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PROPOSAL BY THE AUSTRAL BRICK COMPANY PTY LIMITED TO DEVELOP A CLAY/SHALE EXTRACTIVE OPERATION AT HORSLEY PARK

Report on the assessment of a Development Application (DA-260-8-2002-i)
Pursuant to Section 80 of the Environmental Planning and Assessment Act, 1979
P00102/2

Department of Urban and Transport Planning

May 2003

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1 Introduction

The Austral Brick Company Pty Limited (The Applicant) lodged a Development Application on the 13 August 2002 with the Department of Planning to develop two separate clay/shale extraction pits at Horsley Park in the Fairfield City local government area.

The Applicant proposes to develop two separate clay shale extraction pits – eastern pit and western pit - on Lot 2 DP120673, Old Wallgrove Road, Horsley Park over a 40 year period. Due to environmental issues, the Department in agreement with the Applicant has divided the proposal into the following three stages:

Stage 1 – development of the eastern pit with a maximum extraction rate of 150,000 tonnes per annum;

Stage 2 – development of the western pit and continued operation of the eastern pit with a maximum extraction rate of 500,000 tonnes per annum; and

Stage 3 – expansion of the western pit with a maximum extraction rate of 650,000 tonnes per annum.

Stage 1 of the proposal is the subject of this assessment report. The Stages 2 and 3 of the development will require further approval from the Minister. To support approval for Stages 2 and 3 of the development, the Applicant must prepare documentation detailing the environmental performance to date and an environmental impact assessment associated with the development having regard for the relevant government legislation and policies at the time the report is prepared.

The proposal aims to maintain the supply of raw materials to the existing Austral Brick Plants located in Horsley Park. The proposal would provide for the continuation of employment for 8 to 10 employees, and provide additional 5 to 6 part-time positions approximately five years into the project. The proposal involves the capital investment of approximately $1 million.

The proposed eastern area pit would cover approximately 25 ha and has an estimated resource of 2.9 million tonnes, which will be extracted over a 15 year period.

The proposed western area pit would cover approximately 18 ha and has an estimated resource of 11.35 million tonnes, which will be extracted over a 28 year period. Extraction in the western pit is proposed to commence approximately 12 years from the date of development approval.

2 Development Proposal

2.1 OVERVIEW

The proposed development of the extraction pits involves the following:

- Stage 1
    - clearing of a small area of remnant vegetation within the eastern DA area;
    - the development of the eastern pit on Lot 2 DP 120673, including the proposed extraction of 2.9 million tonnes of clay, claystone (weathered

and unweathered shale) and sandstone/laminate, to a maximum extraction rate of 150,000 tonnes per annum;

- an underpass for transport beneath Old Wallgrove Road between the proposed site and Austral Brick Plant 3. Involves the development of a small portion of Lot 1 DP 843901, where the Austral Brick Plant 3 is located;
- an intersection/site entrance onto Old Wallgrove Road for transport of raw material to Austral Brick Plants 1 and 2. To be completed following construction of the Western Sydney Orbital;
- the construction of a road crossing across the unnamed tributary to Ropes Creek;
- loading and trucking of product to Austral Brick Plants 1 and 2 via internal roads and Old Wallgrove Road; and
- transport of product to Austral Brick Plant 3 via internal roads.

- Stage 2
  - Clearing of a small area of remnant vegetation within the western DA area;
  - Continued operation in the eastern pit on Lot 2 DP 120673;
  - the development of the western pit on Lot 2 DP 120673, including the proposed extraction of 11.35 million tonnes of clay, claystone (weathered and unweathered shale) and sandstone/laminate;
  - A maximum extraction rate from both the eastern and western pits of 500,000 tonnes per annum**;**
  - loading and trucking of product to Austral Brick Plant 1and 2 via internal roads and Old Wallgrove Road; and
  - transport of product to Austral Brick Plant 3 via internal roads.

- Stage 3
  - to increase extraction from the western pit to 650,000 tonnes per annum;
  - loading and trucking of product to Austral Brick Plants 1and 2 via internal roads and Old Wallgrove Road; and
  - transport of product to Austral Brick Plant 3 via internal roads.

2.2 SITE DESCRIPTION AND LOCALITY

The proposed site is in the Horsley Park area of Fairfield City Local Government Area (LGA), located some 40 kilometres west of the Sydney Central Business District between Penrith and Parramatta and south of the M4 Freeway as indicated on Figure 1. The surrounding land use includes clay extraction and brick manufacturing plants, agriculture (grazing and market gardens), rural/residential allotments, and urban residential allotments.

The proposed land is described as Lot 2, DP120673, Old Wallgrove Road Horsley Park and a small portion of Lot 1, DP843901 for the development of the underpass beneath Old Wallgrove Road. An aerial photo of the locality is shown in Figure 2.

The northern boundary of the proposed site is defined by the Warragamba-Prospect water supply pipeline, beyond which is grazing land, the TransGrid Sydney West substation and urban residential allotments to the north-west (Erskine Park). To the south-east and east, are brick manufacturing plants and clay extraction pits operated by the Applicant and PGH Ltd, beyond which are rural-residential allotments and market gardens (Kemps Creek, Horsley Park). The Emmaus Complex comprising a college, schools and nursing home lies approximately 1.75km to the west, with intervening grazing land.

Ropes Creek is located to the west of the proposed site and is a tributary to the Hawkesbury River catchment.

2.3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed extractive industry involves the extraction of clay/shale from the site from two separate pits – Eastern and Western Pits. The pits are divided by a 40m buffer zone either side of an unnamed tributary to Ropes Creek that bisects the proposed site. The proposal also includes the establishment of the following buffer zones from the proposed pit:

- 25m to the north boundary of the DA area, to allow a 65m buffer to the Warragamba-Prospect water supply pipeline;
- 40m to the east boundary of the DA area, to allow sufficient width for a visual amenity bund and tree screening;
- 25m to the south boundary of the DA area, to allow sufficient width for a visual amenity bund and tree screening; and
- 40m to Ropes Creek, to the west of the Western pit.

Extraction from the site is proposed in a series of active benches that are approximately 50 metres wide and less than 10 metres in depth. Separate benches of clay, “brown” and “blue” shale, are anticipated to be active at any one time to ensure that all raw material types are available upon demand. A sump pit will be developed in the northwest corner of each pit. The extraction sequence would then commence in a southeasterly direction from the sump in benches approximately 50m wide. A minor amount of sandstone is anticipated to be extracted, and this will be utilised either in the brick manufacturing plant or as backfill within the pit.

Visual bunds will be constructed to the south and east of the eastern pit as indicated on Figure 2.

Strips would be cleared of vegetation after selective removal of potential fauna habitat trees. Top soil would be removed and stockpiled prior to development of an area to ensure there are sufficient soil resources for rehabilitation. All stockpiles will be seeded with native species, where practicable, to minimise erosion.

A single lane underpass beneath Old Wallgrove Road will be constructed to allow direct access between the eastern pit and Austral Brick Plant 3. The underpass would be integrated with the existing internal road network on both sites, allowing product from the eastern pit to be delivered via scraper without interaction with public road users.

Product to Austral Brick Plants 1 and 2 will be transported from the pit via 28 to 35 tonne trucks along internal roads, Old Wallgrove Road and Wallgrove Road. The proposal involves the sealing of a 50 metre section of Old Wallgrove Road. As part of the Western Sydney Orbital Development due for completion in 2007 the following improvements will be made to the proposed transport route:

- an intersection suitable for the proposed truck types will be constructed between Old Wallgrove Road and Wallgrove Road; and
- a purpose built underpass beneath the Western Sydney Orbital will be constructed to allow access to Austral Brick Plants 1 and 2.

Transport of product to Austral Brick Plants 1 and 2 is not scheduled until the completion of the Western Sydney Orbital. Truck movements between the proposed site and Austral Brick Plants 1 and 2 are anticipated to be of the order of 150 truck movements per day.

Hours of operation will be in accordance with the existing operation of the Austral Brick Plant 3:

- Monday to Friday, 6:00am to 4:30pm
- Saturday, 6:00am to 1:00pm
- Closed Sunday and Public Holidays

Surface water run-off from the eastern pit will be diverted to an in-pit sump and utilised on the site for dust suppression. Excess water will be discharged to the surrounding grass paddocks, bunds and buffer areas within the Project area. Surface water run-off from undisturbed areas of the proposal will be diverted around the pit.

The proposal does not anticipate any waste material as all non-production waste activities such as meal breaks and servicing of mobile equipment will be conducted at the existing Austral Brick Plant 3 brick manufacturing plant.

The long-term rehabilitation objective for Stage 1 of the Project is the creation of a final landform capable of maintaining industrial use such as a fourth Austral brick plant.

