



Rockley Falls Quarry

Project Approval 07-0078



Request for Modification to Conditions of Approval to Extend Operating Hours

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Constructing Australia's Future

Rockley Falls Quarry

Modification to project Approval to Extend Operating Hours

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1 Introduction

1.1 Background

In June 2008, approval was given to Abigroup Contractors Pty Ltd (Abigroup) to establish and operate Rockley Falls Quarry (the quarry) which is located approximately 5 kilometres north east of Holbrook, NSW. The approval was given following submission of the Environmental Assessment, prepared by Blueprint Planning, to the Department of Planning and Infrastructure (DoPI) in April 2008.

Rockley Falls Quarry was established to provide material for the Hume Highway Southern Alliance (HHSa) road works between Table Top and Woomargama and followed by supply of material for the Hume Highway Woomargama Alliance (HHWA) which provided a bypass around the township of Woomargama. Currently, the Holbrook Bypass is being constructed by Abigroup however no extractive activities are underway from the quarry.

A number of modifications have been approved since the original approval in June 2008. These modifications are summarised below:

- MOD1 June 2009 – Amendment to sediment basin design criteria;
- MOD2 November 2009 – Additional stockpile area approved;
- MOD3 and MOD 4 May 2010 – Modification to vegetation offset areas and addition of dry mix batch plant to site;
- MOD5 April 2011 – Operation of wet mix batch plant;
- MOD 6 February 2012 – Continuation of operation of wet mix batch plant and associated activities.

The most recent modification (MOD 6) was submitted in order to operate the wet and dry mix batch plants associated with the Holbrook Bypass.

The activities currently underway on the quarry site include:

- Wet mix batch plant operation for Holbrook Bypass;
- Dry mix batch plant operation for Holbrook Bypass; and
- Sand washing activities for supply of sand to the batch plant operations.

1.2 Purpose of this Modification

The purpose of this modification is to extend the approved working hours of the wet mix batch plant and associated activities to meet the concrete supply and paving needs of the Hume Highway Upgrade Holbrook Bypass Project Approval (08_0138) approved on 23 April 2010.

The Holbrook Bypass Project Approval Condition 2.18 states the following:

The Proponent shall only undertake construction works associated with the project, other than blasting, during the following hours:

- a) 7:00am to 6:00pm, Mondays to Fridays, inclusive;*
- b) 8:00am to 1:00pm on Saturdays; and*
- c) At no time on Sundays or public holidays.*

Condition 2.19 of the Holbrook Bypass Project Approval states the following:

Concrete paving, concrete batching (including deliveries) related to paving and concrete saw cutting activities may be undertaken outside the hours identified in Condition 2.18, if required for technical reasons, excluding Sundays and public holidays, subject to any negotiated agreements (consistent with condition 2.20c) being in place with any receivers that are within 1.5 km of a batch plant, unless otherwise agreed by the Director General. The Construction Noise and Vibration Management Plan required under condition 6.4c) shall identify these activities, technical reasons, expected impacts, negotiated agreements and address notification and mitigation measures for these activities.

At the time of submission of Rockley Falls Modification 6 (MOD 6) the programme of works for paving was scheduled for completion in November 2012. The approved working hours as part of MOD 6 were as follows:

- *Condition 5B – Until September 2012 and between 1 June 2013 and 31 October 2013 the operation of the dry and wet-mix batch plants and transport of concrete from the site shall be restricted to 5am to 6pm, Monday to Friday and 5am to 1pm, Saturday, unless otherwise agreed by the Director General.*
- *Condition 5C – Between 1 October 2012 and 31 May 2013:*
 - (a) The operation of the dry and wet-mix batch plants shall be restricted to 4am to 8pm, Monday to Friday and 4am to 1pm, Saturday; and*
 - (b) The haulage of concrete from the site is restricted to the hours of 5am to 7pm Monday to Friday and 5am to 1pm on Saturday, unless otherwise agreed by the Director General.*
- *Condition 5D – The delivery of materials for the batch plants may be undertaken:*
 - (a) On a 24-hour basis Monday to Friday, limited to a total of 5 vehicle entries between 10pm and 7am; and*
 - (b) During operational hours on Saturday.*

Due to adverse weather conditions experienced in 2011/2012 during construction, the Holbrook Bypass has been delayed 79.25 days (15.85 weeks) to the start of November 2012. Due to these rain delays, concrete paving works are now scheduled to progress from December 2012 to May 2013 which was previously not anticipated.

Abigroup requests that Condition 5B, 5C and 5D of the Rockley Falls Quarry Project Approval be modified to allow for an extension of hours to allow for batching activities to progress when technical reasons do not allow concrete paving during normal working hours. The requested modification to hours are:

- 24 hour operations, 5:00am Monday to 1:00pm Saturday, 01 December 2012 to 31 May 2013.

The operation of the sand washing plant and dry mix batch plant would not extend past the current approved hours of 4am to 8pm Monday to Friday and 5am to 1pm Saturdays from 1 October 2012 to 31 May 2013.

It should also be noted that the wet-mix batch plant would not operate on a 24 hour basis. If out of hours paving is required, the wet-mix batch plant would operate to service the paving operations. Paving works cannot operate on a 24 hour basis and either operates as a day or night shift.

