

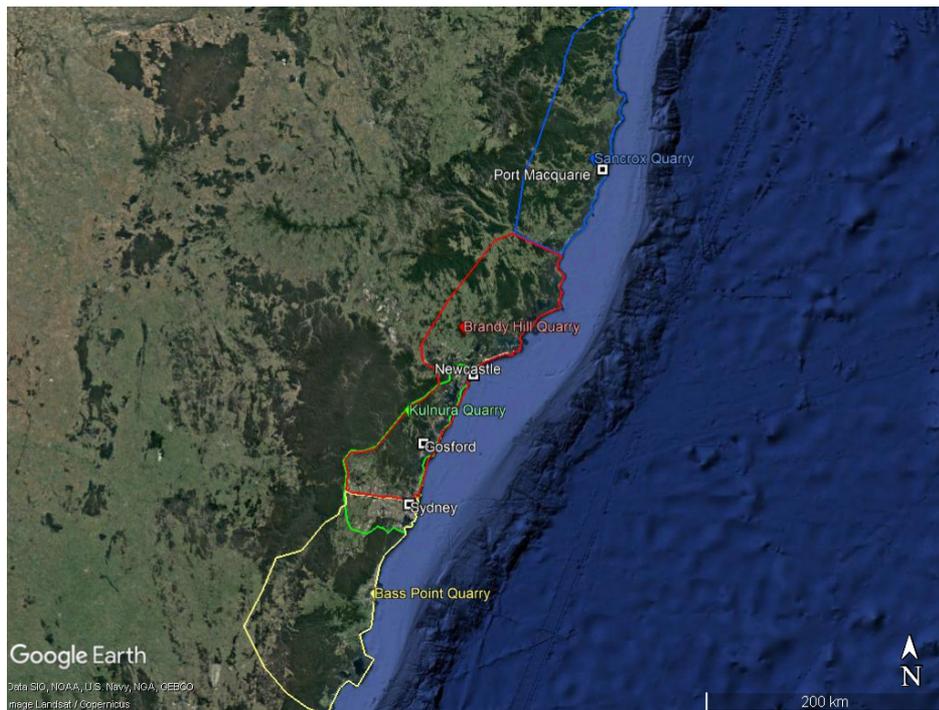


Brandy Hill Quarry

IPC Presentation – 29th May 2020

Overview

- The Brandy Hill Quarry is located on Clarence Town Road at the intersection with Brandy Hill Drive in Seaham, NSW. The Quarry is 3.5 km east of Seaham, 15km northeast of Maitland and 30km north of Newcastle.



- Brandy Hill Quarry will play a greater part in the aggregate supply chain into Sydney as the resource at Hanson's Kulnura Quarry is exhausted. In particular, the Brandy Hill Quarry will supply Hanson's Sydney concrete plants which are currently capable of receiving aggregates during the night-time and early morning hours.
- The downstream supply chain of Concrete has evolved considerably in recent years with a significant increase in Concrete supply outside of traditional hours with a growing trend towards 24/7 supply. To meet this growing demand the entire material supply chain must be able to deliver materials in line with this shift in market demand.
- The lead time from Brandy Hill Quarry into Sydney is around two hours and it makes sense both economically and sustainably to conduct this trucking outside of normal peak hours to generate the best use of the broader road network.

Existing Site and Operations

- Development Application No 1920 was granted by Port Stephens Shire Council to the Hunter Valley Mining Corporation Pty Ltd in 1983.
- The current operation extracts approximately 700,000 tonnes of material annually and employs 20 people.
- The current operation involves extraction from within a 19.5ha extraction area to an elevation of 30m AHD and processing, stockpiling and administrative activities within a further 17ha area. The total area of land currently disturbed for operations is 36.5ha.
- The current operations is near exhaustion of available resource under current consent.

Expansion of Site and Operations

- **Hanson is seeking consent to expand existing operations over a period of 30 years. The proposed ongoing operations are:**
 - Annual production limit of 1.5Mtpa.
 - Operations to occur in five operating stages.
 - Existing fixed processing equipment configuration will continue to be used for the first three operating stages. Stage 4 will involve relocation of processing and stockpiling area. This area would cover approximately 19.2ha.
 - An amenity bund to be constructed during Stage 1 of operations, to a height of between 18m and 20m.
 - Vegetation clearing over an area of approximately 53.8ha

