NSW GOVERNMENT
Department of Planning

ASSESSMENT REPORT

PROPOSED SAND & KAOLIN MINING OPERATION, NEWNES JUNCTION

1. BACKGROUND

Newnes Kaolin Pty Ltd (the Applicant) proposes to develop and operate a sand and kaolin mining operation at Newnes Junction, approximately 10 kilometres east of Lithgow in the Lithgow local government area (see Figure 1).

The proposed mine site is located adjacent to the Blue Mountains National Park, which forms part of the Greater Blue Mountains World Heritage Area (WHA) (see Figure 2). The site is covered in vegetation and relatively steep, draining eastward into the WHA and the Wollemi Wilderness Area, via the Wollangambe River, which forms part of the Colo Wild and Scenic River system.

The proposed mine site is also located adjacent to the settlement of Newnes Junction, which comprises some 6 occupied residences and a small number of additional undeveloped properties. The closest residences are approximately 200m from the proposed mining lease area.

The locality accommodates three existing extractive industries – 2 sand quarries and the Clarence underground coal mine (see Figure 1), all of which have been operating for many years.

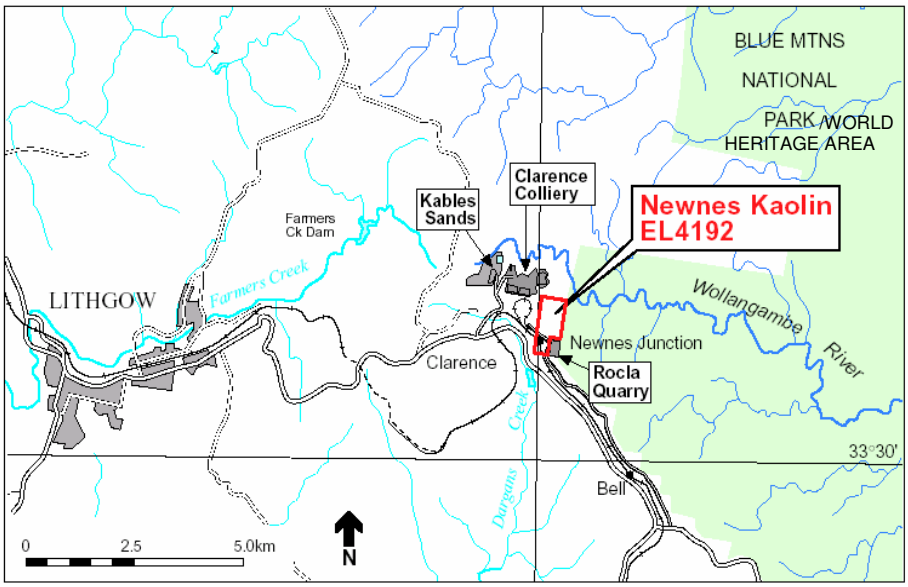


Figure 1: Location Plan

The majority of the site is Crown Land (Village Reserve 46357, notified on 1 March 1911). A portion of the site, adjacent to and including the Clarence Colliery rail loop, is under the control of the Centennial Coal Company and the Zig-Zag Railway Co-op Limited.

In 1992, the former owner of the adjacent Rocla quarry sought a lease to extract sand and clay on the site from the then Department of Conservation and Land Management under the *Crown Lands Act 1989*. The Department of Conservation and Land Management subsequently carried out a land assessment which identified that the land has capabilities for environmental protection, nature conservation, recreation and mining. The area was rated to be of regional significance for environmental protection and nature conservation in that it adjoins the Blue Mountains National Park and is the start of the Wollangambe River.

With regard to mining, the land assessment recognised that the site has large resources of both clay and sand, but concluded that this land use was not as suitable as conservation due to the degrading nature of the landuse and the potential for downstream water pollution. The land assessment notes that *'if it could be proven that damage to the environmental and nature conservation values of the locality could be minimised, mining may become a viable landuse for this area if the decision was made for economic benefit to outweigh the loss of natural resource'.*

Following exhibition of the draft land assessment, the then Department of Conservation and Land Management refused the lease application on 30 September 1996 on grounds that *'whilst there is potential for mining this is clearly at odds with the preferred uses of environmental protection and nature conservation'* (a copy of the refusal and land assessment is attached as Appendix A).

The Applicant subsequently lodged a mining lease application with the then Department of Mineral Resources, on the basis of mining the prescribed[1] kaolin (a type of clay) resource as the key product, with the sand resource to be extracted as a value adding by-product. By defining the proposal as a 'mine' the Applicant is able to avoid the requirement to obtain landowners consent from the Crown to lodge a development application for the proposal, as the *Mining Act 1992* allows Crown Land to be mined without the landowner's agreement. (Nonetheless, the Applicant has lodged a licence application to extract sand from the site with the Department of Lands, which is now responsible for managing the land, and the Department of Lands has not objected to the proposal).

On the basis of obtaining a Mining Lease for the prescribed kaolin resource, the Applicant lodged a Development Application (DA) and Environmental Impact Statement (EIS) for the proposal with the Department on 10 July 2003.

A key difference between the proposed development and existing quarries in the area, and the previous extraction application on the site, is that the Applicant does not propose to undertake any processing of the resource on the site. This feature would significantly reduce the potential for downstream water pollution associated with the development.

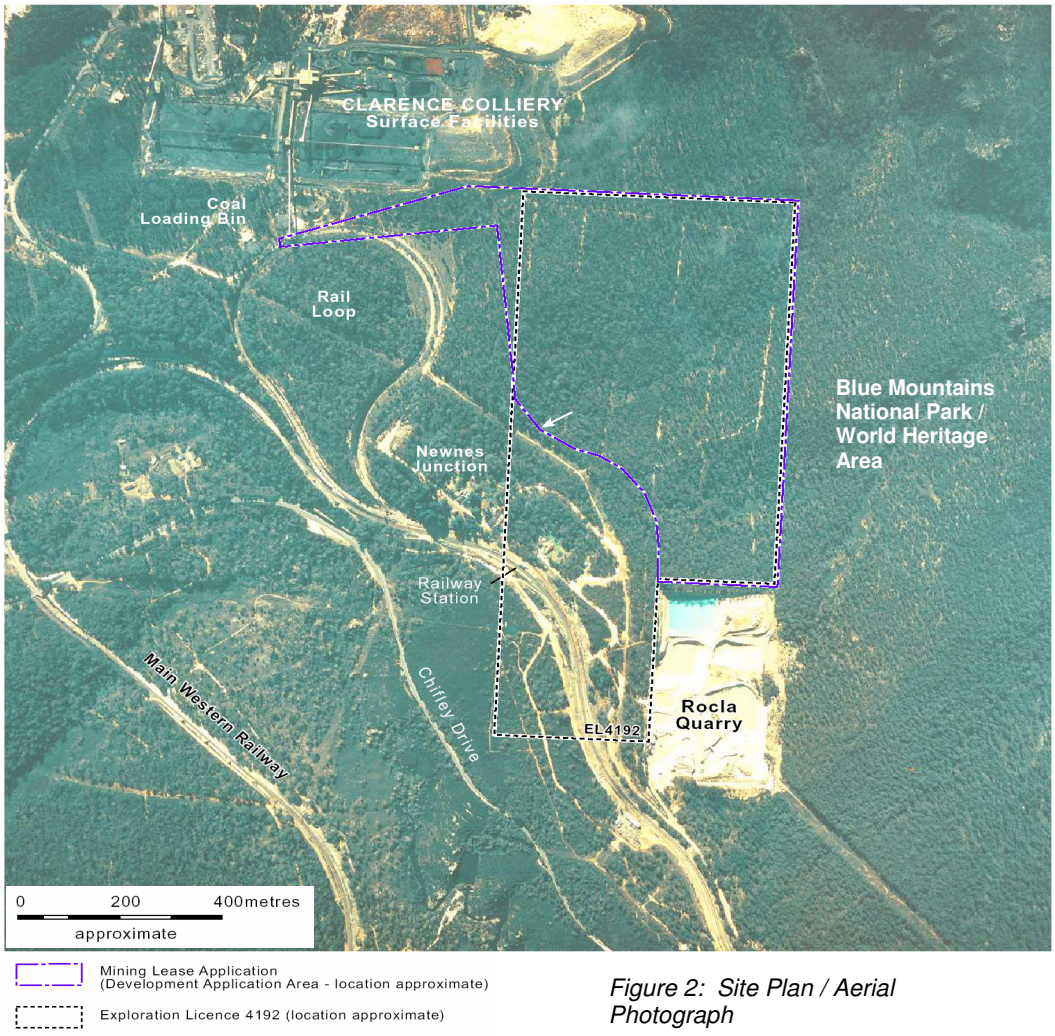


Figure 2: Site Plan / Aerial Photograph

[1] Kaolin is a prescribed mineral under the *Mining Act 1992*, and therefore regulated by that Act. Sand is not a prescribed mineral and is not regulated under the Mining Act.

2. PROPOSED DEVELOPMENT

The resource at the site comprises friable sandstone which breaks down readily into its constituent minerals, including kaolin, silica and for the most part, sand.

The Applicant is proposing to develop an open cut sand/kaolin mining operation on a 25 hectare portion of the site. The proposal as described in the EIS involves:

- Extracting up to 23.7 million tonnes of friable sandstone;
- Primary crushing of the extracted material;
- Delivery of the primary crushed ore to the Clarence rail loop for transport to Sydney for further processing/kaolin recovery;
- Producing 1.4 million tonnes of extracted material a year, including up to 1.28 million tonnes (Mt) of sand and 119,000 Mt of kaolin a year (nb. only sand will be produced for the first 5 years);
- Operating the mine/quarry for a period of 21 years; and
- Progressively rehabilitating the pit benches, and the ultimately rehabilitating the open cut void to create a shallow lake.

The Applicant proposes to operate the mine/quarry 10 hours per day and 5 ½ days per week. Train loading is proposed to be undertaken at any time of the day, 7 days per week.