3 Statutory Planning Framework

3.1 PERMISSIBILITY

Under the Fairfield Local Environmental Plan (LEP) 1994 the proposed land:

- for extraction (Lot 2 DP 120673) is zoned 1(a) – Non Urban Residential; and
- for the proposed underpass to Austral Brick Plant 3 (Lot 1 DP 843901) is zoned 1(b) Non Urban – Extractive Industry.

Extractive industries and associated works are permissible with development consent in both of the zones.

3.2 MINISTERS ROLE

The proposed development is classified as State Significant development and the Minister is therefore the consent authority. The Minister must therefore determine the Development Application by either granting or refusing consent under section 80 of the *Environmental Planning and Assessment Act, 1979* ("Act").

3.3 LEGISLATIVE CONTEXT

3.3.1 Environmental Planning and Assessment Act 1979

State Significant Development

The proposal is considered State Significant Development under a declaration made by the Minister for Planning on 3 September 1999 under Section 76A(7) of the Act as it consists of:

- a potential total resource of 14.3 million tonnes (Stage 1 and 2) which is greater than the criteria of 5 million tonnes; and
- a resource of regional significance as the Proposed site (Lot 2 DP 120673) is listed in Schedule 1 of Sydney Regional Environmental Plan No. 9(2) (SREP 9(2)) – Extractive Industry.

Integrated Development

The proposal is also 'integrated development' under section 91 of the Act since it requires approval from the following agencies:

- National Parks and Wildlife Service (NPWS) under the *National Parks and Wildlife Act 1974*;
- Environment Protection Authority (EPA) under the *Protection of the Environment Operations Act 1997*;
- Department of Sustainable Natural Resources (DSNR) under the *Rivers and Foreshore Improvement Act 1948;* and
- Fairfield City Council under the *Roads Act 1993.*

The EPA, NPWS, DSNR and Fairfield City Council have provided general terms of approval and are satisfied with the proposed development.

Designated Development

The proposal is 'designated development' as it is listed under Schedule 3 of the *Environmental Planning and Assessment Regulation 2000*. The Applicant obtained Director-General's requirements and submitted an EIS with the development application.

3.4 COMMONWEALTH LEGISLATION

Environment Protection and Biodiversity Conservation Act 1999

The endangered ecological community Cumberland Plain Woodland was identified on the proposed site. The Applicant concluded that a referral to Environment Australia under the *Environment Protection and Biodiversity Conservation Act* 1999 was not required as the endangered community was likely to be protected on the site through the design of buffer strips along the two watercourses. The Department supports this conclusion.

3.5 RELEVANT ENVIRONMENTAL PLANNING INSTRUMENTS

State Environmental Planning Policy (SEPP) No. 11 – Traffic Generating Developments

The aim of SEPP 11 is to ensure that the traffic authority is made aware of, and is given an opportunity to make representations in respect of the development referred to in Schedule 1 or 2.

As extractive industry is listed in paragraph (m) of Schedule 1, this policy applies to the proposed development. In accordance with this policy, a copy of the DA and EIS was forwarded to Fairfield City Council and the Roads and Traffic Authority (RTA) for comment. Fairfield City Council and the RTA provided a submission that offered no objection to the proposal in regards to traffic impacts.

SEPP No. 33 – Hazardous and Offensive Development

SEPP 33 requires consent authorities to have regard for the potential risk and offensiveness of the proposal in terms of impacts on human health, property and the biophysical environment. This plan applies to hazardous and offensive industry that, when all measures proposed to reduce or minimise impacts on the locality have been employed, would still pose a significant risk in relation to human health, life or property, or the biophysical environment.

The proposal is potentially offensive as it requires an environment protection license for discharges. The EPA has advised that it is able to issue this license. Therefore, as the proposed extractive industry includes measures and procedures to minimise impacts on human health and the environment, which significantly reduce the possible risks, SEPP 33 does not apply to the development.

SEPP No. 55 – Remediation of Land

SEPP 55 provides a State-wide planning approach for the protection of health and the environment from contamination and remediation of contaminated land. Clause 7 of this policy stipulates that a consent authority must not grant consent to the carrying out of any development on land unless:

a) it has considered whether the land is contaminated, and
b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

The proposed site is currently used for agriculture and is also partially covered by native vegetation. Given the current land use and history of the site the Department considers that it is unlikely to be contaminated. Geological and groundwater investigations did not detect any contamination. It is considered that the site is suitable for the proposed development and would not require any remediation prior to commencement of the proposal.

Sydney Regional Environmental Plan No. 9 – Extractive Industry (No. 2) (SREP 9)

SREP 9 applies to the site as the proposed site is listed in Schedule 1. The objectives of the Plan are:

a) to facilitate the development of extractive resources to proximity to the population of the Sydney Metropolitan Area by identifying land with contains extractive material of regional significance;
b) to permit, with the consent of the council, development for the purpose of extractive industries on land described in Schedule 1 or 2;
c) to ensure consideration is given to the impact of encroaching development on the ability of extractive industries to realise their full potential;
d) to promote the carrying out of development for the purpose of extractive industries in an environmentally acceptable manner; and

e) to prohibit development for the purpose of extractive industry on the land described in Schedule 3 in the Macdonald, Colo, Hawkesbury and Nepean Rivers, being land which is environmentally sensitive.

It is considered that the proposed extraction is consistent with these objectives as it represents the orderly development of the site and extraction of a regionally significant resource. Environmental impacts of the proposal have been assessed in detail in section 5 of this report.

Clause 7 of the Plan requires that the consent authority not grant consent to a proposal unless:

a) it has considered the effect of the development on flood behaviour, the water quality, quantity and hydrodynamics of any watercourse or underground waters and also the effect of flood behaviour on the development and operations associated with the development in the vicinity; and
b) it has considered a rehabilitation plan prepared in accordance with the Guidelines for Rehabilitation Plans in the Extractive Industry Report; and
c) it is satisfied that, while the development is being carried out, noise and vibration levels will generally be in accordance with the guidelines in the State Pollution Control Commission Environmental Noise Manual (1985 edition) available at the offices of the Environment Protection Authority and the councils of the areas specified in Schedule 4; and
d) it is satisfied that rehabilitation measures will be carried out in accordance with the guidelines in the Urban Erosion and Sediment Control Handbook (1992) prepared by the Department of Conservation and Land Management and available at the offices of the Department of Land and Water Conservation.

Stream hydrology and impact of flooding on the site water management system is considered in section 5 of this report as are rehabilitation, noise, and sediment and erosion control. The recommended instrument of consent requires detailed rehabilitation and erosion and sediment control plans to be prepared for the site. The Department is satisfied that the proposal is consistent with these provisions.

The Plan requires that development applications be forwarded to the Department of Mineral Resources (DMR) for comment. DMR reviewed the DA and offered no objection to the proposal.

In accordance with clause 9 of the Plan, the Department has taken into account the recommendations of the Extractive Industry Planning Report and considers that the proposal is an important source of clay/shale for the Sydney brick market.

Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (No. 2) 1997

This plan applies to the proposed site and aims to protect the environment of the Hawkesbury-Nepean River System, by ensuring that the impact of future land uses are considered in a regional context. SREP 20 stipulates that total catchment management objectives, environmental sensitivity and alternative sites must be considered in determining an application. The proposed extractive industry does not fall within the definitions in Part 3 of the Plan, hence specific development controls in that part do not apply. The proposal has been assessed against the relevant provisions of Part 2 of the Plan and the Action Plan of the Hawkesbury-Nepean Environmental Planning Strategy 1997 in Appendix A. The Department considers that the proposal is generally consistent with the Plan and Action Plan.

State Environmental Planning Policy No. 59 – Central Western Sydney Economic and Employment Area

This plan does not apply directly to the proposed site. However it applies to the "Vineyard" site which is owned by the Applicant and located adjacent to the proposed site to the north east. The site is currently operating as a clay/shale quarry.

The plan provides a framework for the rezoning of land in central western Sydney for employment, residential and regional open space purposes. The plan is applicable to the proposal, if the land currently owned and operated by the Applicant (known as "The Vineyard") is rezoned as residential under SEPP 59. If this land is developed, potential constraints relating to noise, air quality and traffic impact will need to be assessed.

Fairfield Local Environmental Plan, 1994

Under the provisions of the Fairfield Local Environmental Plan, 1994 the proposed site (Lot 2 DP 120673) is zoned 1(a) – Non Urban-Residential, where extractive industries and associated activities are permissible. Specifically Clause 17(1)c states:

"Extractive industries and associated activities may be carried out:
b) on Lot 2 DP 120673, Old Wallgrove Road, Horsley Park"

The proposed site where part of the underpass is proposed (Lot 1 DP 843901) is zoned 1(b) – Non Urban – Extractive Industry, where extractive industries and associated activities are permissible.