Project Stages

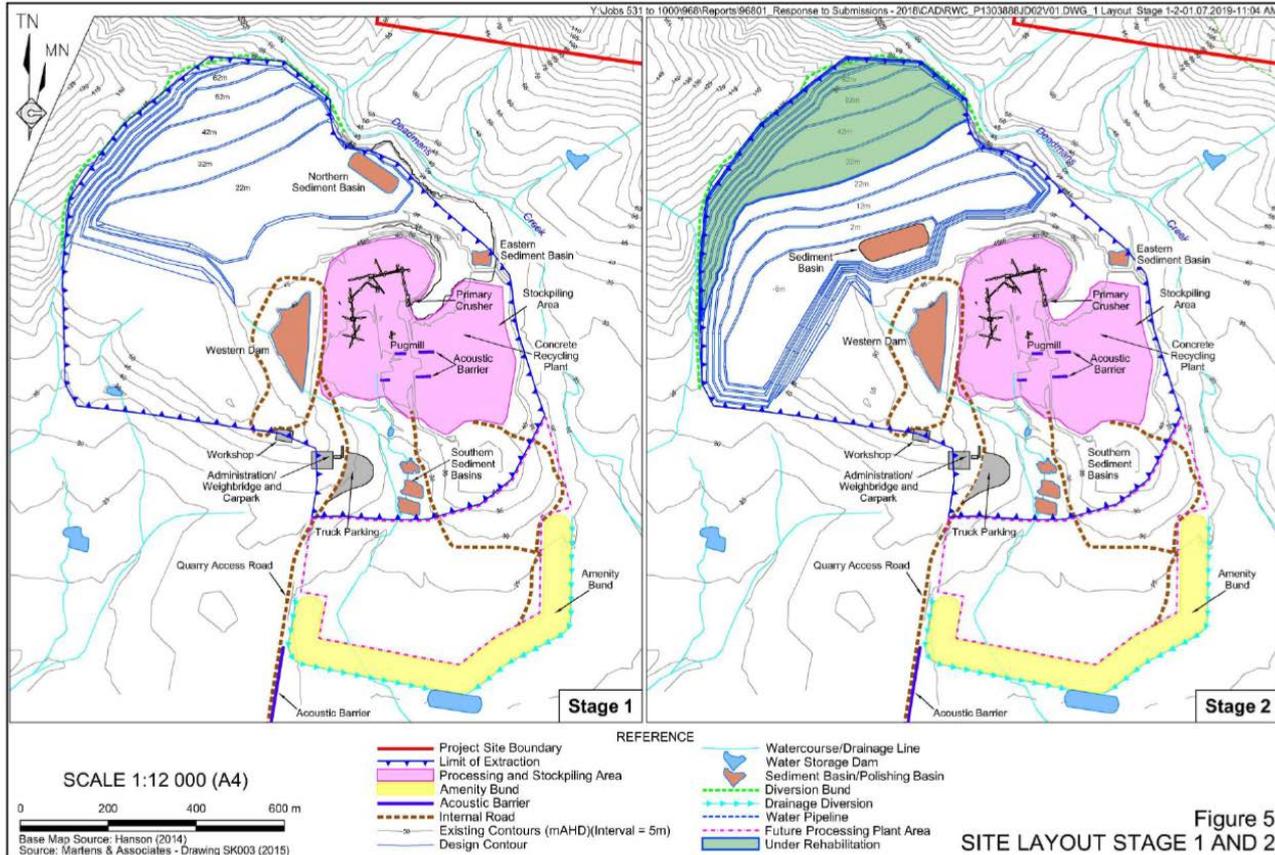


Figure 5

SITE LAYOUT STAGE 1 AND 2