From the Clarence Colliery rail loop, the crushed material is proposed to be transported by rail to an industrial site in the Greater Sydney Metropolitan Area for processing and recovery of products including building sand, specialty sands, gravels and kaolin. The transport of raw sand to Sydney and its subsequent processing does not form part of the proposal. Based on additional information provided by the Applicant, the Department is satisfied that suitable sites and technologies are currently available for the off-site processing of the resource.

The proposal has a capital investment value of some $5 million, and would generate direct employment for between 6-10 people during operation.

2.1 Amendments to the Proposal

In response to concerns raised during the exhibition and assessment of the application, the Applicant has made a number of amendments to the proposal. These include:

- A change to the mining method – using a Surface Miner and self-loading scrapers to extract, crush and internally haul the resource – in order to reduce noise emissions;
- Addition of a 5 metre high masonry acoustic barrier between the development and the Newnes Junction residences;
- A change to the final landform to create a free draining shallow wetland, which reduces the total resource to 20.6 million tonnes and raises the pit base by some 20 metres;
- A minor amendment to the mine footprint to avoid an area of swampy vegetation that contains minor elements of *Newnes Plateau Shrub Swamp*;
- An increase in the capacity of the water management system to retain the 1 in 100 year 72 hour storm event at all stages; and
- Addition of a flora and fauna impact offset strategy.

The proposed mine layout plan and final landform plan, as amended, are shown on Figures 3 and 4 respectively. The changes to the proposal, and additional information supplied by the Applicant, are contained within a consolidated supplementary report ('the Supplementary Report'), and are summarised in the following table.

Table 1: Comparison of Original and Amended Proposal

	Original Proposal	**Amended Proposal**
Area of quarry	25.4 ha	25 ha
Rock reserves	23.7 Mt	20.6 Mt
Quarry life	21 years	~20 years
Extraction method	Rip and doze	Surface miner
Crushing method	Jaw crusher	None required
Loading and haulage	Front-end loader and trucks	Self loading scrapers
Surface water management	1 in 50 yr design capacity	1 in 100 yr 72 hr capacity
Swamp vegetation removal	Some disturbance	No disturbance
Vegetation offsets	None	Offset strategy
Noise mitigation	Mound wall	Acoustic barrier
Final Landform	Shallow lake	Free draining wetland

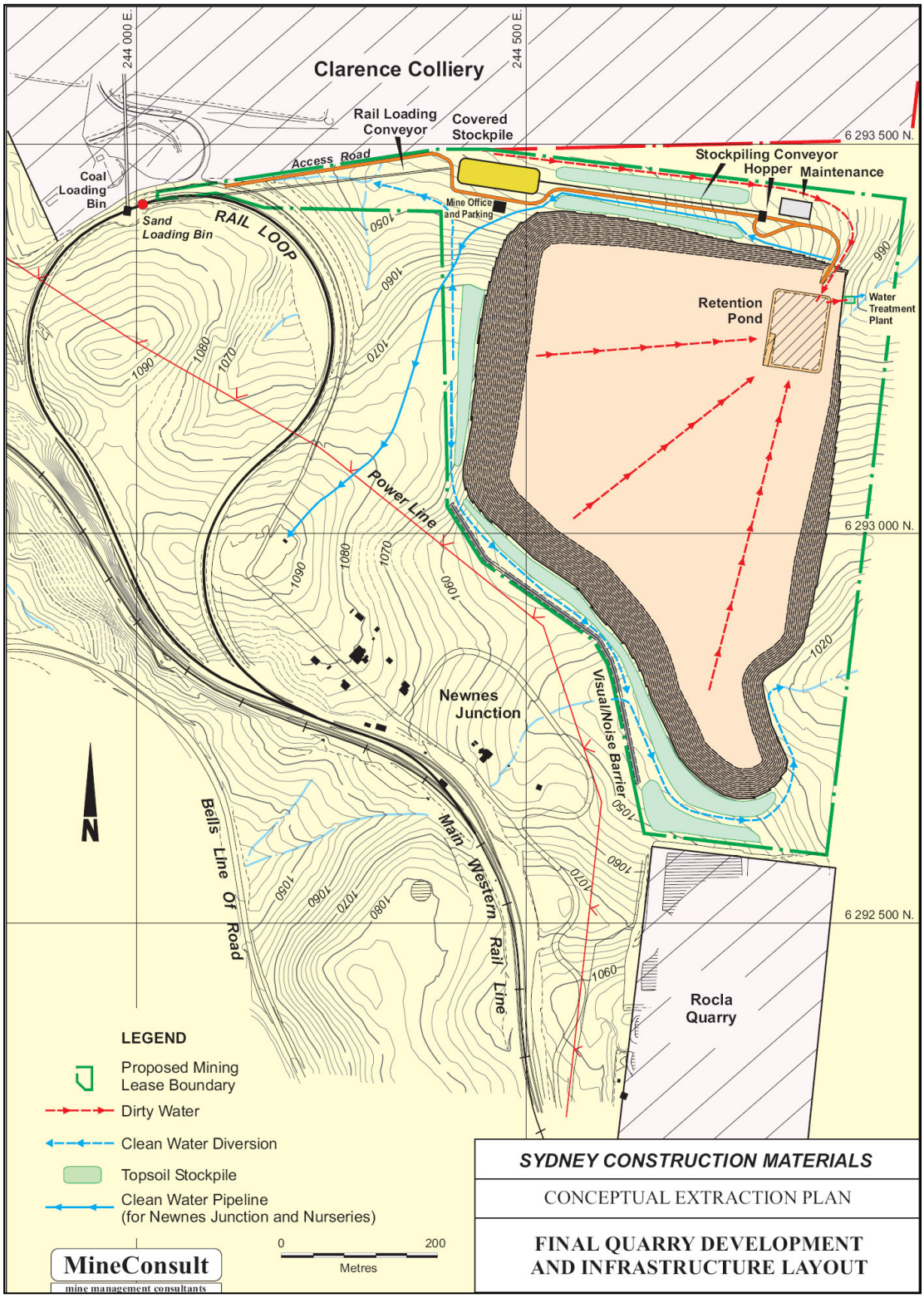


Figure 3: Mine Layout Plan

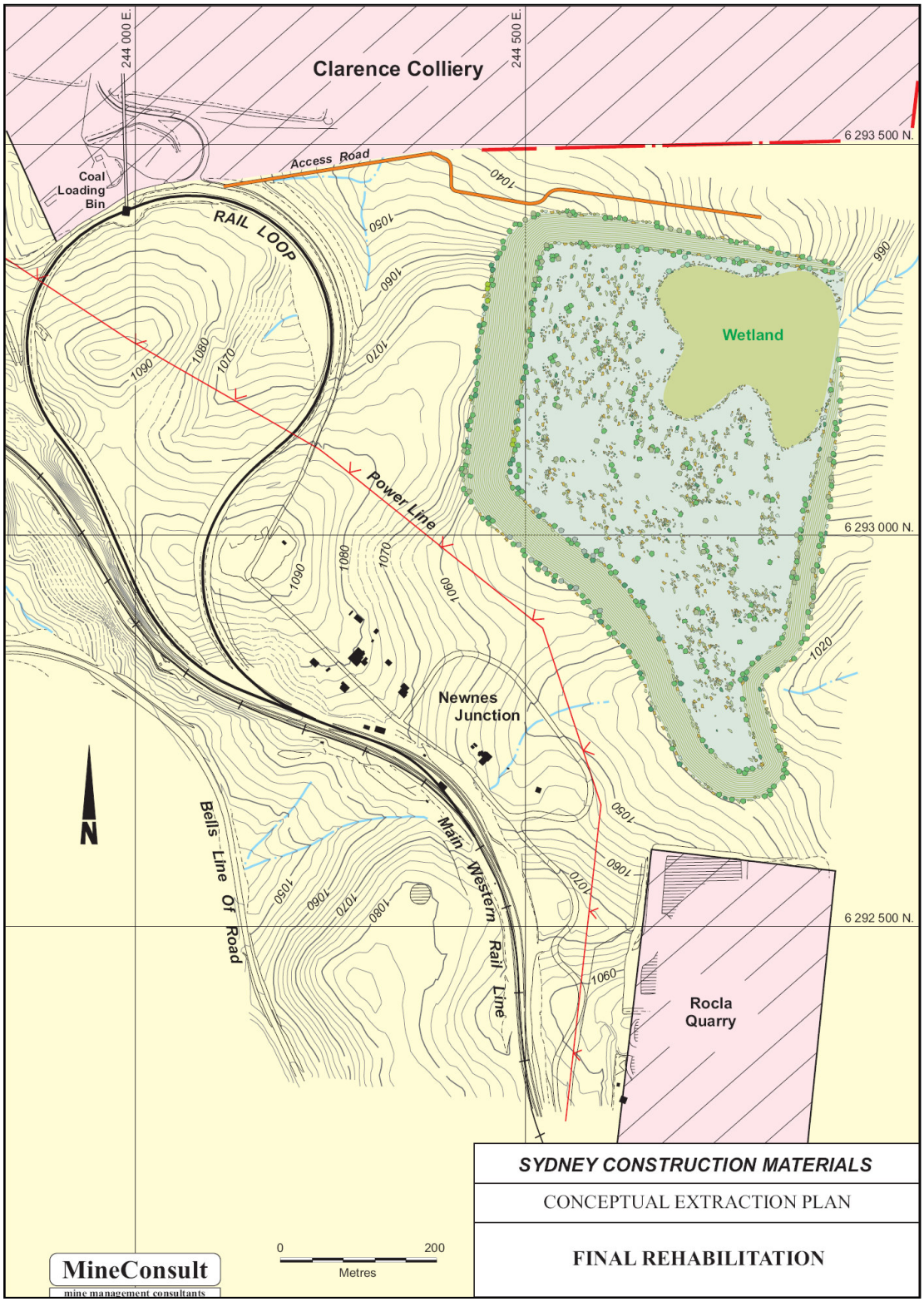


Figure 4: Final Landform Plan

3. STATUTORY CONTEXT

Under the EP&A Act the proposal is classified as State significant, integrated and designated development.

3.1 Permissibility

The land subject to the DA is zoned Rural (1) under the *Greater Lithgow City Council Local Environmental Plan (LEP) 1994*.

