National Significance (WoNS) (e.g. Lantana, Fireweed and Bitou Bush). Treatment of weeds was completed by Wedgetail Project Consulting using herbicide in April 2022 and September 2022, with additional hand removal in September 2022 as part of track maintenance activities.

Preclearing surveys did not identify the presence of any large areas of weeds considered noxious or identified on Port Stephen Council's list of Priority Weeds for the LGA within the clearing areas. As such no additional measures are required for topsoil management.

7.9 OFFSETS

Newcastle Sand's offset obligations are comprised of two parts:

- Schedule 3, Condition 34, Table 4, the retirement of a specified number of credits formed in the creation of a Biodiversity Stewardship Site on the residual portion of the subject land; and
- Schedule 3, Condition 34, Table 5, retirement of a specified number of credits from an offsite source.

Newcastle Sand have satisfied the offsite portion of biodiversity offset obligations (as per Table 5) with the purchase and retirement of the required credits. The onsite retirement of credits has been subject to consultation with the BCT and DPE, but has not been resolved owing to the following factors:

- A stewardship site on the residual areas of the Subject Land may not achieve the requisite number of credits specified in the Condition of Consent, despite being the same spatial area owing to the following issues:
    - Changes in methodology mean some credits cannot be created onsite.
    - The age of the survey completed during the EIS means new survey is required at considerable cost purely to justify the creation of credits that would be then retired, changes in survey methodology, calculation and other environmental factors (such as fires and wet weather) may change the number of credits generated.

- BCD have some reservations on the proximity of a stewardship site to a quarry site, meaning buffers may be required, that would reduce the area and number of credits generated.

The onsite offset area is protected from disturbance and is subject to periodic weed management and restricted access, and is therefore currently satisfying the same objective as would be attained by a Stewardship Site, however, longer term it is important that the Total Fund Deposit is established by Newcastle Sand such that the management of the Offset Area (by the land owner) is adequately funded post quarrying activities. Newcastle Sand is working with DPE and BCD to resolve the above matters.

7.10 WASTE MANAGEMENT AND MINIMISATION

Waste is separated at the quarry as follows:

- Drink cans are taken to a Return & Earn facility.
- Cardboard is loaded into a trailer and taken to a recycling facility. Cardboard is not a regular waste stream and is only present where new equipment is ordered.
- Shredded paper is taken offsite and used in mulch or disposed of to the recycling facility.

During the reporting period all general waste was removed from site in 1.5m² general waste skip bins by Veolia waste services for offsite disposal. Over the period, the bin was collected on average once per week (51 times), the bin is rarely full as such it is estimated that 76.5m^3 of general waste was removed from site. General waste is varied and rarely of quantities sufficient to justify dedicated recycling bins. General waster will typically consist of crib-room and office waste, weeds and left over frog/ sediment fencing waste.

Machinery servicing is completed by third party contractors that are required under the service agreement to remove and appropriately recycle or dispose of any waste generated (e.g. oil, oil filters etc).

Cleared vegetation has been used for batter stabilisation, used in rehabilitation or stockpiled for future use as required. As such no waste has occurred from clearing activities.

Septic waste was removed from the site by a licenced contractor as noted below.

7.11 WATER USE

Water is sourced from the HWC network for all activities onsite or from rainwater captured from building roofs and hardstand areas around the wash plant. Disposal of water from site is limited to disposal of the onsite septic waste that is completed by a licenced third-party contractor.

Table 18 shows the water usage for the quarry since the commencement of construction in comparison to the estimates provided within the EIS.

The estimate of usage within the EIS has been exceeded during the period owing to the following key factors:

- Commissioning of a new wash plant in Sector 3.
- Variable feed sand quality and demand for cleaner sand specifications has resulted in additional washing to that which was expected.

Considerable effort in wash plant design and stockpile areas within the new Wash Plant are anticipated to reduce water usage to levels more consistent with original expectations.

Table 18: Water usage for quarry

Year and works	Forecast Usage	Water Used (HWC Network)	Usage vs Estimate	Water Transferred offsite	Wash Plant	Water Saving Investigations
August 2019 to 31 December 2019 Construction	9.7 ML	3,087 kL over 139 days – equating to 8.1ML/year	**Lower**	Septic waste 5.4 kL	-	• Static polymer for batters. • Mobile polymer for haulage roads.
2020 Construction and operations	9.7 ML	5.68 ML	**Lower**	Septic waste 32 kL*	-	• Irrigation system installed to improve batter dust suppression. • Additional sweeping of roads to minimise dust suppression. • Batter revegetation as opposed to stabilisation.
2021 Operations plus commissioning of wash plant.	10.2 – 29.65 ML	22.4 ML	**As expected accounting for wash plant commissioning or slightly higher given wash plant operation less than 50% of year.**	Septic waste 28 kL*	13.9 ML	• Various controls associated with improving drainage of washed sand for recirculation and grading of hard stand to maximise surface water reuse. • Redesign of stockpile drainage system for new wash plant site in Sector 3.

Year and works	Forecast Usage	Water Used (HWC Network)	Usage vs Estimate	Water Transferred offsite	Wash Plant	Water Saving Investigations
2022 Operations plus commissioning of new wash plant in Sector 3.	29.65 ML	37.3 ML	**Higher than expected**	Septic waste 48 kL*	33.5 ML	• Design of the wash plant and recovery system in Sector 3 has improved water recovery. • Changes to dust suppression (e.g. additional bitumen) as envisaged in the EIS as a key measure to reduce water use will not have any appreciable effect in reducing water consumption as the dominant use is due to the wash plant, not road watering.
* Septic waste is disposed on a per tank basis as opposed to an exact volume, each disposal event is up to 4 kL, as such actual disposal is likely to be lower.						

7.12 ENERGY EFFICIENCY

7.12.1 Diesel and Electricity Use

Fuel and electricity usage details estimated within the EIS and those for this and previous periods are provided in **Table 19** below. Electricity usage is currently lower than anticipated within the EIS, but is offset by substantially higher diesel usage during the period.

The increased diesel usage is due to the need to utilise haulage trucks due to the variable sand attributes, and usage of a diesel generator as opposed to high voltage mains power. As the processing area is relocated to the Sector 3, the diesel usage is expected to decrease. It is also worth noting cumulative diesel usage over the first two years is consistent with the EIS estimates.

Table 19: Fuel and electricity usage for quarry

Year	EIS Estimate		Actual Usage		Comment
	Diesel (L)	Electricity (kW)	Diesel (L)	Electricity (kW)	
2019	Construction period not defined		72,293	117	Construction 4 months, electricity connected on 1 November 2019.
2020	100,000	189,000*	51,746	9,805.57	Construction 4.5 months – excludes third party fuel usage for intersection construction. Operations for 7.5 months
2021	100,000	189,000*	146,897	11,972	First full 12 months of operations.
2022	100,000	189,000*	252,267	11,617.41	Approved power usage is more than 17 times the actual, while diesel usage is 2.5 times actual.
* EIS states, and was approved at 189,000, though may be a potential error and should be 18,900 kWh.					

7.12.2 Review of Opportunities to Improve Energy Efficiency

Energy reduction initiatives that have been implemented at the quarry include:

- The proposed wash plant will require up to 80 kW of electric power to operate. This is approximately half that used by the air separator. This will improve energy efficiency of the operations.
- New equipment have been purchased to improve efficiency, including a 40 tonne tipper, that has improved the efficiency of haulage of the sand relative to diesel consumption.
- The use of conveyors and loaders compared to excavators and haulage as originally envisaged reduces rework and double handling of sand resources and improves efficiency and use of the resource as there is more flexibility to modify the feed.

7.13 INDEPENDANT ENVIRONMENTAL AUDIT

The first Independent Environmental Audit was undertaken by Integrated Environmental Management Australia (IEMA) on the 22 July 2021, as per Schedule 5 Condition 12 of the SSD. The audit covered a period from 8 May 2018 to 22 July 2021.

The IEA generally identified a high level of compliance with no high risks identified during the IEA. A summary of non-compliances is provided below:

- There were 11 administrative non-compliances identified.
- There were 12 low risk non-compliances identified.
- There were 8 medium risk non-compliances identified.

The site visit concluded that the Quarry is generally compliant and well maintained, with highlights including:

- Site water management.
- Good regrowth on the disturbed soils.
- Minimal weeds observed on site.
- Frog fence has been maintained well.
- Noise management and compliance was good.

The full report can be found on the Newcastle Sand website.

Newcastle Sand have completed or are continuing to work through and maintain audit recommendations. The actions currently in progress relate to a modification application and management plan updates that have been ongoing throughout the period . Proposed actions and the status of actions in response to audit recommendations is detailed in **Table 20,** using the following classification:

- **Completed / no further action necessary**
- **In Progress**
- **Not commenced**

Table 20: Proposed Actions for Response to Audit Recommendations

Schedule and Condition Number	Condition	2021 Compliance Status	Recommendations	Proposed Implementation by Newcastle Sand and Status at Date of AER
Project Approval (SSD 6125)				
Sch 2 Cond 12	The Applicant must review and update the Maximum Extraction Depth Report, in consultation with Hunter Water and DPIE - Water: (a) every two years from the date of approval of the Maximum Extraction Depth Report; and (b) if any groundwater is encountered during quarrying operations or if directed by the Secretary.	Admin Non-Compliance	NC REC 1: Site to update the Maximum Extraction Depth Report for currency as it is more than two years old.	Consultant has been endorsed by the Secretary and engaged to undertake required review. Completion expected by 30 November 2021. **MED Report review has been completed and submitted to DPE. DPE-Water provided comment which is currently resulting in amendment to the MED Report and HWC are yet to provide comment.**
Sch 2 Cond 18	The Applicant must: (a) from the commencement of quarrying operations provide calendar year annual quarry production data to DRG using the standard form for that purpose; and	Admin Non-Compliance	NC REC 2: Ensure that the production data reporting covers the RR requirement and Annual Review requirements.	**Newcastle Sand are currently seeking advice from the Resource Regulator on the current submission**

Schedule and Condition Number	Condition	2021 Compliance Status	Recommendations	Proposed Implementation by Newcastle Sand and Status at Date of AER
	(b) include a copy of this data in the Annual Review.			**format, noting the 2019-20 appears to have changed.** **The data from the 2019-20 form is included in the Annual Review. The form also currently notes the inclusion of full financial information this is commercially sensitive information and cannot be made publicly available.** Data consistent with the Table, excluding commercially sensitive information is presented in Section 4.
Sch 3 Cond 7	Air Quality Impact Assessment Criteria The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 3 at any residence on privately-owned land.	Low Non-Compliance	NC REC 3: Site to include information about how 'incremental impact' is determined in the AQMP. Reporting is required if the site has gone above the criteria (noting the notes below the criteria) in relation to cumulative impacts, extraordinary events and incremental impacts).	**The consent requires plans to be reviewed within 3 months of an audit and submitted 6 weeks after the review (or 18 weeks after audit). This amendment will be made to the AQMP and submitted to DPIE by 28 February 2022.** **The AQMP has been submitted to DPE, and has been reviewed, and being updated.**
Sch 3 Cond 8	**Operating Conditions** The Applicant must: (a) implement best practice management to minimise the dust emissions of the development; (b) regularly assess meteorological and air quality monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the air quality criteria in this consent; (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note c under Table 3); (d) monitor and report on compliance with the relevant air quality conditions in this consent; and (e) minimise the area of surface disturbance and undertake progressive rehabilitation of the site, to the satisfaction of the Secretary.	Low Non-Compliance	NC REC 4: Site to record changed operations based on real time air quality triggers (as per the Air Quality Management Plan).	Improved logging of responses to air quality management will be made to enable management improvements. AQMP will be amended to provide more flexible approach aimed at reducing air emissions irrespective of the activities onsite. **Changes to TARP proposed within the AQMP and a modification to the Development Consent is proposed to improve flexibility in dust management.**
Sch 3 Cond 9	**Air Quality Management Plan** The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:	Low Non-Compliance	NC REC 5: Improve air quality action recording when there has been a trigger based on short term PM10 criteria.	As above for REC 4. **As above.**

Schedule and Condition Number	Condition	2021 Compliance Status	Recommendations	Proposed Implementation by Newcastle Sand and Status at Date of AER
	(a) be prepared in consultation with the EPA; (b) be submitted to the Secretary for approval prior to commencing ground disturbing activities on the site, unless otherwise agree by the Secretary; (c) describe the measures to be implemented to ensure: • compliance with the air quality criteria and operating conditions of this consent; • best practice management is being employed; and • the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events; (d) describe the proposed air quality management system; (e) include an air quality monitoring program that: • is capable of evaluating the performance of the development; • includes at least two real-time particulate monitors; • includes risk-based monitoring to demonstrate compliance with the criteria in Table 3; • includes a Trigger Action Response Plan (TARP), including appropriate trigger levels, and a protocol to be implemented when trigger levels are exceeded; • includes a protocol for determining any exceedances of the relevant conditions of consent; • effectively supports the air quality management system; and • evaluates and reports on the adequacy of the air quality management system. The Applicant must not commence ground disturbing activities until the Air Quality Management Plan is approved by the Secretary. The Applicant must implement the Air Quality Management Plan as approved from time to time by the Secretary.		NC REC 6: Look at including a figure in Annual Reviews showing two different monitors and potential contributions depending on wind direction.	Noted. Will be included in Annual Review. **Completed, refer to Section 5.2 of this Annual Review.**
Sch 3 Cond 37	**Biodiversity and Rehabilitation Management Plan** The Applicant must prepare a Biodiversity and Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared by a suitably qualified expert; (b) be prepared in consultation with BCD and Council;	Medium Non-Compliance	NC REC 7: Ensure practices are in place to be compliant with clearing and ecological requirements for the site. Site to track and report against these key biodiversity requirements in the Annual Review and/or ecological monitoring reports.	Noted, following Annual Review reporting to be improved. **Completed, refer to Section 5.5, 7.1 and 7.2.**

Schedule and Condition Number	Condition	2021 Compliance Status	Recommendations	Proposed Implementation by Newcastle Sand and Status at Date of AER
	(c) be submitted to the Secretary for approval prior to commencing quarrying operations, unless the Secretary agrees otherwise; (d) provide details of the conceptual final landform and associated land uses for the site; (e) describe how the implementation of the on-site Biodiversity Offset Strategy will be integrated with the overall rehabilitation of the site; (f) include detailed performance and completion criteria for evaluating the performance of the progressive and final rehabilitation of the site, including triggers for any necessary remedial action; (g) describe the short, medium and long-term measures to be implemented to: • manage remnant vegetation and habitat on site, including within the on-site Biodiversity Offset Strategy area; and • ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent; (h) include a detailed description of the measures described in paragraph (g) to be implemented over the next 3 years (to be later updated for each 3-year period following initial approval of the plan) including the procedures to be implemented for: • maximising the salvage of environmental resources within the approved disturbance area, including tree hollows, vegetative and soil resources, for beneficial reuse in the enhancement of the offset area or site rehabilitation; • restoring and enhancing the quality of native vegetation and fauna habitat in the rehabilitation areas through assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features; protecting vegetation and fauna habitat outside the approved disturbance area on-site; • minimising the impacts on native fauna, including undertaking pre-clearance surveys; • minimising the potential for Koalas to come into contact with development-related vehicles on the site and on public roads: • establishing and/or retaining vegetation screening to minimise the visual impacts of the site on surrounding receivers; • minimising impacts on threatened species, populations and their habitats, particularly Koalas; • providing relevant biosecurity control measures, including measures to prevent and/or control the establishment or spread of			

Schedule and Condition Number	Condition	2021 Compliance Status	Recommendations	Proposed Implementation by Newcastle Sand and Status at Date of AER
	Myrtle Rust, Root Rot Fungus and Chytrid Fungus on the site; • collecting and propagating native seed; • controlling weeds and feral pests; • controlling erosion; and • managing bushfire risk; (i) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; and (j) include details of who is responsible for monitoring, reviewing, and implementing the plan. The Applicant must not commence quarrying operations until the Biodiversity and Rehabilitation Management Plan is approved by the Secretary. The Applicant must implement the Biodiversity and Rehabilitation Management Plan as approved from time to time by the Secretary.			
Sch 5 Cond 4	**Revision of Strategies, Plans & Programs** Within 3 months of the submission of an: (a) incident report under condition 9 below; (b) Annual Review under condition 11 below; (c) audit report under condition 12 below; and (d) any modifications to this consent, the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. The applicant must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary. Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.	Admin Non-Compliance	NC REC 8: Update the management plans to reflect current approvals.	The consent requires plans to be reviewed within 3 months of an audit and submitted 6 weeks after the review (or 18 weeks after audit). All plans will be submitted to DPIE by 28 February 2022. **Several plans submitted to DPE for review (MED Report and AQMP, BRMP, other plans have been reviewed.**
Sch 5 Cond 11	**Annual Review** By the end of March each year, or other timing as may be agreed by the Secretary, the Applicant must submit a review to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must: (a) describe the development (including any progressive rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year; (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar	Admin Non-Compliance	NC REC 9: To comply with the 2015 Annual Review Guidelines, the document should also include a section on "Actions required from previous Annual Review".	Noted 2021 Annual Review to include actions from previous Annual Review. **See Section 9.**
			NC REC 10: Ensure that future EPL non-compliances are reported as non-compliances in the Annual Review.	Noted. **Included in this Review.**

Schedule and Condition Number	Condition	2021 Compliance Status	Recommendations	Proposed Implementation by Newcastle Sand and Status at Date of AER
	year, which includes a comparison of these results against the: • relevant statutory requirements, limits or performance measures/criteria; • requirements of any plan or program required under this consent; • monitoring results of previous years; and • relevant predictions in the documents listed in condition 2(d) of Schedule 2; (c) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the development; (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development. The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 7 above) and any interested person upon request.			
Statement of Commitments				
SoC 8.3.2 (h)	Website to include: • Contact numbers. • Copies of community newsletters. • Details of annual open days. • Copies of minutes from Community Consultative Committee. • Copies of approvals. • Copies of licences.	Admin Non-Compliance	NC REC 11: Include information on the Community Open Days on the website, or seek to have this commitment removed via consultation with DPIE.	This commitment is proposed to be removed in consultation with DPIE. **Modification to amend this is currently pending submission to DPE.**
SoC 8.3.8 (f)	WSS will consult with DPI Water with regards to the locations of and construction of proposed groundwater monitoring points, installation of loggers and selection of sampling points.	Admin Non-Compliance	NC REC 12: Consultation is required with DPI Water with regards to the locations of and construction of proposed groundwater monitoring points. The evidence of this consultation was not sighted. It is recommended that this information be included in the Annual Review for 2021.	DPI Water were consulted in the development of the SWMP, as included within the Appendix. No comment was received. No further inclusion of consultation is considered necessary. **Nil required.**
SoC 8.3.12 (b)	Bitumen seal access road through to the boundary for the southern boundary of the northern resource area.	Low Non-Compliance	NC REC 13: Ensure the bitumen seal access road is constructed through to the boundary	Noted and agreed. **Construction activities still being completed in Sector 3**

Schedule and Condition Number	Condition	2021 Compliance Status	Recommendations	Proposed Implementation by Newcastle Sand and Status at Date of AER
			for the southern boundary of the northern resource area.	**wash plant establishment, to be completed.**
SoC 8.3.12 (g)	Quarry operations will be subject to a staged shutdown of equipment based on rolling 24 hour average PM10 concentrations, PM10 concentration spikes and adverse background air quality and meteorological conditions. Indicative completion criteria are set out below, it important to note that these triggers will be adapted and refined as the project progresses based on actual monitoring data. The proposed draft triggers include: Where the wind is directed toward surrounding residences, that is the weather station indicates winds are blowing from the quadrants west (270 degrees), through North (0 degrees) to East (90 degrees) the quarry should review dust controls (e.g. stockpile sprays and need for dust suppression on trafficked areas). In addition, based on the real-time air quality monitoring network, the following controls should be implemented: 1. No topsoil stripping or dozer push to occur where: a) Wind is directed toward surrounding residences; AND b) Rolling PM10 24-hour average exceeds 35 µg/m3 OR c) Rolling PM10 1-hour average exceeds 50 µg/m3. 2. If levels continue to increase after two hours, suspend sand extraction and processing (loading trucks only) where: a) Wind is directed toward surrounding residences; AND b) Rolling PM10 24 hour average exceeds 42.5 µg/m3 OR c) Rolling PM10 1-hour average exceeds 50 µg/m3. 3. If levels continue to increase after two hours, suspend loading trucks (no machinery operating) where: a) Wind is directed toward surrounding residences; AND b) Rolling PM10 24 hour average exceeds 45 µg/m3. OR c) Rolling PM10 1-hour average exceeds 50 µg/m3.	Low Non-Compliance	NC REC 14: Until Newcastle Sands consults with DPIE and EPA, they need to implement and record the real time triggers for air quality.	Noted, amendment to the SOC and the AQMP. As the SOC notes, the triggers are intended to be adapted and refined. **As per Section 5.2, dust levels have been low during 2021/22 on account of the high rainfall, also see NC REC No.4, amendments to Management Plan and SOC proposed.**
Environmental Protection Licence				
O3.8	The Licensee must cease all topsoil stripping and dozer operations when the following occurs: a) Wind is directed towards surrounding residences, and	Low Non-Compliance	NC REC 14: Until Newcastle Sands consults with DPIE and EPA, they need to implement and record	Noted. With amendment of the SOC and AQMP a variation to the EPL will be sought. **As noted above.**

Schedule and Condition Number	Condition	2021 Compliance Status	Recommendations	Proposed Implementation by Newcastle Sand and Status at Date of AER
	b) Rolling PM10 24 hr average exceeds 35 micrograms per cubic metre.		the real time triggers for air quality.	
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Admin Non-Compliance	NC REC 15: Future noise and air quality monitoring reports to note the name of the person completing the monitoring in accordance with EPL requirements.	Noted. All sampling personnel instructed to ensure all monitoring records are noted. **Completed, noise and air monitoring now includes required details.**
M2.2	**Air Monitoring Requirements**	Low Non-Compliance	NC REC 10: Ensure that future EPL non-compliances are reported as non-compliances in the Annual Review.	Noted. 2021 Annual Review will include EPL non-compliance. **Included in this AER.**
M8.1	To assess compliance with the noise limits section of this licence, attended noise monitoring must be undertaken in accordance with the noise conditions and: a) at a location representative of the most affected residences in the noise limit conditions and; b) occur quarterly in a reporting period; c) occur each day and shoulder period as defined in the NSW Industrial Noise Policy for a minimum of: • 1.5 hours during the day; and • 30 minutes during the shoulder period. d) occur for three consecutive operating days. Note: It is the intention of the EPA to review the noise monitoring results required under this condition after a period of (3) years to assess the suitability of the required monitoring. "	Low Non-Compliance	NC REC 10: Ensure that future EPL non-compliances are reported as non-compliances in the Annual Review.	Noted. 2021 Annual Review will include EPL non-compliance. **Included in this AER.**
R4	**Noise Monitoring Report** A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the quarterly monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include: a) an assessment of compliance with the noise limits as detailed in this licence; and b) an outline of any management actions taken within the monitoring period to address any exceedances of the limits detailed in this licence.	Low Non-Compliance	NC REC 16: Site to complete a noise compliance assessment and submit within 30 days of the completion of quarterly monitoring as per EPL Condition R4 requirements.	Noted. Noise compliance reports will now be submitted quarterly on completion to hunter.region@epa.nsw.gov.au **Noise reports sent to EPA.**

8. COMMUNITY

8.1 COMMUNITY CONSULTATIVE COMMITTEE

Community Consultative Committee (CCC) meetings are typically held four times per year. During 2022, four meetings were held, one in March, June, September and December 2022.