Clause 17(2) of the LEP requires that the following issues be addressed to the satisfaction of the Council and the Minister for Planning, prior to the granting of approval to undertake extractive industry:

- does not require Council to provide services or roads, unless the cost of providing those services is fully recoverable from the person carrying out the development;
- impact on flood behaviour;
- does not involve the filling of land with fill containing putrescible waste or hazardous material; and
- impacts on water quality and ecological systems of Eastern Creek, Ropes Creek and Reedy Creek.

Flood behaviour and impacts to water quality and ecological systems of Ropes Creek are considered in section 5 of this report. The proposal does not involve the filling of land with fill containing putrescible waste or hazardous material. A consent condition has been included to ensure the proposed modifications to the road network will be conducted by the Applicant, to the satisfaction of Fairfield City Council.

3.6 DEVELOPMENT CONTROL PLANS

Fairfield Development Control Plan 17/95 – Rural Area

This plan introduces objectives for the desired future character and general development constraints for the existing rural areas applying to subdivision and residential development, agricultural development and commercial development.

The DCP Map includes items of known or potential Aboriginal heritage significance and has identified such a site within the DA area. This is discussed further in section 5 of this report.

Penrith City Council's Draft Rural Lands Study

This plan does not apply directly to the proposed site. However it applies to the land immediately south and south west of the proposed site, which is zoned "rural conservation". This land is regarded as a secondary agricultural area, however is considered to contribute significantly to the rural landscape character of the area. The plan is applicable to the proposal, requiring the visual aspect to be assessed. Visual impacts are considered in Section 5 of this report.

The plan also proposes "1ha rural living" development to the south of the proposed site. If these sites are developed, potential development constraints relating to noise, air quality and traffic impact will need to be assessed.

3.7 CONCLUSION

The Department has assessed the development application for the proposal in accordance with the Act and Regulation. All statutory requirements under NSW legislation have been met. The Department has considered the proposed development in the context of all relevant environmental planning instruments and Council's Development Control Plans. The Department concludes that the proposal is generally consistent with the aims, objectives and provisions of all applicable instruments, plans, and policies.

4 Stakeholder Consultation and Summary of Issues Raised

Consultation with stakeholders has been comprehensive and in keeping with the scale and implications of the proposed development. The views expressed by each government agency, special interest group, and individual have been carefully considered. The Department has conducted public participation in accordance with the Act and the Regulation. The Department's consultation included:

- advertising and exhibition from Wednesday 21 August 2002 until Friday 20 September 2002;
- notification of nearby and potentially affected landholders and residents, and placement of signs at the site during the exhibition period;
- exhibition of the development application and EIS at Planning NSW, Fairfield City Council and the Nature Conservation Council; and
- consultation with community groups, Council and other government agencies through correspondence and meetings.

A summary of submissions received by the Department from key stakeholder groups is provided in Table 1.

Table 1: Summary of Submissions

Submission Type	Number of submissions received	Submissions objecting to proposal
Community Private Individual	61	61
Government Agencies	16	0
Elected Representatives	0	0
Special Interest Groups	1	1
Total	**78**	**62**

4.1 GOVERNMENT AGENCIES

The DSNR indicated that a permit pursuant to Part 3A of the *Rivers and Foreshores and Improvement Act 1948* was required and was therefore an integrated approval agency. The NPWS, EPA and DSNR after receipt of requested further information, indicated general satisfaction with the proposal and recommended general terms of approval.

NSW Fisheries, Department of Mineral Resources, NSW Agriculture, NSW Heritage Office, Sydney Water, Transgrid and Sydney Regional Development Advisory Committee (SRDA) provided submissions that indicated general satisfaction with the proposal and recommended specific issues that should be addressed in the assessment and the conditions of consent. These issues are detailed in the relevant parts of section 5 of this report.

The Sydney Catchment Authority (SCA) has raised concern regarding insufficient assessment of the potential impact to the structural integrity of the Warragamba-Prospect pipeline located to the north of the proposed site, particularly from the Western Pit operations. The SCA has requested that the Applicant undertake a geotechnical assessment to determine an adequate buffer zone between the pit and the pipeline. This issue is detailed in the relevant part of section 5 of this report.

4.2 LOCAL COUNCILS

Fairfield City Council (FCC) provided three submissions on the Development, providing comments and requesting further information. The Council was supportive of the development, providing the conditions of consent addressed the issues raised in regards to water catchment management, dust suppression, revegetation, monitoring and an EMP. The FCC has requested a condition of consent to prevent the future filling of the excavated pits with putrescible or hazardous waste.

Penrith City Council (PCC) provided a submission requesting that adequate environmental practices/controls be put in place to address noise, dust, visual and traffic impacts as well as creek flow and ecology impacts on Ropes Creek. The submission noted that the proposal was inconsistent with the Penrith Rural Lands Strategy and adjacent rural residential landscape and objected to the potential future use of the pit as a landfill site. These issues are addressed in the relevant parts of section 5 of this report.

Blacktown City Council (BCC) provided a submission expressing concern of the impact of the proposal on the adjacent SEPP 59 lands, particularly in reference to air and water quality and traffic impacts along Old Wallgrove Road. The submission also raised issues in regards to:

- The heritage item "Southridge" located on Old Wallgrove Road and a portion of the "heritage pipe" located under Old Wallgrove Road; and
- Consultation with all relevant local aboriginal land councils.

BCC requested that a requirement for an EMP be included in the conditions of consent, including annual water and air quality monitoring and regular noise monitoring. These issues are addressed in the relevant parts of section 5 of this report.

4.3 ELECTED REPRESENTATIVES

The views of the member for Smithfield, Carl Scully MP in relation to the proposed development are not known.

4.4 INDIVIDUALS AND SPECIAL INTEREST GROUPS

The Horsley Park and Cecil Park Community Group held a public meeting in regards to the proposal at which 75 residents attended. A submission received from this group raised the following key issues:

- Concern over the existing Austral and PGH operations, particularly odour, noise and dust impacts;
- Concern relating to the devaluation of property, particularly in regards to amenity;
- Concern that buffer zones will occur on land other than the proposed land;
- Concern over the proposed 40 year term of the proposal;
- Concern relating to visual impacts;
- Opposition to the potential future use of the pit as a putrescible waste landfill site or as another brick plant;
- Ensure integrity of the adjacent SCA pipeline; and
- Concern over noise, dust, visual, health and traffic impacts from the proposed development.

The 61 separate submissions received from private individuals largely focussed on the key issues raised by the Horsley Park and Cecil Park Community Group, and are addressed in Section 5 of this report.

5 Consideration of Environmental Issues

5.1 LENGTH OF CONSENT

Applicant's Position

The Applicant has provided an assessment of the environmental impacts over the 40 year life of the proposed development.

Issues Raised in Submissions

Individuals and Special Interest Groups

A number of private submissions raised concern regarding the 40 year life of the project.

Government Agencies

DSNR raised concern regarding the 40 year life of the project, specifically the potential time lag of 10 years until the development of the Western Pit in which it is highly likely that the current environmental standards and existing legislation/policy will change significantly, thereby making it difficult to provide certainty that the Western pit will satisfy best practice environmental management standards when works eventually commence. DSNR recommended that a determination on proposed activities for the extraction of the Western pit be deferred, and be the subject of a future assessment in 8-10 years time.

Department's Position

The Department in consultation with the Applicant has divided the proposal into the following three stages:

- Stage 1 – the development of the eastern pit, to a maximum extraction rate of 150,000 tonnes per annum;
- Stage 2 – the development of the western pit and continued operation of the eastern pit to a maximum extraction rate of 500,000 tonnes per annum; and
- Stage 3 – the expansion of the western pit operation, to a maximum of 650,000 tonnes per annum

The Department has prepared conditions of consent pertaining to Stage 1 of the proposal. The Applicant will be required to obtain further approval from the Minister to undertake Stages 2 and Stage 3. To obtain approval, the Applicant shall prepare an assessment report of the environmental performance to date and an environmental impact assessment of proposed activities with regard to the relevant government legislation and policy at the time of writing of the report. The form and content of the report is to be determined by the Director-General in consultation with the EPA, NPWS, DSNR, and Fairfield City Council.

Recommendations

If the Minister determines to approve the Development Application the Applicant should be required to:

- *Seek further approval from the Minister to undertake Stages 2 and 3 of the proposed development.*

5.2 AIR QUALITY IMPACTS

Applicant's Position

Dust Impacts

The Applicant assessed existing air quality and meteorological conditions at the site. Air quality monitoring was undertaken at 12 locations on neighbouring Austral sites between July 2000 and June 2001 for dust deposition. Dust deposition for the proposed site was calculated from the twelve gauges and is well within the EPA air quality criterion with recorded annual average levels of 1.59 g/m^2/month compared to the criteria of 4 g/m^2/month. Measurements for Total Suspended Particulate (TSP) Matter and particles with aerodynamic diameters less than 10 µm (PM_{10}) have not been undertaken. Based on the annual average dust deposition rate, the annual average TSP concentration was calculated to be 36 $\mu g/m^3$ and the annual average PM_{10} was calculated to be 14 $\mu g/m^3$.