The proposal is considered to represent development for the purpose of both 'mining' and 'extractive industry'. Under the Lithgow LEP, development for the purpose of mining and extractive industry is permissible in the Rural (1) zone, with development consent.

3.2 State Significant Development

When it was lodged, the proposal was classified as State significant development, under Section 76(7) of the EP&A Act, because it met the criteria in the Minister's State significant declaration, dated 3 September 1999, as it involves extractive industries with a total resource greater than 5 million tonnes and an extraction rate in excess of 200,000 tonnes per annum. Consequently, the Minister was the consent authority for the DA.

The EP&A Act has subsequently been amended, and if the same application was lodged today it would have to be assessed under the new assessment and approval regime in Part 3A of the EP&A Act.

Nevertheless, as the application was lodged before the EP&A Act was amended, the various transitionals arrangements associated with the amendments require that the application be assessed as if the amendments had not been made. Consequently, the DA must be assessed under Part 4 of the EP&A Act, and the Minister is the consent authority for the DA.

3.3 Designated Development

The proposal is classified as designated development, under Section 77A of the EP&A Act and Schedule 3 of the EP&A Regulation, because it is a mine involving the disturbance of more than 4 ha, and/or an extractive industry involving the disturbance of more than 2 ha.

3.4 Integrated Development

The proposal is classified as integrated development under Section 91 of the EP&A Act because it requires additional approvals from the:

- Department of Environment and Conservation, under the *Protection of the Environment Operations (POEO) Act 1997;* and
- Department of Natural Resources (DNR), under the *Water Act 1912*.

The DEC and the DNR have determined that they are able to issue the applicable approvals, and have forwarded their General Terms of Approval (GTAs) for the proposal.

In issuing its GTAs the DEC stated that it has *'serious concerns about the close proximity of the proposed mine and the boundary of the Blue Mountains National Park and WHA. The establishment of any industry type this close to a World Heritage asset is difficult to see as being consistent with strategic planning principles for the protection of the values of the WHA…While the DEC considers that GTAs may be able to be issued for the mining operation because it is possible to operate a mine on the site within the standards set by the EPA, the location of the mine is in a sensitive site and DIPNR should consider whether the proposal is consistent with the NSW Government's need to ensure the WHA and its general surrounds are protected.'* The Department has addressed this concern in Section 5.3.1 of this report.

3.5 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

On 20 April 2002, the Commonwealth Department of the Environment and Heritage (DEH) declared the proposal to be a controlled action under the *Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, due to the potential for impact on:

- the Greater Blue Mountains WHA;
- Commonwealth-listed threatened species and communities; and
- Commonwealth land.

As such, the proposal will require the approval of the Commonwealth Environment Minister under the EPBC Act.

On 3 September 2002, the DEH accredited the NSW assessment process under the EP&A Act.

Although the Department has consulted with the DEH during the assessment process, the DEH has not made a submission on the proposal.

Following the Department's determination of the DA, the Department is required to send a copy of its assessment report (including the conditions of consent) to DEH, and the Commonwealth Environment Minister will consider this material when he makes his decision on the proposal under the EPBC Act.

4. CONSULTATION

On 10 July 2003, the Applicant lodged a DA and EIS for the proposal with the Department.

The Department subsequently:
- Notified all residents who could be affected by the proposal in writing;
- Notified the DEH, Lithgow City Council and all the relevant State Government agencies;
- Advertised the exhibition of the DA and EIS in the Sydney Morning Herald and Lithgow Mercury Argus on 3 separate occasions; and
- Exhibited the DA and EIS at 5 locations between 8 August 2003 and 29 September 2003.

This satisfies the requirements for public participation in the EP&A Regulation.

As discussed in Section 2.1, the Applicant has amended the proposal since exhibition of the DA and EIS. The Department is satisfied that the application as amended differs in only minor respects from the original application, and that the changes have resulted in a reduction in the environmental impacts of the development, and is therefore satisfied that further public exhibition of the application is not required.

4.1 Submissions Received

During the exhibition period, the Department received 37 submissions on the DA:
- 5 from Government agencies: including Lithgow City Council, Blue Mountains City Council, Department of Primary Industries (DPI), NSW State Forests, and the Roads and Traffic Authority (RTA);
- 12 from special interest groups: including the Colong Foundation for Wilderness, the Colo Committee, the National Trust, Zig-Zag Railway Co-op Limited, Blue Mountains Commuter and Transport Users Association, Blue Mountains Conservation Society Inc., Mudgee District Environment Group Inc., Blue Mountains Region NPWS Advisory Committee, Australian Conservation Foundation, Central West Environment Council Inc., Canopy/Native Forest Committee/Environment Centre, and Nambucca Valley Conservation Association Inc.;
- 2 from commercial interests associated with an adjacent sand quarry; and
- 17 from the general public.

Lithgow City Council raised no objection to the proposal, but considered that the key issues for assessment include:
- noise impacts on the settlement of Newnes Junction;
- cumulative visual impacts; and
- the feasibility of developing the processing facility within the Lithgow area.

Blue Mountains City Council resolved unaminously at its meeting on 23 September 2003 that it objected to the proposal, on grounds including that:
- the site of the proposal adjoins the Greater Blue Mountains WHA;
- a previous application in 1996 for such activities on the site was refused on grounds that mining activities were not suitable on the site;
- existing extractive operations in the area have a poor track record of environmental performance; and
- the proposal would generate significant water, visual, dust and noise impacts.

The **DPI** considered that the proposal represented an *'appropriate and effective development of a valuable resource'*, although it expressed some concern about the adequacy of information relating to the resource and hydrological aspects of the development. The DPI inferred that it would not regulate the sand extraction component of the proposal, informing the Applicant that *'the extraction of the sandstone resource (not a prescribed mineral under the Mining Act 1992) will require a title from the*

[Department of Lands]'. Further, the DPI acknowledged that *'although kaolin is a potentially important by-product of the proposed operation, the major commodity (in terms of volume and, at least in the short term, value) will be sand, principally for construction uses'*.

The Department of Lands (DoL) did not make a submission on the proposal, however the DoL has since confirmed to the Department that it has received a licence application from the Applicant to extract sand from the site, and that it does not object to the proposal.

NSW State Forests raised no objection to the proposal, but expressed concerns relating to the adequacy of the EIS's flora and fauna assessment and bushfire controls.

The **RTA** does not oppose the development, subject to the imposition of certain minor road safety conditions.

The vast majority of **private submissions** strongly objected to the proposal, on grounds including:
- Impacts on the adjacent Blue Mountains National Park and WHA, and that the site should be conserved as a protected area;
- Impacts on the Wollongambe River;
- Surface & ground water impacts;
- Impacts on the residents of Newnes Junction;
- Impacts on flora & fauna;
- Air quality impacts;
- Noise impacts;
- Poor history of environmental performance (esp. in relation to water pollution) of other quarries at Newnes Junction;
- The adequacy of the information presented in the EIS; and
- Scepticism about kaolin being the main purpose of the development.

4.2 Additional Representations

In addition to the submissions, the proposal has also generated some 140 representations to the Premier, at least 22 to Minister Knowles/Sartor and 3 to Minister Debus, expressing opposition and/or concerns relating to the proposal. Representations were received by a range of stakeholders including members of the public and the following elected representatives and special interest groups:
- Michael Richardson MP, Member for the Hills, Shadow Minister for the Environment;
- Ian Cohen MLC;
- Colong Foundation for Wilderness Ltd.;
- Blue Mountains Region NPWS Advisory Committee;
- Blue Mountains Conservation Society Inc.;
- Upper Blue Mountains Bushwalking Club Inc.
- Bush Club Inc.; and
- Central West Bushwalking Club.

The issues raised in these additional representations are similar to the issues raised in the private submissions.

The Department has assessed all of the relevant issues raised in the various submissions in Section 5 of this report.

5. SECTION 79C CONSIDERATION

Section 79C of the EP&A Act sets out the matters that a consent authority must take into consideration when it determines a DA. The Department's consideration of these matters is presented below.

5.1 Environmental Planning Instruments

The following environmental planning instruments are relevant to the proposal:
- *State Environmental Planning Policy No. 11 – Traffic Generating Developments;*
- *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;*
- *State Environmental Planning Policy No. 44 – Koala Habitat;*
- *State Environmental Planning Policy No. 55 – Remediation of Land; and*
- *Greater Lithgow Local Environmental Plan 1994.*

The Department's assessment of the proposal in relation to each of these instruments is presented in Appendix B. Following this assessment, the Department is satisfied that the proposal is generally

consistent with the relevant requirements of the instruments, insofar as they are applicable to the development.

Although not strictly an environmental planning instrument, the Department's *Newnes Plateau: Management Strategy for Winning of Sand (1990)* is also of relevance to the proposal. The Department's assessment of the proposal in relation to this strategy is presented below.

The Department is also currently developing the *Sydney Construction Materials Strategy*, to ensure the supply of sand and other construction materials to the Sydney region over the short, medium and longer term. The strategy will identify and consider a number of potential future major sources of sand available to the Sydney region, including the Newnes Plateau. In this regard, an issues paper for the Newnes Plateau resource is currently being prepared by the Department in consultation with Government, industry and stakeholders. At this time, the issues paper is still a work in progress and as such it is not considered appropriate to assess the proposal in relation to the paper. Notwithstanding, the preliminary strategy can be used to consider the broader status of existing and potential sand supplies to the Sydney region, and the need for the proposal in the context of these sand supplies. Consideration of this need is presented in Sections 5.3 and 5.5 of this report.

5.1.1 Newnes Plateau Management Strategy for Winning of Sand

In 1990 the Department of Planning released the *Newnes Plateau: Management Strategy for Winning of Sand*. The management strategy was the culmination of an intergovernmental working party exploring the potential for the establishment of extractive industries on the Newnes Plateau, which had been identified by the then Department of Mineral Resources as containing extensive deposits of friable sandstone.

The stated objectives of the strategy are to:

- *Develop a coordinated approach to decision making and help resolve potential development/conservation conflicts in the context of the area's environmental constraints; and*
- *Identify areas in which exploration could proceed with a high probability that a sand extraction project would be approved.*

The management strategy includes mapping of 'areas of least constraint' for sand extraction, and 'sites of highest prospectivity'. The site of the proposed development is not within an area of least constraint, or an area of highest prospectivity, as identified on the maps to the strategy.