Project Stages

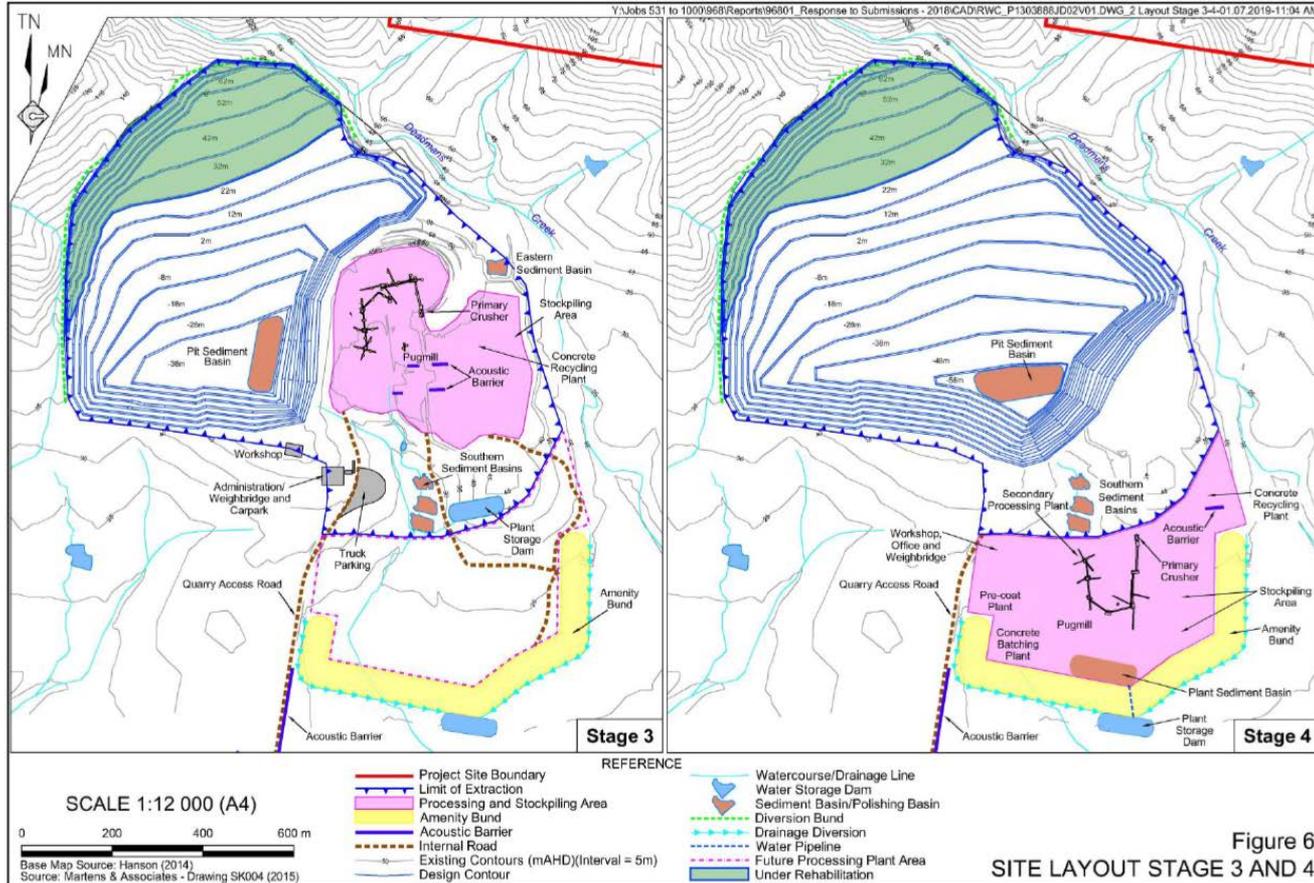


Figure 6
SITE LAYOUT STAGE 3 AND 4