The air quality impact assessment was based on two scenarios – Years 8 to 10 and Years 25+ and considered the generation of dust from the use of a bulldozer to rip, scrapers to transport to Plant 3, front end loader to load raw material, 28 t trucks to haul raw material to Plants 1 and 2 and wind erosion. Modelling for air quality impacts was undertaken with the US EPA ISCST3 model. Results from the impact assessment indicate that dust impacts at the nearest resident would be below the criteria for annual average PM_{10} (50 $\mu g/m^3$), TSP (90 $\mu g/m^3$) and dust deposition (4 g/m^2/month).

Greenhouse Gas Emissions

The Applicant proposes to use existing plant for the extraction and transport of clay/shale from the pits. However the proposal will result in increased usage of this plant, particularly emissions from the transport of raw material to Austral Brick Plants 1 and 2. Therefore the major source of emissions from the site will be diesel fuel usage.

Issues Raised in Submissions

Individuals and Special Interest Groups

Key issues raised were:

- Increased dust levels as a result of the Project
- Dust impacts on human health
- Concerned regarding dust impacts from existing operations (Austral and PGH)

Government Agencies

The EPA provided General Terms of Approval for the proposal.

Blacktown City Council raised concern that windblown dust from the transport of raw material along Old Wallgrove Road to Austral Plants 1 and 2, might lead to a reduction in air quality and increased sedimentation of the water catchment within SEPP 59 lands. Blacktown City Council has also requested that air quality monitoring be undertaken, and results forwarded to the Council.

Department's Position

Air quality impacts due to annual average dust deposition, total suspended particulate (TSP) matter and PM_{10}

Holmes Air Sciences (HAS), 2002a, Air Quality Impact Assessment of the Proposed Clay/Shale Extraction – Horsley Park Lot 2, DP 120673 "Oakdale" presents a detailed assessment of the air quality impacts associated with the proposed development of a clay/shale extraction operation. *HAS, 2002a* is included in Volume 2, Part 4 of the EIS.

Holmes Air Sciences (HAS), 2002b, Responses to Comments from PlanningNSW re: Draft Air Quality Assessment provides additional information relating to: air quality impact assessment criteria; existing ambient air quality; particulate matter emissions; air quality impacts associated with 24-hour average PM_{10}; and cumulative air quality impacts. *HAS, 2002b* has satisfactorily addressed the request for additional information.

HAS, 2002a and *HAS, 2002b* presents the results of an air quality impact assessment that has been carried out in accordance with *NSW EPA, 2001, Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW*. The major air pollutant of concern associated with the clay/shale extraction operation includes particulate matter (i.e. dust).

The representative background dust deposition rates and concentrations of total suspended particulate (TSP) matter and PM_{10} for the proposed site are shown in Table 1 (Section 4.2 of *HAS, 2002a*) and Table 1 (*HAS, 2002b*) respectively.

Table 1: Background dust deposition rates and concentrations of TSP matter and PM_{10}

Annual average dust deposition rate (g/m^2/month)[1]	Annual average TSP ($\mu g/m^3$)[2]	Annual average PM_{10} ($\mu g/m^3$)
1.6	36	20

[1]Based on the average for the years July 2000 to May 2002 for dust deposition gauges 1 to 12.
[2]Assuming that 4 g/m^2/month is equivalent to 90 $\mu g/m^3$ for mining/quarrying related particulate matter emissions.

The USEPA Industrial Source Complex (ISC) dispersion model has been used along with a site representative particulate matter emissions inventory and meteorological data from Blacktown 2001 (*HAS, 2002b*) to predict glcs of annual average dust deposition rate, TSP matter and PM_{10} for clay/shale extraction operational years 10 to 15 and 25 onwards. Table 2 (*HAS, 2002b*) presents the dispersion model results for the maximum exposed privately owned residence for each of the operational years.

Table 2: Predicted ground-level concentrations of annual average dust deposition rate, TSP and PM_{10}

Year	Annual average dust deposition rate (g/m^2/month)[1,2]	Annual average TSP ($\mu g/m^3$)[1,2]	Annual average PM_{10} ($\mu g/m^3$)[1,2]
10 to 15	0.1 (1.7)	2 (38)	1.5 (21.5)
25 onwards	0.5 (2.1)	10 (46)	10 (**30**)
Criterion[3]	2[4] (4)[4]	90	30

[1]Value outside parentheses is the incremental impact of the clay/shale extraction operation alone.
[2]Value inside parentheses is the total impact (incremental plus background).
[3]*NSW EPA, 2001, Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW.*
[4]Insoluble solids as defined by AS 3580.10.1-1991.

The dispersion model predictions in Table 2 (*HAS, 2002b*) indicate that the proposed clay/shale extraction operation is able to meet the EPA's impact assessment criteria for annual average dust deposition rate, TSP matter and PM_{10} at all privately owned residences for each of the operational years. However, there may be adverse impacts associated with annual average PM_{10} at the maximum exposed privately owned residence for operational years 25 and onwards.

Air quality impacts due to 24-hour average PM_{10}

The USEPA Industrial Source Complex (ISC) dispersion model has been used along with a site representative particulate matter emissions inventory and meteorological data from Blacktown 2001 (*HAS, 2002b*) to predict glcs of 24 hour average PM_{10} for

clay/shale extraction operational years 10 to 15 and 25 onwards. Table 3 (*HAS, 2002b*) presents the dispersion model results for the maximum exposed privately owned residence for each of the operational years.

Table 3: Predicted ground-level concentrations of 24 hour average PM_{10}

Year	24-hour average PM_{10} ($\mu g/m^3$)[1,2]
10 to 15	10 (**137**)
25 onwards	50 (**177**)
Criterion[3]	50

[1]Value outside parentheses is the incremental impact of the clay/shale extraction operation alone.
[2]Value inside parentheses is the total impact (incremental plus background).
[3]*NSW EPA, 2001, Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW.*

The dispersion model predictions in Table 3 (*HAS, 2002b*) indicate that the proposed clay/shale extraction operation is unlikely to meet the EPA's impact assessment criteria for 24-hour average PM_{10} at the maximum exposed privately owned residence for each of the operational years. Therefore, (*HAS, 2002b*) presents are more detailed analysis of 24-hour average PM_{10} impacts using contemporaneous meteorological and ambient air quality monitoring data for Blacktown 2001.

Figure 4 (*HAS, 2002b*) indicates there were 4 exceedances of the EPA's impact assessment criterion for 24-hour average PM_{10} during 2001.

Figure 13 (*HAS, 2002b*) indicates there are likely to be 4 exceedances of the EPA's impact assessment criterion for 24-hour average PM_{10} at the maximum exposed privately owned residence for operational years 10 to 15 when the impacts of the proposed clay/shale operation are added to existing background levels. Given that there will be no additional exceedances of the EPA's impact assessment criterion for 24-hour average PM_{10}, and 5 exceedances per annum are allowed (*NEPC, 1998, Ambient Air – National Environment Protection Measure for Ambient Air Quality*), the proposed clay/shale extraction operation is likely to be able to operate without adverse impacts associated with 24-hour average PM_{10} up to operational year 15.

Figure 14 (*HAS, 2002b*) indicates there are likely to be 20 exceedances of the EPA's impact assessment criterion for 24-hour average PM_{10} at the maximum exposed privately owned residence for operational years 25 and onwards when the impacts of the proposed clay/shale operation are added to existing background levels. Given that there will be approximately 16 additional exceedances of the EPA's impact assessment criterion for 24-hour average PM_{10}, and 5 exceedances per annum are allowed (*NEPC, 1998*), the proposed clay/shale extraction operation is likely to operate with adverse impacts associated with 24-hour average PM_{10} from year 25 onwards.

Air quality impacts due to annual and 24-hour average $PM_{2.5}$

The EPA currently has impact assessment criteria for annual and 24 hour average PM_{10} only. Recent studies in Australia and overseas indicate that the $PM_{2.5}$ fraction of these particles is likely to be the most significant in terms of health effects (*NEPC, 2002a, Discussion Paper – Setting a $PM_{2.5}$ standard in Australia, National Environment Protection Council, Adelaide, 2002*). The National Environment Protection Council is currently developing an air quality standard for $PM_{2.5}$. The Draft National Environment Protection (Ambient Air Quality) Measure, released for comment in October 2002, provides some indication of possible future standards for $PM_{2.5}$. This measure, if adopted by the relevant governments, would establish advisory reporting standards and a protocol for monitoring $PM_{2.5}$ (*NEPC, 2002b, Variation to the National Environmental Protection (Ambient Air Quality) Measure, National Environment Protection Council,*

Adelaide, 2002). Table 4 includes the advisory reporting standards proposed for comment.