The strategy identifies the site as being located within the Wollangambe catchment. The strategy notes that the Wollangambe catchment forms the headwaters of streams flowing to the Blue Mountains and Wollemi National Parks and the Colo Wilderness. The strategy states that the Wollangambe and Bungleboori catchments are 'subject to significant constraints' in terms of potential for sand extraction, because the catchments flow into a national park and the visual impact of such development may be significant. It is noted that the management strategy predates the World Heritage listing of the Greater Blue Mountains WHA.

In consideration of the above, the Department recognises that the site of the proposal is subject to significant constraint, and would require strict environmental protection measures to be considered suitable for the proposed development, particularly with regard to water quality degradation. Consideration of the environmental impacts and mitigation measures is presented below.

5.2 Environmental Impacts

The Department's assessment of the key environmental issues is presented in the following sections.

5.2.1 Surface and Ground Water

The EIS included a hydrogeological impact assessment undertaken by Kalf and Associates Pty Ltd. The study concluded that the proposal would influence (ie. lower) the groundwater table within about 500m of the mine, but that this would result in little change to flows in the Wollangambe River and 'would not affect any groundwater users'.

Hydrologists with the Department of Natural Resources considered that the EIS contained insufficient hydrogeological information, and required further information on flow and water quality impacts in the Wollangambe River.

The Applicant submitted a supplementary hydrogeological study in January 2005, and has also submitted a Surface Water Management Plan and a Soil and Water Management Plan.

The hydrogeological assessment concluded that the proposal would not 'measurably influence surface water runoff and baseflow in Wollangambe River due to the relatively small size of the catchment', and that the proposal would only influence the water table locally, allowing the majority of deeper groundwater to reach the river drainage system. The supplementary study concluded that the water table drawdown would not affect local vegetation as plants rely mainly on soil moisture.

The water management plans proposed a number of best practice mitigation measures to prevent downstream water flow/quality impacts, including:

- Maintenance of a free draining final landform;
- Design of water management system to retain the 1 in 100 yr 72 hour storm event at all stages; and
- Installation of a water treatment plant to treat water prior to discharge when required.

The Department and the DNR are satisfied that the Applicant has demonstrated that the proposal is unlikely to have a significant impact on groundwater levels or flows, or on surface water flows. However, the Department is cognisant that the proposal has the potential to present a significant level of risk with regard to water quality degradation.

The maintenance of water quality is extremely significant on this site given its proximity to protected areas and the sensitivity of the receiving environment. The site is located in the headwaters of the Wollangambe River, which flows through the Greater Blue Mountains WHA and the Wollemi Wilderness Area, ultimately discharging into the Colo River. The Wollangambe River supports a wide variety of ecosystems which form part of the outstanding universal values for which the WHA was inscribed (see Section 5.3.1). The DEC (nee NPWS) reports that the Wollangambe River forms part of the Colo Wild and Scenic River system, a system nominated for listing as a 'wild river' system under the *National Parks and Wildlife (NPW) Act 1974*. Only river systems in a condition substantially undisturbed since European occupation qualify for listing as wild rivers. Section 61(5)(a) of the NPW Act requires that wild rivers be managed in accordance with the principle of *'restoration (wherever possible) and maintenance of the natural biological, hydrological and geomorphological processes associated with wild rivers and their catchments, including natural flow variability'*. The Wollangambe River is also a popular destination for ecotourism and recreational pursuits including bushwalking, canyoning and canoeing.

Due to the high silt and clay content in the friable sandstone on the Newnes Plateau, extractive industries generally have a high risk of water quality degradation if not strictly controlled, through increasing suspended solids and sedimentation in downstream areas. Discharge of sediment-laden water has been a recognised problem in the existing quarries in the locality in the past.

In assessing the risk of water quality degradation associated with the proposal, the Department recognises that the proposal does not include the full processing of the friable sandstone resource into its constituent minerals. This measure would significantly reduce the amount of sediment-laden water produced by the development. Processing at the existing local quarries involves crushing and washing the extracted resource to remove the clay (including kaolin) and silt fraction, with deposition of the waste material in on-site silt/sediment basins. This process produces a significant amount of sediment laden water requiring treatment, and can result in discharge of dirty water off-site if not effectively and carefully managed. By not carrying out this processing (or 'sand washing') on site, the proposal is able to eliminate the risk of water quality degradation associated with this activity.

Notwithstanding, the disturbance of more than 25 hectares of land area, and the primary processing and handling of the resource, would inevitably produce significant amounts of sediment which would need to be managed.

In this regard, the Department acknowledges that the Applicant proposes significant best practice measures to retain and treat dirty water produced by the development, including designing its water management system to capture and treat runoff produced from the extreme 1 in 100 year 72 hour storm event, installing a water treatment plant to further treat any discharge to sensitive water quality criteria, and progressively rehabilitating the site to agreed standards. These measures would effectively ensure that run-off from all reasonably probable storm events would be captured on site, and released in a controlled fashion following treatment. Given these significant mitigation measures, the Department is satisfied that the development is unlikely to result in any discharges of untreated water into the Wollangambe River, and that the risk of water quality degradation to downstream areas would be reduced to acceptably low levels.

The DEC concurs that the proposal would be able to comply with its environmental standards, and has issued its General Terms of Approval for the development.

The DNR also agrees that the proposal is able to be managed in accordance with the requirements of the *Water Act 1912*, and has issued its General Terms of Approval.

Although it is satisfied that the development can be managed such that the risk to downstream waters is reduced to acceptable levels, the Department has recommended a comprehensive range of water management conditions to ensure the protection of water resources, including requirements on the Applicant to:

- Design its water management system to retain up to the 1 in 100 yr 72 hour storm event at all stages;
- Employ a suitably qualified Environmental Manager to oversee the implementation and maintenance of the water management system throughout the development;
- Comply with strict water quality criteria for all discharges;
- Develop a comprehensive integrated Water Management Plan in consultation with the relevant authorities, including a Water Balance, Soil and Water Management Plan, Surface Water Monitoring Program and Groundwater Monitoring Program;
- Develop and monitor the development against water quality and stream health assessment criteria; and
- Undertake regular independent audits of the development including the water management system, including visual inspections of the condition of waterbodies downstream of the site.

The Department has also recommended increasing the buffer to the WHA, which would further mitigate the potential for downstream water quality degradation (see Section 5.3.1).

5.2.2 Noise

The EIS included a noise impact assessment undertaken by Atkins Acoustics and Associates Pty Ltd. The study indicated that the development would result in significant exceedances of relevant noise criteria at Newnes Junction residences of up to 18dB.

The DEC raised a number of technical concerns with the noise impact assessment. Accordingly, the Applicant submitted a revised noise impact assessment which included two significant mitigation measures, namely:

- A change to the mining method – using a Surface Miner and self-loading scrapers rather than bulldozers, trucks and a jaw crusher to extract, haul and crush the resource; and
- The construction of a 5m high acoustic wall between the development and the Newnes Junction residences.

With these mitigation measures in place, the noise impacts associated with the development would be substantially reduced, but would still result in a small exceedance of the project specific noise level (37/38dB) at Newnes Junction of between 1 to 3dB when assessed cumulatively (ie. mining operations + train loading), although train loading would only occur for about two hours each day.

The assessment also indicates that significant exceedances (up to 13dB) would occur during site preparation works, although these significant exceedances are only expected to occur for a period of up to two weeks.

With regard to the Blue Mountains National Park and Greater Blue Mountains WHA, the assessment indicates that the noise assessment goal of 50dB would be able to be met within about 150 metres of the WHA boundary during worst case operations, and within about 50 metres during much of the operations. The nearest formed walking track is reported to be more than 5 kilometres from the site boundary.

Based on these findings, the Department and the DEC are reasonably satisfied that the proposal can be conducted without a significant noise impact to the residents of Newnes Junction and the biophysical environment of the protected areas, subject to the implementation of strict conditions. The DEC has subsequently forwarded its General Terms of Approval for the proposal.

To ensure the proposal does not result in a significant noise impact, the Department believes the Applicant should be required to:

- Comply with strict noise criteria at Newnes Junction and within the WHA;
- Erect the acoustic barrier prior to the commencement of any extraction;
- Develop a comprehensive noise monitoring program for the development; and
- Undertake independent noise investigations under the supervision of the Director-General if landowners raise legitimate noise-related concerns.

The Department has also recommended the granting of acquisition rights to all landowners of the Newnes Junction settlement. This recommendation is in part related to noise impact, but particularly related to general amenity impacts on the settlement (see Section 5.3.2 for detailed information). The

Department acknowledges that the Applicant offered to acquire affected residences in the EIS and Supplementary Report.

5.2.3 Flora and Fauna

The proposal would require the removal of over 25 ha of eucalypt woodland bordering the Blue Mountains National Park and Greater Blue Mountains WHA. The EIS included a flora and fauna study undertaken by International Environmental Consultants Pty Ltd. The study concluded that the proposal would not have any significant impact on flora and fauna, including threatened species.

The DEC and private submissions raised a number of concerns regarding the adequacy of the flora and fauna assessment. The Applicant subsequently submitted a supplementary flora and fauna assessment undertaken by Gunninah Environmental Consultants Pty Ltd, as well as an impact offset strategy titled *'Newnes Plateau Conservation, Restoration and Enhancement Project'*.

The revised ecological study included 8 part tests concluding that the proposal would have no significant impact on threatened species listed under either the NSW *Threatened Species Conservation Act 1995* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The revised study concludes that swamps on the site do not constitute (the recently listed) *Newnes Plateau Shrub Swamp*, as some submissions claimed. Nonetheless the Applicant has excluded an area of swampy vegetation in the south-east corner, which contains elements of *Newnes Plateau Shrub Swamp*, from the extraction area.

The Department is satisfied the Applicant has demonstrated that the proposal would not have any significant direct impact on threatened species, populations, communities or their habitats.