A copy of the meeting minutes is provided in **Appendix 3**.

Key issues raised at the meetings have related to traffic concerns relating to the intersection construction design or actions of motorists / truck operators on the public road. Other issues related to early arrival of trucks. These matters are generally consistent with the complaints records.

8.2 NEWSLETTERS

Community information newsletters are typically produced on a regular basis to provide the community with updates or changes that may affect the local community. During 2022, there were little or no changes to the quarry operations that would be expected to affect the local community, as such no newsletters were distributed. Newcastle Sand maintains good communication with many of the neighbouring property owners with residents or owners of 19 neighbouring properties contacted. some of these residents are also on the CCC. The minutes of the CCC and presentation are available on the website.

8.3 COMPLAINTS RECORDS

During 2022, 17 complaints were registered by WSS as detailed in **Table 20**. All complaints were resolved as described by the 'Response and Action' column presented in **Table 20.** Complaints received by WSS are available on the public website.

Of the 17 complaints, the following can be summarised:

- 4 were in relation to vehicles turning right into or out of the site.
- 4 were related to truck movements outside of the approved hours.
- 3 were related to trucks departing the site with uncovered loads.
- 2 were in relation to the complaint recording process.
- 2 were in relation to noise.
- 1 was related to flooding in adjacent properties.
- 1 was in relation to trucks using neighbouring driveways to turn around.

10 of the 14 complaints in the register were received from one property (Receptor ID 41) opposite the quarry, or from DPE or Newcastle Sand making a pre-emptive notification.

Since construction commenced there have been 65 complaints registered, 25 occurring during the nine months of construction and 40 over the last 31 months of operations. Over 69% were received from only two properties (Receptor ID 40 and 41).

The numbers of complaints has reduced since commencement of operations. The primary concern of complainants continue to relate to truck movements and traffic safety.

Table 21: Complaints Received by WSS during the 2022 reporting period

Incident ID	Receptor ID	Date	Method of Complaint Communication	Key site activities occurring at time of complaint and where - if relevant to complaint? (e.g. clearing and extraction in Sector 2)	Development Phase	Key Complaint Issue (e.g. noise, dust, traffic)	Details	Response and Action	Date of Closure
CTR_INC49	68	11/02/2022	Email	N/A	Operations	Traffic safety - other	Unknown dates on 2 sepparate occasions 12t rigid trucks using neighboring driveways to turn around	Contractor was issued a warning and the Drivers Code of Conduct was reinforced with the contractor regarding the rules of a public road and the correct way to access and exit our site. This was conveyed to complaintent via email 14/02/2022	14/02/2022
CTR_INC54	41	14/03/2022	Email	N/A	Operations	Truck Movements & Load Covering	On 7th March at 9.10am a Boral truck was seen leaving your site with its rear load uncovered. This is causing significant dust from your site and is in contradiction to your consent conditions.	Company was notified, driver was issued with a warning, any further reoccurance would result in a suspension	7/04/2022
CTR_INC55	41	14/03/2022	Email	N/A	Operations	Truck Movements & Load Covering	On 8th March at 7.10am an Entire branded truck was seen leaving your site with its rear load uncovered.	Company was notified and driver was issued with a warning, any further reoccurance would result in a suspension	16/03/2022
CTR_INC50	DPE	24/03/2022	Email	NA	Operations	Truck Movements - Time	The Department has received a complaint for two separate occasions (5 and 19 February 2022) where a truck and dog was seen entering the quarry prior to the approved time of 7am for Saturdays (6.25am and 6.15am respectively).	On 5 February a truck arrived at site 6:05am before the quarry opened at 7am on a Saturday. Driver was instructed that no truck can be loaded prior to 7am. Truck existed site at approximately 7:20am. Owner of truck contatced to remind of times. On 19 February a truck arrived at site before 6:22am when quarry staff came to site. Truck left site at 7:17am. Company responsible remprimanded and advised repeat action will result in suspension from quarry haulage, driver was given written notice from company.	7/04/2022
CTR_INC51	DPE	14/04/2022	Email	NA	Operations	Complaint Recording Process	The concern has been raised with the Department that only complaints that are received directly by Cabbage Tree Road Sand Quarry, are recorded on the project's complaints register. It is the Department's expectation that all complaints in relation to the project, including those received by the Department/ NSW EPA etc, are also	Complaints register reviewed, updated and reposted to website, with reminder to all personnell involved in complaint process to record complaints from all sources in the register.	18/04/2022

Incident ID	Receptor ID	Date	Method of Complaint Communication	Key site activities occurring at time of complaint and where - if relevant to complaint? (e.g. clearing and extraction in Sector 2)	Development Phase	Key Complaint Issue (e.g. noise, dust, traffic)	Details	Response and Action	Date of Closure
							recorded on the project's complaints register.		
CTR_INC52	JP	16/05/2022	Text Message	N/A	Operations	Traffic Safety - Right Turn at Entry	Reporting of a truck with excavator on trailer turned right into the quarry almost causing a collision	An investigation found that the truck was not attached to the quarry and turned around and exited	18/05/2022
CTR_INC53	41	7/06/2022	Email	N/A	Operations	Truck Movements - Time	The neon sign denoting Open or Closed is broken which creates confusion for motorists.	The sign had been broken into and damaged with the battery stolen. Parts were ordered and sign repaired	10/06/2022
CTR_INC56	DPE / 41	26/07/2022	Email	NA	Operations	Complaint Recording Process	DPE received complaint in relation to the complainant's previous complaint on 26 May regarding a truck seen leaving the site loaded and uncovered, not being answered. Need to ensure the complaint is addressed and the complainant updated of the response to this.	We have reviewed our complaints register and have not identified any complaints regarding a truck leaving the quarry loaded and uncovered on this date. We have reviewed the complaints register and identified an unaddressed complaint from this day regarding a right turn. This has been reviewed and noted below.	4/08/2022
CTR_INC57	41	26/05/2022	Email	NA	Operations	Traffic Safety - Right Turn at Entry	Truck turning right into site. On 3rd May around 14:20 an empty truck with red covers was seen making a dangerous right hand turn into the quarry site. Please confirm receipt of this complaint and actions via return email.	On review of the complaints register, an unresolved email was found to be overlooked. We went through our weighbridge camera docket data and found a truck that entered the weighbridge at 2:22pm with red tarps. We have contacted the haulage company and a week after this incident the driver was dismissed. We have since banned the driver from our quarry. Complainant advised of action.	4/08/2022
CTR_INC58	Council / Barrie Close Residents	27/07/2022	Council Inspection on behalf of Barrie Close residents	NA	Operations	Other	Port Stephens Council were contacted regarding concerns by residents in Barrie Close that the quarry may be generating water that is responsible for increased flooding on properties in Barrie Close.	Council completed an inspection of the quarry and it was resolved that increased water in Barrie Close was not due to Quarry Operations. The two areas are not hydraulically connected. Quarry monitoring of water levels has shown water levels are approximately 1m above levels 12 months ago and likely due to high rainfall (aIn last 12 months area has received rainfall totalling more than 500mm above long term average).	4/08/2022
CTR_INC59	41	1/08/2022	Email	NA	Operations	Truck Movements - Load Covering	On 27th July at 6.30am a white sand truck was seen exiting the site without covers over the sand load.	A truck did enter the site, it pulled into our holding bay. The truck was reallocated to another quarry and did not come over the weighbridge.	4/08/2022

Incident ID	Receptor ID	Date	Method of Complaint Communication	Key site activities occurring at time of complaint and where - if relevant to complaint? (e.g. clearing and extraction in Sector 2)	Development Phase	Key Complaint Issue (e.g. noise, dust, traffic)	Details	Response and Action	Date of Closure
							Please confirm actions taken by mine to avoid this happening again.	The truck conducted a u-turn and left the site empty with tarps open. No action is required. The quarry has an induction process and numerous signs in place reminding drivers of their legal obligation to cover their load, in addition where observed verbal reminders by quarry employees are given to truck drivers to cover loads.	
CTR_INC60	41	26/08/2022	Email	NA	Operations	Truck Movements - Time	On 13th August a truck arrived to your site before 6am. It was allowed in to your site at 6.10am. This truck woke local residents. Please confirm how the quarry will stop this in the future.	We note that two weeks have elapsed since this the occurrence of this complaint, as previously suggested, please let the quarry know as soon as possible of any concerns in relation to an event. We have reviewed our records for Saturday 13 August and can advise: • We didn't have any truck arrive prior to 6am. • The first vehicles to arrive onsite were at 6:09am and were two employee vehicles. • We continue to induct truck drivers that enter the quarry about reducing noise to respect our neighbours including avoiding the use of engine brakes when entering site. Any passing trucks may unfortunately use engine brakes or have the potential to cause disruption to sleep, this was a common concern of residents prior to Newcastle Sand commencing. Thanks for sending the complaint through, we value the opportunity to improve the operations.	30/08/2022
CTR_INC61	41	19/09/2022	Email	NA	Operations	Noise	Approx 8.10am on Saturday 17th Sept 2 trucks entered the quarry site with airbrakes activated for the entire slipway. This is against Transport management plan.	We have reviewed the camera footage and can confirm 2 flatbed/low loader trucks (not sand trucks) entered the quarry at about 8:09am on Saturday the 17th September 2022.	20/09/2022

Incident ID	Receptor ID	Date	Method of Complaint Communication	Key site activities occurring at time of complaint and where - if relevant to complaint? (e.g. clearing and extraction in Sector 2)	Development Phase	Key Complaint Issue (e.g. noise, dust, traffic)	Details	Response and Action	Date of Closure
								Due to the nature of these trucks being geared to carry heavy loads, they may inadvertently used their airbrakes as they would 99% of the time when carry heavy loads. These truck drivers were not previously inducted to site as they are not sand haulage trucks or frequent quarry attendees. We have contacted the haulage company to ensure all drivers are reminded for any future heavy vehicle arrivals to NOT use their airbrakes.	
CTR_INC62	NA	20/09/2022	Phone	NA	Operations	Traffic Safety - Right Turn at Entry	A haulage contractor leaving the quarry observed (in rear vision mirror) a contractor supplies ute leaving the quarry in an inappropriate manner at approximately 2:00pm on 20/09/2022, making a right turn out of the quarry.	Contacted the manager of the company that employed the driver of the vehicle responsible for the illegal manouver and provided a full explanation of the issue observed and the correct access to the site. The company acknowledged and apologised for the driver error and gave the driver a briefing on the matter and was shown the correct procedures. No further action required.	20/09/2022
CTR_INC63	DPE	22/12/2022	Email	NA	Operations	Truck Movements - Time	The department received a complaint in relation to a number of sand quarry trucks entering Cabbage Tree Road Sand Quarry on Saturday 3 December 2022 before 7am.	In addition to the individual truck drivers being verbally warned by the Quarry Manager on the day of the event. Newcastle Sand sent out a group email on the 10/01/2023 to all haulage contractors to remind them of the driver's code of conduct with an emphasis on our trading hours, Arrival Times, no compression braking will be tolerated and to respect our neighbours.	19/01/2023
CTR_INC64	DPE	23/12/2022	Email	NA	Operations	Traffic Safety - Right Turn at Entry	The department received a complaint relating to a ute with an aluminium tray turning right into Cabbage Tree Road Sand Quarry on 24 October 2022. The department will record the breach and take no further action at this time. However,	Email issued to contractors reminding the need to use only legal manouvres when accessing the quarry.	19/01/2023

Incident ID	Receptor ID	Date	Method of Complaint Communication	Key site activities occurring at time of complaint and where - if relevant to complaint? (e.g. clearing and extraction in Sector 2)	Development Phase	Key Complaint Issue (e.g. noise, dust, traffic)	Details	Response and Action	Date of Closure
							please ensure you remind the offending driver, and all drivers of the requirement to use left turn in and left turn out only when accessing the quarry.		
CTR_INC65	DPE	23/12/2022	Email	NA	Operations	Noise	The department received a complaint of 2 separate trucks, one arriving at 6:30 am and one arriving at 6:50 am on Tuesday 18 October 2022, into Cabbage Tree Rd Sand Quarry. The trucks were using compression braking, or air brakes, from the start of the deceleration lane on Cabbage Tree Road until they entered the quarry gates.	Newcastle Sand has contacted the haulage companies via email and discussed verbally via a phone call, both on the 11/01/2023. In addition Newcastle Sand has sent out a group email on the 10/01/2023 to all haulage contractors to remind them of the drivers code of conduct with an emphasise on no compression braking will be tolerated and to respect our neighbours.	19/01/2023

9. ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

Table 21 below shows a summary of requested inclusions from previous annual reviews and where these are addressed in this document.

Table 22: Actions from previous annual reviews and where implemented.

AER Year	Aspect	Comment	Where Addressed in this Annual Review
2020	Truck Monitoring	Include a comparison of truck movements to previous years.	Section 5.6
2020	Community	a. a summary of community contributions. b. a comparison of the number and type of complaints to previous years.	Section 4.2 Section 8.3
2020 / 2021	Non-compliances	a. identify if non-compliances were reported to the relevant agencies. b. include a summary of any formal enforcement actions (official caution, penalty notice, order, prosecution proceedings, enforceable undertaking) by any regulatory agency during the reporting period.	Section 10.0
2021	Hours of operation and hourly haulage rates	Within Section 2.2 for activities completed during the period, clearly report against SSD 6125 Schedule 3 condition 1, 4, 23 and 23A	Section 2.2
2021	Water Monitoring Trigger Values	Section 5.4 Water Monitoring – please clarify if the recommendation by Kleinfelder to increase the groundwater copper trigger level, as detailed in Section 5.4.5 Conclusion, will be implemented in the next update to the Water Management Plan	Section 5.4
2021	PFAS Exposure Pathways	Investigation of PFAS sources in the wash plant.	Section 6

AER Year	Aspect	Comment	Where Addressed in this Annual Review
2021	2021 Audit Actions Table	Include a table that lists the progress made in implementing all actions identified in the Response to Audit Recommendations (RAR) for the 2021 IEA report.	Section 7.13

10. NON-COMPLIANCES

Non-compliances are itemised in **Table 2**.

Newcastle Sand have entered into an Enforceable Undertaking with the DPE in relation to non-compliance with matters that occurred during previous period (i.e. during construction). The enforceable undertaking has been completed, which resulted in the payment of monetary contributions to local wildlife organisations.

Non-compliances are reported as they are identified with letters to relevant agency, identified during the CCC (attended by Council and HWC), within the Annual Return for the EPL, and otherwise through the Annual Review, that is accessible to all agencies on www.newcastlesand.com.au.

11. DEVELOPMENT IMPACT PREDICTION EVALUATION

An evaluation of the predicted development impacts against the observed impacts are summarised within the **Table 22** below.

In terms of time since commencement the quarry is effectively in Year 3 (i.e. 2.5) excluding construction, or into Year 4 (i.e. 3.25) including construction.

Table 23: Development impact prediction evaluation against actual

Aspect	Predicted Impact	Observed Impact	Above / below / As Expected
Extraction Rate and Truck Numbers	Estimated production of 336,000 tonnes for Year 3, from a maximum rate of 530,000 tonnes, or cumulatively to Year 3 a total of 886,000 tonnes.	84% of the approved maximum extraction rate was extracted. 32% more sand was sold for 2022 versus predicted, with overall sales at 105% of expected to end of Year 3.	Below maximum, more than expected.
Noise	Operational noise levels at neighbouring properties at the current stage of works were modelled to be less than 35dB(A) at neighbouring properties.	Operationally, noise levels are potentially lower than modelling predicted. Traffic noise remains the primary noise source at properties closest to the quarry.	As expected.
Air Quality	Air quality modelling predicted that cumulative annual criteria for dust deposition and PM_{10} would be met. The modelling predicted at full production there was a small chance for isolated exceedances of 24 hour criterion occurring 1-2 days per year.	Air quality impacts as a result of the project are consistent with the modelling expectations with typically low contribution levels. Under extreme weather conditions air quality contributions from the site increase and require the implementation of real-time actions to minimise air quality impacts at properties south of Cabbage Tree Road.	As expected.
Stage of Disturbance	The end of 2022 is equivalent to	Disturbance areas to the end of the period are similar to that expected, with additional disturbance in Sector 9 (associated with long term topsoil	Higher than expected, though lower than

Aspect	Predicted Impact	Observed Impact	Above / below / As Expected
	approximately Year 2.5 (i.e. into Year 3). In Year 3 disturbance was expected across Sectors 1, 1A, 2, 3, 3A, 3B, 4, 4A, 4B, 5, 5A, 5B. Spatially, this accounts for approximately 16.25 hectares.	storage that is now rehabilitated), and disturbance within Sector 7 associated with white silica sand extraction. Spatially approximately 21 ha or approximately 50% of the total disturbance area has occurred. The wash plant necessitates a greater degree of site preparation to maximise water recovery, as such it is not economically feasible to relocate the wash plant to the extent originally envisaged. The current location in Sector 3 is considered appropriate to recover the remainder of the quarry resource. Difficulties in processing and changing market demands have slightly changed the expected disturbance areas with a slightly higher actual disturbance though less than would occur if extraction was at its maximum.	maximum (relative to maximum extraction rate).
Rehabilitation	For Year 3 it was envisaged that rehabilitation would have occurred through all but one stage of the extraction area, excluding batters and where the Sector 1 processing plant was located. Batter rehabilitation was not expected.	Rehabilitation has occurred essentially one section behind each extraction area, with the exception of Sector 1A / 2 that has been delayed associated with the logistics of moving the wash plant and recovering white sand resources. Batter rehabilitation has progressed well adjacent to the access road, likely in excess of that expected within the EIS.	Behind where expected.
Water	No significant changes to water levels or quality were expected due to the quarry.	No significant changes have been observed, changes are primarily related to changing weather conditions. PFAS has not been detected within the quarry, however, monitoring sites to the	Above expected.

Aspect	Predicted Impact	Observed Impact	Above / below / As Expected
	Water usage was predicted to peak at 126.5 kL/day or up to 30 ML/year.	south, east and north east have shown some evidence of PFAS, these locations are consistent with the existing known or expected PFAS plumes from the RAAF base. Water usage is above that predicted within the EIS, with 37.26ML being used in 2022. However, the EIS did not account for the additional consumption in wash plant commissioning or additional washed sand demand to to market and feed quality. It is feasible that the long term average will be closer to the predicted EIS volume.	

12. IMPROVEMENT

As Quarrying operations continue, Newcastle Sand are progressively refining and improving operational practices to minimise the effects on the environment and maintain compliance with the extensive requirements of the management plans and the conditions of consent.

12.1 COMMITMENTS, APPROVALS AND LICENCES

Based on experiences during operations, results of the Independent Environmental Audit amendments will be sort to the Development Consent, Statement of Commitments and EPL through consultation with DPE, the EPA and associated agencies, current amendments to be sort will include:

- Re-evaluation of the need for community open days at the quarry, operational limitations and limited community demand make community open days largely unnecessary, quarterly CCC meetings and associated presentations include photographs of the quarry and are considered adequate. Specific requests to view the quarry can still be considered by the Quarry Manager if made.
- Modification to the Development Consent to provide a range of changes aimed at ensuring best practice operational practices are consistent with the development consent to improve efficiencies and redundant conditions or commitments are updated to better reflect current site conditions and operational needs.

12.2 NEXT ANNUAL REPORT

The 2023 annual report will commence in the last quarter of the period to limit the potential for delays in the provision of the report by the required March 30 timeframe. While the 2022 report was largely completed prior to the March 30, additional delays occurred due to staff shortages.

12.3 REVISION OF STRATEGIES, PLANS & PROGRAMS

As per Schedule 5 Clause 4 of the Project approval, within 3 months of the submission of this AEMR WSS will review the strategies, plans and programs under the Development Consent and notify DPIE in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document will be submitted for approval by DPIE.

The following management plans were reviewed in the period:

- Soil and Water Management Plan.

- Traffic Management Plan.
- Air Quality Management Plan.
- Maximum Extraction Depth Report.
- Noise Management Plan.
- Biodiversity and Rehabilitation Management Plan.
- Heritage Management Plan.

The status of each plan is variable, and will require finalisation during this period if feasible based on specialist availability, consultation and review processes.

APPENDIX 1. PROJECT APPROVAL

Development Consent

Section 4.38 of the *Environmental Planning and Assessment Act 1979*

The Independent Planning Commission, as the declared consent authority under clause 8A of the *State Environmental Planning Policy* (State and Regional Development) 2011 and section 4.5(a) of *the Environmental Planning and Assessment Act 1979*, approves the development application referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

These conditions are required 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 development.

Dianne Leeson (Chair) **Member of the Commission**	**Peter Cochrane** **Member of the Commission**	**Peter Duncan AM** **Member of the Commission**

Development consent signed by the members of the Commission listed above.

Sydney 9 May 2018

SCHEDULE 1

Application Number	SSD-6125
Applicant	Williamtown Sand Syndicate
Consent Authority:	The Independent Planning Commission NSW
Site:	Lot 1012 DP 814078 Lot 11 DP 629503 Lot 121 DP 556403 Lot 1 DP 224587
Development	Cabbage Tree Road Sand Quarry

Modification 1 – Glass Sand Trial – March 2020 shown in red text

Modification 2 – Addition of wash plant and ancillary equipment – March 2021 shown in blue text

APPENDIX 2. EPL

APPENDIX 2. EPL

Environment Protection Licence

Licence - 21264

Licence Details	
Number:	21264
Anniversary Date:	31-July

Licensee

WILLIAMTOWN SAND SYNDICATE PTY LIMITED

PO BOX 186

WARATAH NSW 2298

Premises

CABBAGE TREE ROAD SAND QUARRY

298 CABBAGE TREE ROAD

WILLIAMTOWN NSW 2318

Scheduled Activity

Crushing, grinding or separating

Extractive activities

Fee Based Activity	Scale
Crushing, grinding or separating	> 100000-500000 T annual processing capacity
Extractive activities	> 100000-500000 T annual capacity to extract or process

Region

North - Hunter

Ground Floor, NSW Govt Offices, 117 Bull Street
NEWCASTLE WEST NSW 2302

Phone: (02) 4908 6800

Fax: (02) 4908 6810

PO Box 488G

NEWCASTLE NSW 2300

Environment Protection Licence

Licence - 21264

Environment Protection Licence

Licence - 21264

Environment Protection Licence

Licence - 21264

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

Licence - 21264

The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

WILLIAMTOWN SAND SYNDICATE PTY LIMITED
PO BOX 186
WARATAH NSW 2298

subject to the conditions which follow.

Environment Protection Licence

Licence - 21264

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Crushing, grinding or separating	Crushing, grinding or separating	> 100000 - 500000 T annual processing capacity
Extractive activities	Extractive activities	> 100000 - 500000 T annual capacity to extract or process

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
CABBAGE TREE ROAD SAND QUARRY
298 CABBAGE TREE ROAD
WILLIAMTOWN
NSW 2318
AS SHOWN ON PLAN TITLED "QUARRY OPERATIONS PLAN - FIGURE 1" **WITHIN ALLOTMENTS:** **LOT 1012 DP 814078** **LOT 11 DP 629503** **LOT 121 DP 556403** **LOT 1 DP 224587** **THIS PLAN HAS BEEN FILED AS EPA DOCUMENT DOC19/442133.**

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:
a) the applications for any licences (including former pollution control approvals) which this licence

replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Air

EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
13	Ambient Air Monitoring		PM10 real time particulate monitoring station as described as "RT1" in the document titled "Particulate Matter Monitoring Locations , Figure 5," dated 22 July 2019, EPA file Doc19/629648.
14	Ambient Air Monitoring		PM10 real time particulate monitoring station as described as "RT2" in the document titled " Particulate Matter Monitoring Locations, Figure 5," dated 22 July 2019, EPA file Doc19/629648.
15	Ambient Air Monitoring		PM10 particulate monitoring station as described as "HVAS-1 PM10" in the document titled "Particulate Matter Monitoring Locations, Figure 5," dated 22 July 2019, EPA file DOC19/629648.
16	Ambient Air Monitoring		TSP particulate monitoring station as described as "HVAS-2 TSP" in the document titled "Particulate Matter Monitoring Locations, Figure 5," dated 22 July 2019, EPA file DOC19/629648.