Ground-level concentrations of annual and 24-hour average $PM_{2.5}$ have been inferred from the results of PM_{10} modelling (*HAS, 2002b*) for clay/shale extraction operational years 10 to 15 and 25 onwards. This analysis assumes that $PM_{2.5}$ is 40% of PM_{10} in typical particulate emissions from a mine/quarry Table 4 presents the dispersion model results for the maximum exposed privately owned residence for each of the operational years.

Table 4: Predicted ground-level concentrations of annual average $PM_{2.5}$ and 24 hour average $PM_{2.5}$

Year	Annual average PM_{10} (µg/m^3)[1,2,3]	24-hour average $PM_{2.5}$ (µg/m^3)[1,2,3]
10 to 15	0.6 (**9**)	4 (**55**)
25 onwards	4 (**12**)	20 (**71**)
Criterion[4]	8	25

[1]Value outside parentheses is the incremental impact of the clay/shale extraction operation alone.
[2]Value inside parentheses is the total impact (incremental plus background).
[3]Assuming that $PM_{2.5}$ is 40% of PM_{10} for mining/quarrying related particulate matter emissions.
[4]*NEPC, 2002b, Variation to the National Environmental Protection (Ambient Air Quality) Measure, National Environment Protection Council, Adelaide, 2002.*

The dispersion model predictions in Table 4 indicate that the proposed clay/shale extraction operation is unlikely to meet the Draft NEPC advisory reporting standard for annual average $PM_{2.5}$ and 24-hour average $PM_{2.5}$ at the maximum exposed privately owned residence for operational year 25 onwards, and each of the operational years respectively. Therefore, a more detailed analysis of 24-hour average $PM_{2.5}$ impacts using contemporaneous meteorological and ambient air quality monitoring data for Blacktown 2001 has been undertaken.

Figure 13 (*HAS, 2002b*) indicates there are likely to be 4 exceedances of the Draft NEPC advisory reporting standard for 24-hour average $PM_{2.5}$ at the maximum exposed privately owned residence for operational years 10 to 15 when the impacts of the proposed clay/shale operation are added to existing background levels. Given that there will be no additional exceedances of the Draft NEPC advisory reporting standard for 24-hour average $PM_{2.5}$, the proposed clay/shale extraction operation is likely to be able to operate without adverse impacts associated with 24-hour average $PM_{2.5}$ up to operational year 15.

Figure 14 (*HAS, 2002b*) indicates there are likely to be 10 exceedances of the Draft NEPC advisory reporting standard for 24-hour average $PM_{2.5}$ at the maximum exposed privately owned residence for operational years 25 and onwards when the impacts of the proposed clay/shale operation are added to existing background levels. Given that there will be approximately 6 additional exceedances of the Draft NEPC advisory reporting standard for 24-hour average $PM_{2.5}$, the proposed clay/shale extraction operation is likely to operate with adverse impacts associated with 24-hour average $PM_{2.5}$ from year 25 onwards.

Health impacts of silica dust

Silicosis is a lung disease resulting from overexposure to respirable crystalline silica dust. Respirable dust is described by particles with an aerodynamic equivalent diameter of less than 10 microns (PM_{10}). Silicosis general occurs through occupational exposure in dusty environments (e.g. mines, quarries, masonry and construction industries). Silicosis is prevented by reducing exposure to respirable crystalline silica dust in the work environment.

While silicosis is not normally associated with health effects from ambient air, studies have been conducted to determine whether observed ambient levels of silica pose a significant health risk to the public (*USEPA, 1996, Ambient Levels and Noncancer Health Effects of Inhaled Crystalline and Amorphous Silica: Health Issue Assessment, United States Environment Protection Agency, Washington, USA*). A range of epidemiological studies were analysed from the USA, Canada, and South Africa. These studies deal with silicosis associated with continuous inhalation of crystalline silica dust in a mining environment. The USEPA analysis conservatively assumes that ambient air quality concentrations of PM_{10} in the community are comparable to occupational exposures in a mining/quarrying environment. The study indicates that the risk of silicosis to an otherwise healthy population continuously exposed for 70 years to the highest silica levels anticipated by the USEPA standards for PM_{10} would be less than 1% (USEPA, 1996). The USEPA standard for annual average PM_{10} is 50 $\mu g/m^3$.

Since the USEPA concludes that the annual average PM_{10} standard of 50 $\mu g/m^3$ provides adequate protection from silicosis for the general population, it is considered that the proposal is unlikely to present unacceptable health risks at all privately owned residences.

Conclusion

The dispersion model predictions presented in *HAS, 2002b* indicate that the proposed clay/shale extraction operation is able to meet the EPA's impact assessment criteria for annual average dust deposition rate, TSP matter and PM_{10} at all privately owned residences for each of the operational years. However, there may be adverse impacts associated with annual average PM_{10} at the maximum exposed privately owned residence for operational years 25 and onwards.

The dispersion model prediction presented in *HAS, 2002b* indicate there are likely to be 20 exceedances of the EPA's impact assessment criterion for 24-hour average PM_{10} at the maximum exposed privately owned residence for operational years 25 and onwards. Given that there will be approximately 16 additional exceedances of the EPA's impact assessment criterion for 24-hour average PM_{10}, the proposed clay/shale extraction operation is likely to operate with adverse impacts associated with 24-hour average PM_{10} from year 25 onwards.

The dispersion model predictions presented in *HAS, 2002b* indicate there are likely to be 10 exceedances of the Draft NEPC advisory reporting standard for 24-hour average $PM_{2.5}$ at the maximum exposed privately owned residence for operational years 25 and onwards when the impacts of the proposed clay/shale operation are added to existing background levels. Given that there will be approximately 6 additional exceedances of the Draft NEPC advisory reporting standard for 24-hour average $PM_{2.5}$, the proposed clay/shale extraction operation is likely to operate with adverse impacts associated with 24-hour average $PM_{2.5}$ from year 25 onwards.

To address these impacts, the Department has divided the project into stages, with Stage 3 corresponding to extraction activities from year 25 onwards. The Applicant will be required to seek further approval from the Minister to undertake Stages 2 & 3. Further details on the nature of the approval are provided in Section 5.1 of this report.

To ensure that the air quality goals are met, the EPA requires the Applicant, under their general terms of approval, to develop an air quality monitoring program which shall include details of a monitoring program and management methods for dust control, developed in consultation with the EPA. The Department supports the monitoring program and has included this requirement in the conditions of consent.

The USEPA concludes that the annual average PM_{10} standard of 50 $\mu g/m^3$ provides adequate protection from silicosis for the general population. Since the impacts of annual average PM_{10} are less than 50 $\mu g/m^3$ at all privately owned residences, it is considered that the proposal is unlikely to present unacceptable health risks at these locations.

Blacktown City Council raised concern regarding dust impacts to the SEPP 59 lands from the transport of raw material along Old Wallgrove Road to Plant 1 and 2. Blacktown City Council manages the portion of Old Wallgrove Road north of the Warragamba-Prospect Water Supply Line to the intersection of the state managed Wallgrove Road. The SEPP 59 lands are located to the west of Old Wallgrove Road. The transport of raw material to Plant 1 and 2 was considered in the air quality impact assessment, along with the following mitigation measures:

- 50m of the site entrance road to Old Wallgrove Road will be sealed (section 4.6.3 of the EIS);
- Trucks departing the Proposed site would pass over a bump or shaker grid to minimise material tracked onto Old Wallgrove Road (section 4.6.3 of the EIS); and
- All loads will be covered in accordance with the current Austral haulage protocols (B-3 and B-9 of *Additional Information Requested by Planning NSW and Responses to Submissions by Other Government Agencies and the Community Group for Clay/Shale Extraction Proposal*).

The Department is satisfied that the air quality impacts to the SEPP 59 lands will be within the relevant EPA criteria.

Blacktown City Council has also requested that air quality monitoring be undertaken, with the result made available to the Council. An air quality monitoring program, including details on location, testing methods and testing frequency, has been included in the EPA general terms of approval. The results of the air quality monitoring program are to be included in the Annual Environmental Management Report (AEMR), which will be made publicly available on the internet 14 days after approval from the Director-General.

Recommendations
If the Minister determines to approve the DA the Applicant should be required to:

- *Establish an air quality monitoring network and report results annually in the AEMR;*
- *Ensure the development meets the air quality impact assessment criteria;*
- *Ensure trucks leaving or entering the premises are covered at all times; and*
- *Seek further approval from the Minister for Stage 2 and 3 of the proposed development, including an assessment of air quality impacts.*

5.3 NOISE IMPACTS

Applicant's Position

The Applicant prepared a noise impact assessment in accordance with the EPA's *Industrial Noise Policy*. The nearest potential noise receptors were identified as three residences (to the east in Horsley Park, to the north west in Erskine Park and to the south west in Kemps Creek) and Emmaus College (to the south west in Erskine Park).
Ambient noise surveys were conducted at these locations between 22 October and 31 October 2001. During the noise survey period normal daytime, evening and night-time operations at Austral Brick Plant 3 and PGH Brick Plant were being undertaken.