2 Justification

2.1 Reasons for Requesting Extended Working Hours

Abigroup is seeking to extend batch plant operation hours on weekdays for one key technical reason. Concrete paving cannot occur when the air temperature is above 32°C. The Roads and Maritime Services Concrete Pavement Base specification (RN83) Section 4.3.4 (b) states that:

Where air temperatures greater than 35°C is forecast, monitor the air temperature at intervals not exceeding 30 minutes. Cease concrete batching when the air temperature reaches 32°C and is rising.

Concrete must not be placed in the Works when the air temperature is below 5°C or above 35°C.

Based on Bureau of Meteorology data for the Hume Reservoir the annual average days over 30°C is 60.2 with each month average days over 30°C outlined in **Table 2.1**.

Table 2.1 Average Days above 30°Celsius at Hume Reservoir

Month	Average days $\geq 30^{\circ}\text{C}$
October	0.6
November	4.7
December	12.3
January	18.5
February	16.2
March	7.6
April	0.3

As can be seen from Table 2-1 it is likely that paving operations would not be able to operate on some days in November, December, January, February and March. On average, it is observed that the maximum temperature is reached at approximately 3 pm and, since paving must cease half an hour prior to the temperature reaching 32°C, and to maximise the duration of paving on hot days, an early start of 2:30 am is required on the days forecast to exceed the maximum temperature threshold. This would

require the batch plant to commence operations at approximately 12:00am.

The Holbrook Bypass Project Approval Condition 2.19 as given in Section 1.2 addresses the technical issue in regards to concrete paving and batching. It is requested that because the batch plants are located within the Rockley Falls Quarry area, the Project Approval be modified to reflect this technical consideration.

It should be noted that paving at night is not the preferred option for these works and will only be undertaken if necessary. Night paving would not be carried out unless weather forecasts indicate that an extended period (such as a week) of temperatures above 32°C is imminent. Night paving would not be an option for a random day of temperatures above 32°C.

3 Scope of Works

All activities included within this modification would be associated with concrete batching for pavement construction on the Holbrook Bypass. Other activities on the site including dry batch operation, sand washing operations and pug mill operations would not operate during the proposed extended hours.

The activities included in this modification include concrete batching for pavement construction, deliveries to the batch and concrete deliveries from the batch. These activities are summarised in the following sections.

3.1 Concrete Batching

The wet-mix batch plant is comprised of aggregate bins, aggregate loading hoppers, conveyors, a weigh hopper, a split cement and fly ash silo and a tilt-drum mixing bowl. The batching process involves a loader filling the aggregate hopper, whilst cement and fly-ash are supplied to the mixing bowl. The concrete is transferred to open-back trucks which reverse into the loading bay.

The wet-mix batch plant produces an average of 1,200m³ of concrete per day and a maximum of 1,300m³ per day. Power to the plant is generated from a 750kVa diesel generator supplied with the batch plant.

Traffic to and from the wet-mix batch plant utilises the existing bitumen access road to the quarry from the Hume Highway. The proposed extension of operating hours would result in an increased volume of vehicle movements on this road during the night time period.

The major potential impacts from the wet-mix batch plant are on noise and dust amenity as well as potential decreased amenity from lighting during night periods.

3.2 Deliveries to batch

During the batching process a number of external products including fly ash, cement and fine sand are used and require delivery to the batch plant during operation. The deliveries would utilise the existing bitumen road access to the quarry.

3.3 Deliveries from batch

In order to transport concrete produced at the batch plant to the Holbrook Bypass site for pavement works, eight wheeler tipper trucks are used. These trucks will utilise the existing bitumen road to the quarry to access the Holbrook Bypass. On completion of concrete delivery, the eight wheeler trucks wash out their trailers in a wash bay located at the quarry.

4 Sensitive Receivers

Nine sensitive receivers have been identified in relation to Rockley Falls Quarry as shown in Figure 1 and table 4.1.