Project Stages

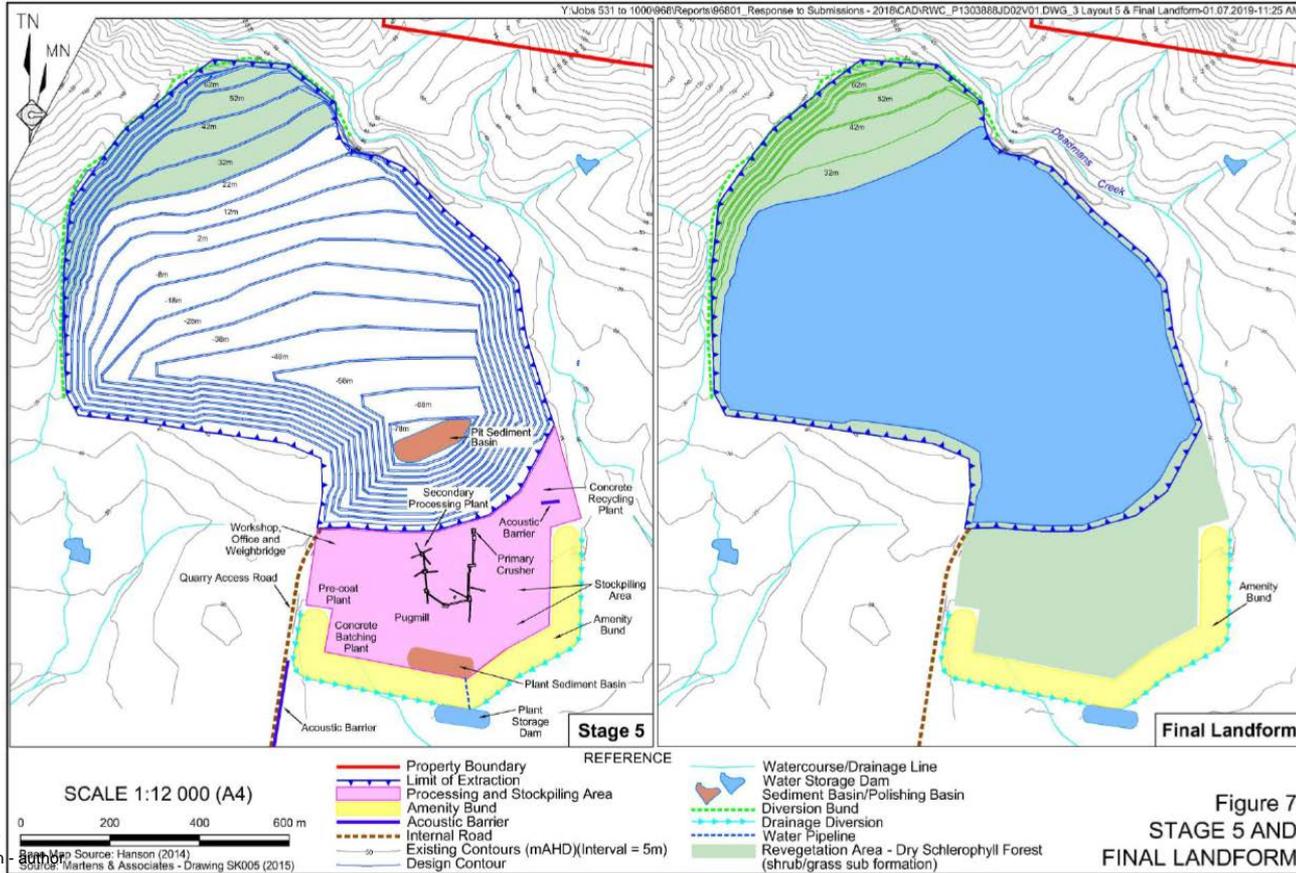
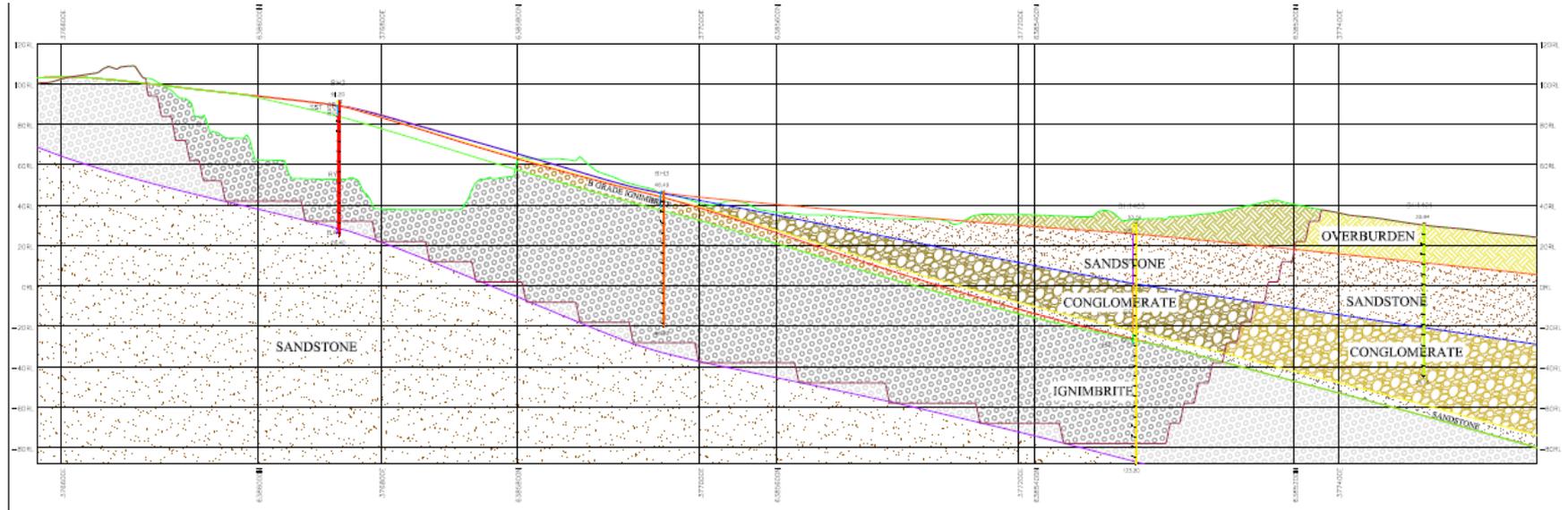