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description

1	Groundwater Monitoring	Groundwater Monitoring Bore "BH2" as shown in Figure 7, in document titled "Cabbage Tree Road Sand Quarry" - EPL Supporting Documentation dated 19 March 2019, EPA Doc19/382742.
2	Groundwater Monitoring	Groundwater Monitoring Bore "BH4" as shown in Figure 7, in document titled "Cabbage Tree Road Sand Quarry - EPL Supporting Documentation" dated 19 March 2019, EPA Doc19/382742.
3	Groundwater Monitoring	Groundwater Monitoring Bore "BH6" as shown in Figure 7, in document titled "Cabbage Tree Road Sand Quarry - EPL Supporting Documentation" dated 19 March 2019, EPA Doc19/382742.
4	Groundwater Monitoring	Groundwater Monitoring Bore "BH7" as shown in Figure 7, in document titled "Cabbage Tree Road Sand Quarry - EPL Supporting Documentation: dated 19 March 2019, EPA Doc19/382742.
5	Groundwater Monitoring	Groundwater Monitoring Bore "BH9" as shown in Figure 7, in document titled "Cabbage Tree Road Sand Quarry - EPL Supporting Documentation" dated 19 March 2019, EPA Doc19/382742.
6	Groundwater Monitoring	Groundwater Monitoring Bore "BH11" as shown in Figure 7, in document titled "Cabbage Tree Road Sand Quarry - EPL Supporting Documentation" dated 19 March 2019, EPA Doc19/382742.
7	Groundwater Monitoring	Groundwater Monitoring Bore "MW239S"" as shown in Figure 7, in document titled "Cabbage Tree Road Sand Quarry - EPL Supporting Documentation" dated 19 March 2019, EPA Doc19/382742.

P1.4 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

EPA identification no.	Type of monitoring point	Location description
17	Meteorological Station	Williamtown Bureau of Meteorology Station

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Waste

L2.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

L3 Noise limits

L3.1 Noise Limits

Receiver	Day LAeq(15 Min)	Shoulder LAeq(15 Min)	Shoulder LA Max(1 Min)
Any residential reciever	43	39	45

L3.2 Operational noise generated at the premises must not exceed the noise limits shown in the table above.

Note: The noise limits detailed above do not apply at a particular residence if the licensee has a written agreement with that particular residence to exceed those limits.

Note: This condition does not apply to construction activities of the intersection of the quarry access road and Cabbage Tree Road or vegetation clearing in the Southern Resource Area.

L3.3 The following noise limits apply to vegetation clearing in the Southern Resource Area.

The licensee must only undertake vegetation clearing activities in the Southern Resource Area in the following circumstances:

a)noise generated by the development does not exceed 47dB(A)LAeq (15min);

b)bulldozer(s) or equipment with sound power levels greater than 104 dB(A) are not permitted to be used

in sectors 9B, 10A, 10B, and 10C as shown in Figure 2 of Appendix 1 of Project Approval SSD-6125;

c)clearing operations are limited to:

- the day period, Monday to Friday only;
- campaigns not exceeding 5 consecutive working days; and
- no more that 4 campaigns in a calendar year.

L3.4 For the purpose of the Noise limits above:

Day is the period from 7am to 6pm Monday to Friday and 7am to 4pm Saturdays.
The morning shoulder period is from 6am to 7am Monday to Friday.

L3.5 The noise limits set out in this licence apply under all meteorological conditions except for the following:

a) Wind Speeds greater than 3 metres/second at 10 metres above ground level; or
b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
c) Stability class G temperature inversions.

L3.6 For the purpose of the condition above:
a) Data recorded by the meteorological station identified as EPA monitoring point 17 must be used to determine meteorological conditions; and
b) Temperature inversion conditions (stability category) are to be determined by the sigma theta method referred to in the NSW Noise Policy for Industry.

L3.7 **Determining Compliance**

To determine compliance:
a) with the Leq (15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located:
i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
ii) within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
iii) within approximately 50 metres of the boundary of a National Park or a Nature Reserve.
b) with the LA1(1 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located within 1 metre of a dwelling façade.
c) with the noise limits in the Noise Limits table, the noise measurement equipment must be located:
i) at the most affected point at a location where there is no dwelling at the location; or
ii) at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition.

Note: A non-compliance of the Noise Limits table will still occur where noise generated from the premises in excess of the appropriate limit is measured:
i) at a location other than an area prescribed in part (a) and part (b); and/or
ii) at a point other than the most affected point at a location.

L3.8 For the purposes of determining the noise generated at the premises the modification factors in Fact Sheet C of the NSW Noise Policy for Industry must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

L4 Hours of operation

L4.1 Quarrying operations

7am to 5pm Monday to Friday
7am to 4pm Saturday
At no time on Sundays or public holidays.

Loading and dispatch of laden trucks

6am to 6pm Monday to Friday
7am to 4pm Saturday
At no time on Sundays or Public holidays.

Note: The licensee may undertake maintenance activities outside these hours provided it is not audible at any residential receiver.

L5 Potentially offensive odour

L5.1 The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

L6 Other limit conditions

Extraction and Rehabilitation Depth Limits

L6.1 The Licensee must not undertake any sand extraction within 0.7 metres of the predicted maximum groundwater level at the premises at any time.

L6.2 The Licensee must ensure that rehabilitation final landform levels remain 1 metre above the maximum predicted groundwater height.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the

activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
a) must be maintained in a proper and efficient condition; and
b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 All areas in or on the premises must be maintained in a condition that prevents or minimises the emission of dust to the air.

O3.2 Any activity carried out in or on the premises must be carries out by such practical means as to prevent dust or minimise the emission of dust to the air.

O3.3 Any plant operated in or on the premises must be operated by such practical means to prevent or minimise dust or other air pollutants.

O3.4 All trafficable areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the emission of dust to the air, or emission from the premises of wind-blown or traffic generated dust.

O3.5 Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.

O3.6 The licensee must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations to match its available water supply for dust suppression purposes.

O3.7 The licensee must review operations and ensure that water dust suppression is active on haul roads and stockpile areas during the following conditions:

a) Where wind conditions are directed towards surrounding residences, that is, the weather station indicates winds are blowing from the quadrants west (270 degrees) through North (0 degrees) to East (90 degrees).

b) When the continuous PM10 monitor shows the rolling PM10 24 hr average exceeds the background average concentration of 22 micrograms per cubic metre.

O3.8 The Licensee must cease all topsoil stripping and dozer operations when the following occurs:

a) Wind is directed towards surrounding residences, and
b) Rolling PM10 24 hr average exceeds 35 micrograms per cubic metre.

O3.9 The Licensee must suspend all sand processing activities when:

a) Wind is directed towards surrounding residences, and
b) Rolling PM10 24 hr average exceeds 40 micrograms per cubic metre.

O3.10 The Licensee must suspend all sand extraction from the face when dust levels increase after two hours when:

a) Wind is directed towards surrounding residences, and
b) Rolling PM10 24 hr average exceeds 42.2 micrograms per cubic metre.

O3.11 If dust levels continue to increase after two hours, the Licensee must cease loading and shut down all machinery at the premises when:

a) Wind is directed towards surrounding residences, and
b) Rolling PM10 24 hr average exceeds 45 micrograms per cubic metre.

O3.12 The Licensee must progressively rehabilitate mined/quarried areas as each section is completed.

O4 Emergency response

Note: The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The licensee must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment.

The PIRMP must be tested at least annually or following a pollution incident.

The licensee must develop the Pollution Incident Response Management Plan in accordance with the requirements in Part 5.7A of the Protection of the Environment Operations (POEO) Act 1997 and POEO regulations.

O5 Processes and management

Preventing Pollution from Fuels and Chemicals

O5.1 All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.

O5.2 Bunds must:
a) have walls and floors constructed of impervious materials;
b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
c) have floors graded to a collection sump; and
d) not have a drain valve incorporated in the bund structure,

or be constructed and operated in a manner that achieves the same environmental outcome.

O5.3 All fuel storage and refuelling areas at the premises must be constructed to comply with the relevant Australian Standards.

O5.4 Except as detailed in the condition below, refuelling and all storage of fuels and chemicals must be within an appropriately roofed and concrete bunded area within the workshop compound, located outside of the Tomago Sandbeds Special Area.

O5.5 Tracked plant may be refuelled on a fully bunded and lined hardstand located within the Tomago Sandbeds Special Area. This bunded and lined area must be capable of holding both the tracked equipment and the fuel tank.

O5.6 No fuel storage or refuelling activities may occur at the premises outside of the areas constructed to the relevant Australian Standards.

O5.7 The Licensee must ensure that, outside of the operating hours during which quarrying operations are permitted, all fuel powered equipment is removed from the "Tomago Sandbeds Special Area" to a secure storage, except for equipment being used in vegetation clearing operations, which may be stored within a fully bunded and lined hardstand area outside of operating hours.

Preventing Pollution from Trucks

O5.8 The Licensee must;
a)ensure that all laden trucks entering or exiting the site have their loads covered;
b)ensure that all laden trucks exiting the site are cleaned before leaving the site of material that may fall from vehicles; and
c) use its best endeavours to ensure that appropriate signage is displayed on all trucks used to transport product from the development so that they can be easily identified by road users.

Waste Classification

O5.9 The licensee must ensure that any liquid and/or non liquid waste generated and/or stored at the premises is assessed and classified in accordance with the DECC Waste Classification Guidelines as in force from time to time.

O6 Other operating conditions

Minimising Noise

O6.1 All dozers operating within the Southern Resource Area must be restricted to operating in first gear in reverse to minimise associated track noise.

O6.2 All mobile equipment used onsite must be fitted with a BBS-Tec "back alarm" broadband reversing alarm or similar such device.

Managing Contamination from Past Activities

O6.3 No groundwater on the premises is to be extracted or used on the premises without the prior approval of the EPA.

O6.4 Within the premises boundary the Licensee must accurately determine the location of areas impacted by the former mineral sand extraction operations including the settling ponds, sand tailings disposal areas, monazite trenches and the "equipment graveyard" areas and prior to works commencing on site install suitable fencing to prohibit any activities in these areas.

Stormwater Management

O6.5 The drainage from all areas at the premises which will liberate suspended solids when stormwater runs over these areas must be diverted to adequately sizes sediment basins.

O6.6 The sediment basins must be maintained to ensure that their design capacity is available for the storage of all runoff from cleared areas.

O6.7 Stormwater management measures must be prepared and implemented to mitigate the impacts of stormwater run-off from and within the premises in a manner that is consistent with the Stormwater Management Plan for the catchment. Where a Stormwater Management Plan has not yet been prepared the measures should be consistent with the guidance contained in Managing Urban Stormwater: Soils and Construction: Volume 2C Unsealed Roads and Volume 2E Mines and Quarries (DECCW 2008).

Sewage Management

O6.8 The Licensee must establish and use an on-site sewage pump out system, incorporating an adequately sized holding tank located outside of the "Tomago Sandbeds Special Area".

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

Environment Protection Licence

Licence - 21264

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Air Monitoring Requirements

POINT 13,14

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Continuous	Australian Standard 3580.9.8 - 2001

POINT 15

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Every 6 days	AM-18

POINT 16

Pollutant	Units of measure	Frequency	Sampling Method
Total suspended particles	micrograms per cubic metre	Every 6 days	AM-15

M2.3 Water and/ or Land Monitoring Requirements

POINT 1,2,3,4,5,6,7

Pollutant	Units of measure	Frequency	Sampling Method
Arsenic	micrograms per litre	Monthly	Grab sample
Conductivity	microsiemens per centimetre	Monthly	Grab sample
Depth	metres	Monthly	Probe
Iron	milligrams per litre	Monthly	Grab sample
Manganese	milligrams per litre	Monthly	Grab sample
pH	pH	Monthly	Grab sample
Turbidity	nephelometric turbidity units	Monthly	Grab sample

Environment Protection Licence

Licence - 21264

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Weather monitoring

M4.1 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

POINT 17

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Temperature at 2 metres	AM-4	degrees Celsius	1 hour	Continuous
Wind Direction at 10 metres	AM-2 & AM-4	Degrees	15 minutes	Continuous
Wind Speed at 10 metres	AM-2 & AM-4	metres per second	15 minutes	Continuous
Sigma Theta	AM-2 & AM-4	Degrees	15 minutes	Continuous
Rainfall	AM-4	millimetres	15 minutes	Continuous
Relative humidity	AM-4	percent	1 hour	Continuous

Environment Protection Licence

M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;
c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until 60 days after the date of the issue of this licence.

M7 Other monitoring and recording conditions

Extraction Height Survey

M7.1 The licensee must ensure quarry operators are aware excavation RL heights to allow continual compliance with extraction depth limits. Such provisions may include GPS capability on quarry machinery, relevant network of survey pegs and frequent surveys of operations.

M8 Noise monitoring

M8.1 To assess compliance with the noise limits section of this licence, attended noise monitoring must be undertaken in accordance with the noise conditions and:

a) at a location representative of the most affected residences in the noise limit conditions and;

b) occur quarterly in a reporting period;

c) occur each day and shoulder period as defined in the NSW Industrial Noise Policy for a minimum of:

- 1.5 hours during the day; and
- 30 minutes during the shoulder period.

d) occur for three consecutive operating days.
Note: It is the intention of the EPA to review the noise monitoring results required under this condition after a period of (3) years to assess the suitability of the required monitoring.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is

given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

Groundwater Monitoring Report

R1.8 The licensee must supply with each Annual Return a monitoring report that includes:

a) all groundwater monitoring results obtained over the reporting period;
b) a graphical presentation of all groundwater monitoring results (one parameter per graph) extending back to when monitoring began; and
c) a commentary on results that have been obtained, highlighting any changes or trends observed over time and make recommendations where adverse effects are identified.

Annual Extraction Height Survey

R1.9 The licensee must submit to the EPA with each Annual Return an annual independent survey report to demonstrate compliance with the extraction depth limit on this licence. The report must show all RL's of quarry operations and compare these against the RL's for the maximum predicted groundwater levels.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the

carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

R4 Other reporting conditions

Noise Monitoring Report

R4.1 A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the quarterly monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

a) an assessment of compliance with the noise limits as detailed in this licence; and

b) an outline of any management actions taken within the monitoring period to address any exceedances of the limits detailed in this licence.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

Environment Protection Licence

Licence - 21264

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

G1.4 The Licensee must nominate to the EPA a representative of the proponent that is available at all times and is capable of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including their telephone number, must be current at all times. The nomination and contact details must be provided to the EPA's Director - Hunter at PO BOX 488G, Newcastle NSW 2300.

Environment Protection Licence

Licence - 21264

Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environmen t Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 mo nths. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

Environment Protection Licence

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Mr Peter Jamieson

Environment Protection Authority

(By Delegation)

Date of this edition: 31-July-2019

End Notes

APPENDIX 3. COMMUNITY CONSULTATIVE COMMITTEE MINUTES

Williamtown Sand Syndicate (WSS)
Cabbage Tree Road Sand Quarry
Community Consultative Committee Meeting

15 March 2022
9:05-9:45am
Mercure Newcastle Airport

Meeting Number:	7th Meeting	**Type of meeting:**	General
Chairperson:	John Turner - JT	**Note taker:**	Jonathan Berry

Attendees:
Wayne Sampson (Resident) – WS
Stephen Kuehn (Resident) – SK
Shirley Davis (Resident) – SD
Barry Davis (Resident) – BD
John Simpson (Hunter Water Representative) – JS
Paul Hardes (Resident) – PH
Darren Williams (WSS) – DW
Jonathan Berry (Wedgetail Project Consulting) – JB
Sean Pennell (WSS / Newcastle Sand) – SP

Apologies:
Peter West (Resident) – PW
Greg Callaghan (Resident) – GC

Observers: None

Meeting Open: 9:05am

Minutes

Agenda item: 1 Apologies **Presenter:** John Turner

Discussion:

Greg Callaghan (Resident) – GC
Peter West (Resident) – PW

Agenda item: 2 Declaration of Pecuniary Interest **Presenter:** NA

Discussion:

John Turner (Chairperson) – Paid for service by WSS.
Wayne Sampson (Resident) – Deed with WSS.
Jonathan Berry (Wedgetail Project Consulting) – Consultant employed by WSS.
John Simpson (Hunter Water Representative)
Barry Davis (Resident) – Nil.
Shirley Davis (Resident) – Nil.
Greg Callaghan (Resident) – Deed with WSS
Paul Hardes (Resident) – Deed with WSS
Stephen Kuehn (Resident) – Deed with WSS

Sean Pennell (WSS / Newcastle Sand) – Quarry Manager

Darren Williams (WSS) – Quarry owner.

Agenda item: 3	**Minutes to be adopted**	**Presenter:**	John Turner

Discussion:

Minutes from the last meeting were noted.

Minutes moved by WS. Minutes seconded by SK. All Agree.

Agenda item: 4	**Business Arising from Previous Minutes** • Response to issues raised or provision of additional information requested;	**Presenter:**	JT

- See presentation and below.

SD – What is quarry doing to remove more sand from truck tyres (Tabled Question for Page 3 of Presentation).

As noted in presentation, wheel wash, v-cut on roadside to allow sand to move off road, increasing bitumen extent.

Agenda item: 5	**Correspondence**	**Presenter:**	John Turner

- See presentation and below.

Agenda item: 6	**Proponents reports & overview of activities, including;** • Progress of the project • Monitoring & environmental performances • Community complaints & responses to these complaints • Information provided to the community and any feedback	**Presenter:**	Jonathan Berry

JB – Gave presentation of slides.

Page 5 Complaints Register

JB – One complaint received during the period with regard to two trucks using a neighbouring properties driveway to turn around, property owner provided a photograph of the vehicles, one was a customer of the quarry, the other wasn't. The customer was contacted and advised not to repeat this, with penalty of suspension from the site.

SD – Tabled Question: The complaints register on the website is September version, where is the updated one?

JB - [Post meeting check – update had not loaded correctly, now loaded as of 12:30pm on 15/03/2022].

SD – Tabled Question: Does the quarry include DPE complaints on register?

JB – [Post meeting, Yes, depends on how complaint received, if it's a complaint from residents relayed to the quarry it is included, otherwise its received as correspondence rather than a complaint.]

Page 6 Regulatory Correspondence

SD – Tabled Question: When will recommendations from DPE be completed?

JB – Is that Audit Actions?

SD – Yes

JB – Some of these are complete, others are in progress.

JB – If in relation to actions on Page 6 of the presentation, the majority of these are completed, fencing contractor has been engaged and work expected to occur in the next month.

JS – What sort of fence? Assume this is not of a type to restrict fauna movements?

DW – A 2-3 strand plain wire fence, intended to avoid an operator going outside resource area.

JB – Only required in some areas where there is potential for incidental movement outside the resource area, in most areas the frog fence would limit access.

JS – What is the current depth control system?

DW – Loader has a GPS, and where the excavator is used a hand held system is available at the quarry at all times to check levels.

JS – No issues with current system?

DW – No, none at all.

Page 7 Recent Updates

SD – Tabled Question: Can the Quarry put the Groundwater Specialist Report on the website?

JB – Yes, this will be loaded on the website when DPE approve it. The findings of this report will be similar to the existing one that is currently on the website.

Page 11 Truck Movements

SD – Tabled Question: Can the quarry add the maximum actual truck movements per hour each day to the traffic movements table?

JB – Maximum movements per hour are fixed by the computer and weighbridge system, no additional tickets will be created for a truck to register a sale.

DW – What's the reason behind this question?

SD – Sometimes it seems that there are constant trucks coming out of the quarry, other times there is none.

DW – Our conditions require no more than 10 per hour, sometimes this could be 10 in 20 minutes and none for the next 40 minutes, so sometimes it might seem as though there are busy periods, but the computer / weighbridge system limits trucks.

Page 17 Environmental Monitoring - Water

SD – Tabled Question: Does the Wash Plant still use town water?

DW – Yes.

Page 22 Batters Photograph and comments arising

SD – How far does the sand go that is visible in the picture?

JB – Sand largely gone from road surface before acceleration lane.

DW – Will vary depending on weather, when wet, the sand tends to be stickier and travels further along the road.

DW – Probably due for another sweep by the contractor.

DW – Wheel wash and more bitumen should improve this, the Cabbage Tree Road side of the wheel wash / weighbridge should remain a clean area.

BD – Not all contractors have got their load covered.

DW – Have numerous signs and advise trucks regularly.

BD – What is the speed limit of trucks leaving?

DW – The design of the road was to enable trucks to be at about 80km before they merge.

BD – Some trucks don't give way and just push out onto road.

JT – This is an issue for Council / Roads and Maritime Services or the Police, as previously discussed, intersection has been designed to meet RMS requirements.

Page 29 Sector 7 Rehabilitation Photograph

SK – Will these plants be watered?

DW – If needed they will be by water cart.

JB – Seeding should require less watering, if tube stock are planted (if the seeded plants have not succeeded), watering may be needed.

Agenda item: 7	**Other Agenda Items**	**Presenter:**	John Turner

Discussion:

JT – There were no other agenda items received.

Agenda item: 8	**General Business**	**Presenter:**	John Turner

Discussion:

JT – Is there any general business?

Tabled Questions from SD have been included in the above section.

All – No business.

Action items	**Person responsible**	**Deadline**
✓ SD – Can someone please drop off a copy of the minutes to my letter box?	SP will drop of a copy	When completed
✓		

Agenda item: 9	**Next Meeting**	**Presenter:**	John Turner

Discussion:

JT – The meeting is now closed 9:45am, the next meeting to be advised for near June – to be advised.

Action items	**Person responsible**	**Deadline**
None.		

Other Information

- **Minutes to be provided as draft in the next week.**
- **Committee members have one week to provide feedback on the minutes to the Chairperson.**
- **Within two weeks of receiving feedback the minutes will be finalized and distributed to members and placed on the website.**

Meeting Close:

9:45 am

NEWCASTLE SAND

Community Consultative Committee Update

Project update for the period **December 2021 to February 2022**

For Meeting on 15 March 2022

Meeting Agenda for the Cabbage Tree Road Sand Quarry Community Consultative Committee.

Tuesday 15th March 2022 at 9.00am

Agenda Items:

- 1) Apologies and welcome to new members
- 2) Declaration of pecuniary or other interests
- 3) Minutes to be adopted
- 4) Business arising from previous minutes – response to issues raised or provision of additional information requested
- 5) Correspondence
- 6) Proponents reports and overview of activities, including:
- * progress of the project
- * monitoring and environmental performance
- * community complaints and response to these complaints
- * information provided to the community and any feedback
- 7) Other agenda items
- 8) General business
- 9) Next meeting

Actions from previous minutes December 2021

- Continue to implement the additional controls to keep sand off the acceleration lane and access road to minimise dust.
  - Wheel wash install is currently scheduled for installation over next two weeks (i.e. operational by end of March 2022).
  - Processing plant scheduled for relocation to Sector 3 in June 2022, that will increase area of bitumen road way.
- Consider how to remove any surplus sand from the road side (noting RMS considerations).
  - Roadway has had some improvement we are about a 3rd of the way down, have been using a shovel to move the sand and dig a small “V” beside the bitumen to allow an escape for the sand to avoid sand build up (noting as wheel wash and bitumen extends sand will be reduced).
  - A sweeper has been along, and focused on removing more sand from the guard rails.
  - Minimal sand on road way (some still on shoulder).
  - Slashing company has been engaged to mow along inside the guard rail.
  - This is part of the solution, removing more sand from tires will lead to further reductions.