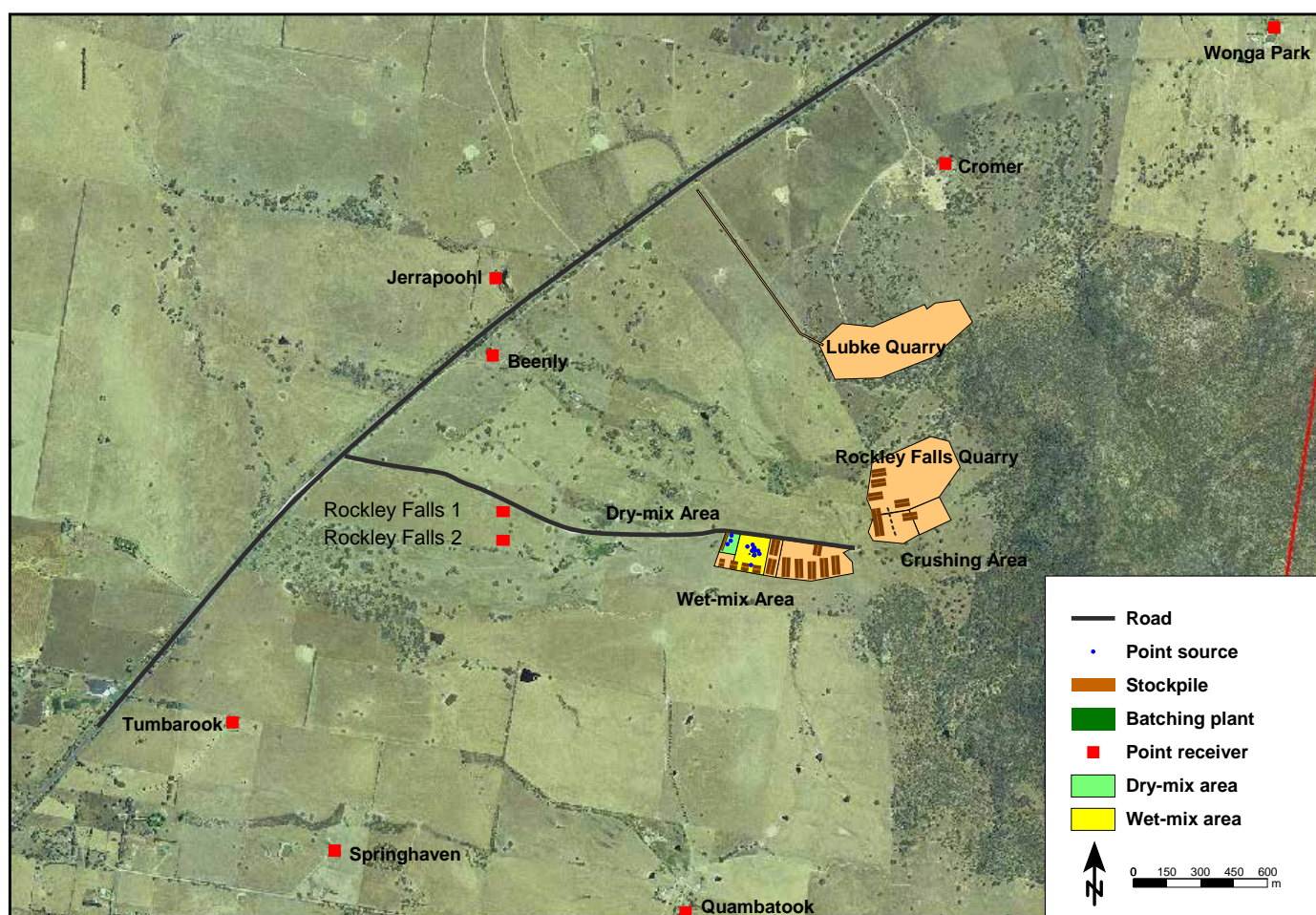


Figure 1: Rockley Falls Quarry Location and Sensitive Receivers

Table 4-1 Rockley Falls Quarry Sensitive Receivers

Receiver Reference	Distance From Batch Plants (m)	Orientation To Batch Plants (Source to receiver)	Land use
Wonga Park	2500	NE	Rural
Cromer	1900	N	Rural
Jerrapoohl	1600	NW	Rural
Beenly	1400	NW	Rural
Tumbarook	2300	SW	Rural
Springhaven	2100	SW	Rural
Quambatook	1570	S	Rural
Rockley Falls 1	1000	W	Rural
Rockley Falls 2	1000	W	Rural

The closest sensitive receivers to Rockley Falls Quarry are Rockley Falls 1 and Rockley Falls 2 which are located along the Rockley Falls Quarry access road. Rockley Falls 1 is approximately 50 metres south of the quarry access road and Rockley Falls 2 is approximately 175 metres south of the quarry access road.

The sensitive receiver "Beenly" is also within 1.5 kilometres of the batch plant however, regular communications with the landowner have advised Abigroup that this residence is no longer occupied.

5 Current Environmental Conditions

5.1 Noise

Background noise levels were monitored in July and August 2007 by Noise and Sound Services as part of the Rockley Falls Quarry Environmental Assessment dated February 2008. Three sensitive receivers were monitored during this time and included Quambatook, Tumbarook and Cromer. A summary of the monitoring data is provided in Table 5.1 below. This table was extracted from Table 3.2 of the Rockley Falls Modification Report – For extension of batch plants operation and hours (Nov 2011) prepared by SKM on behalf of Abigroup. The area in question is generally heavily impacted by background noise sources predominantly from Hume Highway traffic.

Table 5.1: Summary of monitored background noise levels (2008)

Sensitive Receiver	Period	L _{A90, 15min}	L _{Aeq, 15min}
Cromer	Day	36	51
	Evening	41	52
	Night	35	50
Quambatook	Day	29	48
	Evening	33	46
	Night	30	42
Tumbarook	Day	35	51
	Evening	40	50
	Night	35	50

Noise monitoring is currently undertaken on a monthly basis at seven sensitive receivers. The batch plant operation as proposed in this modification has been inaudible at each of the sensitive receivers during monitoring.