Daytime project specific noise assessment goals were calculated for each location, based on the measured background noise levels.

The noise impact assessment modelling was prepared using SoundPLAN noise prediction software. The development was modelled in two operating scenarios, considered the "worst case":

- Years 2/3 proposed extraction activities; and
- Year 20 proposed extraction activities.

The model considered noise emissions from the operation of a front end loader, bulldozer, scrapers and water truck as well as a 5 metre high stockpile on the southern side of the stockpile area on Austral's Plant 3. The assessment determined that the daytime intrusive project specific noise assessment goals ($L_{Aeq(15\ minute)}$) would not be exceeded at the nearest potential noise receptors.

The noise impact assessment did not consider the transport of raw material to Austral Plants 1 and 2 as there are currently no potentially affected residential receiver localities set back along the transport route (Old Wallgrove Road and Wallgrove Road) to Austral Plants 1 and 2.

A vibration impact assessment of the predicted vibration levels at the Warragamba-Prospect water supply pipelines due to the extraction activities in the pits was undertaken. The assessment concluded that due to the buffer distance of 40m, the proposed extraction activities can be undertaken without risk of structural damage to the pipelines.

The Applicant states that drilling and blasting activities will not be required.

Issues Raised in Submissions

Individuals and Special Interest Groups

Key issues raised were:

- Increased noise levels as a result of the Project
- Concerned regarding noise impacts from existing operations (Austral and PGH)

Government Agencies

The EPA provided General Terms of Approval for the proposal.

Blacktown City Council requested that further acoustic assessment be performed at five year intervals, to assist in planning for the SEPP 59 lands.

Fairfield City Council has sought clarification that the noise from the transport of materials to Austral Plants 1 and 2 was included in the noise impact assessment.

Department's Position

The Department requested further information in regards to the project specific noise levels. The Applicant revised the project specific noise limits with consideration for the current Austral Brick, Horsley Park Environment Protection Licence 546 and a reanalysis of the measured background noise levels at the nearest private residence. The results of the analysis are presented in Table 5.

Table 5: Current Environment Protection Licence Conditions

Period	Hours	$L_{Aeq(15\ minute)}$
Daytime (Monday to Saturday)	7:00am to 10:00pm	50 dB(A)
Daytime (Sundays and Public Holidays)	8:00am to 10:00pm	50 dB(A)
Night-time	All other times	43 dB(A)

The Applicant concluded that the proposed development will not result in the exceedance of the current project specific noise limits included in the current EPA licence. The Department is satisfied with this assessment.

To ensure that the project specific noise limits are met, the EPA requires the Applicant, under their general terms of approval, to develop a noise monitoring program which shall include details of a monitoring program and management methods for noise control, developed in consultation with the EPA. The Department supports the monitoring program and has included this requirement in the conditions of consent.

Blacktown City Council has requested that further acoustic assessment be performed at five year intervals. A noise monitoring program, including monitoring methods and project specific noise guidelines, has been included in the EPA general terms of approval. The results of the noise monitoring program are to be included in the Annual Environmental Management Report (AEMR), a copy of which will be made publicly available upon approval by the Director-General.

Fairfield City Council has sought clarification regarding the inclusion of the noise from road transport in the noise impact assessment. Section 5 of Part 3 of the *Specialist Consultant Studies Compendium* (Page 3-21) states that the noise impacts from the transport of raw materials to Austral Plant 1 and 2 has not been included within the noise impact assessment as there are currently no potentially affected residential receiver localities along the transportation route. The Department concurs with the Applicant, however notes that the Applicant is required to undertake a further noise impact assessment to gain approval to undertake extraction activities in the Western Pit and after Year 25 of the development which will include further analysis of noise impacts from road transport.

Recommendations
If the Minister determines to approve the Development Application the Applicant should be required to:

- *Develop a noise monitoring plan to evaluate compliance with the project specific noise goals, in consultation with the EPA;*
- *Report on noise monitoring and any modifications required to management practices in the AEMR; and*
- *Seek further approval from the Minister for Stages 2 and 3 of the proposed development, including an assessment of noise impacts.*

5.4 SURFACE WATER IMPACTS

Applicant's Position

The proposed site lies within the Ropes Creek catchment. Ropes Creek flows northwards to South Creek and then to Hawkesbury River. Ropes Creek forms the western boundary of the proposed site and an unnamed tributary to Ropes Creek bisects the proposed site resulting in the proposed eastern and western pits. A small

farm dam currently exists on the unnamed tributary within the proposed site, and receives stormwater overflow from the Austral Brick Plant 3. Excess surface water run-off from the PGH facility to the south of the Proposed site also flows through the unnamed tributary. The South Creek Stormwater Management Plan, compiled by Penrith and Blacktown City Council, considers that the Ropes Creek catchment does not exhibit high conservation value.

The Applicant proposes surface water management measures including separation of clean and dirty water, re-use of water for dust suppression, discharge of excess water that meets the relevant EPA water quality criteria to Ropes Creek or to irrigation at locations within the project and a water quality monitoring program. The Applicant concludes that the proposal will have a negligible impact upon surface water quality.

The quantity of water within the Ropes Creek catchment will be significantly impacted by the proposal, due to the diversion of approximately 50% of the water from the Ropes Creek Catchment. The Applicant does not propose any mitigation measures to reduce this impact.

The Applicant proposes to install flood bunds on the eastern and western boundaries of the Western Pit and the western boundary of the Eastern Pit, to prevent flooding in the Pits during a PMF flood event. The flood bunds would result in a reduction in theoretical flood storage during a PMF flood event, however would not impact upon the flood storage in a 100 year ARI peak flow. Installation of the flood bunds would take place as part of the initial excavation process for each pit (i.e. Years 1-2 for the Eastern Pit and Years 10-12 for the Western Pit).

Issues Raised in Submissions

Individuals and Special Interest Groups

A small number of individual submissions raised concern regarding impacts to water quality.

Government Agencies

DSNR provided General Terms of Approval for the proposal in regards to site water management, water flows, site rehabilitation and the design of the proposed stream crossing.

EPA provided General Terms of Approval for the proposal in regards to water quality.

NSW Agriculture requested that the salinity level be determined prior to the use of the retained water for irrigation purposes.

Blacktown City Council and Penrith City Council raised concern regarding impacts to water quality and quantity within the Ropes Creek Catchment.

Fairfield City Council raised concern regarding flood management issues, erosion, water quality, acid sulphate soils, contaminated soils, groundwater, deep soil fractures and salinity in the context of water catchment management.

Department's Position

Water Quality

The Department is satisfied with the Applicant's proposed water management plan (Section 12.1 of Surface Water and Flooding Assessment prepared by Perrens Consulting Pty Ltd. *The Austral Brick Company Pty Limited Clay/Shale Extraction*

Proposal Lot 2, DP120673, Horsley Park - Specialist Consultant Studies) which includes the monitoring of water quality of pit sump water prior to discharge into Ropes Creek and to monitor the water quality upstream and downstream of the discharge point. The Department requires that the water quality is to be assessed in accordance with the EPA criteria provided in the EPA general terms of approval.

For water that is to be discharged to land for irrigation, the EPA has provided general terms of approval stating the criteria for which to assess the water quality.

To ensure that the water quality goals for discharges to land or water are met, the EPA requires the Applicant, under their general terms of approval, to develop a water quality monitoring program. The Department supports the monitoring program and has included this requirement in the conditions of consent.

Maintenance of Natural Flows

DSNR has provided General Terms of Approval that requires a hydrologic and hydraulic study of the unnamed tributary and the preparation of a Riverine and Ecological Flow Management Plan. The Department acknowledges that the unnamed tributary is typically ephemeral and collects stormwater from PGH Horsley brick plant and the Austral brick plant 3, however the Department supports the DSNR assessment that the proposed development will significantly impact upon the quantity of water within the Ropes Creek catchment and significant potential exists for the creek and associated riparian vegetation to be returned to a natural condition. The Department has incorporated the DSNR recommended general terms of approval in the conditions of consent.

Erosion and Sediment Control

The Department considers that erosion and sediment control works would be required on the site to ensure that excess sediment is not delivered to the existing water management system. The measures proposed by the Applicant in regards to bunds, topsoil stripping, stockpiles and the in-pit sump would be adequate in this regard. Additional erosion and sediment controls, to those outlined in the EIS, will be required to meet the DSNR requirements for the 3A Permit. To ensure these controls are implemented, the conditions of consent require the Applicant to prepare a Soil and Water Management Plan for the site.

Fairfield City Council raised concern regarding the potential for erosion of flood and visual bunds during storm events. The Department is satisfied that the Soil and Water Management Plan should address these concerns and has made provisions for the Applicant to consult with the Council in the preparation of the Plan.