Actions from previous minutes December 2021

V-shape dug on road edge and grass removal to let sand move off road way – some success, but is not a solution in isolation.

Community Complaints since December 2022

- Community complaints register available at: https://www.newcastlesand.com.au/complaints-register/
- 1 complaint received since December 2021 in relation to:
  - Trucks using private property entrance to turn around / stop, two trucks identified, one of these was a customer from the quarry, the other unknown.
  - Trucking company was contacted, that driver no longer works for that company and owner of business assured Quarry Manager that this would not occur again.
  - Was made clear to owner that any further manoeuvrers of this nature in these locations would not be tolerated and would result in suspension from haulage of sand from the quarry.

Regulatory Correspondence

- Site Inspection by DPE in December 2021, suggested:
  - Improved fencing of offset area.
  - Secondary containment line for generator fuel line.
  - Improved extraction depth control system.
  - Maintenance of frog / sediment fence.
  - Review of Sector 7 extraction and rehabilitation process.
- The Reporting period for the 2021 Annual Review ends December 31st 2021 and will be due for submission by 31 March 2021.
  - Will be available for review after DPE approval.

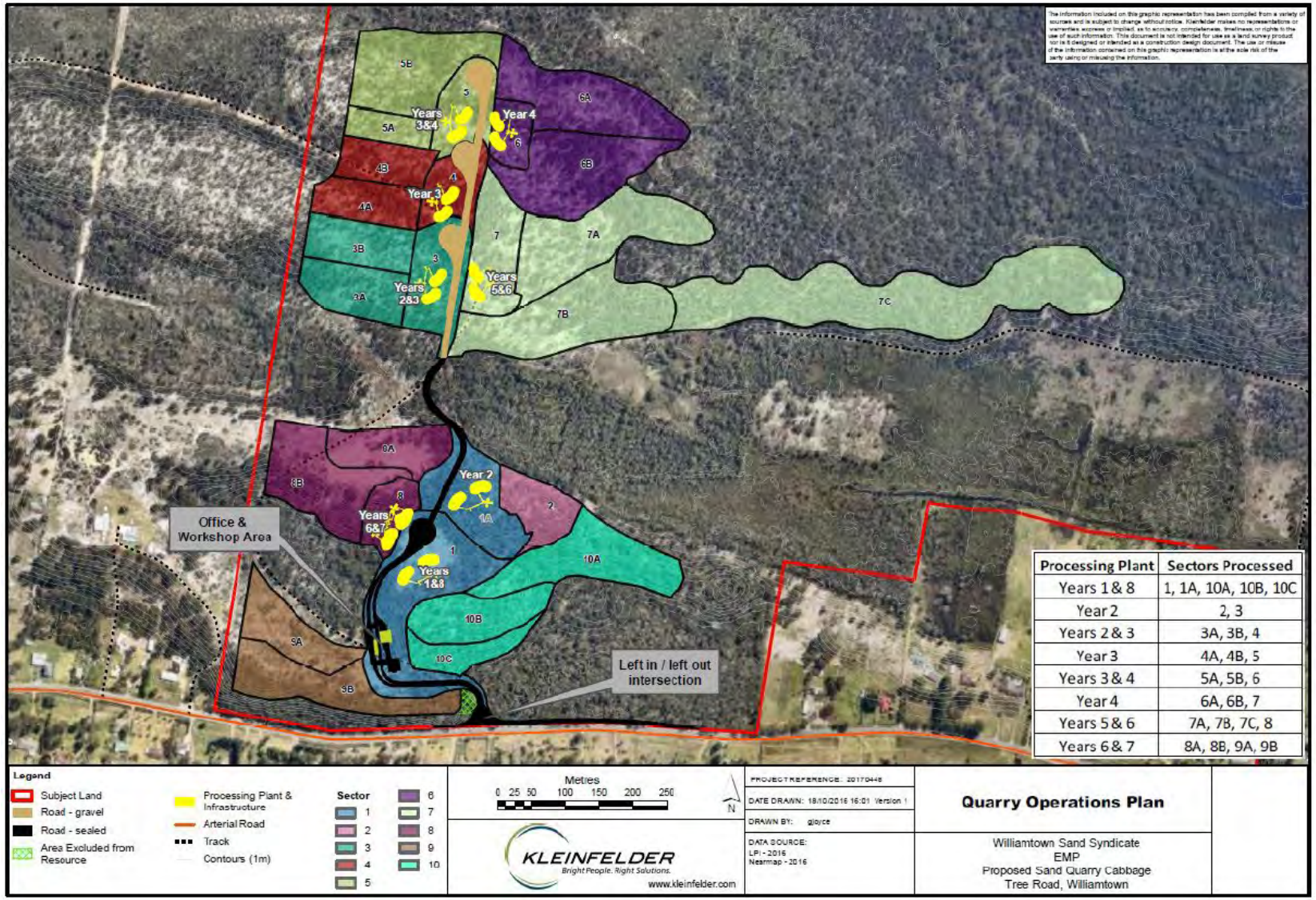
Recent Updates

- Management plans are currently being reviewed and submitted to DPE, when approved, will be uploaded to the website.
- Maximum Extraction Depth Management Plan has been reviewed by a groundwater specialist:
  - Assessed suitability of the original model;
  - Reviewed how the measured data compared to the predicted; and
  - Considered suitability of the current extraction levels (i.e. to ensure the quarry remains 0.7m above maximum predicted groundwater level).
  - Major rainfall event in March 2021 confirmed predicted levels are likely conservative.
  - No change to extraction levels recommended.

Key Activities Completed During this Period

- Cleared Sector 3B and portions of 4, 4A and 4B through to existing access road.
- Stripped portion of topsoil from 3B.
- Continued progressive extraction of sand from Sector 1A / 2, 3A, 3B.
- Rehabilitation within start of Sector 7, trialling different densities of timber on the surface.
- Developing Sector 3 area for move of the processing plant likely to occur in June 2022.
- Improving sequencing to minimise storage and double handling associated with clearing, topsoil removal and rehabilitation.
- Seed collection occurred in February 2022.

Key activities completed during this period



Processing Plant	Sectors Processed
Years 1 & 8	1, 1A, 10A, 10B, 10C
Year 2	2, 3
Years 2 & 3	3A, 3B, 4
Year 3	4A, 4B, 5
Years 3 & 4	5A, 5B, 6
Year 4	6A, 6B, 7
Years 5 & 6	7A, 7B, 7C, 8
Years 6 & 7	8A, 8B, 9A, 9B

Key Activities Completed During this Period

- Currently selling white, amber / washed (concrete), landscape and fill sand from the quarry.
- Haulage since November 2021 (also see later slides):
  - Averaged approximately 23% of monthly haulage allowance.
  - Busiest day occurred in November 2021 at 54.3% (down from 68.1% in Oct 21) of daily haulage allowance.
  - Busiest month was November 2021 at 29.6% (down from 40.5% in Oct 21) of monthly haulage allowance.
- Weighbridge system is working well in helping regulating maximum haulage rates – system will not give driver a ticket unless under haulage rate.

Monitoring – Trucks November 2021

NEWCASTLE SAND

November 2021

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Nov	51	116	44.0%
2-Nov	37	116	31.9%
3-Nov	45	116	38.8%
4-Nov	50	116	43.1%
5-Nov	37	116	31.9%
6-Nov	12	90	13.3%
8-Nov	40	116	34.5%
9-Nov	38	116	32.8%
10-Nov	33	116	28.4%
11-Nov	30	116	25.9%
12-Nov	18	116	15.5%
13-Nov	1	9	11.1%
15-Nov	51	116	44.0%
16-Nov	43	116	37.1%
17-Nov	63	116	54.3%
18-Nov	60	116	51.7%
19-Nov	35	116	30.2%
20-Nov	14	90	15.6%
22-Nov	42	116	36.2%
23-Nov	26	116	22.4%
24-Nov	24	116	20.7%
25-Nov	36	116	31.0%
26-Nov	13	116	11.2%
29-Nov	30	116	25.9%
30-Nov	33	116	28.4%
Total trucks this month	**862**		
Approved maximum for month*		**2912**	**29.6%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Monitoring – Trucks December 2021

NEWCASTLE SAND

December 2021

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Dec	25	116	21.6%
2-Dec	31	116	26.7%
3-Dec	37	116	31.9%
4-Dec	3	90	3.3%
6-Dec	35	116	30.2%
7-Dec	37	116	31.9%
8-Dec	36	116	31.0%
9-Dec	27	116	23.3%
10-Dec	38	116	32.8%
11-Dec	8	90	8.9%
13-Dec	42	116	36.2%
14-Dec	37	116	31.9%
15-Dec	37	116	31.9%
16-Dec	40	116	34.5%
17-Dec	37	116	31.9%
18-Dec	22	90	24.4%
20-Dec	43	116	37.1%
21-Dec	43	116	37.1%
22-Dec	35	116	30.2%
23-Dec	19	116	16.4%
Total trucks this month	**632**		
Approved maximum for month*		**2886**	**21.9%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Monitoring – Trucks January 2022

NEWCASTLE SAND

January 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
4-Jan	5	116	4.3%
5-Jan	9	116	7.8%
6-Jan	10	116	8.6%
7-Jan	11	116	9.5%
10-Jan	29	116	25.0%
11-Jan	30	116	25.9%
12-Jan	20	116	17.2%
13-Jan	24	116	20.7%
14-Jan	14	116	12.1%
17-Jan	33	116	28.4%
18-Jan	32	116	27.6%
19-Jan	21	116	18.1%
20-Jan	16	116	13.8%
21-Jan	22	116	19.0%
22-Jan	7	90	7.8%
24-Jan	36	116	31.0%
25-Jan	27	116	23.3%
27-Jan	23	116	19.8%
28-Jan	25	116	21.6%
29-Jan	2	90	2.2%
31-Jan	35	116	30.2%
Total trucks this month	**431**		
Approved maximum for month*		**2654**	**16.2%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*

- 6 trucks per hour from 6am to 7am Monday to Friday.

- 10 trucks per hour from 7am to 6pm Monday to Friday.

- 10 trucks per hour from 7am to 4pm on Saturday.

- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Monitoring – Trucks February 2022

NEWCASTLE SAND

February 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Feb	32	116	27.6%
2-Feb	40	116	34.5%
3-Feb	17	116	14.7%
4-Feb	22	116	19.0%
5-Feb	3	90	3.3%
7-Feb	23	116	19.8%
8-Feb	30	116	25.9%
9-Feb	41	116	35.3%
10-Feb	36	116	31.0%
11-Feb	38	116	32.8%
12-Feb	7	90	7.8%
14-Feb	36	116	31.0%
15-Feb	42	116	36.2%
16-Feb	34	116	29.3%
17-Feb	45	116	38.8%
18-Feb	24	116	20.7%
19-Feb	7	90	7.8%
21-Feb	27	116	23.3%
22-Feb	27	116	23.3%
23-Feb	29	116	25.0%
24-Feb	24	116	20.7%
25-Feb	19	116	16.4%
26-Feb	4	90	4.4%
28-Feb	35	116	30.2%
Total trucks this month	**642**		
Approved maximum for month*		**2680**	**24.0%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*

- 6 trucks per hour from 6am to 7am Monday to Friday.

- 10 trucks per hour from 7am to 6pm Monday to Friday.

- 10 trucks per hour from 7am to 4pm on Saturday.

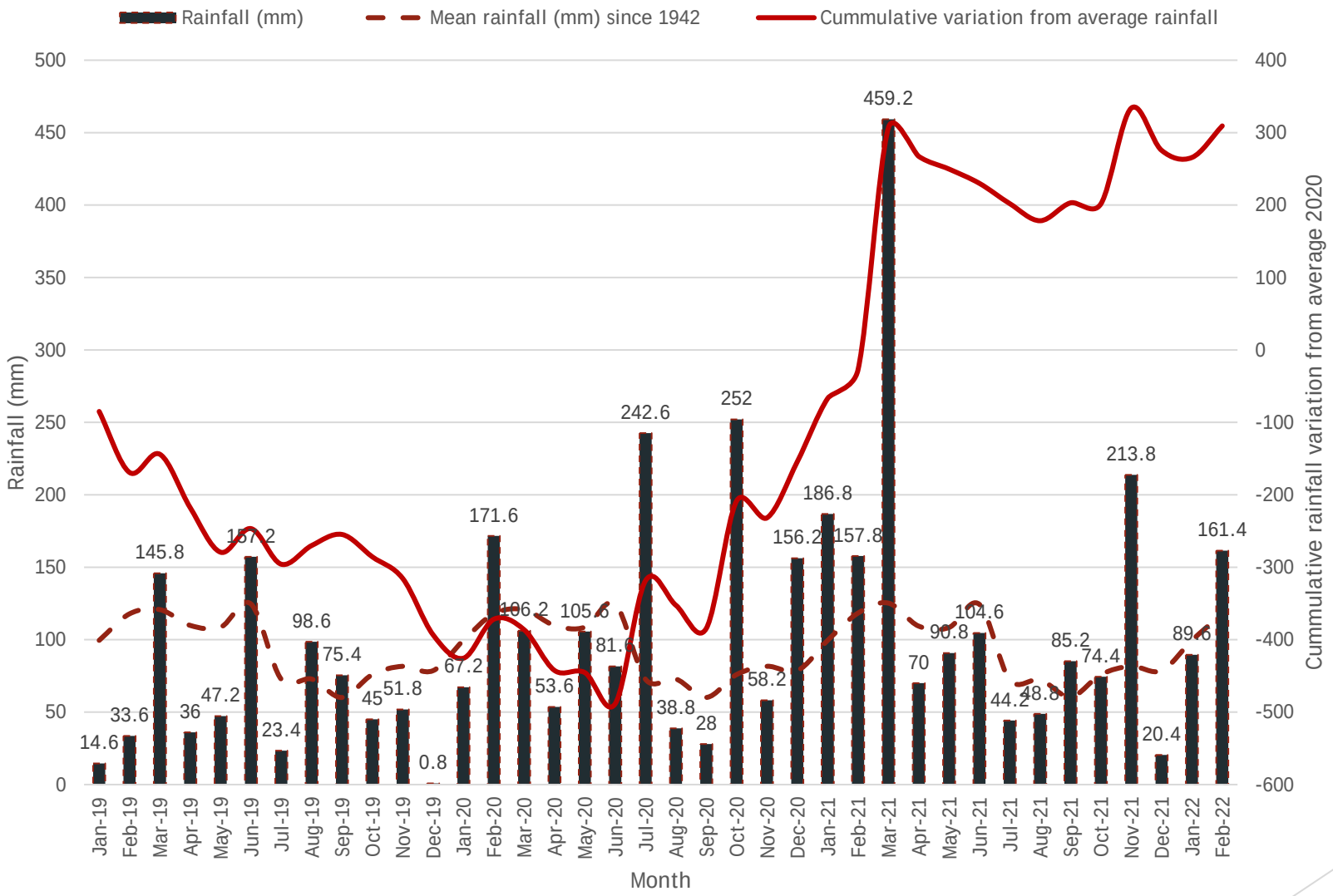
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Environmental Monitoring - Rainfall

- 2019 rainfall had a total of 729mm, against an average of 1127mm.
- 2020 rainfall reached a cumulative peak deficit of 488mm in June 2020, and was 154 mm behind average at the end of December 2020, with a 2020 annual total above average at 1362mm.
- 2021 rainfall has continued to be above average, with 1556mm for the year.
- Cumulatively, since January 2019, after the drought period in 2019/2020 rainfall where rainfall reached 488mm below average, it is now, at end of February 2022, 309 mm ahead of average.

Environmental Monitoring - Water



Environmental Monitoring - Water

- Continuous logging of groundwater depth data at several wells across site.
- Groundwater and surface water sampled on monthly basis, results available on the website https://www.newcastlesand.com.au/monitoring-results/.
- PFOS has been detected sporadically in the wash plant water at up to 0.03µg/L or (micrograms per litre or parts per billion), this is well below the adopted trigger level for the site of 0.07µg/L (same as the drinking water criteria).
  - Sampling of feed sand, potable water and product sand on multiple occasions have not found any detectable PFAS.
  - Potentially caused by very low trace levels within one or both of the inputs that is accumulating in the wash plant or possibly leaching from equipment.
  - Monitoring will continue.

Groundwater Levels – Jan 2022

(Green shading shows levels more than 0.5m below inferred maximum)

Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	GroundwaterElevation (mAHD)	Well TotalDepth Current (mBTOC)	Well TotalDepth 2014 (mBTOC)	Inferred Max GW Elevation(mAHD)[1]	Comment
BH1	8.64	5.429	-	8.18	9.45	4.5	Not sampled at edge of extraction
BH2	7.79	5.050	2.699 (was 2.74)	8.85	9.45	3.8	Dark brown, no odour / sheen, wellin good condition
BH4	3.06	1.069	1.766 (was 1.991)	6.01	6.45	3.0	Light brown, no odour / sheen, wellin good condition
BH5	7.36	-	-	-	9.28	4.0	No sample taken
BH6	3.62	0.815	2.344 (was 2.805)	4.52	4.95	4.4	Medium brown, moderate sulphurodour, no sheen, well in good condition
BH7	2.98	1.065	1.567 (was 1.915)	4.51	4.95	3.7	Dark brown / red, slight sulphur odour,no sheen, well in good condition
BH8	3.88	-	-	-	6.28	4.0	No sample taken
BH9	17.75	15.702	1.988 (was 2.048)	15.98	18.8	3.0	No sample taken (insufficient volumeof water)
BH9A	10.25	8.672	1.38 (was 1.578)	12.44	16.16	3.0[2]	Medium brown, slight sulphur odour,no sheen, well in good condition
BH10	6.69	-	-	-	5.45	4.9	No sample taken
BH11	6.63	2.269	4.26 (was 4.361)	5.29	5.95	5.5	Light yellow, very slight sulphur odour, no sheen, well in good condition
BH12	8.67	6.158	-	8.21	8.39	4.0	Not sampled at edge of extraction

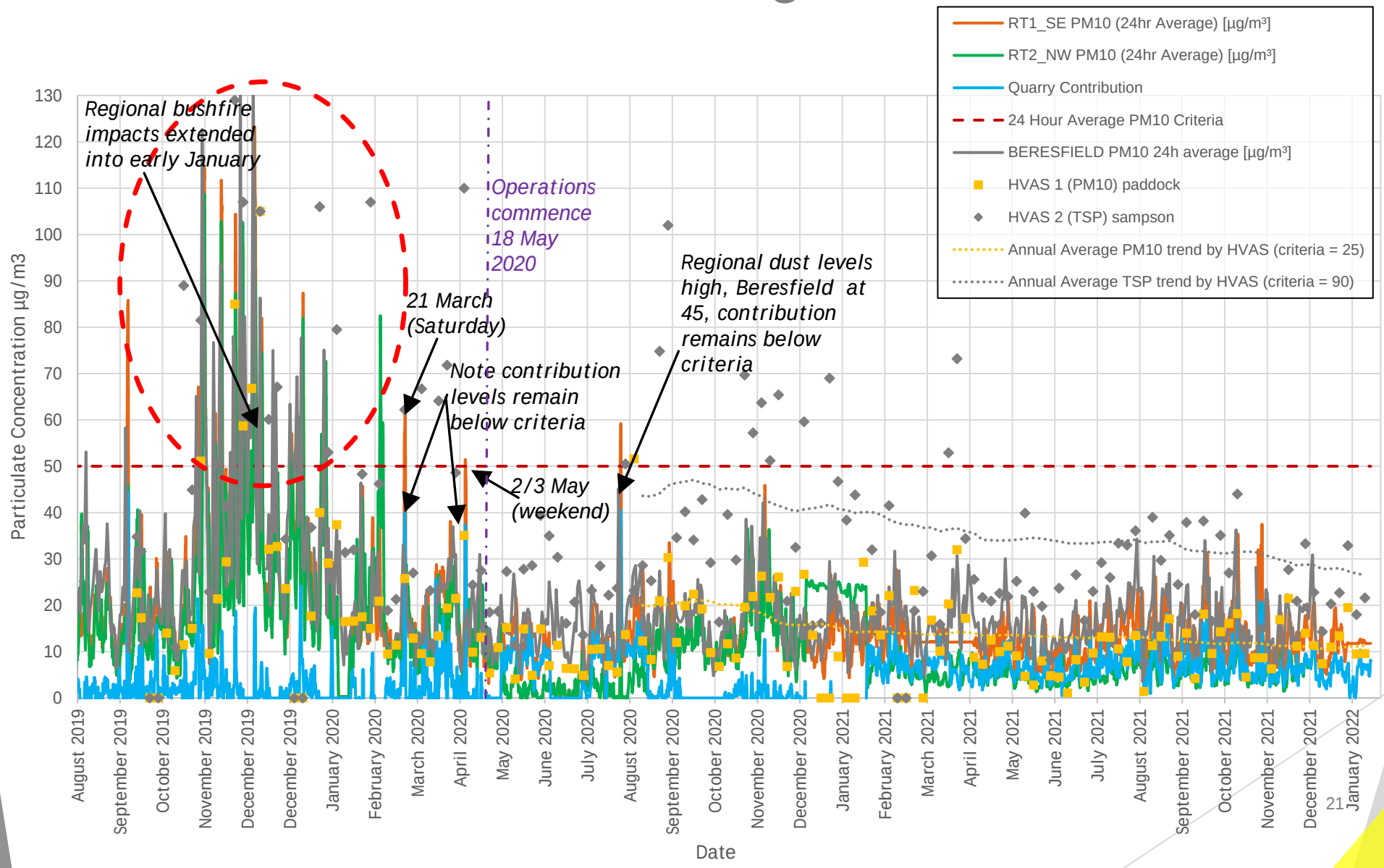
Environmental Monitoring - Air

- Network includes two Beta Attenuation Monitors (BAMs) that measure real-time particulate matter smaller than 10 micron (PM10).
  - These record average value every 15 minutes continuously.
- Two High Volume Air Sampler (HVAS) one measuring PM10 and one measuring total suspended particulates (TSP).
  - These run for 24 hours every six days.
- Quarry must implement all reasonable and feasible avoidance and mitigation measures so particulate emissions from quarry do not cause exceedance of:
  - PM10 annual average 25 $\mu g/m^3$ cumulative.
  - Quarry PM10 contribution over 24 hour average 50 $\mu g/m^3$.

Environmental Monitoring - Air

- Air quality has improved since the previous meeting:
  - Annual average PM10 levels measured with HVAS at 350 Cabbage Tree Road to end January 2022 is 12.1 µg/m^3 (was 13.4 in Oct 21) against 25 µg/m^3 criteria.
  - Annual average PM10 measured with BAM at 393 Cabbage Tree Road to end January 2022 is 12.6 µg/m^3 (was 13.0 in Oct 21) against 25 µg/m^3 criteria.
  - Annual average PM10 measured with BAM at 453 Cabbage Tree Road to November 2021 is 6.7 µg/m^3 (was 9.3 in Oct 21) against 25 µg/m^3 criteria.
  - TSP levels measured with HVAS at 393 Cabbage Tree Road to end January 2022 is 27.7 µg/m^3 (was 32.5 in Oct 21) against 90 µg/m^3 criteria.
- Air quality model in assessment used an assumed annual average background of 19.4µg/m^3.
- Data summarised online at: https://www.newcastlesand.com.au/air-quality/

Environmental Monitoring – Air



The site from December 2021 to March 2022

Entry batter revegetation is improving.