5.2 Air Quality

The surrounding sites to the quarry are predominantly agricultural which can reduce the air quality during agricultural activities. In addition, another quarry is situated approximately 450 metres north west of Rockley Falls Quarry which could also affect the air quality of the region.

Dust monitoring is conducted continuously at the sensitive receiver, Quambatook. Results received have generally been below air quality criteria. Some elevated results have been received which are attributed to agricultural practices at the time of the monitoring. These results have been discussed in the Annual Environmental Monitoring Report provided to the Department of Planning and Infrastructure.

6 Environmental Impacts

The environmental impacts of the proposed modification were addressed in the *"Rockley Falls Modification Report – For extension of batch plants operation and hours (Nov 2011)"* prepared by SKM on behalf of Abigroup. The following sections provide a summary of the findings

6.1 Noise

The Project Approval for Rockley Falls quarry included the extraction and processing of up to 700,000 tonnes of material. Modifications to this approval allowed the operation of dry and wet batch plants for the production of concrete. Quarrying activities were completed in 2011 and only wet and dry batch plants and sand washing activities are currently operational. Hence, the foremost noise source at Rockley Falls Quarry has been eliminated. The dominant sources in relation to operation of the batch plant are present in Table 4.1 of the previous modification report and include:

- Aggregate loading;
- Aggregate hopper gates;
- Aggregate conveyor;
- Dust extraction fan;
- Vibratory aggregate hopper cleaner;
- Mixing drum;
- Truck movements;
- Compressor;
- Generator;
- Cement loading;
- Reverse beepers; and
- Light vehicles.

Noise monitoring is currently conducted at seven sensitive receivers around Rockley Falls Quarry. At each of the sensitive receivers monitored, the current operations at Rockley Falls Quarry have been inaudible during the noise monitoring. These results were discussed in the 2011/2012 Annual Environmental Monitoring report dated 5 October 2012.

6.1.1 Noise Assessment

Assessment criteria for daytime noise levels are provided in the Project Approval and the Rockley Falls Quarry Environment Protection Licence (EPL 12884). In order to assess the evening and night time noise levels, the noise criteria was calculated by the L_{A90} level with an additional 5dB(A) as described in the Industrial Noise Policy (EPA 2000). It should be noted that noise levels at Rockley Falls 1 and 2 were not included in the Project Approval and the

criteria at a representative receiver was applied to these residences. The noise criteria are provided in Table 6.1 below.

Table 6.1: Noise Assessment Criteria

Location	L _{Aeq} (15 min) dB(A)		
	Day	Evening	Night
Cromer residence	45	46	40
Quambatook residence	35	38	35
Beenly residence	36	45	40
Tumbarook residence	35	45	40
Jerapoohl residence	35	45	40
Springhaven residence	35	45	40
Rockley Falls 1	35	45	40
Rockley Falls 2	35	45	40

Noise predictions were calculated in the former modification report (Nov 2011) to allow for predicted night time noise levels. An acoustic noise modelling package, SoundPLAN V7.0 was used to predict the noise levels at the sensitive receivers.

The noise sources used to input into the noise prediction model were a worst case scenario situation and were described in Section 4.2.2 of the November 2011 modification report and are as follows:

- Wet mix batch plant
 - Truck movements – approximately 1 movement per 2 minutes (one truck in and one truck out). Two trucks were added to the model with an L_{Aeq} sound power level of 109 dB(A) each.
 - Loader activity – continuous filling of aggregate hoppers with an L_{aeq} sound power level of 111 dB(A).
 - Batch plant – noise levels were collected from onsite measurements and gave a L_{Aeq} sound power level of 110 dB(A).
 - Cement and fly ash deliveries were included in the noise levels of the batch plant.
- Dry-mix batch plant
 - This was included in the model however, will not be operating during the proposed extended hours.
- Sand washing
 - Sand washing was also included in the noise modelling however, this will not be operational during these proposed extended hours.

6.1.2 Predicted Noise Results

The modelling results are presented in Section 4.2.3 of the November 2011 modification report. A summary of the results are presented in Table 6.2 below. Note that the night time (10pm to 6am) assessment criteria only has been included in this table.

Rockley Falls Quarry

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Table 6.2: Predicted noise levels

Receiver Number	Distance from Batch Plant (m)	Distance from access road (m)	Predicted noise level at Receiver, $L_{Aeq, 15min}$ /dB(A)						Assessment criteria, $L_{Aeq, 15 min}$
			Wet batch only	Dry batch only	Sand washing plant only	Vehicle movements	Combined wet and dry batching and sand washing plant	Batch plants and vehicle movements	Night
Cromer	1900	1670	28	31	13	23	33	33	45
Quambatook	1570	1200	22	22	12	19	24	24	40
Beenly	1400	550	26	30	20	22	31	31	45
Tumbarook	2300	1500	24	29	19	21	30	30	45
Jerapoohl	1600	900	14	20	10	18	21	21	45
Rockley Falls 1	1000	40	29	32	22	47	34	47	45
Rockley Falls 2	1000	80	28	34	24	47	35	47	45

The batch plants and vehicle movements column from Table 6.2 will most accurately represent the activities underway as part of this modification. As can be seen from the results in Table 6.2, two sensitive receivers (Rockley Falls 1 and Rockley Falls 2) would potentially experience noise levels above the assessment criteria. These elevated noise levels would predominantly be caused by vehicle movements on the quarry access road. It is proposed to limit speeds and the use of brakes when driving to and from the quarry to minimise noise impact on these receivers. Negotiated agreements have also been developed and discussed with these two sensitive receivers. The negotiated agreements were signed by the two residents of Rockley Falls 1 and Rockley Falls 2 and are provided as Annexure A.