However, the proposal would remove at least 25 hectares of good quality eucalypt woodland (Silvertop Ash and Sydney Peppermint dominated) bordering a World Heritage Area. This eucalypt woodland is significant in that it is highly consistent with the values for which the WHA was inscribed (see Section 5.3.1), thus providing a good buffer to the WHA and the 'edge effect' degradation that can occur around the perimeter of protected areas.

The site's natural values were recognised in the Department's land assessment in 1993 (see Appendix A), which rated the site as being of 'regional significance' for environmental protection and nature conservation. This rating was based on a number of factors, including the site's proximity to a National Park, its location in the headwaters of the Wollangambe River, and because it is heavily vegetated with a diverse range of species (including shrub swamp plant communities) that are not well represented in established reserves.

The Applicant's flora and fauna impact offset strategy includes four main components:

- Progressive rehabilitation of the site, including terraced landscaping on benches [nb. the Department does not consider site rehabilitation as an 'offset' to vegetation clearing];
- Assistance in rehabilitation of a 5ha site of *Newnes Plateau Shrub Swamp*, located north of Lithgow;
- Assistance in rehabilitation of the 864ha Dargans Creek Crown Lands, located to the south of the site; and
- Establishment of a nursery on the site.

The proposed assistance in rehabilitation of the off-site areas would involve poisoning/removal of invasive pines (*Pinus radiata*) and other weeds, consolidation and rehabilitation of degraded vehicle tracks, rubbish removal and general maintenance. The strategy states that the Applicant would provide funding of about $50,000 for the first year and $30,000 each subsequent year for the latter three off-set components (for a total of around $600,000 over the life of the development).

The Department considers that the Applicant's offset strategy provides a reasonable basis for offsetting the area of vegetation removed by the development, if the site specific values of the vegetation are not taken into consideration. However, given the significance of the site in terms of its location adjacent to the WHA and the Wollangambe River, the Department is not satisfied that the offset strategy would result in a significant net environmental improvement. As such, the Department believes that the Applicant should be required to acquire and revegetate and/or conserve an additional area of similar vegetation to that removed by the development (ie. 25 hectares), in addition to the proposals under its offset strategy. The location and nature of the additional off-set area would need to be investigated in consultation with relevant government agencies (including the DEC), and detailed in a Compensatory Habitat Management Plan.

The Department also recognises that, in addition to direct impacts on flora and fauna, the proposal also has the potential to have indirect impacts on downstream ecological communities via run-off of polluted

water. These downstream communities are highly significant as they form part of the outstanding universal value of the Greater Blue Mountains WHA, the Wollemi Wilderness, and the Wollangambe and Colo River system. As discussed in Section 5.2.1, the Department is satisfied that the proposal can be managed such that it would not have a significant deleterious impact on downstream waterbodies. Accordingly, the Department is similarly satisfied that the proposal can be managed such that it would not have significant impacts on downstream ecological communities. However, the Department believes the Applicant should be required to establish and implement a comprehensive downstream flora and fauna monitoring program, with early identification of any impacts and protocols for the prompt mitigation of any identified impacts.

The Department also notes that the revised mine plan presented in the Supplementary Report indicates that topsoil stockpiles would be located outside the proposed limit of extraction. This proposal would require the removal of a significant additional area of remnant vegetation. The Department is not satisfied that this additional clearing is justified and believes that the Applicant should be required to locate the stockpiles within the footprint of the approved limit of extraction.

In summary, the Department is satisfied that the proposal can be managed such that it would not result in a net adverse impact on flora and fauna, including the ecological communities of the Blue Mountains National Park and Greater Blue Mountains WHA, subject to requiring the Applicant to:

- Maintain a 100 metre buffer to the National Park/WHA, with a potential to reduce this buffer to 50 metres at a later date only if the Applicant can demonstrate that the operation is not impacting the WHA and other protected areas (see Section 5.3.1);
- Maintain a 50 metre buffer to the southeastern swampy vegetation;
- Retain a remnant vegetative buffer on the northern boundary of the site, and adjacent the proposed acoustic barrier;
- Undertake progressive rehabilitation of the site;
- Implement its proposed impact offset strategy;
- Establish an additional 25 hectares of compensatory habitat to add to its impact offset strategy;
- Develop a comprehensive Flora and Fauna Management Plan, including a Compensatory Habitat Management Plan, a Vegetation Clearance Protocol, a Pest and Weed Management Plan, and a Flora and Fauna Monitoring Program; and
- Undertake regular independent audits of the condition of the adjacent WHA, including visual inspections of the condition of waterbodies downstream of the site.

5.2.4 Visual Amenity

The site is situated on a slope facing the Greater Blue Mountains WHA, and would be visible from areas within the WHA. A number of submissions raised concerns about the visual impacts of the proposal, particularly in relation to the WHA and Wollemi Wilderness Area.

The Applicant submitted a supplementary visual impact assessment in January 2005. The study confirmed that the mine would be visible from a number of locations within the WHA, including the Northern Ridge, Eastern Ridge and Whitehouse Ridge, as well as areas outside the WHA including Bald Hill Trig Station, which provides one of the best viewpoints overlooking the wilderness area.

The study concluded that the development would have a minimal visual impact given the implementation of mitigation measures including:

- Progressive clearing and rehabilitation of the site;
- Terraced landscaping techniques to be used on benches; and
- A final landform to be inspired by a nearby natural feature ('Gooches Crater').

The study reports that no formed bushwalking tracks are located within 5km of the site.

The Department notes that the visual amenity of the locality is somewhat affected by existing industrial development, including the Clarence coal mine's surface facilities, the adjacent Rocla-operated sand quarry, and the nearby Kable's sand quarry.

The Department also notes that the supplementary visual impact study did not include any assessment of the visual impacts associated with the proposed 5 metre high acoustic barrier (see Section 5.2.2). The Department believes that a large masonry structure of this magnitude could present a significant visual impact in relation to the WHA, the Wollemi Wilderness Area and on Newnes Junction, if not effectively screened. Accordingly, the Department has included a condition requiring the Applicant to retain (and maintain) a screen of remnant vegetation on either side of the acoustic wall.

Given the existing visual amenity of the locality, the relatively moderate visual impact presented by the development, and the proposed mitigation measures, the Department is satisfied that the proposal

would not result in a significant visual impact. Notwithstanding, the Department believes the Applicant should be required to:

- Progressively clear and rehabilitate the site using terraced landscaping techniques;
- Retain a vegetated buffer of at least 10 metres on either side of the acoustic barrier;
- Limit outdoor lighting such that no light spill from fixed infrastructure is experienced from within the WHA and Wilderness Area; and
- Develop a comprehensive Rehabilitation and Landscape Management Plan for the development.

5.2.5 Air Quality

The EIS included an air quality impact assessment which concluded that dust impacts at Newnes Junction would be minimal, and would comfortably comply with applicable criteria at all stages of the development. A supplementary assessment undertaken in response to concerns raised by the DEC indicates that the proposal would also comfortably comply with applicable criteria at the boundary of the Greater Blue Mountains WHA.

The Department and the DEC are satisfied that the proposal would not result in significant dust impacts, and the DEC has forwarded its General Terms of Approval for the proposal. The Department has recommended conditions requiring the Applicant to:

- Comply with contemporary air quality criteria; and
- Develop an Air Quality Monitoring Program for the development.

5.2.6 Archaeology and Heritage

The EIS included an archaeological assessment undertaken by Robynne Mills Archaeology and Heritage Services. The study concluded that there are no heritage values located on the development area. No indigenous or non-indigenous heritage sites were identified in the proposed mine area.

The DEC raised concerns relating to the adequacy of the archaeological assessment. The Applicant submitted a response to these concerns, however the DEC reiterated its concerns, stating that further assessment including geomorphic assessment and sub-surface testing is needed to demonstrate that there is no potential evidence of Aboriginal occupation on the site.

Notwithstanding the DEC's concerns, the Department is satisfied that the site is unlikely to contain large areas of highly significant Aboriginal archaeology, given the lack of areas of high archaeological potential. This view is shared by the Bathurst Local Aboriginal Land Council, which concurred that no sites or areas of potential archaeological deposits are present within the site area.

To address the DEC's concerns and manage the potential for discovery of Aboriginal relics during pre-clearing, clearing and initial excavations, the Department has recommended the inclusion of a condition requiring the Applicant to develop an Aboriginal Cultural Heritage Monitoring Program with the involvement of DEC and BLALC.

5.2.7 Other Issues

Other issues raised in the EIS, by government agencies or by way of public submission are considered to be minor issues, components of key issues or of minor environmental impact. Cumulative impacts, social and economic considerations are discussed within these key issues and in the following sections.

5.3 Suitability of the Site

The following matters have been considered in the assessment of the suitability of the site for the development:

- The site is adjacent, and drains into, the Blue Mountains National Park and Greater Blue Mountains WHA;
- The site drains into the Wollemi Wilderness Area, and the environmentally significant Wollangambe/Colo river system;
- The proximity of the site to the settlement of Newnes Junction;
- The site is identified in the Department's *Newnes Plateau: Management Strategy for Winning of Sand* as being subject to significant constraint (see Section 5.1.1); and
- The availability of other sites in the region with lower conservation value.

The Department's consideration of these matters is presented below.

5.3.1 Proximity to the Greater Blue Mountains WHA and other Protected Areas

The EIS describes the development as having only minor impacts on the Greater Blue Mountains WHA. Impacts would be mitigated by the maintenance of a (minimum) 50m buffer between the mine and the WHA boundary, and a range of environmental management measures. The buffer would be managed to retain the existing vegetation to provide a visual and biophysical screen for the development.

The DEC and the majority of the private submissions raised significant concerns about the close proximity of the proposed mine site to the WHA boundary, and the potential impacts of the proposal on the values of the WHA.

To qualify for inscription on the World Heritage List, nominated properties must be determined as being of outstanding universal value, based on meeting certain 'natural' and/or 'cultural' criteria[2]. The Greater Blue Mountains WHA was inscribed in 2000, based on meeting two of the 'natural' criterion, namely:

- ***Natural criterion (ii)*** *– representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animal.*

  The values for which the Greater Blue Mountains WHA was inscribed under this criterion include:
  - Primitive species with Gondwanan affinities (eg. Wollemi Pine); and
  - Centre of diversification, and exceptional representation of eucalypt species.