The site from December 2021 to March 2022

Wash plant and washed sand stockpile – note this area to be relocated in June 2022 – will move loading over 450m north from here

The site from December 2021 to March 2022

Sector 1A/2 nearing extraction completion

The site from December 2021 to March 2022

Sector 3 looking west, where the processing plant will be installed in June 2022

The site from December 2021 to March 2022

Looking south east over cleared section of Sector 3A/B to Sector 3 extraction

The site from December 2021 to March 2022

Looking east across Sector 3A partially extracted, with topsoil on floor level

The site from December 2021 to March 2022

Sector 3A with topsoil spread – next phase will be placement of logs (on left) over the topsoil.

The site from December 2021 to March 2022

Portion of Sector 7 completed, and in early stage of rehabilitation

The site from December 2021 to March 2022

Sector 7, early days, but some seedlings are starting to come through, several lizards observed using timber for shelter

Questions?

More Information

- www.newcastlesand.com.au
- Quarry Manager - 0402 648 079
- info@newcastlesand.com.au

NEWCASTLE SAND

Community Consultative Committee Update

Project update for the period **March to June 2022**

For Meeting on 28 June 2022

Meeting Agenda for the Cabbage Tree Road Sand Quarry Community Consultative Committee.

Tuesday 28 June 2022 at 9.00am

Agenda Items:

- 1) Apologies
- 2) Declaration of pecuniary or other interests
- 3) Minutes to be adopted
- 4) Business arising from previous minutes – response to issues raised or provision of additional information requested
- 5) Correspondence
- 6) Proponents reports and overview of activities, including:
- * progress of the project
- * monitoring and environmental performance
- * community complaints and response to these complaints
- * information provided to the community and any feedback
- 7) Other agenda items
- 8) General business
- 9) Next meeting

Actions from previous minutes March 2022

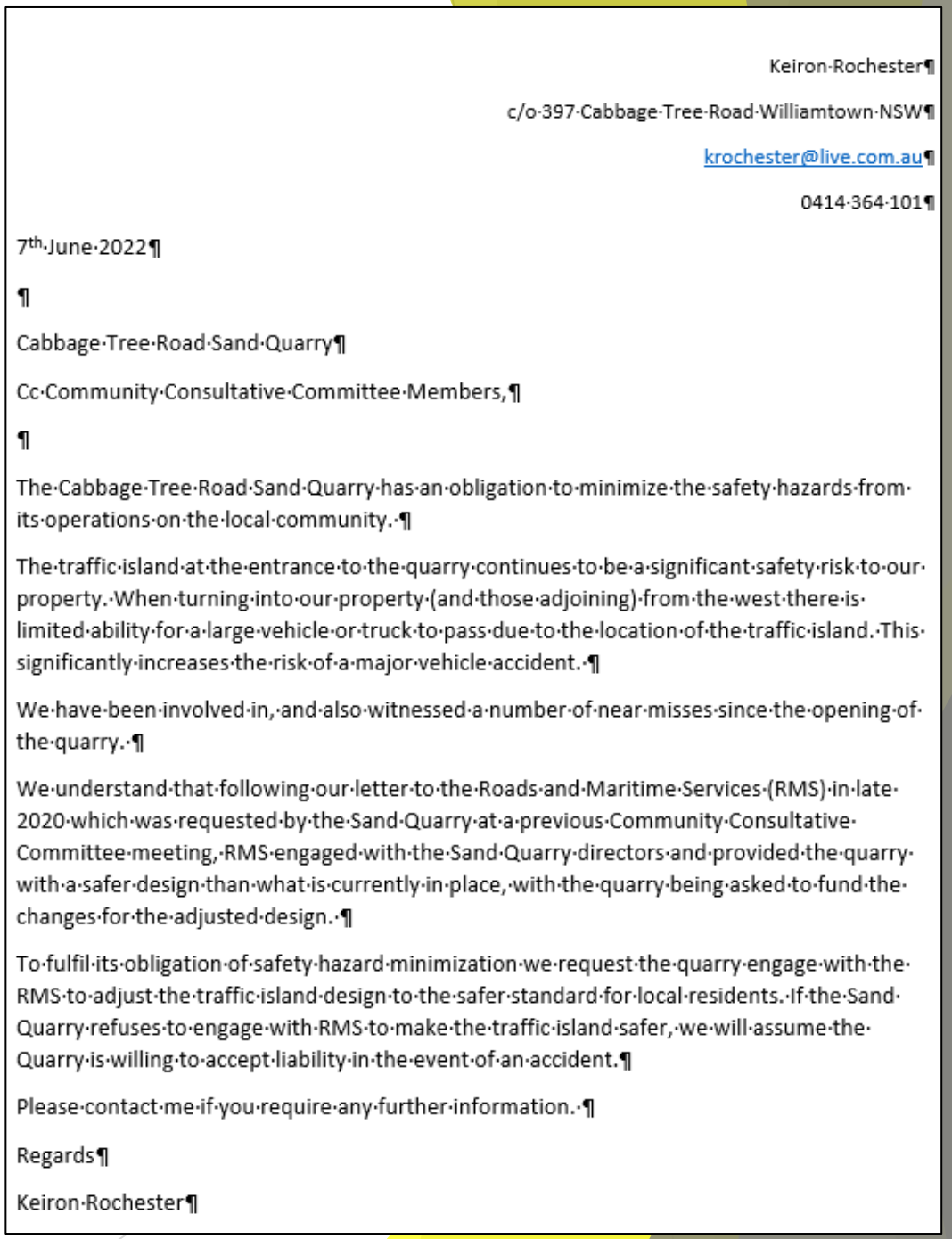
- Nil required.

Correspondence

- Letter from K. Rochester dated 7 June 2022

Company Response

- Intersection was approved and is now TfNSW property, the Final certificate was provided by TfNSW on 25 June 2021 (see following slide).
- Intersection cost over $1.5M to construct – this is a significant cost for any business start up.
- It was initially suggested the proposed correction would cost $50,000 to resolve. And this change would not comply with the approved design or safety audit.
- Newcastle Sand **is not liable nor does it accept liability** for incidents occurring on public roads associated with other parties.



Keiron·Rochester¶

c/o·397·Cabbage·Tree·Road·Williamtown·NSW¶

krochester@live.com.au¶

0414·364·101¶

7th·June·2022¶

¶

Cabbage·Tree·Road·Sand·Quarry¶

Cc·Community·Consultative·Committee·Members,¶

¶

The·Cabbage·Tree·Road·Sand·Quarry·has·an·obligation·to·minimize·the·safety·hazards·from·its·operations·on·the·local·community.·¶

The·traffic·island·at·the·entrance·to·the·quarry·continues·to·be·a·significant·safety·risk·to·our·property.·When·turning·into·our·property·(and·those·adjoining)·from·the·west·there·is·limited·ability·for·a·large·vehicle·or·truck·to·pass·due·to·the·location·of·the·traffic·island.·This·significantly·increases·the·risk·of·a·major·vehicle·accident.·¶

We·have·been·involved·in,·and·also·witnessed·a·number·of·near·misses·since·the·opening·of·the·quarry.·¶

We·understand·that·following·our·letter·to·the·Roads·and·Maritime·Services·(RMS)·in·late·2020·which·was·requested·by·the·Sand·Quarry·at·a·previous·Community·Consultative·Committee·meeting,·RMS·engaged·with·the·Sand·Quarry·directors·and·provided·the·quarry·with·a·safer·design·than·what·is·currently·in·place,·with·the·quarry·being·asked·to·fund·the·changes·for·the·adjusted·design.·¶

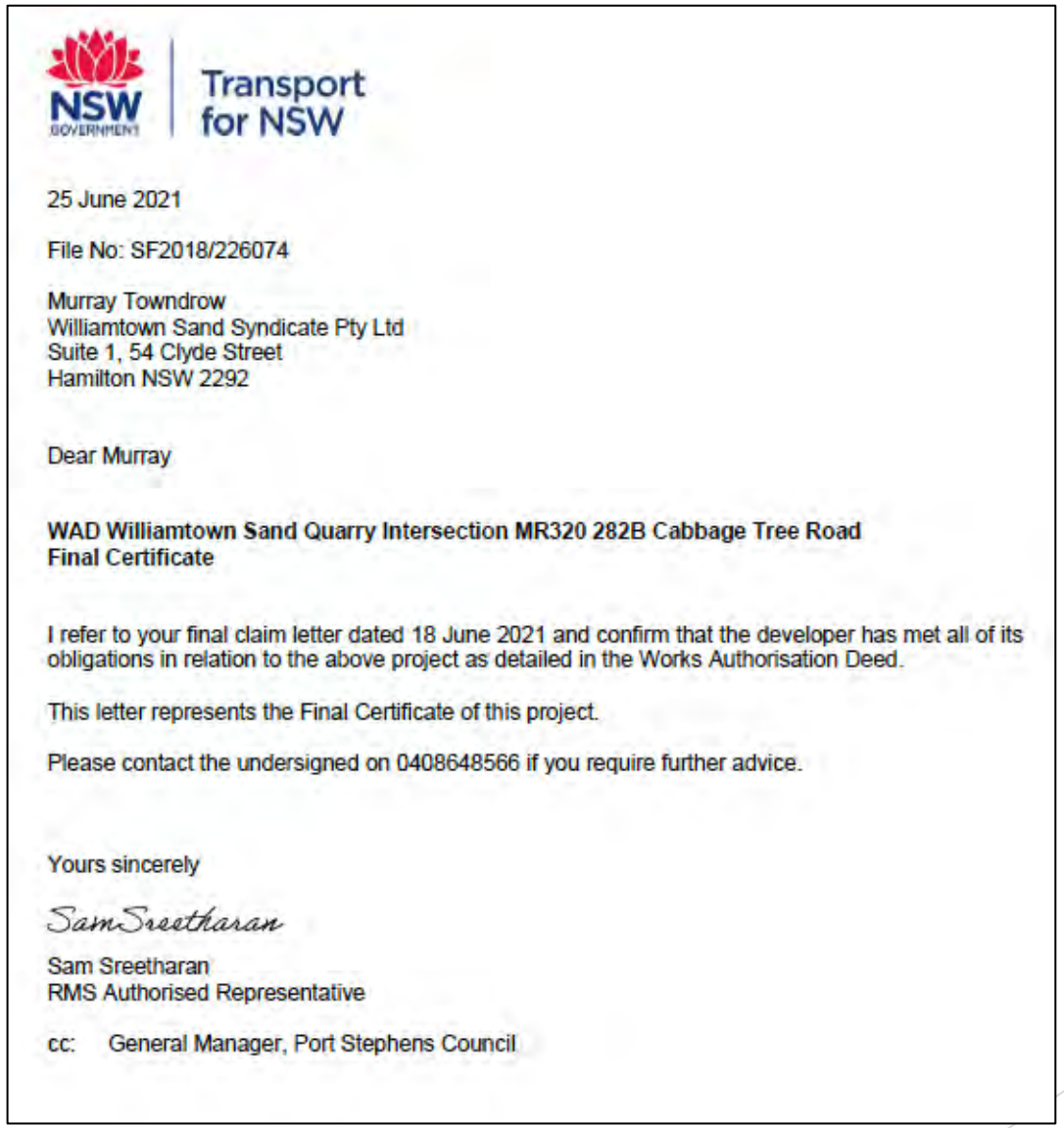
To·fulfil·its·obligation·of·safety·hazard·minimization·we·request·the·quarry·engage·with·the·RMS·to·adjust·the·traffic·island·design·to·the·safer·standard·for·local·residents.·If·the·Sand·Quarry·refuses·to·engage·with·RMS·to·make·the·traffic·island·safer,·we·will·assume·the·Quarry·is·willing·to·accept·liability·in·the·event·of·an·accident.¶

Please·contact·me·if·you·require·any·further·information.·¶

Regards¶

Keiron·Rochester¶

Correspondence (continued)



NSW GOVERNMENT | Transport for NSW

25 June 2021

File No: SF2018/226074

Murray Towndrow
Williamtown Sand Syndicate Pty Ltd
Suite 1, 54 Clyde Street
Hamilton NSW 2292

Dear Murray

WAD Williamtown Sand Quarry Intersection MR320 282B Cabbage Tree Road
Final Certificate

I refer to your final claim letter dated 18 June 2021 and confirm that the developer has met all of its obligations in relation to the above project as detailed in the Works Authorisation Deed.

This letter represents the Final Certificate of this project.

Please contact the undersigned on 0408648566 if you require further advice.

Yours sincerely

Sam Sreetharan

Sam Sreetharan
RMS Authorised Representative

cc: General Manager, Port Stephens Council

Correspondence (continued)

- Property access concerns have been raised by most residents on this road since before the quarry existed, prior to the quarry there was a broken shoulder and potholes.
- We note the property in question appears to have two entrances (east and west), with the most used one (east) having median opposite, the other a full lane width.
- While **not constituting road safety advice**, it is unclear why the western entry is not used in preference to east given the concerns raised.

Community Complaints since March 2022

- Community complaints register available at: https://www.newcastlesand.com.au/complaints-register/
- 6 complaints received since March 2022 in relation to:
  - 1 in relation to two trucks arriving before 7am on consecutive Saturdays. Owner of first truck contacted and reminded of times. Second company reprimanded and advised repeat action will result in suspension from quarry haulage. Driver was given written notice from company.
  - 1 in relation to complaints being received by the Department / NSW EPA are not being recorded in the complaints register. Complaints register reviewed, updated and reposted to website. Personnel involved in complaint process reminded to record complaints from all sources in the register
  - 1 in relation to neon quarry open/close sign being broken. Battery was stolen, sign now repaired.
  - 1 for when a truck turned right into quarry. Truck was not related to the quarry and exited the quarry.
  - 2 in relation to trucks leaving with loads uncovered. Notification and warnings provided to drover and company

Regulatory Correspondence

- RFI from DPE for changes to revised AQMP.
- Several updates provided to DPE and HWC in relation to water level monitoring. Water levels in the far north of the site are higher than expected and in comparison to other bores onsite. Levels remain below the maximum predicted level. No change in the floor level required.

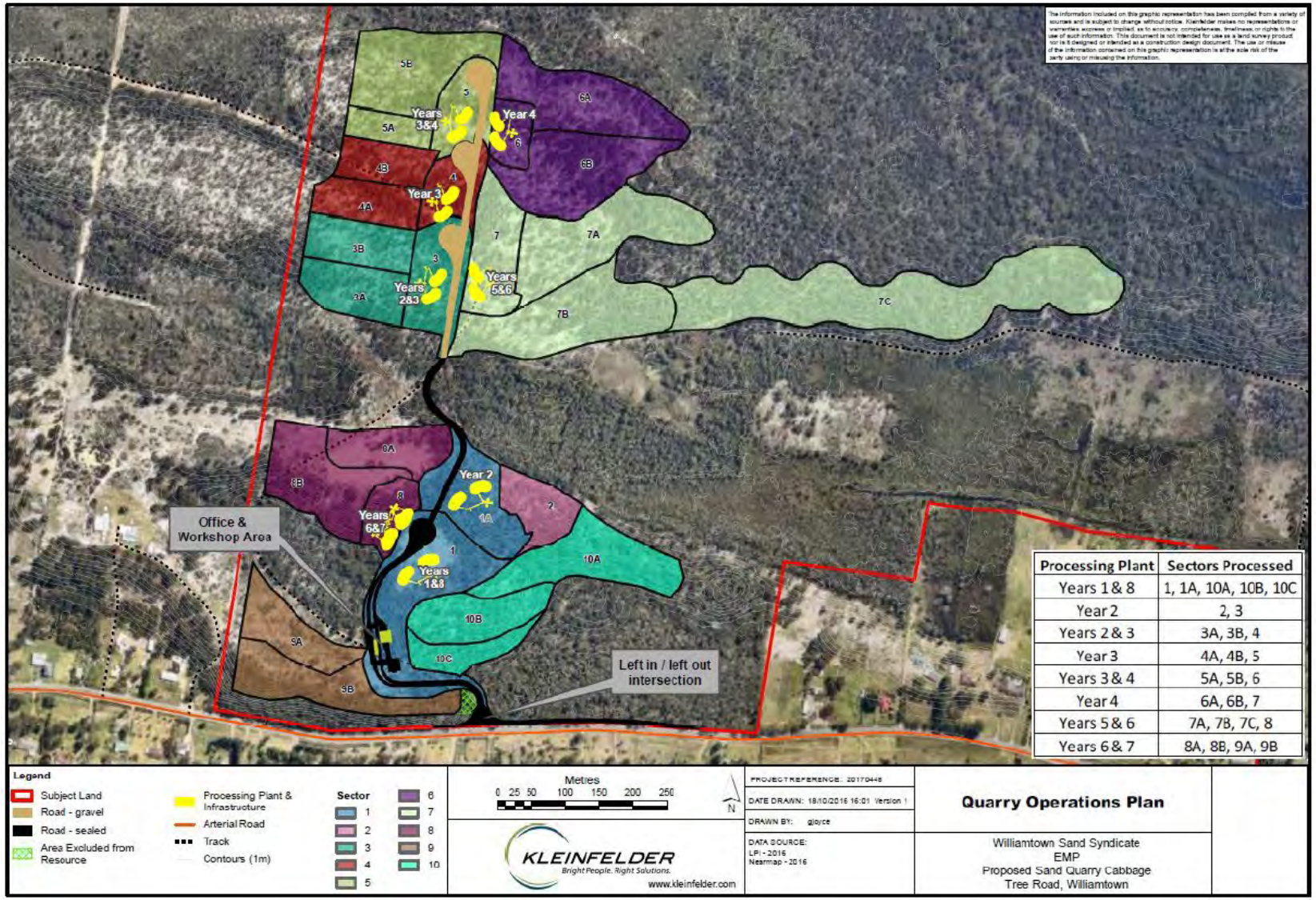
Recent Updates

- Nil

Key Activities Completed During this Period

- Cleared additional portion of Sector 7.
- Stripped portion of topsoil from 3B and 7.
- Continued progressive extraction of sand from Sector 1A / 2, 3A, 3B and 7.
- Rehabilitation in Sector 3
- Developing Sector 3 area for move of the processing plant was expected for June 2022, however wash plant manufacture and shipping delays have delayed this to September.
- Delays in wash plant relocation has delayed planned installation of wheel wash – insufficient space to install wheel wash with current configuration. Expected install now October 2022.
- Seed collection contractor engaged to increase seed collection and diversity.

Key activities completed during this period



Processing Plant	Sectors Processed
Years 1 & 8	1, 1A, 10A, 10B, 10C
Year 2	2, 3
Years 2 & 3	3A, 3B, 4
Year 3	4A, 4B, 5
Years 3 & 4	5A, 5B, 6
Year 4	6A, 6B, 7
Years 5 & 6	7A, 7B, 7C, 8
Years 6 & 7	8A, 8B, 9A, 9B

Key Activities Completed During this Period

- Currently selling white, amber / washed (concrete), landscape and fill sand from the quarry.
- Haulage since March 2022 (also see later slides):
  - Averaged approximately 24% of monthly haulage allowance (similar to last period).
  - Busiest day occurred in May 2022 at 55.2% (compared to max of 68.1% in Oct 21) of daily haulage allowance.
  - Busiest month was May 2022 at 32% (down from max of 40.5% in Oct 21) of monthly haulage allowance.
- Weighbridge system is working well in helping regulating maximum haulage rates – system will not give driver a ticket unless under haulage rate.

Monitoring – Trucks March 2022

NEWCASTLE SAND

March 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Mar	15	116	12.9%
2-Mar	14	116	12.1%
3-Mar	7	116	6.0%
4-Mar	10	116	8.6%
5-Mar	1	90	*1.1%*
7-Mar	20	116	17.2%
8-Mar	18	116	15.5%
9-Mar	17	116	14.7%
10-Mar	25	116	21.6%
11-Mar	33	116	28.4%
12-Mar	6	90	6.7%
14-Mar	43	116	37.1%
15-Mar	37	116	31.9%
16-Mar	33	116	28.4%
17-Mar	31	116	26.7%
18-Mar	18	116	15.5%
19-Mar	15	90	16.7%
21-Mar	58	116	**50.0%**
22-Mar	35	116	30.2%
23-Mar	33	116	28.4%
24-Mar	26	116	22.4%
25-Mar	15	116	12.9%
26-Mar	4	90	4.4%
28-Mar	23	116	19.8%
29-Mar	9	116	7.8%
30-Mar	10	116	8.6%
31-Mar	26	116	22.4%
Total trucks this month	**582**		
Approved maximum for month*		**3028**	**19.2%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*

- 6 trucks per hour from 6am to 7am Monday to Friday.

- 10 trucks per hour from 7am to 6pm Monday to Friday.

- 10 trucks per hour from 7am to 4pm on Saturday.

- No haulage on Public Holidays.