6.2 Dust

Deposited dust has been monitored at four sensitive receivers (Tumbarook, Quambatook, Cromer and Beenly) since the commencement of operations at Rockley Falls Quarry. The most recent version of the Rockley Falls Environmental Management Plan (Revision K June 2011) reduced the locations of dust monitoring to one location, Quambatook, due to the reduced activities at the quarry. Table 6.3 gives the maximum criteria allowable for dust at any residence as outline in the Rockley Falls Quarry Project Approval.

Table 6.3: Dust Assessment Criteria

Pollutant	Averaging Period	Maximum Increase from this Project	Maximum Acceptable Level
TSP	Annual	70 $\mu\text{g}/\text{m}^3$	90 $\mu\text{g}/\text{m}^3$
PM ₁₀	Annual	20 $\mu\text{g}/\text{m}^3$	30 $\mu\text{g}/\text{m}^3$
PM ₁₀	24-hour	25 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$
Deposited dust	Annual	2 $\text{g}/\text{m}^2/\text{month}$	4 $\text{g}/\text{m}^2/\text{month}$

Figure 2 shows the results of depositional dust monitoring at Quambatook since 2008.

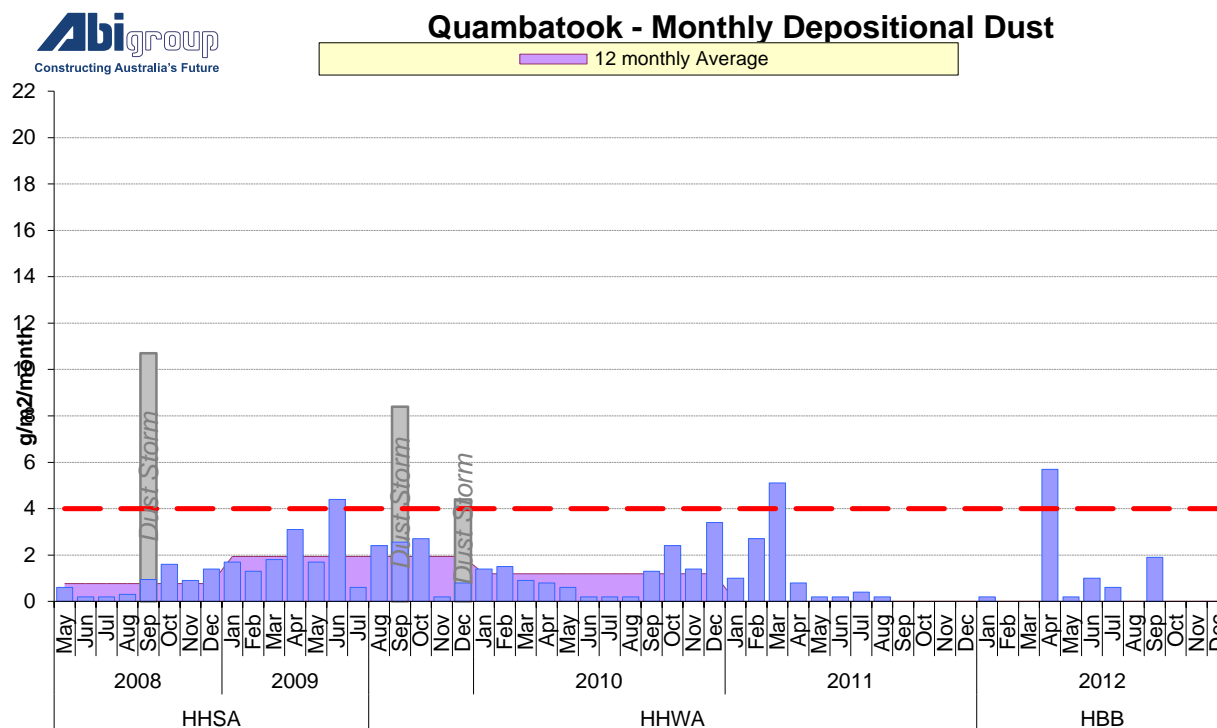


Figure 2: Depositional monitoring results at Quambatook

As can be seen from Figure 2, the monthly readings occasionally exceed the monthly maximum level of 4 g/m²/month however taken over the averaging period; the levels are below the criteria. In general, the monthly exceedances have been attributed to local agricultural practices and/or other environmental factors such as dust storms.

Fine particulates have also measured for two week periods. Limited monitoring has been conducted in 2012 due to the reduction in activities at the quarry. A graph of some fine particulate monitoring is provided in Figure 3. This monitoring was conducted in May 2012 at the sensitive receiver Quambatook.