Figure 7
STAGE 5 AND
FINAL LANDFORM

Geological Section : North-South



Indicative Final Landform

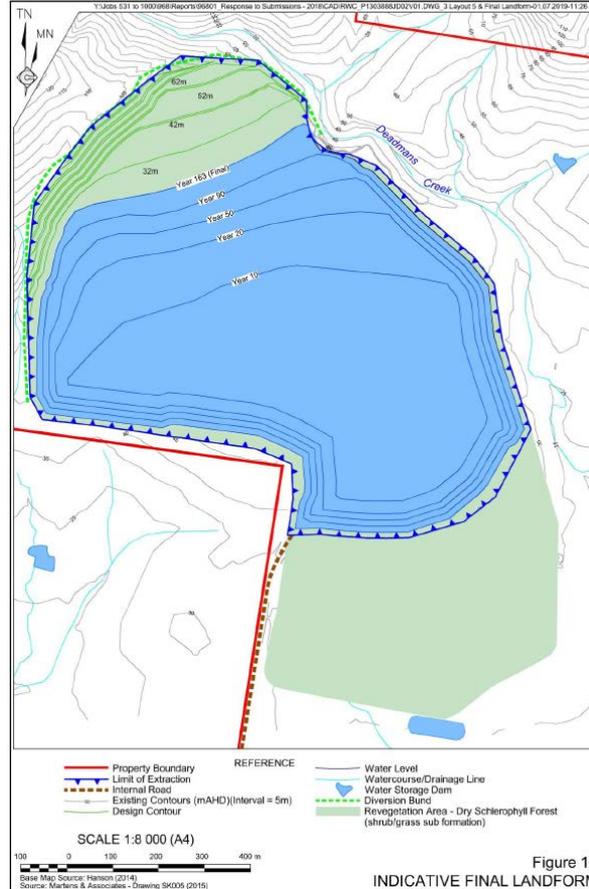


Figure 10
INDICATIVE FINAL LANDFORM

Comparable Quarry Pits

- Hanson- Wallgrove Quarry, Eastern Creek



May 2011

Comparable Quarry Pits

- Hanson- Wallgrove Quarry, Eastern Creek



Oct 2019

Comparable Quarry Pits

- Hanson- Kulnura Quarry, Central Coast



Comparable Quarry Pits

- **Hornsby quarry, 100m deep**

March 2017



September 2018



Vegetation clearing & biodiversity offsets

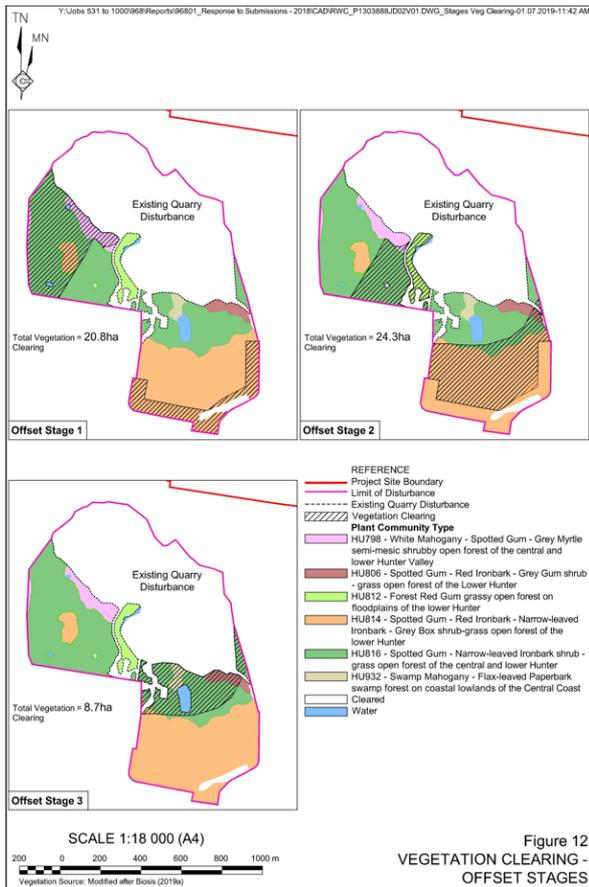


Figure 12
VEGETATION CLEARING -
OFFSET STAGES

Offset Stage 1 Credit Requirements

Offset Credit Type	Credits Required
HU814 - Spotted Gum - Red Ironbark - Narrow-leaved Ironbark - Grey Box shrub-grass open forest of the lower Hunter	434
HU816 - Spotted Gum - Narrow-leaved Ironbark shrub - grass open forest of the central and lower Hunter	647
HU798 - White Mahogany - Spotted Gum - Grey Myrtle semi-mesic shrubby open forest of the central and lower Hunter Valley	96
Koala (<i>Phascolarctos cinereus</i>)	488

Source: Biosis (2019a) – Modified after Table 37

Offset Stage 2 Credit Requirements

Offset Credit Type	Credits Required
HU814 - Spotted Gum - Red Ironbark - Narrow-leaved Ironbark - Grey Box shrub-grass open forest of the lower Hunter	840
HU816 - Spotted Gum - Narrow-leaved Ironbark shrub - grass open forest of the central and lower Hunter	440
HU806 - Spotted Gum - Red Ironbark - Grey Gum shrub - grass open forest of the Lower Hunter	15
HU812 - Forest Red Gum grassy open forest on floodplains of the lower Hunter	111
HU798 - White Mahogany - Spotted Gum - Grey Myrtle semi-mesic shrubby open forest of the central and lower Hunter Valley	7
Koala (<i>Phascolarctos cinereus</i>)	628

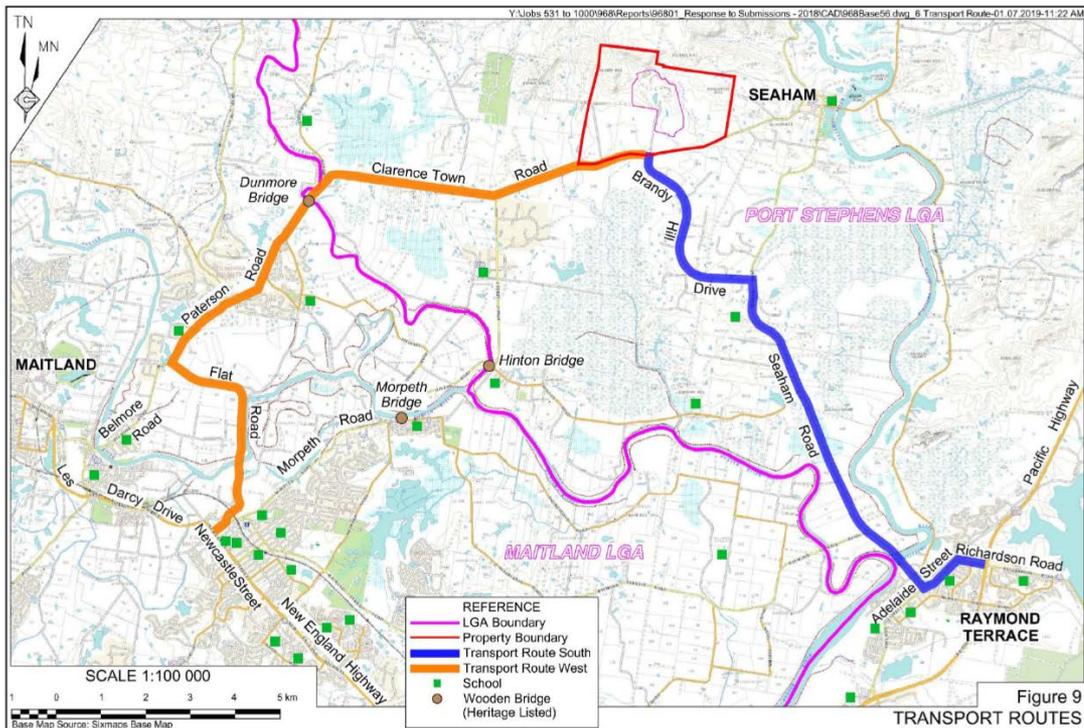
Source: Biosis (2019a) – Modified after Table 38