Monitoring – Trucks April 2022

NEWCASTLE SAND

April 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Apr	14	116	12.1%
2-Apr	3	90	3.3%
4-Apr	34	116	29.3%
5-Apr	36	116	31.0%
6-Apr	39	116	33.6%
7-Apr	48	116	**41.4%**
8-Apr	40	116	34.5%
9-Apr	3	90	3.3%
11-Apr	33	116	28.4%
12-Apr	36	116	31.0%
13-Apr	39	116	33.6%
14-Apr	34	116	29.3%
19-Apr	42	116	36.2%
20-Apr	34	116	29.3%
21-Apr	26	116	22.4%
22-Apr	30	116	25.9%
23-Apr	3	90	3.3%
26-Apr	35	116	30.2%
27-Apr	30	116	25.9%
28-Apr	47	116	40.5%
29-Apr	29	116	25.0%
30-Apr	2	90	*2.2%*
Total trucks this month	**637**		
Approved maximum for month*		**2886**	**22.1%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Monitoring – Trucks May 2022

NEWCASTLE SAND

May 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
2-May	31	116	26.7%
3-May	52	116	44.8%
4-May	44	116	37.9%
5-May	49	116	42.2%
6-May	23	116	19.8%
7-May	7	90	7.8%
9-May	49	116	42.2%
10-May	38	116	32.8%
11-May	50	116	43.1%
12-May	64	116	**55.2%**
13-May	24	116	20.7%
14-May	2	90	***2.2%***
16-May	37	116	31.9%
17-May	33	116	28.4%
18-May	48	116	41.4%
19-May	48	116	41.4%
20-May	45	116	38.8%
21-May	7	90	7.8%
23-May	44	116	37.9%
24-May	29	116	25.0%
25-May	35	116	30.2%
26-May	26	116	22.4%
27-May	43	116	37.1%
28-May	8	90	8.9%
30-May	42	116	36.2%
31-May	55	116	47.4%
Total trucks this month	**933**		
Approved maximum for month*		**2912**	**32.0%**

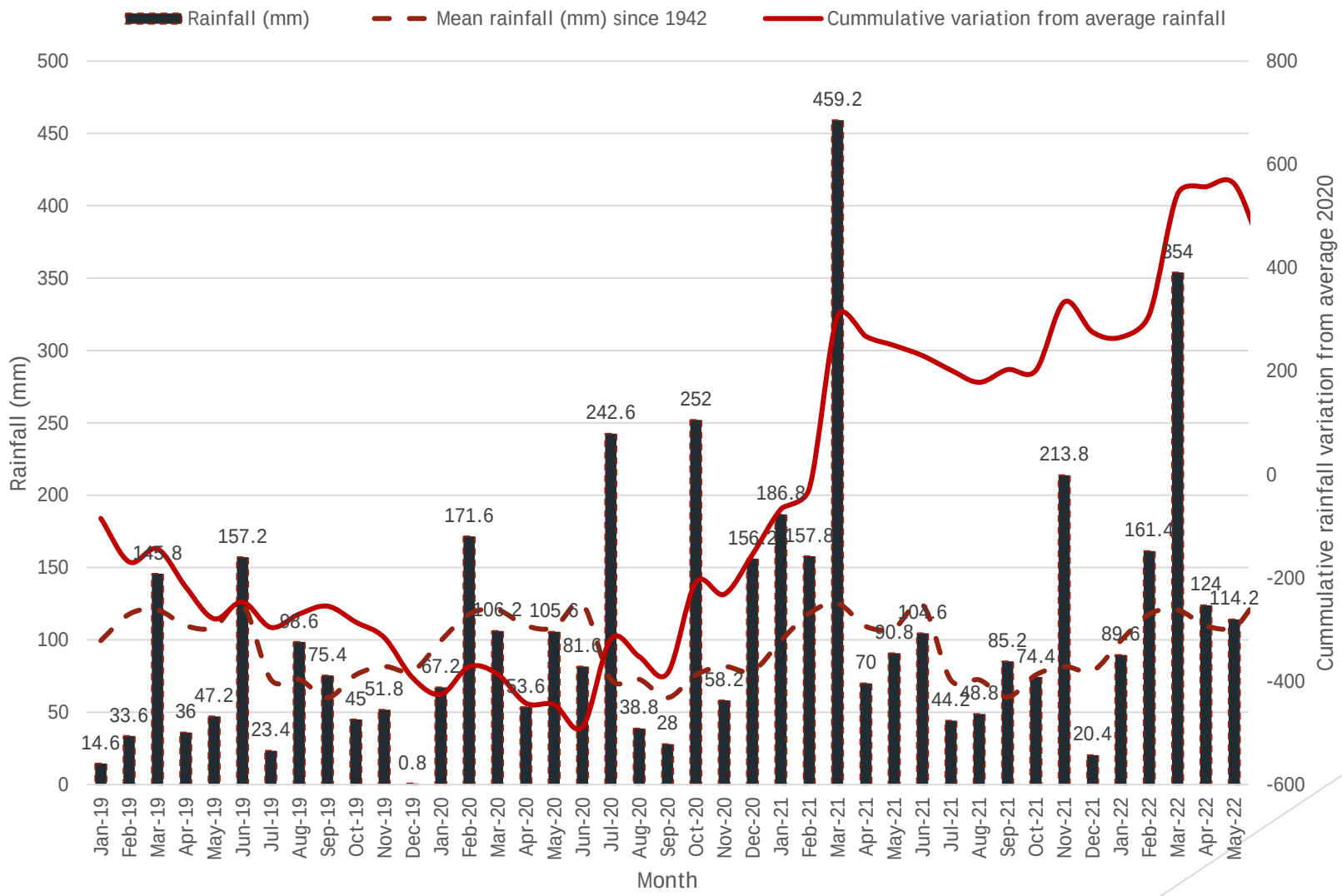
** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Environmental Monitoring - Rainfall

- 2019 rainfall had a total of 729mm, against an average of 1127mm.
- 2020 rainfall reached a cumulative peak deficit of 488mm in June 2020, and was 154 mm behind average at the end of December 2020, with a 2020 annual total above average at 1362mm.
- 2021 rainfall has continued to be above average, with 1556mm for the year.
- Cumulatively, since January 2019, after the drought period in 2019/2020 rainfall where rainfall reached 488mm below average, it appears to now peaked in May at 562mm above average and is declining.

Environmental Monitoring - Water



Environmental Monitoring - Water

- Continuous logging of groundwater depth data at several wells across site.
- Groundwater and surface water sampled on monthly basis, results available on the website https://www.newcastlesand.com.au/monitoring-results/.
- Water levels have been high due to rainfall, highest levels (relative to the quarry floor) are located at the northern side of the quarry. Weekly checks have been occurring to monitor changes to ensure quarry floor remains 0.7m above maximum predicted level.

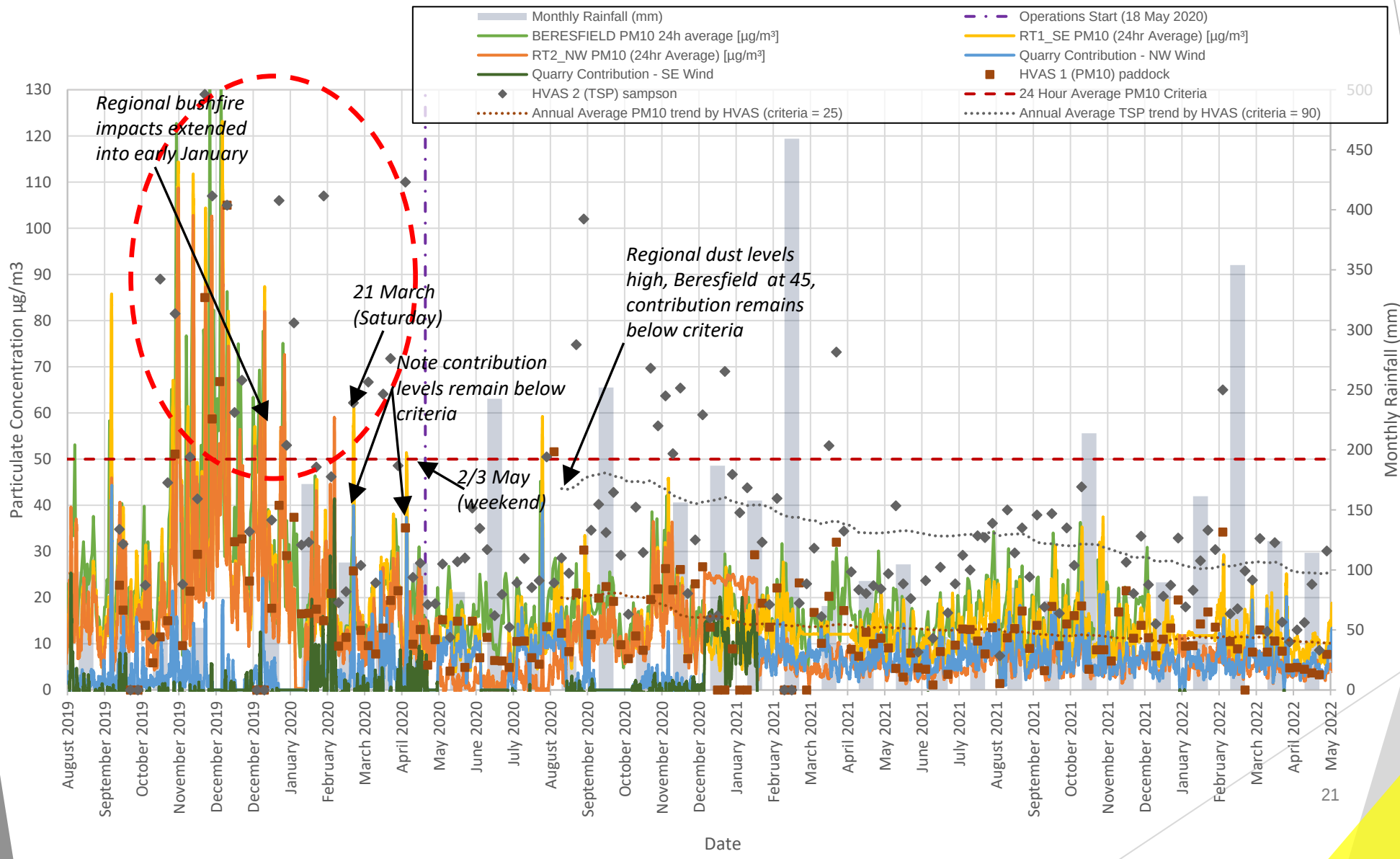
Environmental Monitoring - Air

- Network includes two Beta Attenuation Monitors (BAMs) that measure real-time particulate matter smaller than 10 micron (PM10).
  - These record average value every 15 minutes continuously.
- Two High Volume Air Sampler (HVAS) one measuring PM10 and one measuring total suspended particulates (TSP).
  - These run for 24 hours every six days.
- Quarry must implement all reasonable and feasible avoidance and mitigation measures so particulate emissions from quarry do not cause exceedance of:
  - PM10 annual average 25 $\mu g/m^3$ cumulative.
  - Quarry PM10 contribution over 24 hour average 50 $\mu g/m^3$.

Environmental Monitoring - Air

- Air quality has improved or remained similar to those at previous meeting:
  - Annual average PM10 levels measured with HVAS at 350 Cabbage Tree Road to end May 2022 is 10.2 µg/m^3 (was 12.1 in Jan 22) against 25 µg/m^3 criteria.
  - Annual average PM10 measured with BAM at 393 Cabbage Tree Road to end of May 2022 is 12.2 µg/m^3 (was 12.6 in Jan 22) against 25 µg/m^3 criteria.
  - Annual average PM10 measured with BAM at 453 Cabbage Tree Road to end of May 2022 is 5.4 µg/m^3 (was 6.7 in Jan 22) against 25 µg/m^3 criteria.
  - TSP levels measured with HVAS at 393 Cabbage Tree Road to end May 2022 is 24.9 µg/m^3 (was 27.7 in Jan 22) against 90 µg/m^3 criteria.
- Air quality model in assessment used an assumed annual average background of 19.4µg/m^3.
- Data summarised online at: https://www.newcastlesand.com.au/air-quality/

Environmental Monitoring – Air



The site from March 2022 to June 2022

Tube stock planted into entry batter, revegetation is improving.

The site from March 2022 to June 2022

Wash plant and washed sand stockpile – note this area wash plant move has been delayed.

The site from March 2022 to June 2022

Sector 1A/2 nearing extraction completion

The site from March 2022 to June 2022

Sector 3 looking west, processing plant now expected in September due to delays.

The site from March 2022 to June 2022

Extraction floor, looking north through Sector 3A/B

The site from March 2022 to June 2022

Looking east across Sector 3A, timber placed.

The site from December 2021 to March 2022

Portion of Sector 7 completed, and in early stage of rehabilitation, further extraction occurring in distance

Questions?

More Information

- www.newcastlesand.com.au
- Quarry Manager - 0402 648 079
- info@newcastlesand.com.au

Williamtown Sand Syndicate (WSS)
Cabbage Tree Road Sand Quarry
Community Consultative Committee Meeting

13 September 2022
9:02-9:43am
Mercure Newcastle Airport

Meeting Number:	9th Meeting	**Type of meeting:**	General
Chairperson:	John Turner - JT	**Note taker:**	Jonathan Berry

Attendees:
Wayne Sampson (Resident) – WS
Shirley Davis (Resident) – SD
Greg Callaghan (Resident) – GC
Stephen Kuehn (Resident) – SK
John Simpson (Hunter Water Representative) – JS
Jonathan Berry (Wedgetail Project Consulting) – JB

Apologies:
Peter West (Resident) – PW
Paul Hardes (Resident) – PH
Darren Williams (WSS) – DW
Barry Davis (Resident) – BD

Observers: None

Meeting Open: 9:00am

Minutes

Agenda item: 1 Apologies **Presenter:** John Turner

Discussion:

Peter West (Resident) – PW
Darren Williams (WSS) – DW
Barry Davis (Resident) – BD

Sean Pennell, former Quarry Manager at Newcastle Sand no longer works at the quarry.

Agenda item: 2 Declaration of Pecuniary Interest **Presenter:** NA

Discussion:

John Turner (Chairperson) – Paid for service by WSS.
Wayne Sampson (Resident) – Deed with WSS.
Jonathan Berry (Wedgetail Project Consulting) – Consultant employed by WSS.
Shirley Davis (Resident) – Nil.
Greg Callaghan (Resident) – Deed with WSS
Paul Hardes (Resident) – Deed with WSS
Stephen Kuehn (Resident) – Deed with WSS

Agenda item: 3	**Minutes to be adopted**	**Presenter:**	John Turner

Discussion:

Minutes from the last meeting were noted.

Minutes moved by GC. Minutes seconded by WS. All Agree.

Agenda item: 4	**Business Arising from Previous Minutes** • Response to issues raised or provision of additional information requested;	**Presenter:**	JT

- Nil

Agenda item: 5	**Correspondence**	**Presenter:**	John Turner

- See presentation.

Agenda item: 6	**Proponents reports & overview of activities, including;** • Progress of the project • Monitoring & environmental performances • Community complaints & responses to these complaints • Information provided to the community and any feedback	**Presenter:**	Jonathan Berry

JB – Gave presentation of slides.

JB – Discussion on the high groundwater water levels

SK – Noted that in February 1990, when 250mm fell on one day and another 125mm fell the following day water levels are close to what they are at the moment, and there were houses in Barrie Close that had some water inundation. The water flows west to east. Some shallow drains were put in on Barrie Close after that event.

JS – HWC has also had numerous complaints / enquires from residents about the high water levels.

SD – BD has called someone at the quarry to complain about the early trucks, unsure who was called.

JB – Will followup with the quarry to ensure any complaints received by phone are included in the register.

WS – Any koalas been observed onsite?

JB – Yes koalas have been recorded on camera moving within the site.

JS – RE: High Water Levels – reasons for the buffer distance of the quarry from the aquifer is around preventing ponding and evaporation from the aquifer, and also ensuring that a suitable landscape can be rehabilitated onsite that is similar to what is current existing onsite.

WS – Noted that RZM had concerns that the fine silts and clays that were released during the dredging on the site would block infiltration within the sand beds, to reduce this a fines plant was then introduced along with flocculant addition to remove the silts which were then deposited in various emplacements in the local area.

SD – Still some ongoing concern with the amount of sand that remains along the shoulder of the acceleration lane and how this can swirl up behind trucks as they leave.

JB – Will followup with the quarry to get more sweeping / removal of the sand buildup.

JS – Who is completing the rehabilitation onsite?

JB – Wedgetail and Hunter Indigenous Plants have been collecting seed and this Spring will be the first monitoring completed of the rehabilitation areas. We can then see what is seeding and what needs additional effort and possible tube stock.

JS – Based on experience in the sand beds, tubestock will certainly be needed for the canopy species like the eucalypts and banksias. Recommend getting these in as soon as possible so they are not outcompeted by other species. No problem in waiting to see what comes up, but it will certainly be needed.

JB – Will increase the importance of tubestock and aim to get some underway following the first monitoring event.

Action items	Person responsible	Deadline
✓ Followup with quarry staff to ensure phone complaints when received are also added to the register.	JB	20/09/2022
✓ Attend to sand build up along acceleration lane shoulder	JB / Newcastle Sand	20/09/2022
✓ Increase the importance of tubestock in rehabilitation and get some ready for planting in rehabilitation	JB	20/09/2022

Agenda item: 7 Other Agenda Items **Presenter:** John Turner

Discussion:

JT – There were no other agenda items received.

Agenda item: 8 General Business **Presenter:** John Turner

Discussion:

JT – Is there any general business?

WS – Have any wild bee hives been observed onsite, will need to keep an eye out?

JB – No wild bee hives have been found to my knowledge.

WS – What is happening with the traffic island?

JB – No change since the last meeting that I am aware of.

SD – Can I please have a hard copy dropped off.

Action items	Person responsible	Deadline
✓ SD – Can someone please drop off a copy of the minutes to my letter box?	Newcastle Sand will drop of a copy	When completed
✓		

Agenda item: 9 Next Meeting **Presenter:** John Turner

Discussion:

JT – The meeting is now closed at 9:43am, the next meeting to be advised.

Action items	Person responsible	Deadline
None.		

Other Information

- **Minutes to be provided as draft in the next week.**
- **Committee members have one week to provide feedback on the minutes to the Chairperson.**
- **Within two weeks of receiving feedback the minutes will be finalized and distributed to members and placed on the website.**

Meeting Close:

9:25 am

NEWCASTLE SAND

Community Consultative Committee Update

Project update for the period **June to September 2022**

For Meeting on 13 September 2022

Meeting Agenda for the Cabbage Tree Road Sand Quarry Community Consultative Committee.

Tuesday 13 September 2022 at 9.00am

Agenda Items:

- 1) Apologies
- 2) Declaration of pecuniary or other interests
- 3) Minutes to be adopted
- 4) Business arising from previous minutes – response to issues raised or provision of additional information requested
- 5) Correspondence
- 6) Proponents reports and overview of activities, including:
- * progress of the project
- * monitoring and environmental performance
- * community complaints and response to these complaints
- * information provided to the community and any feedback
- 7) Other agenda items
- 8) General business
- 9) Next meeting

Actions from previous minutes June 2022

- Nil required.

Correspondence

- Nil

Community Complaints since June 2022

- Community complaints register available at: https://www.newcastlesand.com.au/complaints-register/
- 3 complaints / enquires reported in register June 2022 in relation to:
  - Council inspected the site after receiving enquiries from residents of Barrie Close about the high water levels. Water levels not related to Newcastle Sand, just due to record rainfall levels.
  - 1 in relation to a truck exiting the site without a load covering. Records reviewed found this truck did enter the quarry, but did so by accident and left the quarry without a load. Only laden trucks need to be covered.
  - 1 for a truck that was noted as entering before 6am (on a Saturday) and waking residents. Reviewed footage and records for day and time of complaint, and no truck was recorded entering the site at that time, the first vehicles to arrive were quarry employees.
- Would like to remind community that it is best when complaints are made at the time of the event, many received are two weeks old.

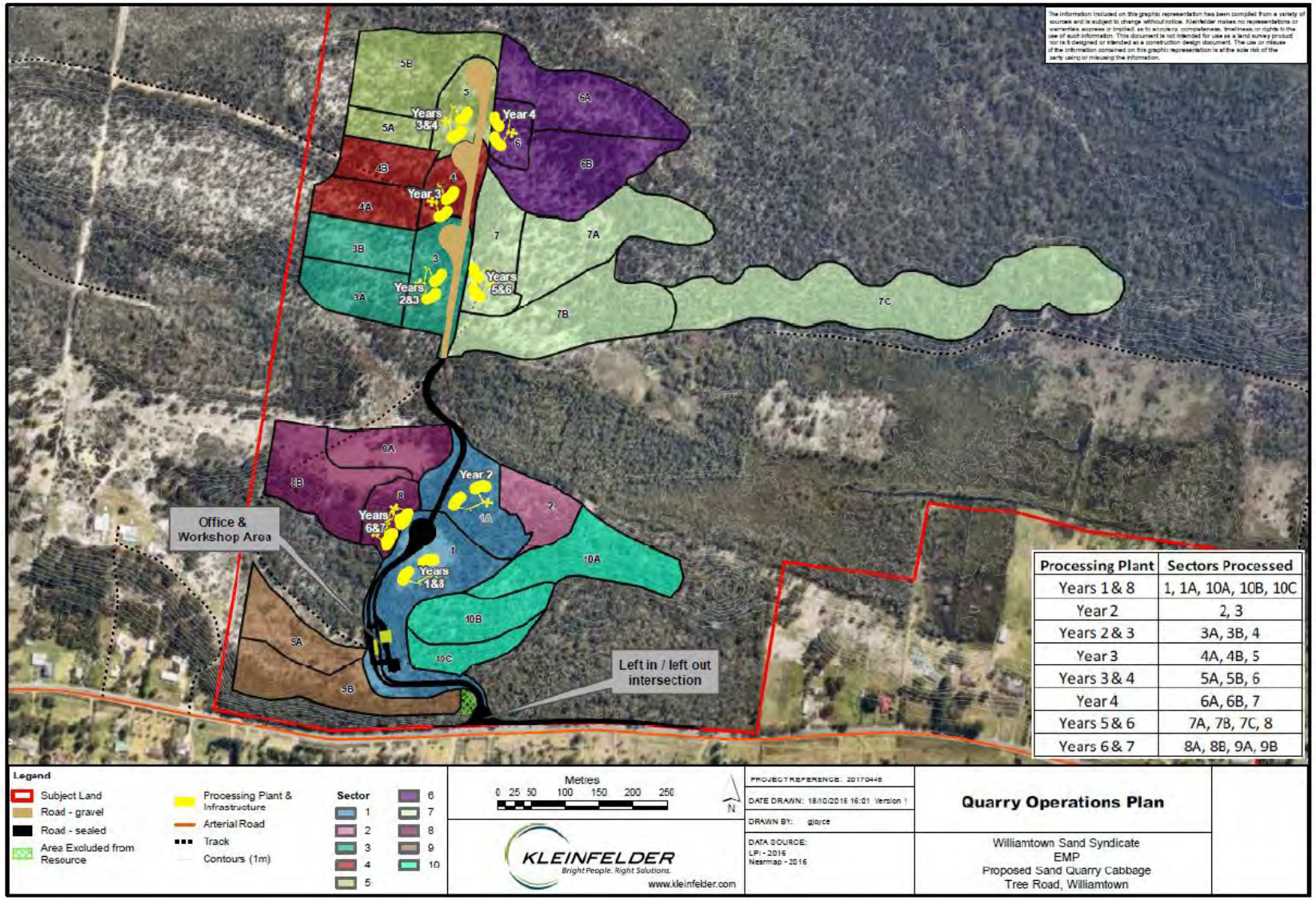
Regulatory Correspondence

- Water levels updates have continued, noting levels starting to subside.
- Notice provided in relation to elevated zinc levels in one bore, suspected to be related to oxidised galvanised steel either local to well or the well monument itself. Further testing being conducted.

Key Activities Completed During this Period

- Cleared Sector 4 and 4B in July.
- Cleared Sector 5A in September.
- Continued progressive extraction of sand from Sector 2, 4, 4B and 7.
- Rehabilitation in Sector 7
- Continued delays occur in getting the wash plant setup in Sector 3 due to manufacturing and shipping delays. These delays require additional haulage and delay the wheel wash installation.
- Seed collection has occurred during the clearing of Sector 4 and 4B.

Key activities completed during this period



Processing Plant	Sectors Processed
Years 1 & 8	1, 1A, 10A, 10B, 10C
Year 2	2, 3
Years 2 & 3	3A, 3B, 4
Year 3	4A, 4B, 5
Years 3 & 4	5A, 5B, 6
Year 4	6A, 6B, 7
Years 5 & 6	7A, 7B, 7C, 8
Years 6 & 7	8A, 8B, 9A, 9B

Key Activities Completed During this Period

- Currently selling white, amber / washed (concrete), landscape and fill sand from the quarry.
- Haulage since June 2022 (also see later slides):
  - Averaged approximately 43% of monthly haulage allowance (up from 24% last period).
  - Busiest day occurred in August 2022 at 72.4% of daily haulage allowance.
  - Busiest month was August 2022 at 48.1% of monthly haulage allowance.
  - Haulage rate for August is approximately at level for maximum annual extraction.
- Weighbridge system is working well in helping regulating maximum haulage rates – system will not give driver a ticket unless under haulage rate.