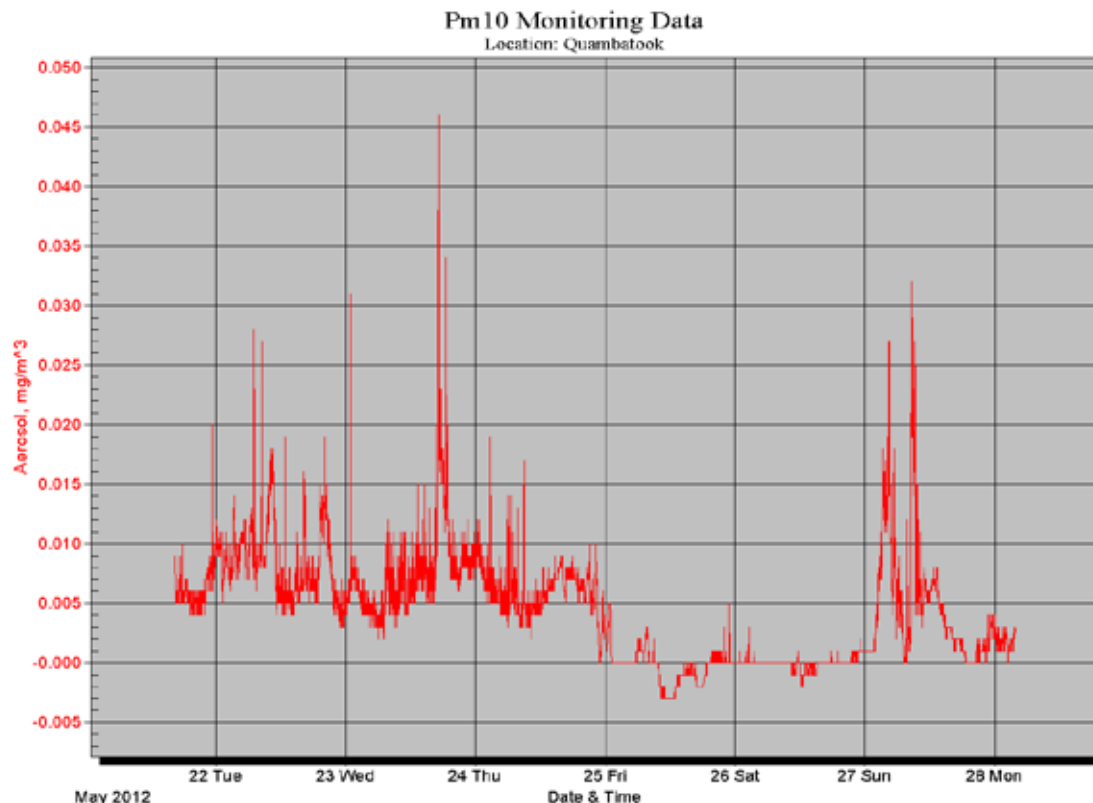


Figure 3: PM₁₀ monitoring data at Quambatook May 2012

As can be seen from Figure 3, there are some peaks in the particulate matter throughout the day however, the average is within the criteria.

The major source of dust from the proposed wet batching activities are truck movements including delivery and transport from the site, storage of materials and transfer of materials from stockpiles to the batch plant. The proposed extended hours of work are not expected to increase the dust emissions from the premises as the works would be transferred from daytime hours to night time hours. Some additional vehicle movements may occur during normal working hours (7:00am to 6:00pm) however, during night paving works, the majority of dust generating activities will be performed during night time hours.

In accordance with the Rockley Falls Environmental Management Plan, depositional dust monitoring will continue at Quambatook on a monthly basis and particulate monitoring will also be undertaken in two week intervals at Quambatook.

6.3 Aboriginal and Non Aboriginal Heritage

There are two heritage areas located on or adjacent to the Rockley Falls Quarry. As this proposal does not include any further disturbance, the heritage areas would not be impacted due to this proposal.

6.4 Traffic

Traffic movements associated with this proposed modification would include deliveries to the batch plant and deliveries from the batch plant to the Holbrook Bypass site. From December 2012 to May 2013 when night paving is undertaken due to high temperatures, the maximum truck movements are as follows:

- Cement and fly ash deliveries – an average of one inbound and outbound movement per hour during night works;
- Fine sand/ coarse aggregate deliveries – an average of two inbound and outbound movements per hour during night works; and
- Eight wheel tip trucks for concrete delivery to Holbrook Bypass – a maximum of 48 inbound and outbound truck movements per hour during night works.

There would be no additional traffic movements associated with sand washing, pug mill operations or the dry batch plant during these extended hours.

6.5 Flora and Fauna

The proposed extension to working hours would not impact on the flora and fauna of the site as no further disturbance is proposed.

6.6 Energy Consumption

There would be minimal impacts to energy consumption as part of the proposed modification for extended hours as the batch plant would not run as a 24 hour operation.

6.7 Waste

The extended hours would not result in any additional generation of waste from the site as these extended hours will not result in an increase in batching hours only a change of working times.

6.8 Visual Impacts

The extension of working hours at the wet mix batch plant would generate the requirement for lighting during hours of darkness. The two closest sensitive receivers are approximately 500 metres west of the batch plant. Hence, lighting at the batch plant is not expected to affect the closest residences.