Flood

Fairfield City Council is satisfied with the Applicant's assessment that the unnamed tributary to Ropes Creek will not back up during a PMF flood event, and therefore that the proposed flood bunds on either side of the unnamed tributary will not influence flood behaviour. Fairfield City Council however raised concern regarding the proposed flood bund on the eastern side of Ropes Creek, and its influence on flood behaviour during a PMF event, requesting further information. As the construction of this bund is associated with the extraction activities within the Western Pit, the Department is satisfied that this issue can be addressed during the approval process for Stage 2.

Recommendations

If the Minister determines to approve the Development Application the Applicant should be required to:

- *Develop a Soil and Water Management Plan for the site incorporating erosion and sediment control procedures, to the satisfaction of Fairfield City Council and DSNR;*
- *Develop a Riverine and Ecological Flow Management Plan, to the satisfaction of DSNR;*
- *Undertake an assessment of the impact of the flood bund on the eastern side of Ropes Creek on flood behaviour during a PMF event as part of the approval process for Stage 2 of the development;*
- *Develop a monitoring plan for the site incorporating water quality monitoring of discharges to water or land; and*
- *Seek further approval from the Minister for Stages 2 and 3 of the proposed development, including an assessment of water quality impacts.*

5.5 GROUNDWATER IMPACTS

Applicant's Position

Extraction in the Eastern Pit will occur above the calculated water table, however may result in a slight water table rise directly below the pit due to the retention of water within the Pit during operation. The Applicant concludes that the impact to the groundwater quantity and quality is likely to be inconsequential.

Extraction in the Western Pit will occur below the calculated water table; however the Applicant does not anticipate problems with groundwater inflow as the rate of evaporation exceeds the inflow rate.

Extraction in the Western Pit may impact on groundwater that may occur within the shallow alluvium located near Ropes Creek. The Applicant proposes to undertake an investigative drilling program prior to extraction in the Western Pit, and determine appropriate mitigation measures to minimise impact to the groundwater associated with the Ropes Creek alluvium.

The Applicant identified 10 licensed bores within a 5 kilometre radius of the proposed site, of which the majority are used for groundwater monitoring purposes, and therefore concludes that there will be no impacts to groundwater users.

Issues Raised in Submissions

One private submission from an adjacent landowner raised concern regarding the potential for the proposal to result in a steeper groundwater hydraulic gradient and increased dispersion of contaminants from the PGH landfill site within their land. The land is located to the south of the proposed site and west of the PGH site.

The DSNR supported the issues raised in this submission, recommending that an ongoing groundwater quality monitoring program be undertaken on the boundaries of the proposed site.

Fairfield City Council suggested that groundwater monitoring be undertaken to monitor any changes in salinity levels as a result of the proposal.

Department's Position

The Department requested further information from the Applicant in regards to the potential impact to the hydraulic gradient and the dispersion of contaminants from the PGH landfill. The Applicant acknowledged that there would be an increase in hydraulic gradient due to extraction within the Western Pit, and a likely doubling of the rate of contaminant migration. The maximum increase would occur in a north westerly direction, towards the Western pit, with a lesser increase towards the land located to the south of the proposed site. The Applicant concluded, however, that it would take approximately 85 years for the contaminant to travel 500m, in which timeframe the contaminant may have naturally degraded due to the high capacity of Wianamatta Group shales to attenuate pollutants. The Applicant also notes that the contaminants will not result from the proposed activity, rather from the activities at the PGH Landfill Site.

The Department acknowledges that the contaminants result from the activities at the PGH Landfill Site, rather than as a result of the proposed activity, and thus the recommendation to install a groundwater monitoring program to monitor the progress of contaminates from the PGH Landfill site is beyond the scope of this development application.

However in keeping with general best management practices, the Department recommends that the Applicant undertake a groundwater monitoring program to confirm the predicted change in groundwater levels and to manage potential environmental issues such as salinity. The groundwater monitoring program will be incorporated into the conditions of consent.

Recommendations

If the Minister determines to approve the Development Application the Applicant should be required to:

- *Develop a groundwater monitoring program for the site, in consultation with DSNR, at least two years prior to the commencement of Stage 2. The groundwater monitoring program is restricted to environmental issues associated with the site such as salinity, rather than to monitor the progress of contaminants from the nearby PGH Landfill.*

5.6 GEOTECHNICAL IMPACTS

Applicant's Position

The Proposed site is underlain by predominantly clay and shale lithologies of the Bringelly Shale formation, similar to those found in the existing Austral pits. A visual inspection of the existing Austral pits was undertaken, identifying that the claystones and shales of the Bringelly Shale formation are geotechnically stable at slope angles steeper than 2:1 (V:H).

The Warragamba-Prospect Water Supply Pipeline is located to the north of the Proposed site. The Applicant concludes that due to the buffer zones of 40m between the pipeline and the excavation pits and the geotechnical stability of the Bringelly Shale formation, there is a negligible potential for subsidence under the pipeline as a result of the proposal.

To ensure the pipeline is not impacted, the Applicant proposes to map the northern face of the Western Pit as the extraction advance in depth, allowing the identification of substantial structural fractures or zones of weakness that may impact upon the stability of the pipeline. If these areas are identified, the Applicant proposes to consult a geotechnical specialist to determine appropriate mitigation measures and safeguards.

The stability of the pipeline may also be impacted by vibration from the operation of machinery within the pits. This impact is discussed in section 5.2 of this report.

Issues Raised in Submissions

The SCA raised concern that there has been insufficient assessment of the potential for the proposal to impact upon the structural integrity of the Warragamba-Prospect pipeline, requesting that a geotechnical investigation to assess the impacts from the western pit be undertaken in consultation with the SCA

Department's Position

The Department acknowledges the Applicant's high level of understanding of the behaviour and stability of the clay/shale extraction pits, however concurs with the SCA position, and requests that the Applicant undertake a geotechnical investigation prior to the commencement of extraction in the Eastern Pit to determine the minimum allowable setback distances between the pipeline and pit, in consultation with the SCA.

Recommendations

If the Minister determines to approve the Development Application the Applicant should be required to:

- *Undertake a geotechnical investigation to determine the minimum allowable distance between the pipeline and extraction pit and assess the adequacy of the proposed buffer zone. The investigation is to be undertaken in consultation with the SCA, and to the satisfaction of the Director-General, prior to the commencement of Stage 2 operations.*

5.7 FLORA AND FAUNA IMPACTS

Applicant's Position

The Applicant prepared a flora and fauna impact assessment for the proposal. Flora and fauna surveys of the proposed site were performed in September 2001 and October 2001 respectively. The surveys identified:

- two endangered ecological communities listed under the TSC Act – Cumberland Plain Woodland and Sydney Coastal River-flat Forest; and
- one threatened fauna species listed under the TSC Act – Falsistrellus tasmaniensis (Great Pipistrelle).

The Cumberland Plain Woodland is also listed under the Commonwealth EPBC Act.

The majority of the site is cleared of native vegetation and is currently fertilised and grazed. A small stand, approximately 0.1hectares of regenerating woodland occurs in the northeastern section of the site and has been identified as Cumberland Plain Woodland. A narrow band of vegetation fringes Ropes Creek and an unnamed tributary and has been identified as Sydney Coastal River-flat. The remainder of the vegetation mainly consist of exotic pasture grasses, introduced weeds and isolated native trees. No significant fauna habitat features were recorded such as tree-hollows or wetlands.

An assessment of the impact of the proposal on the endangered ecological communities and threatened fauna concluded that the proposal is unlikely to have a significant effect, and therefore a Species Impact Statement is not required.

The Applicant proposes a range of mitigation measures to minimise impact on the ecological environment and on the two endangered ecological communities and the Great Pipistrelle including:

- preservation and rehabilitation of buffer zones (including the 40m riparian zone on each side of Ropes Creek) with local native species of the appropriate vegetation assemblage;
- progressive exclusion of cattle grazing; and
- creation of 7.5ha fenced vegetation area and wildlife refuge in the north eastern corner of the proposed site, which contains Cumberland Plain Woodland.

The Applicant has decided that a referral is not required to Environment Australia under the EPBC Act for this proposal, since the proposal is unlikely to have a significant effect on the Cumberland Plain Woodland.

Issues Raised in Submissions

A number of private submissions raised concern regarding the impact of the proposal on flora and fauna.

Department's Position

The Department is satisfied with the information provided as it is comprehensive and the level of detail is adequate for the type of proposal and the nature of the site. The Applicant's conclusion that a Species Impact Statement is not required is supported by the Department given that the endangered ecological communities and the habitat of the Great Pipistrelle is likely to be protected on the site through the design of buffer strips along the two watercourses. Similarly, the Department also supports the conclusion that a referral to Environment Australia is not required for the endangered ecological community Cumberland Plain Woodland.

The Department supports the recommended mitigation measures proposed by the Applicant and these measures should be incorporated into the Vegetation Management Plan for the site.