Offset Stage 3 Credit Requirements

Offset Credit Type	Credits Required
HU814 - Spotted Gum - Red Ironbark - Narrow-leaved Ironbark - Grey Box shrub-grass open forest of the lower Hunter	7
HU816 - Spotted Gum - Narrow-leaved Ironbark shrub - grass open forest of the central and lower Hunter	405
HU932 - Swamp Mahogany - Flax-leaved Paperbark swamp forest on coastal lowlands of the Central Coast	48
HU806 - Spotted Gum - Red Ironbark - Grey Gum shrub - grass open forest of the Lower Hunter	46
Koala (<i>Phascolarctos cinereus</i>)	226

Source: Biosis (2019) – Modified after Table 39

Transport routes



Transport records indicate that the peak despatch requirements for the existing Quarry operation was **32 laden loads in one hour on 7 August 2013**. Hanson proposes to impose a limit on hourly transport activities of **30 laden loads per hour**.

Assessment of road traffic noise generation has indicated the following hourly transport rates would be acceptable with the **proposed traffic generating no more than a 2dB increase in noise levels**. Therefore the change in noise would be at a level that is not perceptible to the average human ear.

- 5:00am to 6:00am - 9 laden loads per hour.
- 6:00am to 7:00am - 12 laden loads per hour.
- 7:00am to 10:00pm - 30 laden loads per hour.
- 10:00pm to 5:00am - 5 laden loads per hour.

Year	Peak Truck Dispatch(day)	Peak Truck Mvt (day)
2014	135	270
2015	234	468
2016	260	520
2017	201	402
2018	146	292
2019	141	282

Project Road Noise Predictions

Period	Existing Noise Levels (dB(A))	Proposed Truck Dispatch	Predicted Noise Levels (dB(A))	Relative Increase (dB(A))	Applicable Criteria
Day – 7am to 10pm $L_{Aeq(15hour)}$	62.2	301	63.3	1.1	2 dB(A) relative increase
Night – 10 pm to 7 am $L_{Aeq(9hour)}$	52.1	58	54.1	2	55 dB(A)
5am to 6am $L_{Aeq(1hour)}$	59.7	9	61.7	2	2 dB(A) relative increase
6am to 7am $L_{Aeq(1hour)}$	62.2	12	64.2	2	2 dB(A) relative increase

Existing Consent

- The quarry has been, up until restrictions due to COVID19, crushing through the secondary & tertiary until 10pm. This has been based on legal advice that supports the view that the existing 1983 consent does not restrict operating hours.
- Operating the secondary & tertiary until 10pm, has been crucial to meeting supply demands whilst keeping within the 700,000tpa EPL limit.
- Reducing the hours from 10pm to 8pm will severely reduce the ability to meet customers requirements at current production levels let alone any volume increases towards and above 1Mtpa (well under the assessed 1.5Mtpa)

DPIE- Assessment Report

Aspect	Existing consent conditions	Proposed
Hours of operation	<p><u>Quarrying operations</u></p> <ul style="list-style-type: none"> 6:00 am to 6:00 pm² Monday to Saturday <p><u>Blasting</u></p> <ul style="list-style-type: none"> 9:00 am to 5:00 pm Monday to Saturday 	<p><u>Construction</u></p> <ul style="list-style-type: none"> 7:00 am to 6:00 pm Monday to Friday 7:00 am to 5:00 pm Saturday <p><u>Extraction activities, concrete batching and recycling, and operation of the primary crusher</u></p> <ul style="list-style-type: none"> 5:00 am to 10:00 pm Monday to Saturday <p><u>Secondary and tertiary crushing and screening, and maintenance</u></p> <ul style="list-style-type: none"> 24 hours 7 days per week <p><u>Product loading and dispatch</u></p> <ul style="list-style-type: none"> 5:00 am to 10:00 pm Monday to Saturday 10:00 pm to 5:00 am on up to 20 nights per calendar year <p><u>Blasting</u></p> <ul style="list-style-type: none"> 9:00 am to 5:00 pm Monday to Friday

² Note: Hanson's EIS contends that the existing Council consent allows operations to occur 24 hours per day, seven days per week. However, Council has advised that it considers the approved hours to be 6:00 am to 6:00 pm.