During night operations of the batch plant it is proposed to utilise four lights. Three lights will be associated with the batch plant and will be positioned to point in a downwards direction. An additional spotlight will be used at the site Rockley falls Quarry site office. This spotlight will be pointed in an easterly direction away from the closest sensitive receivers. It should be noted that no residents are located in an easterly direction of Rockley falls Quarry as shown in Figure 1.

It is proposed to monitor the lighting from the wet mix batch plant during night time operation and communicate with residents to assess if any problems arise.

7 Community Consultation

7.1 Negotiated Agreements

Negotiated agreements have been developed and discussed with the residents of the sensitive receivers Rockley Falls 1 and Rockley Falls 2. The signed negotiated agreements, as well as the information provided to the residents, are provided in Annexure A.

7.2 Community Notifications

Regular community meetings are held in regards to Holbrook Bypass. In each of the community meetings, notifications of night paving works are addressed.

Prior to night batching activities taking place, it is proposed to notify the residents of Rockley Falls 1 and Rockley Falls 2 at least 48 hours in advance of night batch works commencing.

7.3 Potential Disputes

Any complaints or enquiries in regards to the proposed out of hours work will be addressed as per the Holbrook Bypass Community Consultation Strategy.

The Community Relations Manager will resolve any required actions required in relation to any concerns or issues raised by stakeholders.

8 Management, Monitoring and Auditing

It is unlikely that the proposed extension of hours as part of this modification would result in adverse impacts to the sensitive receivers of Rockley Falls Quarry or the environment. The Rockley Falls Quarry Environmental Management Plan would be amended to reflect the new conditions and all works would be conducted in accordance with this plan. All personnel involved in night works at the batch plant, including truck drivers, would be trained in the potential impacts of night batching.

As described in Section 2.1, it is not the desired option for Abigroup to undertake paving and batching operations during night hours. These activities would only occur when temperatures dictate that paving cannot be undertaken due to technical reasons.

During night operations a number of monitoring activities would be underway. Dust monitoring (depositional and particulate) would be conducted at the sensitive receiver Quambatook. If any further dust complaints are received, this would be addressed as per the Rockley Falls

Quarry Environmental Management Plan and the Holbrook Bypass Community Consultation Strategy.

Noise monitoring would also be conducted at selected locations during the night batching works. These locations and times would be identified in the Rockley Falls Quarry Environmental Management Plan.

Annexure A

Negotiated Agreements

Dear Resident,

Re: Extended Construction Hours for General Construction Activities and Concrete Paving, Batching and Concrete Saw Cutting Activities.

We are writing to inform you of our requirement to undertake a program of works outside the standard approved hours of construction for the Holbrook Bypass. These activities include the following:

1. Extended construction hours on Monday to Friday for general construction activities; and
2. Extended construction hours for concrete paving, batching and concrete saw cutting activities.

If an agreement can be reached, we would appreciate if the attached page, "Agreement" could be signed and returned to Abigroup.

The standard construction hours that Abigroup are currently approved to work are 7am to 6pm Monday to Friday and 8am to 1 pm Saturday with no work on Sundays or Public Holidays. These hours have been set by the NSW Office of Environment and Heritage (OEH) as well as the NSW Department of Planning and Infrastructure. As part of the process of obtaining approval for any works outside the standard approved construction hours, potentially affected residents and businesses are to be consulted to ensure the following:

- That local residents and businesses are informed of the type, location, duration and potential noise impacts of the proposed works;
- That measures to mitigate noise impacts are clearly explained; and
- Agreement with the residents or businesses is obtained to allow the works to proceed.

1. Extended Construction Hours Monday to Friday

Abigroup propose that the current approved construction hours are extended by one hour in the morning and one hour in the evening on Monday to Friday. This would extend the working hours from 6am to 7pm Monday to Friday. In accordance with the conditions of approval, there would still be no works on Sundays or Public Holidays and Saturday working hours would be unchanged. The type of activities that would be undertaken within the extended working hours includes the following:

- Use of excavators, scrapers, dozers, trucks and water carts;
- Minor concreting works;
- Deliveries;
- Equipment checks and start ups;
- Refuelling and maintenance;
- Warming batch plant; and
- Soil testing.

The reasons for extending construction hours are:

- Making use of available light particularly during the summer months when the dawn and dusk hours are cooler and offer respite from hot working conditions;
- Providing the opportunity for a 5-day working week for the construction team. This would result in benefits to the local community and road users by reducing noise and interruptions during the weekends; and
- It would allow for an increased maximum working efficiency that would reduce the overall construction time for the project, significantly reducing the period of community disturbance.

Expected Noise Impacts

Due to the distance of the construction site from most houses and the high background noise levels currently experienced from heavy vehicle traffic along the Hume Highway, at most residences construction work undertaken during the extended construction hours will generally be inaudible. However, there may be certain conditions such as construction works in close proximity to your residence and cloudy conditions when the activities can be heard.