- ***Natural criterion (iv)*** *– contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation*

  The values for which the Greater Blue Mountains WHA was inscribed under this criterion include:
  - Outstanding levels of plant diversity;
  - Exceptional diversity of habitats providing outstanding representation of Australian fauna, including mammals, birds, reptiles, and frogs, and examples of species of global significance (eg. Platypus);
  - Primitive species with Gondwanan affinities (eg. Wollemi Pine);
  - Centre of diversification, and exceptional representation of of eucalypt species; and
  - Range of animal and plant taxa of conservation significance, including threatened species.

Properties nominated for inscription under the natural criterion also need to satisfy conditions of integrity. Integrity is defined in the *Operational Guidelines for the Implementation of the World Heritage Convention (2005)* (cl.87) as a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes.

Clause 95 of the *Operational Guidelines* highlights the importance of integrity to properties inscribed under (former) natural criterion (iv):

> *'Properties proposed under [natural criterion (iv)] should be the most important properties for the conservation of biological diversity. Only those properties which are the most biologically diverse and/or representative are likely to meet this criterion. The properties should contain habitats for maintaining the most diverse fauna and flora characteristic of the bio-geographic province and ecosystems under consideration.'*

The proposed development has the potential to impact upon the values for which the WHA was inscribed, and the integrity of the WHA, principally through impacts to water quality and flow, visual amenity, flora and fauna, noise and dust. The Department has assessed these potential impacts in Section 5.2 of this report. As discussed, the Department, the DNR and the DEC are satisfied that the proposal can be managed within the environmental standards set by these authorities, subject to strict environmental controls.

In issuing its General Terms of Approval, the DEC stated that it has *'serious concerns about the close proximity of the proposed mine and the boundary of the Blue Mountains National Park and WHA. The establishment of any industry type this close to a World Heritage asset is difficult to see as being consistent with strategic planning principles for the protection of the values of the WHA…While the DEC considers that GTAs may be able to be issued for the mining operation because it is possible to operate*

[2] The 'cultural' and 'natural' sets of WHA criteria have since been merged. 'Natural criterion (ii) and (iv) now correspond to criterion (ix) and (x), respectively, in the set of criteria for the assessment of outstanding universal value.

a mine on the site within the standards set by the EPA, the location of the mine is in a sensitive site and DIPNR should consider whether the proposal is consistent with the NSW Government's need to ensure the WHA and its general surrounds are protected.'

The Department has carefully considered the proposed development within the context of its location adjacent the WHA, Blue Mountains National Park and the Wollemi Wilderness Area. The Department concludes that, as the environmental aspects of the proposal are able to be effectively managed, the proposal is able to be carried out in a manner that would not result in any significant impact upon the integrity or outstanding universal values of the WHA. Similarly, the Department is satisfied that the proposal would not significantly impact other related values of the protected areas, which include scenic values, wilderness values (including opportunities for solitude), and recreational values (eg. Bushwalking, canyoning, rafting and canoeing).

In reaching this conclusion, the Department highlights that the proposal contains some important mitigation measures that differentiate it from contemporary sand quarrying operations, and that these measures would significantly reduce the potential environmental impacts of the development. Not the least of these measures is the Applicant's commitment to undertaking all processing off-site, by transporting all extracted material (via rail) to a suitable processing facility in Sydney. This measure would significantly reduce the potential for water quality degradation associated with the development.

The Department is also confident that the proposal's potential impacts on the protected areas by way of noise, dust, visual amenity, and pest and weed spread, are able to be effectively managed.

Notwithstanding, in accordance with the precautionary principle of Ecologically Sustainable Development, the Department believes the Applicant should be required to maintain a buffer of at least 100 metres to the boundary of the WHA/National Park until can demonstrate, based on the actual performance of the operation, that the proposal would not have an adverse impact on the protected areas if it was allowed to reduce the buffer area to 50 metres. As the area between 50 and 100 metres of the boundary of the WHA contains about 7 percent of the total sand/kaolin resource on the site, the Department believes this restriction will act as a powerful incentive for the Applicant to ensure that the development is carried out in accordance with best practice.

The Department has also recommended a range of other conditions aimed at protecting the values of the protected areas. These include requiring the Applicant to:

- Retain remnant vegetative buffers along the northern boundary and adjacent the acoustic barrier, to reduce visual impacts;
- Retain and treat all water runoff on-site, for storm events up to the 1 in 100 year 72 hour flow, and discharge water only if it meets stringent water quality criteria;
- Develop comprehensive environmental management strategies and plans, including measures to protect the WHA and other protected areas;
- Develop comprehensive environmental monitoring programs, including programs that monitor the proposals effects on the protected areas;
- Employ a full-time on-site suitably qualified Environmental Manager, to oversee the development;
- Undertake regular independent audits of the proposal's effects on the WHA and the Wollangambe River and its tributaries; and
- Progressively rehabilitate the site using terraced landscaping techniques, to ultimately provide a free-draining, sustainable final landform.

5.3.2 Proximity to Newnes Junction

The small settlement of Newnes Junction, comprising some 6 dwellings and a small number of additional undeveloped residential blocks, is situated immediately to the southwest of the site and approximately 200m from the proposed mine. The settlement has very limited services, with no community facilities, shops, sealed roads or reticulated water supply.

The EIS and Supplementary Report acknowledge that the proposal would have an impact on the Newnes Junction residences, particularly in relation to noise, and state that the Applicant would offer to purchase affected properties.

The Department considers that the proposal would have a significant impact on the amenity of the Newnes Junction residents, in part by way of noise and visual impact, and particularly by way of fundamental changes to the quiet bushland setting of the settlement.

The development would significantly intensify extractive industry landuse in the locality, and would result in such industry surrounding the Newnes Junction settlement from the north-western quadrant through to the south-east quadrant (see Figure 2). With the Clarence rail loop located to the west of the

settlement, the development would result in Newnes Junction being almost entirely surrounded by industrial development.

The development would also form an industrial buffer between the settlement and the Blue Mountains National Park, essentially isolating the settlement from the quiet bushland setting of the National Park and WHA.

The Department also believes that the proposed 5 metre high masonry acoustic barrier that would be required to be constructed between the mine and the settlement would contribute to the degradation of amenity for the Newnes Junction residents.

As such, the Department believes that the Applicant should be required to acquire any property in Newnes Junction, upon request by the landowner. The Department has recommended acquisition rights for all Newnes Junction landowners in its conditions of consent.

This will given landowners the ability to move away from the area if they want to; and given the small scale of the settlement and the minimal infrastructure available at the village, the Department is confident that the acquisition of these properties is unlikely to cause any significant socio-economic impacts on the surrounding area.

5.3.3 Availability of Other Sites With Lower Conservation Value

The Department's *Newnes Plateau: Management Strategy for Winning of Sand* identifies a number of sites on the Newnes Plateau with less constraint for winning of sand than the proposed mine site (see Section 5.1.1).

The Applicant contends that the sand/kaolin resource at the site is of regional significance for a number of reasons, including:

- The volume and nature of the friable sandstone resource;
- The suitability of the site in terms of site topography and accessibility;
- The proximity of the site to existing rail infrastructure and markets;
- The long term demand for kaolin and sand; and
- The finite nature of major, existing alternative supply sources.

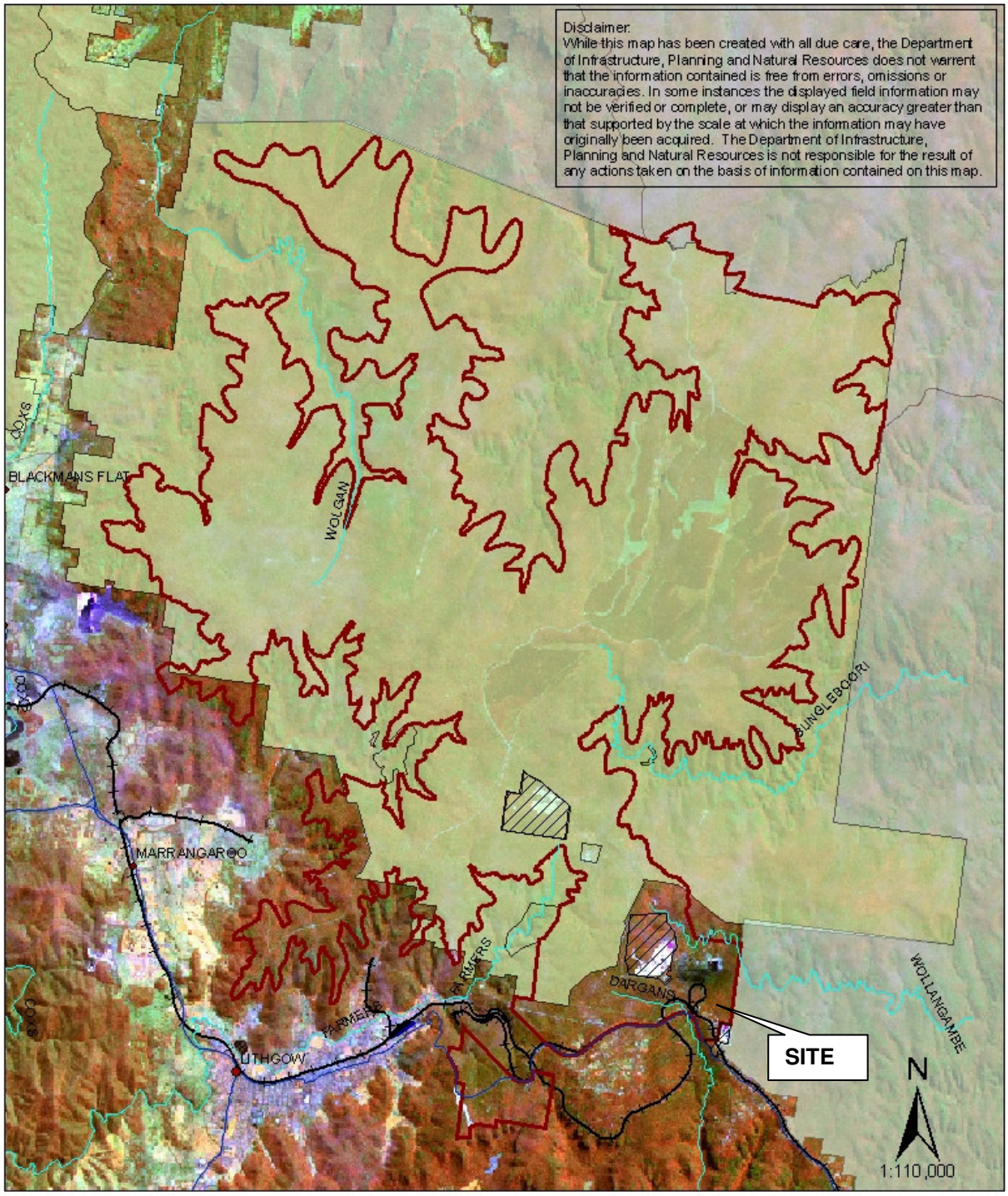
Further, the Applicant contends that the resource at Newnes Junction is geologically unique because it has a low iron content (nb. a high iron content increases the difficultly/cost of extraction and reduces the quality of kaolin) and the kaolin brightness improves significantly from north to south on the Newnes Plateau (nb. a high brightness factor increases the quality of the kaolin). The EIS states that 'although there are other sand resources located on the Newnes Plateau, the quality varies and the knowledge of the mineralogy of the clay content is not proven'.