Monitoring – Trucks June 2022

NEWCASTLE SAND

June 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Jun	61	116	52.6%
2-Jun	77	116	66.4%
3-Jun	68	116	58.6%
4-Jun	4	90	4.4%
6-Jun	60	116	51.7%
7-Jun	49	116	42.2%
8-Jun	55	116	47.4%
9-Jun	79	116	68.1%
10-Jun	87	116	75.0%
11-Jun	6	90	6.7%
14-Jun	55	116	47.4%
15-Jun	47	116	40.5%
16-Jun	60	116	51.7%
17-Jun	68	116	58.6%
18-Jun	15	90	16.7%
20-Jun	47	116	40.5%
21-Jun	48	116	41.4%
22-Jun	53	116	45.7%
23-Jun	42	116	36.2%
24-Jun	64	116	55.2%
25-Jun	12	90	13.3%
27-Jun	50	116	43.1%
28-Jun	55	116	47.4%
29-Jun	64	116	55.2%
30-Jun	70	116	60.3%
Total trucks this month	1296		
Approved maximum for month*		2912	44.5%

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Monitoring – Trucks July 2022

NEWCASTLE SAND

July 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Jul	57	116	49.1%
2-Jul	4	90	*4.4%*
4-Jul	60	116	51.7%
5-Jul	65	116	56.0%
6-Jul	54	116	46.6%
7-Jul	18	116	15.5%
8-Jul	52	116	44.8%
9-Jul	10	90	11.1%
11-Jul	43	116	37.1%
12-Jul	45	116	38.8%
13-Jul	35	116	30.2%
14-Jul	40	116	34.5%
15-Jul	44	116	37.9%
16-Jul	9	90	10.0%
18-Jul	47	116	40.5%
19-Jul	56	116	48.3%
20-Jul	50	116	43.1%
21-Jul	52	116	44.8%
22-Jul	42	116	36.2%
23-Jul	5	90	5.6%
25-Jul	47	116	40.5%
26-Jul	44	116	37.9%
27-Jul	43	116	37.1%
28-Jul	56	116	48.3%
29-Jul	64	116	55.2%
30-Jul	8	116	6.9%
Total trucks this month	**1050**		
Approved maximum for month*		2886	36.4%

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Monitoring – Trucks August 2022

NEWCASTLE SAND

August 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Aug	49	116	42.2%
2-Aug	74	116	63.8%
3-Aug	81	116	69.8%
4-Aug	84	116	72.4%
5-Aug	79	116	68.1%
6-Aug	12	116	10.3%
8-Aug	56	116	48.3%
9-Aug	45	116	38.8%
10-Aug	42	116	36.2%
11-Aug	42	116	36.2%
12-Aug	42	116	36.2%
13-Aug	8	116	6.9%
15-Aug	71	116	61.2%
16-Aug	59	116	50.9%
17-Aug	60	116	51.7%
18-Aug	55	116	47.4%
19-Aug	44	116	37.9%
20-Aug	10	116	8.6%
22-Aug	48	116	41.4%
23-Aug	41	116	35.3%
24-Aug	51	116	44.0%
25-Aug	58	116	50.0%
26-Aug	57	116	49.1%
27-Aug	13	116	11.2%
29-Aug	69	116	59.5%
30-Aug	68	116	58.6%
31-Aug	82	116	70.7%
Total trucks this month	1400		
Approved maximum for month*		2912	48.1%

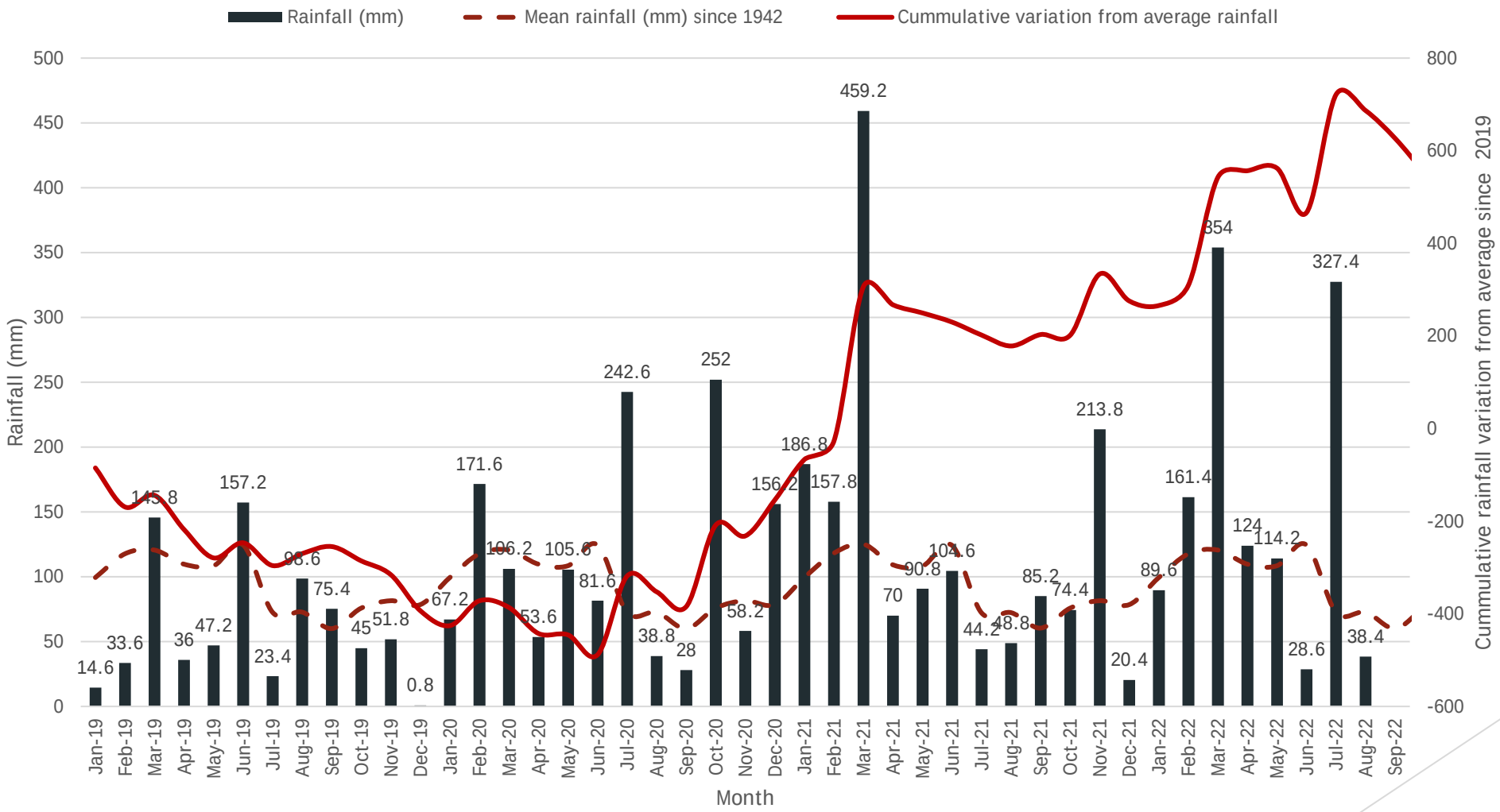
** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Environmental Monitoring - Rainfall

- Annual average rainfall at Williamtown is 1127mm.
- 2019 rainfall had a total of 729mm.
- 2020 rainfall (recovered second half of year) above average with 1362mm.
- 2021 rainfall above average with 1556mm.
- 2022 rainfall to 31 August, is already 1237 mm (with average rainfall will be similar to 2021).
- Cumulatively over the last 3 months, we have had 125mm above average (June 2022 below average, July 2022 above average, August 2022 below average.)

Environmental Monitoring - Water



Environmental Monitoring - Water

- Continuous logging of groundwater depth data at several wells across site.
- Groundwater and surface water sampled on monthly basis, results available on the website https://www.newcastlesand.com.au/monitoring-results/.
- Water levels have been high due to rainfall, highest levels (relative to the quarry floor) are located at the northern side of the quarry. Weekly checks have been occurring to monitor changes.
- A groundwater specialist currently reviewing data, initial interpretation is that while the levels are above the predicted (the 95% level was adopted as maximum), the model is likely to remain accurate with no changes necessary as the recent rainfall levels are likely in excess of 95% of the rainfall events.
- The intent of the imposed groundwater level was to avoid ponding and mobilisation of metals in the groundwater that occurred during past mineral sand mining. The current high levels are a rare occurrence and unlikely to remain elevated. The pit floor remains above the groundwater level and will not result in ponding.

Environmental Monitoring - Water

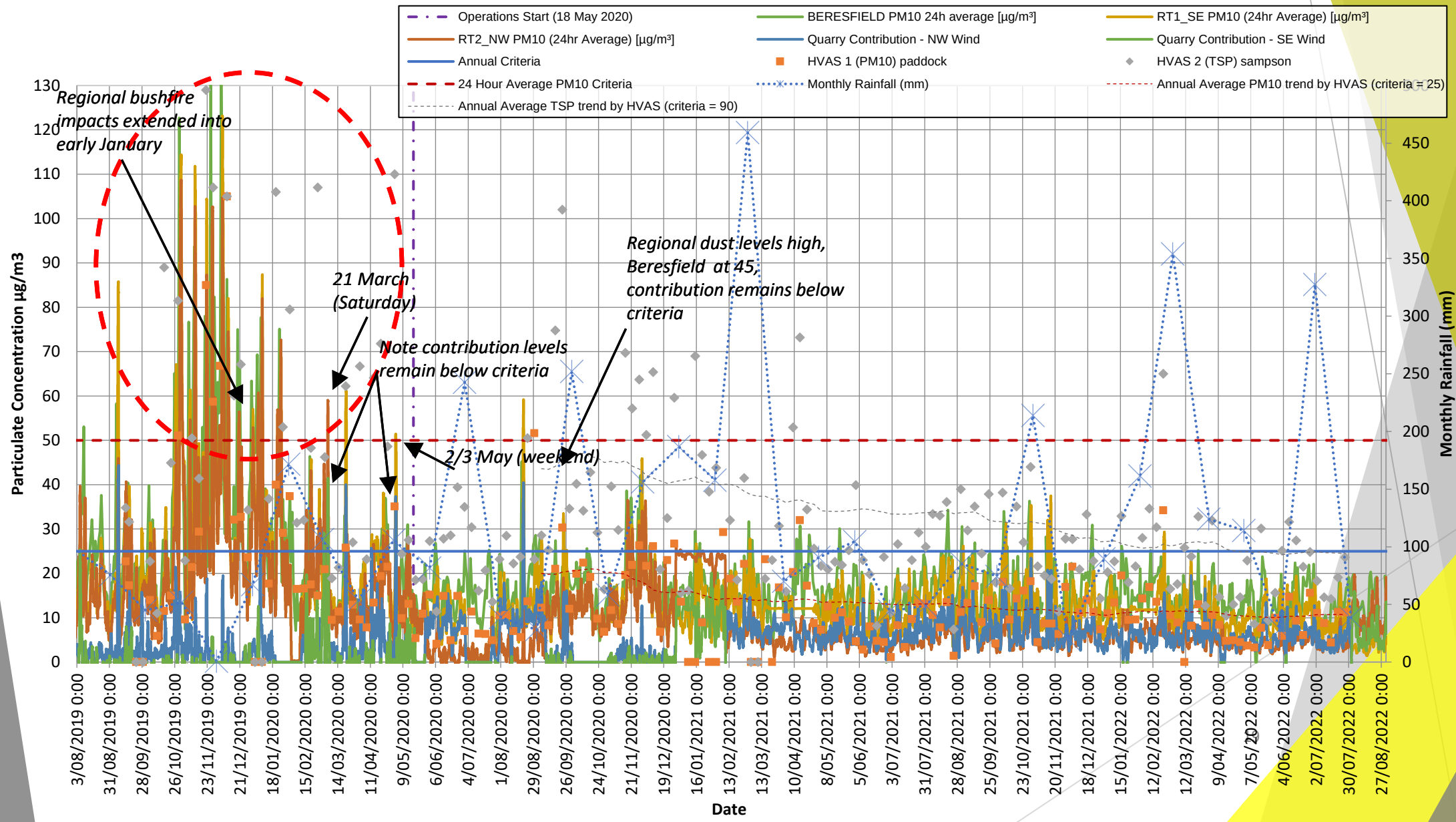
Environmental Monitoring - Air

- Network includes two Beta Attenuation Monitors (BAMs) that measure real-time particulate matter smaller than 10 micron (PM10).
  - These record average value every 15 minutes continuously.
- Two High Volume Air Sampler (HVAS) one measuring PM10 and one measuring total suspended particulates (TSP).
  - These run for 24 hours every six days.
- Quarry must implement all reasonable and feasible avoidance and mitigation measures so particulate emissions from quarry do not cause exceedance of:
  - PM10 annual average 25 $\mu g/m^3$ cumulative.
  - Quarry PM10 contribution over 24 hour average 50 $\mu g/m^3$.

Environmental Monitoring - Air

- Air quality has improved or remained similar to those at previous meeting:
  - Annual average PM10 levels measured with HVAS at 350 Cabbage Tree Road to end July 2022 is 10.9 µg/m^3 (was 10.2 in May 22) against 25 µg/m^3 criteria.
  - Annual average PM10 measured with BAM at 393 Cabbage Tree Road to end of August 2022 is 11.4 µg/m^3 (was 12.2 in May 22) against 25 µg/m^3 criteria.
  - Annual average PM10 measured with BAM at 453 Cabbage Tree Road to end of August 2022 is 5.6 µg/m^3 (was 5.4 in May 22) against 25 µg/m^3 criteria.
  - TSP levels measured with HVAS at 393 Cabbage Tree Road to end May 2022 is 24.6 µg/m^3 (was 24.9 in May 22) against 90 µg/m^3 criteria.
- Air quality model in assessment used an assumed annual average background of 19.4µg/m^3.
- Data summarised online at: https://www.newcastlesand.com.au/air-quality/

Environmental Monitoring – Air



The site from June 2022 to Sept 2022

Wattle on the entry batter is starting to flower.

The site from June 2022 to Sept 2022

Wash plant and washed sand stockpile – note this area wash plant move has been delayed.

The site from June 2022 to Sept 2022

Sector 1A/2 nearing extraction completion

The site from June 2022 to Sept 2022

Sector 3 looking west, processing plant now expected later this year due to delays.

The site from June 2022 to Sept 2022

Current extraction area near boundary of Sector 4/5

The site from June 2022 to Sept 2022

Current extraction area near boundary of Sector 4/5

The site from June 2022 to Sept 2022

Clearing along eastern boundary of Sector 3/4

The site from June 2022 to Sept 2022

Looking east across Sector 3A, timber placed.

The site from June 2022 to Sept 2022

Portion of Sector 7 completed, and in early stage of rehabilitation, note habitat stacks aimed at providing improved shelter between treed areas

The site from June 2022 to Sept 2022

Portion of Sector 7 completed, and in early stage of rehabilitation, seedlings beginning to emerge

Questions?

More Information

- www.newcastlesand.com.au
- Quarry Manager - 0402 648 079
- info@newcastlesand.com.au

Williamtown Sand Syndicate (WSS)
Cabbage Tree Road Sand Quarry
Community Consultative Committee Meeting

09 December 2022
9:02-9:45am
Mercure Newcastle Airport

Meeting Number:	10th Meeting	**Type of meeting:**	General
Chairperson:	John Turner - JT	**Note taker:**	Jonathan Berry

Attendees:
Wayne Sampson (Resident) – WS
Shirley Davis (Resident) – SD
Stephen Kuehn (Resident) – SK
Paul Hardes (Resident) – PH
John Simpson (Hunter Water Representative) – JS
Darren Williams (WSS) – DW
Jonathan Berry (Wedgetail Project Consulting) – JB

Apologies:
Greg Callaghan (Resident) – GC
Peter West (Resident) – PW
Barry Davis (Resident) – BD

Observers: None

Meeting Open: 9:02am

Minutes

Agenda item: 1 Apologies **Presenter:** John Turner

Discussion:

Peter West (Resident) – PW
Barry Davis (Resident) – BD
Greg Callaghan (Resident) – GC

Agenda item: 2 Declaration of Pecuniary Interest **Presenter:** NA

Discussion:

John Turner (Chairperson) – Paid for service by WSS.
Wayne Sampson (Resident) – Deed with WSS.
Jonathan Berry (Wedgetail Project Consulting) – Consultant employed by WSS.
Shirley Davis (Resident) – Nil.
Greg Callaghan (Resident) – Deed with WSS
Paul Hardes (Resident) – Deed with WSS
Stephen Kuehn (Resident) – Deed with WSS

Agenda item: 3	**Minutes to be adopted**	**Presenter:**	John Turner

Discussion:

Minutes from the last meeting were noted.

Minutes moved by PH. Minutes seconded by WS. All Agree.

Agenda item: 4	**Business Arising from Previous Minutes** • Response to issues raised or provision of additional information requested;	**Presenter:**	JT

- Nil

Agenda item: 5	**Correspondence**	**Presenter:**	John Turner

- See presentation.

Agenda item: 6	**Proponents reports & overview of activities, including;** • Progress of the project • Monitoring & environmental performances • Community complaints & responses to these complaints • Information provided to the community and any feedback	**Presenter:**	Jonathan Berry

JB – Gave presentation of slides.

Community Complaints slide:

SD – There have been no complaints as there is no point as the response is always the same and nothing is done, still trucks turning right, air brakes being used, sand on the road. Disappointed that nothing seems to change. No action on removing the traffic island.

DW – To be clear, Newcastle Sand has never committed to remove the traffic island that was installed consistent with the TfNSW requirements. Newcastle Sand stated that it would consider any TfNSW instructions.

JT – Traffic Island has been discussed multiple times, this is a TfNSW matter.

Modification Slide:

JS – With respect to the alternate timber management, judging from the photographs in the presentation the timber cover seems fine and he (HWC) would like to see substantial evidence it was too high prior to any reduction or significant changes to current practice. RZM's later rehabilitation was done in a similar way (i.e. timber placement rather than burning as originally done) and has been effective. Reductions in the timber cover once placed are likely to cause more damage than beneficial.

DW – Noted timber levels may be OK.

Monitoring Slide:

JS – HWC has observed PFAS in very low concentrations at several locations in the area, many times lower than what has been observed from Defence. Most of the observed changes in water chemistry are likely to be related to natural changes due to the changing water levels.

JS – What happened with water meeting called by neighbours in Barrie Close due to the high water levels? The presence of swamp mahogany in their yards suggest the water is naturally very high.

DW – Met with some of the owners and demonstrated with GPS that the reasons they thought the quarry may be related to the high water levels could not be related to works at the quarry. There was some concern the road connecting the north and south resource areas was once a creek that the quarry and obstructed. Elevation data showed this was not the case.

Action items	Person responsible	Deadline
✓ Nil		
✓		
✓		

Agenda item: 7 Other Agenda Items **Presenter:** John Turner

Discussion:

JT – There were no other agenda items received.

Agenda item: 8 General Business **Presenter:** John Turner

Discussion:

JT – Is there any general business?

Action items	Person responsible	Deadline
✓ SD – Can someone please drop off a copy of the minutes to my letter box?	Newcastle Sand will drop of a copy	When completed
✓		

Agenda item: 9 Next Meeting **Presenter:** John Turner

Discussion:

JT – The meeting is now closed at 9:45am, the next meeting to be advised.

Action items	Person responsible	Deadline
None.		

Other Information

- **Minutes to be provided as draft in the next week.**
- **Committee members have one week to provide feedback on the minutes to the Chairperson.**
- **Within two weeks of receiving feedback the minutes will be finalized and distributed to members and placed on the website.**

Meeting Close:

9:25 am

NEWCASTLE SAND

Community Consultative Committee Update

Project update for the period **September to December 2022**

For Meeting on 9 December 2022

Meeting Agenda for the Cabbage Tree Road Sand Quarry Community Consultative Committee.

Friday 9 December 2022 at 9.00am

Agenda Items:

- 1) Apologies
- 2) Declaration of pecuniary or other interests
- 3) Minutes to be adopted
- 4) Business arising from previous minutes – response to issues raised or provision of additional information requested
- 5) Correspondence
- 6) Proponents reports and overview of activities, including:
- * progress of the project
- * monitoring and environmental performance
- * community complaints and response to these complaints
- * information provided to the community and any feedback
- 7) Other agenda items
- 8) General business
- 9) Next meeting

Actions from previous minutes September 2022

- Reminded staff of the need to register complaints in the system.
- A commercial contractor has been engaged on several occasions in addition to the site skid steer to sweep acceleration lane – wheel wash still delayed by wash plant relocation.
- Tubestock for Banksias and Eucalypts will be propagated for planting in 2023 from seed collected onsite (Tilligerry Habitat and/or Hunter Indigenous Plants to propagate).

Correspondence

- Nil

Community Complaints since September 2022

- Community complaints register available at: https://www.newcastlesand.com.au/complaints-register/
- 0 complaints / enquires reported in this period.

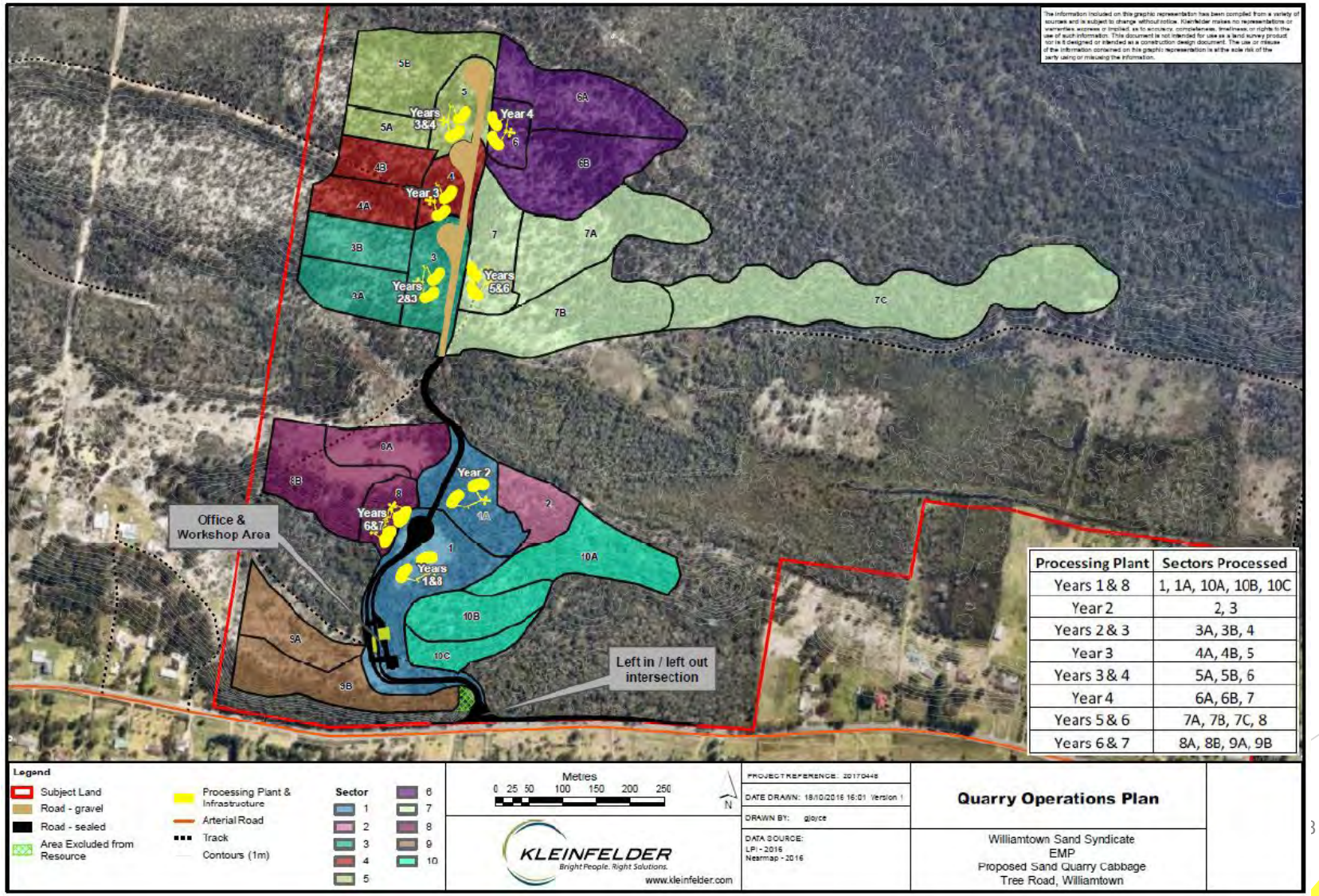
Regulatory Correspondence

- Previous correspondence topic updates:
  - Water levels while still high are decreasing.
  - Zinc levels in BH2 have as expected declined since peaks earlier this year.
  - Management plans still being updated, should be lodged before Christmas 2022
- Had an inspection by DPE on 22 November, no major issues were noted on the day aside for the need to improve fence / delineation of site to ensure there is reduced risk of accidental impacts to outside the footprint, particularly where there are existing access tracks.
- Modification (as previously discussed) to be lodged shortly addressing operational changes (e.g. more excavator and truck use and campaign mulching), along with the extension areas that target some of the additional white sand that was within the original EIS.