2. Concrete paving, batching and concrete saw cutting activities

At some stages during the project concrete paving, concrete batching and concrete saw cutting activities outside the standard construction hours - including the evening (6pm to 10pm) and night time (10pm to 6am) from Monday to Saturday may be required.

The majority of the road surface of the Holbrook Bypass will be concrete pavement. Concrete paving can only be undertaken when the air temperature is less than 32°C, otherwise the concrete pavement may crack at a later date and require expensive and noisy maintenance. In warmer months this may require paving activities to be undertaken at night. Wherever possible night paving will be minimised however, it will be unavoidable especially in summer. It should be noted that concrete paving would not occur 24 hours a day at any time and instead would occur either during the day or at night time.

The concrete batch plant at Rocklea Falls Quarry (north of Holbrook) would also be operational when paving is occurring. As part of this operation, there would be trucks delivering materials to the batch plant and concrete would be delivered from the batch plant to the concrete paving machine located on the road alignment. There would be a maximum of 20 trucks delivering cement and fly ash to the batch plant during paving as well as approximately 150 truck movements to deliver concrete to the paving machine.

During the laying of the concrete pavement, the pavement requires the use of closely spaced saw cuts to control cracking. The timing of the cutting is critical to the quality of the pavement and is governed by the drying rate of the pavement, which may require cutting at any time within 4 and 24 hours after paving, with a "cutting window" as short as half an hour. This means that concrete cutting may be required at any time.

Expected Noise Impacts

Of the three activities associated with laying the concrete pavement, the concrete paving machine would generate the most noise and would be audible, especially at night. It is likely that paving activities would exceed the construction noise criteria. However, as the concrete paving operation moves along the road alignment, the noise impacts on an individual residence would be limited to about 2 weeks at the most. At other times the paving operation would be inaudible.

Saw cutting of the pavement is also required following the paving operations. If paving operations are undertaken during the day, saw cutting activities may be required from approximately 6pm to 12am. If paving operations are conducted during periods of warmer weather, saw cutting activities may continue throughout the night and into the following day.

The operation of the concrete batch plant would only potentially impact residences north of Holbrook. The batch plant itself is relatively quiet, however, the trucks and other plant associated with the batch plant may be audible at some residences. Measures to minimise plant and truck movements associated with the batch plant will be implemented.

Concrete paving is scheduled to begin in late 2011. As day time temperatures increase in the summer months and daytime temperatures exceed 32°C concrete paving works will be required at night outside of normal construction hours.

As the project progresses, up to date information will be provided to residences on the timing of activities and the potential impact of the construction works.

Noise Mitigation Measures

The following measures will be implemented by Abigroup to minimise noise from the construction works:

- Provide an induction to site personnel addressing their responsibilities with regard to noise and vibration management;
- Provide continuous education of supervisors, operators, and sub-contractors on the need to minimise noise through toolbox meetings and on-site training;
- Perform noise work activities during less sensitive time periods i.e. outside of the extended hours period;
- Ensure equipment is operated in the correct manner including replacement of engine covers, repair of defective silencing equipment, tightening of rattling components, repair of leakages in compressed air lines and shutting down equipment not in use;
- Position plant on site to reduce emission of noise to the surrounding neighbourhood and select and locate site access roads as far away as possible from noise sensitive areas to reduce vehicle movements and the level of noise in the area;
- Ensure traffic movement is kept to a minimum, e.g. ensure trucks are fully loaded so that the volume of each delivery is maximised and the number of trips therefore is minimised;
- Undertake regular monitoring of overall noise levels at sensitive receivers to check for compliance; and
- Notify potentially affected residents of the timing and types of works outside of standard construction hours.

Issues During Construction

Despite Abigroup's best endeavours to minimise noise impacts from works outside the standard hours, there may be times when the noise (or other impacts) are unacceptable to you. Abigroup Holbrook operates a community phone line (1800 224 202) where you can register a complaint or other issues. A response to your complaint will be provided within 24 hours and Abigroup is committed to working with you to resolve any issues.

If you require any additional information or clarification, please do not hesitate to ask.

Matthew Boyd
Project Manager

AGREEMENT

We understand that Abigroup Holbrook needs to undertake some construction activities outside the standard working hours including:

- Allowing certain general construction activities to be undertaken from 6am to 7am and 6pm to 7pm on Monday to Friday.
- Concrete paving, batching, deliveries and concrete sawing activities in night and evening periods from Monday to Saturday when temperature or other requirements dictate.

In undertaking these activities outside of the standard construction hours, the overall length of the construction program would be shortened.

We have been informed by Abigroup Holbrook of the potential noise impacts of these activities and understand that there may be periods when the noise generated by the construction activities outside of standard hours will be audible and may exceed construction noise criteria.

We recognise that Abigroup Holbrook will implement noise mitigation measures to minimize the impacts of noise generation outside standard hours. We understand that if we believe the noise impacts are still unacceptable we can raise these issues with Abigroup Holbrook through the community phone line, email or postal address.

Name: _____

Signature: _____

Date: _____

Address: _____

Are you the resident (lease) or the owner of the property (please tick boxes below):

Owner

☐

Resident

☐

If you are not the owner of the property could you please provide the owners details below:

Name: _____

Contact Details: _____