DPIE Assessment Report

■ Hours

“Department’s assessment indicates that the crushing activities are a key source of potential amenity impacts on the local community, and Hanson should address this issue by upgrading or replacing secondary and tertiary processing equipment, rather than being allowed to cause additional noise impacts during the evening period using the current equipment.”

“Hanson has advised that it does not consider upgrading the secondary and tertiary processing equipment to be reasonable or feasible as there is significant cost of undertaking such an upgrade and there would be marginal benefit in terms of product output. However, no further detail was provided to support this conclusion.”

Hanson

Upgrade cost \$70M+. Crushers, screens, conveyors, transfer points, chutes, bins, etc.

DPIE Assessment Report

■ Hours & NPI

*“As a result of this intensification of rural residences around the quarry, the Department considers that the quarry should continue to remain predominantly a day based operation with some activity allowed in the early morning shoulder period (5:00 am to 7:00 am) and evening period (6:00 pm to 10:00 pm) to facilitate provision of materials to construction projects. **This approach is consistent with the NSW Government’s Noise Policy for Industry which affords higher day time noise limits to encourage applicants to consider reasonable and feasible options for intensifying day time operations over the more sensitive evening and night periods.**”*

Hanson

- The Department’s recommended noise-related conditions are presented in accordance with the Industrial Noise Policy 2000, a superseded policy. Therefore it is suggested that the flexibility of the Noise Policy for Industry 2017 during the daytime provides a replacement for operating restrictions in the evening and night-time period, however the conditions of consent provide neither. Further to this, the Draft Industrial Noise Guideline Technical Background Paper prepared by the EPA in 2015 to support the Noise Policy for Industry 2017 retains the original justification for use of minimum background levels (rating background levels) with two intended outcomes. These are to protect 90 per cent of an exposed population from being highly annoyed and to do so without onerous restrictions being placed on development. There is no strategic position taken by the EPA in the background paper with respect to encouraging intensification of development during the daytime. **Reference to the Noise Policy for Industry 2017 is therefore not a relevant justification for the imposed operating hours.**

DPIE Assessment Report

■ Noise

“Hanson advised that the site has received 45 complaints relating to noise and vibration between 2013 and 2018, with 21 of these occurring in 2018. The Department has also received frequent complaints relating to noise from the site throughout the various assessment stages of the Project, noting that the Department is not the regulator of the current operations on the site.”

Response

It should be noted that the 21 complaints that were received in 2018 the majority of these made anonymously to the EPA. The majority of complaints related to noise or vibration matters, however, were not all substantiated and may be a result of opposition to the proposed Project. Regardless, each complaint was investigated, and the outcomes of the investigation presented to the complainant or the EPA whenever the complainant was anonymous.

Hanson has undertaken regular noise monitoring since 2018 to demonstrate compliance in accordance with the site’s EPL. Further to this, in response to a Giles Rd resident complaint in 2018, additional noise monitoring was undertaken. The results of this additional monitoring also demonstrated compliance.

Project Concessions (Amended RTS)

Activity	Initial Proposal Assessed in the EIS	Conceded Project (Amended RTS)	Recommended Conditions
Primary Crusher	Monday to Sunday – 24 hours	Monday to Saturday – 5:00am to 10:00pm No activities on Sunday or public holidays	<ul style="list-style-type: none"> 6 am to 6 pm Monday to Saturday At no time on Sundays or public holidays
Secondary and Tertiary Plant	Monday to Sunday – 24 hours	Monday to Sunday – 24 hours	<ul style="list-style-type: none"> 6 am to 8 pm Monday to Friday 6 am to 6 pm Saturday At no time on Sundays or public holidays
Load and Haul	Monday to Saturday – 5:00am to midnight No activities on Sundays or public holidays	Monday to Saturday 5:00am to 10:00pm No activities on Sundays or public holidays	<ul style="list-style-type: none"> 6 am to 6 pm Monday to Saturday At no time on Sundays or public holidays
Hourly limits to product despatch	Monday to Sunday – 24 hours	<p>Maximum of 30 laden loads despatched per hour in the day time period (7:00am to 10:00pm). This is the maximum experienced under existing operations (that is, no change to existing) and would be a worst-case limit.</p> <p>Morning shoulder and night time operations would involve a maximum of:</p> <ul style="list-style-type: none"> 5 laden loads despatched per hour between 10:00pm and 5:00am; 9 laden loads despatched between 5:00am and 6:00am; and 12 laden loads despatched between 6:00am and 7:00am. No more than 58 laden loads between 10:00pm and 7:00am. 	<ul style="list-style-type: none"> 5 am to 6 pm Monday to Friday 6 pm to 10 pm Monday to Friday on 20 days per calendar year 6 am to 6 pm Saturday At no time on Sundays or public holidays <p>Truck movements at the site (ie either arrival or dispatch) must not exceed:</p> <ul style="list-style-type: none"> (i) 18 movements between 5:00 am and 6:00 am; (ii) 24 movements between 6:00 am and 7:00 am; (iii) 60 movements per hour between 7:00 am and 6:00 pm; (iv) 10 movements per hour between 6:00 pm and 10:00 pm, on up to 20 evenings per calendar year; and (v) 600 movements per calendar day;
Night-time product despatch (10:00pm to 7:00am)	Product despatch to occur on any night (within limits to traffic movements)	Product despatch between the hours of 10:00pm and 5:00am to occur on a maximum of 20 nights per year. Seven days notification to be provided to community members that have registered for notification.	Not taken into consideration.