The significant extent of the available friable sandstone resource on the Newnes Plateau is highlighted in recent mapping prepared by the Department (see Figure 5 below), which has been undertaken as part of the development of the *Sydney Construction Materials Strategy* (see Section 5.1).

The preparation of the *Sydney Construction Materials Strategy* has involved a review of environmental constraints to sand mining on the Newnes Plateau. This review is not yet finalised, however it is clear that a large portion of the Newnes Plateau is subject to various constraints. These constraints include:

- The presence of significant vegetative communities, including *Newnes Plateau Shrub Swamp*, *Open Mottled Gum Woodland* and *Newnes Plateau Woodland*;
- Proximity to major streams, including those flowing to Sydney's drinking water catchment and those flowing to protected areas;
- Proximity to protected areas, including the Blue Mountains National Park, the Greater Blue Mountains WHA and the Wollemi Wilderness Area; and
- Forestry-related constraints including short/medium term logging areas and environmental management zones.

The site of the proposed development is affected in particular by one of these constraints – its proximity to protected areas. The site is not considered (based on the preliminary criteria under the strategy) to be directly constrained by proximity to major streams, as the closest significant stream (the Wollangambe River) is more than 200 metres from the site. The site is also not considered to be directly constrained by the presence of significant vegetation, as the site only contains minor elements of *Newnes Plateau Shrub Swamp* and the development would not impact this community (see Section 5.2.3).


Disclaimer:
While this map has been created with all due care, the Department of Infrastructure, Planning and Natural Resources does not warrent that the information contained is free from errors, omissions or inaccuracies. In some instances the displayed field information may not be verified or complete, or may display an accuracy greater than that supported by the scale at which the information may have originally been acquired. The Department of Infrastructure, Planning and Natural Resources is not responsible for the result of any actions taken on the basis of information contained on this map.
BLACKMANS FLAT
WOLGAN
MARRANGAROO
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Department of
Infrastructure, Planning and Natural Resources
FIGURE 5
NEWNES PLATEAU
Potential Friable Sandstone Resource
21st April 2005
Legend
Towns
Settlements
Main Roads
Railway
Type
HeavyRail
HeavyRail Siding
Selected_Streams
0
2.5
5 Kilometers
Friable Sandstone Resource
Status
existing quarries
potential resource
National Park Estate
State Forest

As discussed above in Section 5.3.1, following its environmental assessment the Department is satisfied that the proposal can be conducted in a manner that would not result in a significant impact on the surrounding protected areas, subject to the implementation of various conditions, including requiring an adequate buffer to the boundary of the National Park/WHA.

It is important to note that a significant constraint to extractive industry on the Newnes Plateau is proximity to transport infrastructure. In this regard, the site is very well suited to the development, as it provides direct access to rail transport which the Applicant proposes to utilise for transport of all material. This proximity has significant benefits for the regional area by essentially eliminating road traffic related impacts associated with the development.

Given the site's direct access to rail infrastructure, the Applicant's commitment to off-site processing, and that the Department is satisfied that the proposal can be managed in a manner such that it would not result in a significant impact on adjacent protected areas and the Wollangambe River, the Department considers that the site is not significantly constrained relative to other sites on the Newnes Plateau.

Based on the above, the Department concludes that the site can be considered to be suitable for the development, subject to the implementation of strict environmental controls.

5.4 Submissions on the Proposal

The Department received a significant number of submissions that strongly objected to the development (see Section 4). In addition, a large number of representations in opposition to the development have been received by the Premier, the then Minister for Infrastructure and Planning/Minister for Natural Resources, and the Minister for the Environment/Minister for the Blue Mountains.

In consideration of the range of submissions received both during and following the exhibition period, the Department considers that there is significant public opposition to the proposal.

The principal reason for opposition is the site's proximity to, and potential impacts on, the Greater Blue Mountains WHA. The Department has carefully considered the potential impacts on the WHA in Sections 5.2 and 5.3 of this assessment report, and considers that the proposal is able to be conducted in a manner that would not impact upon the outstanding universal values of the WHA.

5.5 The Public Interest

Notwithstanding the opposition to the proposal as outlined above, a resource development such as the one proposed may be considered to be in the public interest if:

- It can be demonstrated that the proposal is able to be managed such that it would not have a significant impact on the matters of concern to the public; and/or
- The resource is of such significance that it would be in the public interest to develop it (ie. the socio-economic benefits for the wider society derived from the development of the resource outweigh its impacts).

As discussed above in Sections 5.2 and 5.3, following its environmental assessment of the proposal, the Department is satisfied that the proposal can be managed in a manner such that it would not result in a significant impact on the matters of concern raised in public submissions, including impacts on the values of the Greater Blue Mountains WHA.

The Department's consideration of the significance and need for the resource is presented in the following sections. In its assessment, the Department has considered the:

- Uniqueness of the resource;
- Need for the resource;
- Relative constraints of other sites; and
- Social and economic benefits of the proposal.

5.5.1 Uniqueness of the Resource

As discussed in Section 5.3.3, the Applicant has argued that the kaolin resource is unique because it has a low iron content and high brightness relative to other areas on the Newnes Plateau.

A number of submissions on the proposal questioned the Applicant's claims regarding the uniqueness of the kaolin resource. The DPI commented that the Applicant's claim was based on a limited amount of data. Rocla, who operate the adjacent quarry with similar characteristics, commented that examination of exposed pit faces in its own quarry suggest that it would be difficult to extract higher

quality white kaolin without also extracting the lower quality cream kaolin within the friable sandstone resource. Rocla also commented that it has over the past 10 years attempted to find a suitable market for the kaolin within its resource without success. Rocla commented that the kaolin within its quarry, which is deposited as waste in settlement ponds, would provide a ready source of kaolin to the Applicant at minimal cost if it wished to enter the kaolin market.

Based on the above, the Department is not convinced that the Applicant has demonstrated that the resource is particularly geologically unique at this time.

However, the Department is satisfied that the resource is particularly well situated in terms of proximity to transport infrastructure, having direct access to the Clarence rail loop. This allows the resource to be developed with minimal impact on the road transport network and traffic safety of the Blue Mountains region. There are few, if any, other sites on the Newnes Plateau that share this characteristic.

The location of the site also allows the sand and kaolin resource to be exploited economically, and increases the viability of undertaking the processing of the resource off-site, which is important for reducing the water-related environmental impacts of the proposal.

5.5.2 Need for the Resource

With regard to society's need for the resource, the Department recognises that there is an ongoing need to develop sand mining operations within and around the Greater Sydney Metropolitan Area to satisfy the needs of the construction industry. Sydney currently consumes about 6.5 million tonnes of construction sand each year. To ensure the future supply of construction sand to the Sydney region, the Minister has directed the Department to prepare the *Sydney Construction Materials Strategy* (as discussed in Section 5.1) to manage sand and other construction material resources to guarantee supplies in the short, medium and longer terms.

The Department is currently working with Government agencies and industry to develop the strategy. Although yet to be completed, preliminary analysis indicates that current approved sand resources available to the Sydney market total some 56 million tonnes, or less than 10 years supply. The preliminary analysis also indicates that feasible additional reserves adjoining existing approved resources total some 290 million tonnes (over 40 years supply at current usage). In this regard, the Department is aware of very recent and pending approvals totalling some 30 million tonnes supply, and a further 40 million tonnes supply in projects that have commenced the planning process.

The preliminary analysis identifies a number of potential future major sources of sand for the Sydney Region. These sources include the Somersby Plateau, Southern Highlands, Richmond Lowlands, Maroota, offshore marine aggregates, sand substitutes (recycled and alternative materials), as well as Newnes Plateau. Newnes Plateau is estimated to contain approximately 536 million tonnes of potentially accessible sand reserves (over 80 years supply at current usage), although as discussed in Section 5.3.3 above, much of this resource has been identified as being constrained by various factors.

In consideration of the above, the Department recognises that there is a need for the ongoing development of sand quarries to meet the requirements of the construction industry. Given the good proximity of the site to rail infrastructure, and that the Department's assessment indicates that the proposal can be conducted in an environmentally sustainable manner, the Department is satisfied that the proposed development can be considered to be in the public interest.

Kaolin has applications as a filler and extender in paper, paints and plastics, and is also used to make ceramic pottery, tiles, insulators and refractories. Most kaolin in NSW is produced in Gulgong and Coorabin, with production in 2001 estimated at 21,000 tonnes.

Neither of the two existing quarries in the area commercially exploit the kaolin resource that is present in their own friable sandstone resources, instead treating the kaolin as a waste product used as backfill in mine voids, even following kaolin recovery feasibility studies.

Given this lack of kaolin exploitation by existing quarries (particularly the neighbouring Rocla facility, which shares the same technical kaolin qualities), the Department believes that there is not a pressing 'need' for the kaolin resource at the present time. Notwithstanding, the Department is satisfied that the Applicant has demonstrated that there does exist a market for the kaolin, and that the resource would provide social and economic benefits, and therefore is in the public interest.