Key Activities Completed During this Period

- Cleared Sector 5 & 5A in September.
- Cleared Sector 5B south in October.
- Cleared Sector 7C south in October/November.
- Cleared Sector 5B north in November.
- Continued progressive extraction of sand from Sector 4, 5 and 7.
- Rehabilitation in Sector 3B, 4A, 4B and 1A/2
- Continued delays occur in getting the wash plant setup in Sector 3. These delays require additional haulage and delay the wheel wash installation.
- Seed collection has occurred during the period, have over 3kg of seed for hand broadcast and tubestock propagation.

Key activities completed during this period



Processing Plant	Sectors Processed
Years 1 & 8	1, 1A, 10A, 10B, 10C
Year 2	2, 3
Years 2 & 3	3A, 3B, 4
Year 3	4A, 4B, 5
Years 3 & 4	5A, 5B, 6
Year 4	6A, 6B, 7
Years 5 & 6	7A, 7B, 7C, 8
Years 6 & 7	8A, 8B, 9A, 9B

Key Activities Completed During this Period

- Selling white, amber / washed (concrete), landscape and fill sand from the quarry.
- Haulage since September 2022 (also see later slides):
  - Averaged approximately 52% of monthly haulage allowance (up from 43% last period, and 24% before that, increased demand).
  - Busiest day occurred in November 2022 at 94.8% of daily haulage allowance.
  - Busiest month was October 2022 at 62.5% of monthly haulage allowance.
  - Haulage rate for November is highest since start of quarry.
- Weighbridge system is working well in helping regulating maximum haulage rates – system will not give driver a ticket unless under haulage rate.

Monitoring – Trucks September 2022

NEWCASTLE SAND

September 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Sep	67	116	57.8%
2-Sep	59	116	50.9%
3-Sep	20	90	22.2%
5-Sep	79	116	**68.1%**
6-Sep	76	116	65.5%
7-Sep	79	116	**68.1%**
8-Sep	64	116	55.2%
9-Sep	61	116	52.6%
10-Sep	12	90	13.3%
12-Sep	70	116	60.3%
13-Sep	64	116	55.2%
14-Sep	76	116	65.5%
15-Sep	75	116	64.7%
16-Sep	54	116	46.6%
17-Sep	16	90	17.8%
19-Sep	44	116	37.9%
20-Sep	66	116	56.9%
21-Sep	56	116	48.3%
23-Sep	64	116	55.2%
24-Sep	1	90	***1.1%***
26-Sep	58	116	50.0%
27-Sep	54	116	46.6%
28-Sep	40	116	34.5%
29-Sep	45	116	38.8%
30-Sep	40	116	34.5%
Total trucks this month	**1340**		
Approved maximum for month*		**2912**	**46.0%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Monitoring – Trucks October 2022

NEWCASTLE SAND

October 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
4-Oct	97	116	**83.6%**
5-Oct	96	116	82.8%
6-Oct	87	116	75.0%
7-Oct	73	116	62.9%
8-Oct	4	90	4.4%
10-Oct	63	116	54.3%
11-Oct	86	116	74.1%
12-Oct	62	116	53.4%
13-Oct	64	116	55.2%
14-Oct	68	116	58.6%
15-Oct	11	90	12.2%
17-Oct	50	116	43.1%
18-Oct	63	116	54.3%
19-Oct	65	116	56.0%
20-Oct	74	116	63.8%
21-Oct	48	116	41.4%
22-Oct	3	90	***3.3%***
24-Oct	35	116	30.2%
25-Oct	36	116	31.0%
26-Oct	59	116	50.9%
27-Oct	56	116	48.3%
28-Oct	65	116	56.0%
29-Oct	16	90	17.8%
31-Oct	75	116	64.7%
Total trucks this month	**1356**		
Approved maximum for month*		**2886**	**47.0%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

Monitoring – Trucks November 2022

NEWCASTLE SAND

November 2022

Monthly Summary of Traffic Movements

(as per Condition 26 of Consent SSD_6125)

Date	Total	Approved Maximum*	Percentage of Approved Movements
1-Nov	99	116	85.3%
2-Nov	100	116	86.2%
3-Nov	82	116	70.7%
4-Nov	83	116	71.6%
5-Nov	9	90	*10.0%*
7-Nov	76	116	65.5%
8-Nov	58	116	50.0%
9-Nov	79	116	68.1%
10-Nov	66	116	56.9%
11-Nov	82	116	70.7%
12-Nov	17	90	18.9%
14-Nov	75	116	64.7%
15-Nov	81	116	69.8%
16-Nov	76	116	65.5%
17-Nov	72	116	62.1%
18-Nov	69	116	59.5%
19-Nov	31	90	34.4%
21-Nov	92	116	79.3%
22-Nov	71	116	61.2%
23-Nov	110	116	94.8%
24-Nov	77	116	66.4%
25-Nov	73	116	62.9%
26-Nov	15	90	16.7%
28-Nov	65	116	56.0%
29-Nov	79	116	68.1%
30-Nov	82	116	70.7%
Total trucks this month	**1819**		
Approved maximum for month*		**2912**	**62.5%**

** Maximum approved haulage as per Condition 23 of Consent SSD_6125:*
- 6 trucks per hour from 6am to 7am Monday to Friday.
- 10 trucks per hour from 7am to 6pm Monday to Friday.
- 10 trucks per hour from 7am to 4pm on Saturday.
- No haulage on Public Holidays.

The weighbridge and ticketing system is routinely calibrated and managed by an accredited external business to ensure the sale and transport of sand from the quarry is consistent with approved haulage limits and operational times.

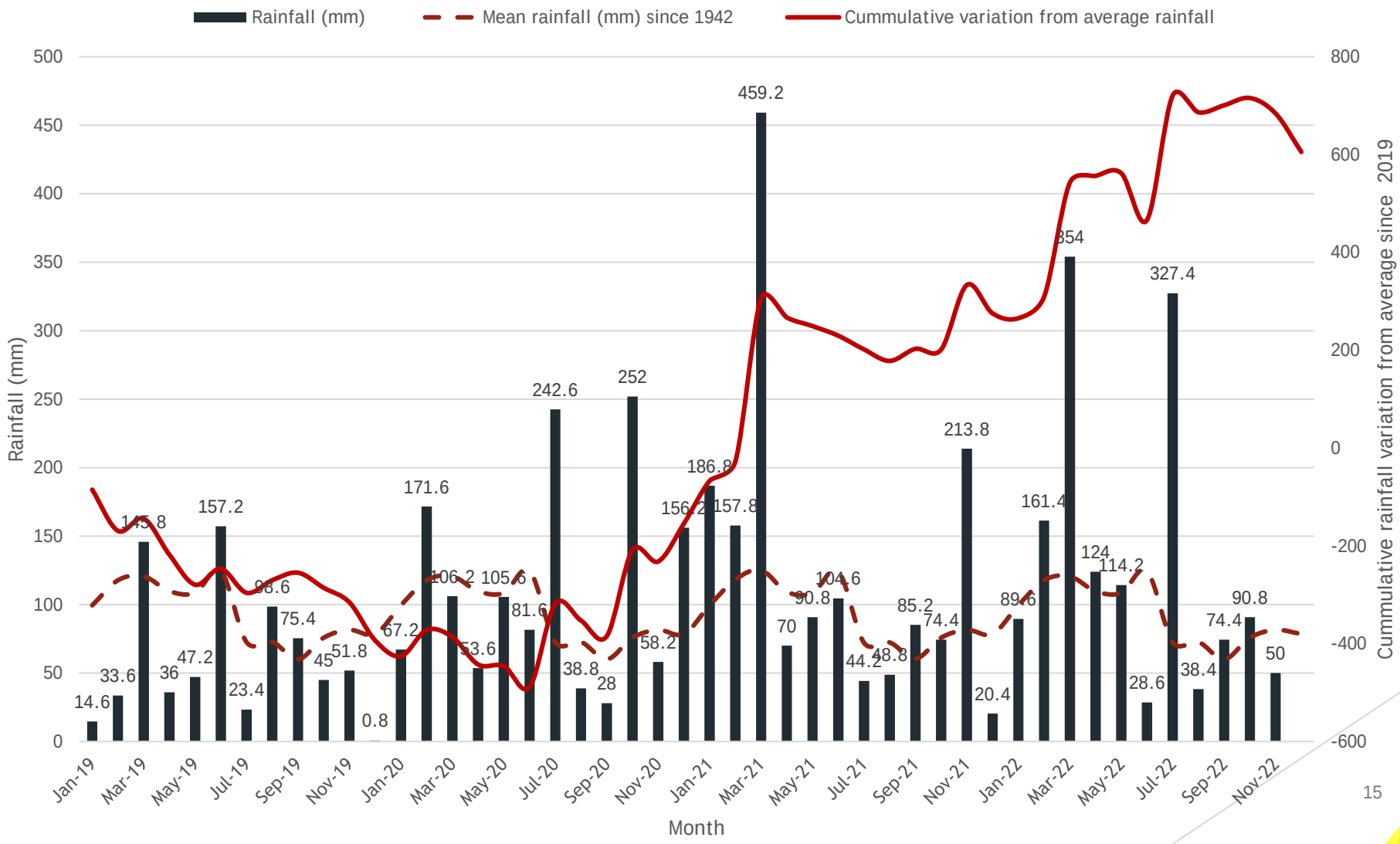
Environmental Monitoring - Rainfall

- Annual average rainfall at Williamtown is 1127mm.
- 2019 rainfall had a total of 729mm.
- 2020 rainfall (recovered second half of year) above average with 1362mm.
- 2021 rainfall above average with 1556mm.
- 2022 rainfall to 30 November, is 1452 mm (with average rainfall will be similar to 2021).
- Cumulatively over the last 3 months, we have had 4mm below average (September 2022 above average, October 2022 above average, November 2022 below average).

Environmental Monitoring – Flora / Fauna

- Continue to collect regular monitoring with cameras across the site.
- Foxes observed onsite.
- Active fox den found near entrance of quarry (2 adults, 4-5 pups/young adults) – included numerous carcasses of different species (including chickens, birds, eagle, wallaby etc).
- Licenced contractor engaged to treat the fox den, now completed and appears to have been successful.
- Threatened frog species survey occurred in November. Threatened frogs found in some areas, no changes in occurrence seen to be due to the quarry. Wet weather / high water levels have likely changed the known distribution patterns.
- First round of rehabilitation monitoring completed, results to be compiled, initial thoughts are that timber density is high (even when compliant with management plan) and could be lowered to improve plant cover.

Environmental Monitoring - Water



Environmental Monitoring - Water

- Continuous logging of groundwater depth data at several wells across site.
- Groundwater and surface water sampled on monthly basis, results available on the website https://www.newcastlesand.com.au/monitoring-results/.
- Water levels have been high due to rainfall, highest levels (relative to the quarry floor) are located at the northern side of the quarry. Weekly checks have been occurring to monitor changes. In the north west of site levels have dropped over 400mm since September and continuing to drop rapidly, elsewhere levels have dropped around 300mm with a slower decline.
- MED Report to be finalised with review of recent rainfall and water levels, should be lodged shortly for review by HWC and DPE.
- Low levels of PFAS are sporadically found in wash plant water, levels are not consistent and below criteria.

Environmental Monitoring - Noise

- Quarterly monitoring – last one in late September, next one in December.
- Completed by Spectrum Acoustics – attended monitoring
- 30 minute (morning-shoulder) and 1.5 hour (day) compliance measurement periods for three consecutive days
- Typical results below, quarry activities inaudible

Table 5
NS Operational Noise Monitoring Results – 21 September 2022 (Morning-Shoulder)

Location	Time	dB(A), Leq	Criterion dB(A) Leq	dB(A), L1 (1min)[1]	Criterion dB(A), L1 (1min)[1]	Identified Noise Sources, LAeq
R42	6:30am	67	39	<20	45	Traffic (67), birds (34), NS (IA)

1. L1 (1 min) from NS mine noise only.

Table 6
NS Operational Noise Monitoring Results – 21 September 2022 (Day)

Location	Time	dB(A), Leq	Criterion dB(A) Leq	Identified Noise Sources, LAeq
R42	7:01am	66	43	Traffic (66), birds (35), NS (IA)

Environmental Monitoring - Air

- Network includes two Beta Attenuation Monitors (BAMs) that measure real-time particulate matter smaller than 10 micron (PM10).
  - These record average value every 15 minutes continuously.
- Two High Volume Air Sampler (HVAS) one measuring PM10 and one measuring total suspended particulates (TSP).
  - These run for 24 hours every six days.
- Quarry must implement all reasonable and feasible avoidance and mitigation measures so particulate emissions from quarry do not cause exceedance of:
  - PM10 annual average 25 $\mu g/m^3$ cumulative.
  - Quarry PM10 contribution over 24 hour average 50 $\mu g/m^3$.

Environmental Monitoring - Air

- Air quality has improved or remained similar to those at previous meeting:
  - Annual average PM10 levels measured with HVAS at 350 Cabbage Tree Road to end October 2022 is 10.0 µg/m^3 (was 10.9 in August 22) against 25 µg/m^3 criteria.
  - Annual average PM10 measured with BAM at 393 Cabbage Tree Road to end of November 2022 is 10.4 µg/m^3 (was 11.4 in August 22) against 25 µg/m^3 criteria.
  - Annual average PM10 measured with BAM at 442 Cabbage Tree Road to end of October 2022 is 6.5 µg/m3 (was 5.6 in August 22) against 25 µg/m^3 criteria. Machine currently under repair.
  - TSP levels measured with HVAS at 393 Cabbage Tree Road to end October 2022 is 23.3 µg/m^3 (was 24.6 in August 22) against 90 µg/m^3 criteria.
- Air quality model in assessment used an assumed annual average background of 19.4µg/m^3.
- Data summarised online at: https://www.newcastlesand.com.au/air-quality/

The site from Sept 2022 to Nov 2022

Extraction in Section 4B – looking east (new wash plant location in background)

The site from Sept 2022 to Nov 2022

Topsoil stockpiled on the floor of Sector 4B, washplant fines blended into floor.

The site from Sept 2022 to Nov 2022

View through Section 3B to 4 extraction face at 5B

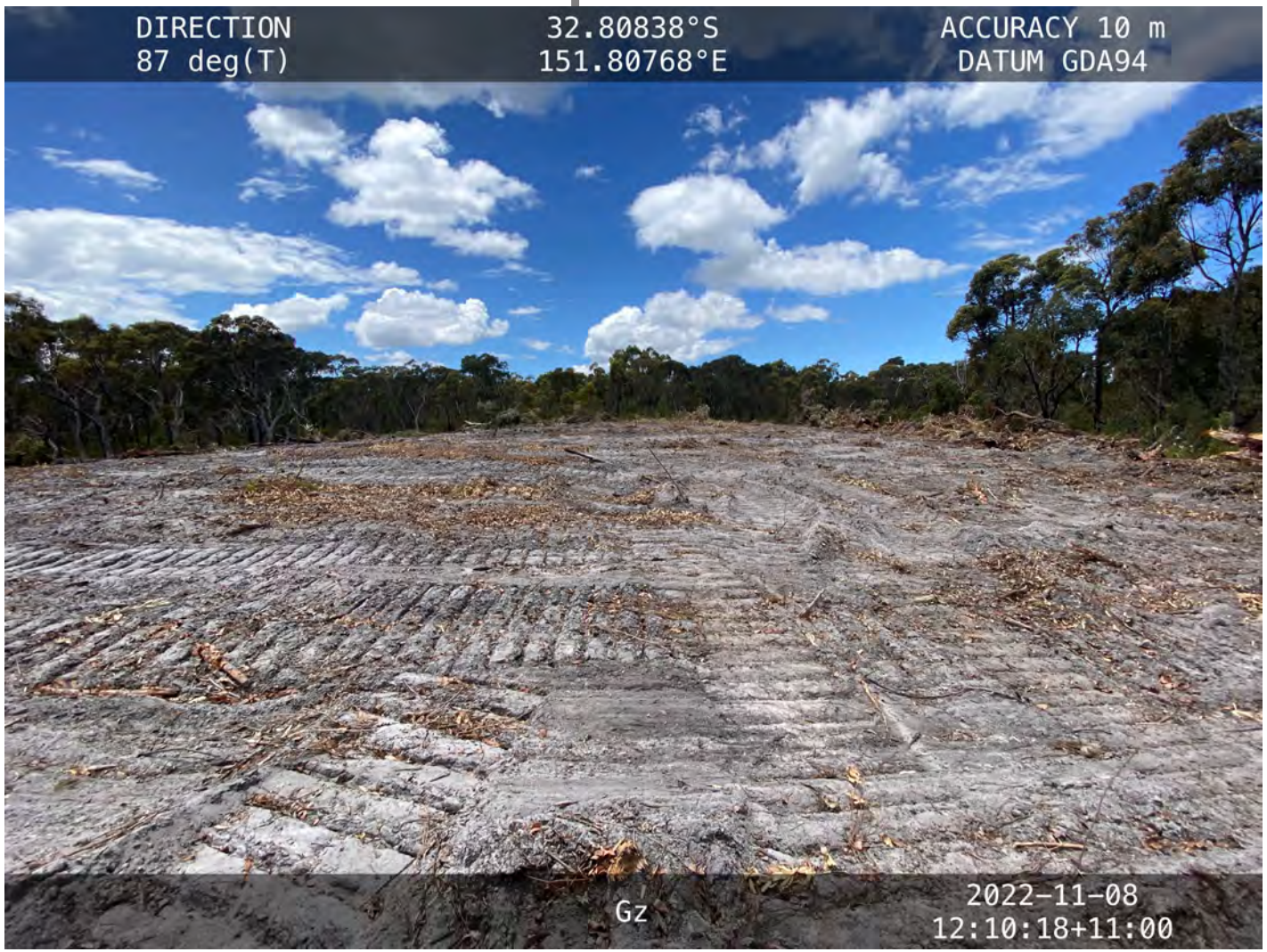
The site from Sept 2022 to Nov 2022

Section 7 rehab area

The site from Sept 2022 to Nov 2022

Section 7, flowering, density slowly increasing

The site from Sept 2022 to Nov 2022



Section 7, recently cleared for extraction.

The site from Sept 2022 to Nov 2022

Section 7, wild hive found during clearing – reported to DPI

The site from Sept 2022 to Nov 2022

Active den on left, fox cub with eagle?, and treated den on right

Questions?

We wish you all a safe and merry Christmas!

More Information

- www.newcastlesand.com.au
- Quarry Manager - 0402 648 079
- info@newcastlesand.com.au

APPENDIX 4. NEWSLETTERS

Cabbage Tree Road Sand Quarry

Welcome to Edition 12 of the Cabbage Tree Road Sand Quarry Newsletter. This newsletter is intended to provide a statutory Notification for residents adjacent the quarry entry and provide the community with an update on how the project is progressing.

NOTIFICATION

At 5:42pm on Saturday 8th October 2022 Newcastle Sand was requested by Singleton State Emergency Service (SES) to assist in the supply of a 32 tonne load of sand for their use in emergency response in relation to rising flood waters. Newcastle Sand loaded a truck at approximately 6:10pm on a Saturday outside normal operating hours. Under Schedule 3, Condition 2 of the Development Consent, dispatch of materials may occur outside normal hours where requested by police or other public authorities, or emergency work to avoid loss of lives, property or prevent environmental harm. Under this condition, notification of affected residents is required as soon as practical. We trust this activity did not result in any significant disruption to nearby residents. Newcastle Sand are pleased to be able to assist the SES in their invaluable service to the community.

SECURITY AND SITE ACCESS

The quarry site is under 24 hour 7 day per week monitored surveillance which will remain in place. We are happy to report we have no incidents to date.

Newcastle Sand would like to remind the community that the property on which the quarrying is operational. For your safety, no unauthorised access is permitted on the land. If you would like to access the site, please contact the quarry manager, who will, where possible, assist with your request.

COMMUNITY CONSULATATIVE COMMITTEE AND FUTIRE NEWSLETTERS

A community consultative committee meeting is scheduled to occur every three months. The meeting is attended by Newcastle Sand representatives, local agencies and community members who nominated themselves to be involved and were accepted by the Department of Planning and Environment. Minutes of each meeting and the presentation provided at the meeting is uploaded to the Newcastle Sand website. This presentation provides an overview of the operations and avoids the need for more frequent newsletters. For a copy of the meeting minutes and presentation go to www.newcastlesand.com.au.

ENVIRONMENTAL MONITORING

WSS continues to undertake environmental monitoring and reporting in accordance with the consent and Environmental Protection Licence. All results and reports are published once available on the Newcastle Sand website.

SAND ON EXIT LANE

The regular wet weather has resulted in an increase in the “stickiness” of sand and some tracking of the sand by trucks leaving the quarry onto the acceleration lane. Newcastle Sand do monitor this and frequently sweep the excess sand from the road when feasible. Additional measures are planned to further reduce sand tracking onto the bitumen surface.

MORE INFORMATION

If you have any comments or would like more information, or have any questions or feedback relating to the Cabbage Tree Road Project, please contact:

Eliott Laver
Quarry Manager
M 0402 648 079
E eliott@newcastlesand.com.au

ABOUT OPERATOR

Newcastle Sand is owned by Williamtown Sand Syndicate Pty Ltd, a Newcastle based privately funded investment business utilising local employees, contractors, consultants, resources and suppliers of services to undertake this project.

APPENDIX 5. WATER MONITORING REPORT

APPENDIX 6. GROUNDWATER LEVELS

APPENDIX 7. AMPHIBIAN SURVEY

APPENDIX 8. FAUNA MONITORING

APPENDIX 9. BORTOLO RADIATION SURVEY

APPENDIX 10. PRE-CLEARING AND CLEARANCE LETTERS

APPENDIX 11. NOISE MONITORING REPORTS

APPENDIX 12. PFAS EXPOSURE PATHWAYS REVIEW

APPENDIX 13. TRUCK MONITORING RECORDS

APPENDIX 14. PEST ANIMAL CONTROL REPORT

APPENDIX 15. BIANNUAL REHABILITATION FLORA MONITORING