Processing Plant Hours

- **Secondary and tertiary processing is the element responsible for producing aggregates that meet Australian Standards in shape and size.**
 - The plant must be configured and regularly adjusted to achieve this
 - It is a more refined process – production output is not matched to the output of the primary plant (Secondary/Tertiary output 60% of primary output)
 - It is fundamental to operate the secondary and tertiary plant for extended hours to meet current and future demand.
 - Reducing the hours from 10pm to 8pm will severely reduce the ability to meet customers requirements at current production levels let alone any volume increases towards and above 1Mtpa (well under the assessed 1.5Mtpa)

Transportation Hours

■ Sydney Market

- In recent years, demand in the down stream markets of Concrete and Asphalt have shifted dramatically in both volume and operating hours.
- This market need has seen a significant trend towards 24/7 operations with at least 20% of current demand required outside of traditional operating hours.
- Local and state regulation are proactively supporting this trend with a long term infrastructure pipeline allowing 24/7 operations and the Sydney City Council successfully trailing night time construction in the CBD.
- Government has recently realised the importance of increasing productivity in the construction industry by extending hours to include building activity on Sundays.
- The entire building materials supply chain must be permitted to support this demand via transportation of materials beyond traditional operating hours.
- Efficient and productive utilisation of the road network outside peak periods is of significant benefit to the broader community.
- Limiting transportation hours will not allow demand to be met and further congest road networks heavily impacting the broader community.

Community and Stakeholder Consultation

- Hanson commissioned Key Insights to undertake independent community consultation designed to inform a Social Impact Assessment
- Hanson has formalised the Community Consultative Committee and commissioned an independent chairperson to manage the meetings.
- Hanson has implemented a regular Have-A-Chat session designed to provide community members not engaged in the CCC process with an opportunity to meet with Hanson personnel and to ask questions regarding the Project and the proposed ongoing operations.
- Hanson has also initiated a community member registration process that provides the community members notification regarding proposed blasting events, Quarry-related news and updates and future community meetings.
- Ongoing community and stakeholder consultation have provided an opportunity for community members to provide their feedback about changes to the local setting and their way of life that in turn informed the assessments and review of the Project.
- The above is an ongoing and iterative process, with feedback directly influencing the outcomes of the project.

Community and Stakeholder Consultation

- **Additional concessions that were made on the Project and proposed operating hours should also be considered in light of the following commitments that have been made:**
 - Contribution of \$1.5M for the construction of a pathway on Brandy Hill Drive that would provide a level of separation between vehicles and pedestrians or cyclists.
 - Contribution of \$120k for the construction of bus bays along the transport route to provide safe sections for buses to pull off the road.
 - Ongoing contributions to road maintenance and upgrade along the transport route.
 - Hanson proudly and successfully lobbied TfNSW on behalf of the community to have the speed limit along Clarence Town Road in the vicinity of the Quarry reduced from 100km/hr to 80km/hr.
 - Ongoing implementation of a Drivers Code of Conduct would guide driver behaviour and incorporate a disciplinary protocol for identified poor performance.
 - The existing complaints procedures would be maintained that includes investigation of issues raised and response to complainants on concerns raised.

Needs and Justification

- Material from the Quarry would support key infrastructure projects in the Newcastle, Port Stephens, Maitland and Hunter region as well as within the Central Coast and Greater Sydney areas. The strategic location of the resource and the fact that it is an expansion to an existing operation (rather than a greenfield site) would have positive outcomes for the cost of supply and development in these regions
- Given the size and location of the resource at the Quarry, it is necessary that a balance be established between the need for access to a suitable hard rock resource for local and regional infrastructure development, the equitable distribution of economic benefits from the operation, and the need for the local community to live a healthy lifestyle with the amenity they currently appreciate. Hanson considers that the Project, **with changes as requested to the recommended conditions of consent**, would satisfy each of these needs.

Summary

- Existing operations have been occurring until 10pm and are therefore an existing feature of the project
- Technical assessment has considered evening and night time operation with the outcomes acceptable.
- Community feedback has been varied with both support and objection to the proposed hours
- Upgrade of the secondary and tertiary plant to the extent required to meet the approved production limit is not reasonable or feasible.
- Market dynamics are changing rapidly towards 24/7 demand, limiting hours for both production and transport cripples the supply chain and ability to meet current and future requirements.