5.5.3 Relative Constraints of Other Sites

As discussed in Section 5.3.3, the Department believes that other available resources on the Newnes Plateau are constrained by a range of factors. As such, the Department is satisfied that the proposal is

not significantly more constrained than other sand reserves on the Newnes Plateau. Following its environmental assessment, the Department is satisfied that the proposal is able to be managed in a manner that would avoid significant impacts on the constraints applicable to the site, including the proximity to the Greater Blue Mountains WHA and other protected areas.

5.5.4 Socio-Economic Benefits of the Proposal

With regard to socio-economic benefits of the proposal, the Department believes that the proposal would provide benefits on a local and regional level, including the generation of up to 10 direct jobs and the benefits gained through the $5 million direct capital investment in the mine. The proposal would also generate up to 1.3 million tonnes of sand and 120,000 tonnes of kaolin per year for the construction and manufacturing industries.

In consideration of the above, the Department believes that the proposed development is in the public interest.

6. RECOMMENDED CONDITIONS OF CONSENT

The Department has prepared a comprehensive suite of Conditions of Consent for the proposal. A summary of the recommended conditions is provided in Appendix C.

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 ongoing environmental management of the development.

The Applicant has reviewed and accepts the recommended conditions.

7. CONCLUSION

The Department has assessed the DA, EIS, Supplementary Report and the submissions on the proposal in accordance with the provisions of section 79C of the EP&A Act.

The site of the proposal is undoubtedly sensitive, given its proximity to the Blue Mountains National Park, the Greater Blue Mountains World Heritage Area, the Wollemi Wilderness Area and the Wollangambe/Colo River system. If not actively controlled, an extractive industry development such as the one proposed could result in a significant impact on these protected areas, principally through water quality degradation, and also through flora and fauna, noise, dust and visual amenity impacts.

Understandably, a significant number of submissions and representations have been received raising serious concerns about the potential for impact on these protected areas, particularly the potential to impact upon the outstanding universal values of the WHA.

However, following its assessment the Department believes that, subject to strict controls, the Applicant has demonstrably shown that the development can be operated in a manner that would avoid significant impact on the integrity and values of the WHA and other protected areas.

To ensure the ongoing conservation of the protected areas, the Applicant has committed – through its application and through agreement to the Department's recommended conditions – to a comprehensive range of environmental protection measures. Some of these include:
- Maintaining a 100 metre buffer to the WHA, with potential to reduce this buffer to 50 metres at a later date only if the Applicant can demonstrate that the operation is not impacting the WHA;
- Undertaking all processing off-site, and transporting all extracted material by rail;
- Designing and maintaining a water management system that retains and treats all water runoff up to the 1 in 100 year 72 hour storm event;
- Implementing a significant compensatory habitat offset strategy;
- Minimising visual impacts through progressive terraced rehabilitation landscaping and other measures; and
- Developing a range of environmental management strategies and plans, employing a full-time Environmental Manager, and establishing a Community Consultative Committee to oversee the development.

The Department also recognises that the site is adjacent to the small settlement of Newnes Junction. Although the Applicant has shown that the proposal can be managed without significant water, noise or dust impacts on these residents, the Department believes the proposal would have an impact on the

general amenity of these properties. As such, the Department has recommended granting acquisition rights to the Newnes Junction residents, so that they can be adequately compensated should they wish to have their property acquired.

Finally, the Department recognises that the proposal would generate significant socio-economic benefits for people of NSW. Firstly, by providing up to 21 million tonnes of sand/kaolin to the construction industry in the Sydney region over a twenty year period, or about 20% of Sydney's annual demand for sand (based on current estimates). Secondly, by generating up to 10 jobs for the local are, injecting an initial direct capital investment of $5 million into the economy, and providing green offsets that would result in a net environmental gain in the medium to long term.

On balance, and importantly given that the proposal can be operated without a significant impact on the Greater Blue Mountains WHA and other protected areas, the Department believes that the potential benefits of the proposal outweigh its potential costs, and consequently believes it is in the public interest and should be approved, subject to strict environmental conditions.

8. RECOMMENDATION

It is RECOMMENDED that the Minister:

- Consider the findings and recommendations of this report;
- Approve the DA under section 80 of the EP&A Act, subject to the conditions set out in the attached instrument of consent; and
- Sign the attached instrument of consent (Tag A).

David Kitto
A/Director
Major Development Assessments

APPENDIX A

1996 CROWN LEASE REFUSAL AND LAND ASSESSMENT REPORT

APPENDIX B

ENVIRONMENTAL PLANNING INSTRUMENTS CONSIDERATION

A.1 State Environmental Planning Policy (SEPP) No.11 – Traffic Generating Development

The proposal is affected by the provisions of SEPP 11, as an 'extractive industry or mining' (Schedule 1(m)). As such, the application was referred to the RTA, who subsequently confirmed that it had no objection to the proposal, subject to the imposition of certain minor road safety conditions.

A.2 SEPP No.33 – Hazardous and Offensive Development

With regard to dangerous goods and hazardous materials storage, the EIS states that the proposal would involve the storage of 20,000 L of diesel in two 10,000 L fully-bunded above ground storage tanks in the northern area of the site. The proposal would also store moderate amounts of oils and lubricants.

Based on the procedures in the Department's *Applying SEPP 33* document, the diesel tanks would need to be stored within 12 metres of the property boundary for the development to be classified as potentially hazardous. Given the ample area on site to provide this buffer distance, the Department is satisfied that the proposal is not potentially hazardous or offensive, and that the proposal is generally consistent with the aims, objectives, and requirements of SEPP 33.

A.3 SEPP No.44 – Koala Habitat Protection

The EIS states that the development area does not provide core or potential Koala habitat and does not have a resident population of Koalas. As such, the Department is satisfied that the proposal is generally consistent with the aims, objectives, and requirements of SEPP 44.

A.4 SEPP No.55 – Remediation of Land

The Department is satisfied that the land subject to the development application does not have a significant risk of contamination given its historical landuse, and that the proposal is generally consistent with the aims, objectives, and requirements of SEPP 55.

A.5 Lithgow City Local Environmental Plan 1994

The land subject to the DA is zoned 1(a) Rural General under the *Lithgow City Local Environmental Plan (LEP) 1994*.

Under the LEP, development for the purpose of mining and extractive industry is permissible in the rural general zone, with development consent.

Clause 11 of the LEP requires a consent authority to take into consideration the following matters before determining a development application relating to land within zone 1(a):
(a) the present use of the land, and the potential for sustained agricultural production of so much (if any) of the land as is prime crop and pasture land;
(b) vegetation, timber production, land capability and water resources (including the quality of the water, stability of water courses, ground water storage and riparian rights;
(c) the future recovery from known or prospective areas of valuable deposits of minerals, coal, petroleum, sand, gravel or other extractive materials;
(d) the protection of areas of nature conservation significance or of high scenic or recreational value, and of items of heritage significance;
(e) the cost of providing, extending and maintaining public amenities and services;
(f) development on adjoining land and on other land in the locality, including any cumulative impact;
(g) the future expansion of settlements in the locality.

It is noted that *SEPP No.45 – Permissibility of Mining* makes mining permissible with development consent without the consent authority having to be satisfied as to these matters. Notwithstanding, the Department has assessed the proposal against the relevant matters above in its assessment report.

Schedule 1 of the LEP lists heritage items in the City of Lithgow. Railway items associated with the Main West Line are the only listed heritage items in the vicinity of the proposed development. The Department is satisfied that the proposal is unlikely to result in any significant impact to any items of heritage significance.

APPENDIX C

SUMMARY OF RECOMMENDED CONDITIONS OF CONSENT

The Department has recommended a comprehensive suite of conditions of consent, including requirements to:

- Maintain a 100 metre buffer to the Blue Mountains National Park / Greater Blue Mountains World Heritage Area, with a potential to reduce this to 50 metres at a later date only if the Applicant can demonstrate that the operation is not impacting the WHA and other protected areas to the satisfaction of the Director-General,
- Maintain a 50 metre buffer to the significant swamp vegetation in the south east of the site,
- Retain a remnant vegetative buffer on the northern boundary of the site, and adjacent the proposed acoustic/visual barrier,
- Undertake all processing of extracted materials off-site,
- Transport all extracted material by rail,
- Pay applicable contributions to Lithgow Council to support provision of local services,
- Acquire, upon request, properties within the Newnes Junction settlement,
- Comply with strict criteria and develop comprehensive monitoring programs for noise, air, and water discharges,
- Restrict hours of operation for extraction and train loading to daytime hours only,
- Develop an integrated Water Management Plan, including a Water Balance, Soil and Water Management Plan, Surface Water and Groundwater Monitoring Programs,
- Design and maintain a water management system that contains and treats all runoff up to the 1 in 100 year 72 hour storm event,
- Develop a comprehensive Flora and Fauna Management Plan, including a Vegetation Clearing Protocol, Compensatory Habitat Management Plan, Pest and Weed Management Plan, and Flora and Fauna Monitoring Program, including monitoring of habitat health in the WHA and along the Wollangambe River,
- Undertake significant green offset measures, including establishing at least 25 hectares of compensatory vegetation, assistance in the rehabilitation of a 5ha nearby site of *Newnes Plateau Shrub Swampland*, and assistance in rehabilitation of the 864ha Dargans Creek Crown Lands,
- Develop and periodically update a Rehabilitation and Landscape Management Plan, and lodge a substantial Conservation Bond,
- Develop an Aboriginal Cultural Heritage Monitoring Program for the pre-clearing, clearing and initial excavation stages of the development, in consultation with the Bathurst Local Aboriginal Land Council,
- Minimise the visual impact of the development on the WHA and the Wollemi Wilderness Area,
- Establish and maintain a comprehensive Environmental Management Strategy, prepare detailed Annual Environment Management Reports and commission regular independent audits,
- Employ a full time, suitably qualified Environmental Manager to oversee the development,
- Maintain a Community Consultative Committee for consultation throughout the life of the development, and
- Make all environmental reports and plans available to the public.