Recommendations

If the Minister determines to approve the Development Application the Applicant should be required to:

- *Develop a vegetation management plan for the site incorporating preservation and rehabilitation of vegetation within the buffer zones; and the creation of a 7.5ha fenced vegetation area and wildlife refuge, in accordance with the EIS.*

5.8 CULTURAL HERITAGE IMPACTS

5.8.1 INDIGENOUS CULTURAL HERITAGE

Applicant's Position

The Applicant performed an aboriginal heritage impact assessment in consultation with the Deerubbin Local Aboriginal Land Council (Deerubbin LALC). A review of the NPWS Aboriginal Site Register did not identify any known sites within the proposed site. A field survey was conducted on 4 September 2001 in the presence of a representative from Deerubbin LALC.

The field survey identified two isolated artefacts – HP1 and HP2 – of red cherty mudstone. An area of Potential Archaeological Deposits (PAD) was identified surrounding the article HP1 located along the eastern bank of Ropes Creek. The HP1 artefact and associated PAD, fall within the proposed 7.5ha fenced vegetation area and wildlife refuge and thus will not be disturbed by the proposed development. In addition to the PAD, a larger area extending beyond the PAD was identified as an area of Potential Archaeological Sensitivity (PAS). A portion of the PAS area falls outside of the fenced

area, however is located within the 40m buffer zone to Ropes Creek and is unlikely to be disturbed by the proposed development. If stripping of topsoil is required in the PAS area, management procedures have been recommended for the removal of topsoil, to minimise the impact to any other potential artefacts.

The HP2 artefact is located in the area of the proposed Eastern Pit sump. A PAS has also been identified surrounding this artefact. The Applicant intends to obtain a "Consent to Destroy" the HP2 site from NPWS. Within the defined PAS area, management procedures have been recommended for the removal of topsoil, to minimise the impact to any other potential artefacts.

Upon request from NPWS, the Darug Custodian Aboriginal Corporation (DCAC) and the Darug Tribal Aboriginal Corporation (DTAC) were consulted in regards to the proposal. Another field inspection of the proposed site was undertaken on the 10 January 2003 by representatives of the DTAC. The field survey identified three artefacts – a broken basalt hammerstone or hatchet (DTAC 1) and two red silcrete pieces (DTAC 2, DTAC 3). DTAC recommended that the artefact DTAC 1 be collected and salvaged and that consent to destroy be sought with the NPWS for artefacts DTAC 2 and DTAC 3.

The DCAC were satisfied with the findings and recommendations of the aboriginal heritage impact assessment subject to the provision that a representative of the DCAC be present to monitor the stripping of the topsoil in the PAS area.

Issues Raised in Submissions

NPWS and Blacktown City Council requested that the Darug Custodians Aboriginal Corporation and the Darug Tribal Association Incorporated be consulted in regards to the proposal.

After all aboriginal communities were consulted, the NPWS provided general terms of approval.

Department's Position

The Department has incorporated the NPWS general terms of approval in the conditions of consent.

Recommendations

If the Minister determines to approve the Development Application the Applicant should be required to:

- *Make provisions for a qualified archaeologist and a representative from each of the local aboriginal communities to monitor the stripping of topsoil in the area of Potential Archaeological Sensitivity surrounding HP2*;
- *Cease work and consult with NPWS and the local Aboriginal communities, or the NSW Heritage Office if appropriate, should any cultural heritage objects be uncovered during works on the site;*
- *Request from NPWS a Consent to Destroy (s90 consent) the Aboriginal archaeological sites HP2, DTAC 1, DTAC 2 and DTAC 3;*
- *A Care and Control Permit application should accompany the above s90 application for the storage of DTAC 1; and*
- *Ensure that the Aboriginal Site "HP1" and associated PAD is temporarily fenced during construction (of the Western Pit) to prevent any impact.*

5.8.2 NON-INDIGENOUS CULTURAL HERITAGE

Applicant's Position

Non-indigenous cultural heritage impacts were not discussed in the EIS.

Department's Position

Blacktown City Council and a number of private submissions raised concern regarding the potential impact to "Southridge" which is situated on Lot 1, DP 2335539 Old Wallgrove Road, Eastern Creek. The Applicant has provided additional information regarding the heritage item "Southridge". "Southridge" is located approximately 1 kilometre from the proposed site, and as a result is unlikely to be impacted by extraction activities. The Department concurs that the amenity of "Southridge" is unlikely to be impacted by the proposal as the noise and dust impact assessments discussed in section 5.2 and 5.3 above concluded that the EPA dust and noise criteria would not be exceeded at the nearest privately owned property which is located less than one kilometre from the proposed site. As discussed in Section 5.9, the Department does not consider the increase in truck movements to be significant, thus "Southridge" is unlikely to be impacted by increased noise or vibration impacts from an increase in truck movements.

Blacktown City Council, NSW Heritage Office and the Sydney Catchment Authority (SCA) raised concern regarding impacts to the Warragamba-Prospect water supply pipeline and a "Heritage Pipe" located within the pipeline corridor beneath Old Wallgrove Road, which are listed under Sydney Water's Heritage and Conservation register maintained under Section 170 of the Heritage Act. Within the EIS, the Applicant concluded that the impact to the pipeline would be negligible due to the 40m buffer zone to the pipeline. The SCA has raised concern regarding the adequacy of this assessment. Further investigation of this matter has been requested as discussed in detail in Section 5.5 of this report.

The NSW Heritage Office in their submission drew attention to "Horsley", a colonial estate listed as an item of State heritage significance located to the south east of the proposed site. The NSW Heritage Office concluded that "although the development site is within close proximity to "Horsley" the curtilage and important view corridors seem to be unaffected by the proposal"

5.9 TRANSPORT IMPACTS

Applicant's Position

Traffic Volumes

The Applicant presently operates an integrated transport system between its extraction operations and brick manufacturing plants. Excavated material from "The Vineyard" site is transported to Austral Brick Plants 1 and 2 via Old Wallgrove Road and Wallgrove Road. Excavated materials from the pits located adjacent to Austral Brick Plant 3 are transported to Austral Brick Plants 1 and 2 via Old Wallgrove Road and Wallgrove Road. "The Vineyard" and Austral Brick Plant 3 are linked by an unsealed internal road. Currently approximately 100 000 tonnes per annum of excavated material is transported along Old Wallgrove Road and Wallgrove Road to Austral Brick Plants 1 and 2 (from The Vineyard Site and Austral Brick Plant 3), which equates to approximately 130 truck movements per day on 50 days of the year through the Old Wallgrove Road/Wallgrove Road intersection. The excavated material is transported to the brick plants on an as needs basis, thus truck movements do not occur every day of the week, rather in spurts of activity referred to in the EIS as "campaigns".

The Applicant proposes to transport excavated material from the proposed site to Austral Brick Plant 3 via an internal road that includes an underpass beneath Old Wallgrove Road. The transportation of this material will not result in any increased traffic along Old Wallgrove Road or Wallgrove Road.

The Applicant proposes to transport excavated material to Austral Brick Plants 1 and 2, via Old Wallgrove Road and Wallgrove Road. This transport route will not be adopted until completion of the Western Sydney Orbital (WSO), in approximately 2007, which will run parallel to Wallgrove Road. The WSO is anticipated to receive a considerable portion of the existing traffic along Wallgrove Road.

Excavated material is proposed to be delivered to Austral Plants 1 and 2, via a maximum of 6 trucks on a campaign basis. Each truck would transport a maximum of 15 loads per day, resulting in a maximum of 180 truck movements per day through the proposed site internal road/Old Wallgrove Road intersection. As transport movements from the proposed site would gradually replace transport movements from "the Vineyard" site, a marginal net increase in truck movements is anticipated at the Old Wallgrove Road/Wallgrove Road intersection (approximately 50 truck movements per day) while a net increase in truck movements is anticipated along Old Wallgrove Road of 180 truck movements per day. Based on the current 1110 traffic movements per day along Old Wallgrove Road, the Applicant concludes that an increase in 180 truck movements per day will be within the capacity of Old Wallgrove Road (<2000 truck movements per day).

Traffic Safety

To address traffic safety the Applicant proposes to:

- Install a bump or shaker grid to minimise the tracking of material onto Old Wallgrove Road;
- Minimise truck movements in wet weather;
- Seal the first 50 metres of the site entrance to Wallgrove Road;
- Cover loads to reduce spillage and dust impacts; and
- Avoid trucking of excavated material to Austral Brick Plants 1 and 2 until the completion of the WSO, which as part of the development will include the construction of a suitable intersection at Wallgrove Road and Old Wallgrove Road and an underpass beneath the WSO for access to the brick plant.

Issues Raised in Submissions

Individuals and Special Interest Groups

Key issues raised were:

- Road safety impacts to residents who use Old Wallgrove Road, including a request to lower the speed limit to 60km/h;
- Road safety impacts associated with spillage of clay, particularly during wet weather; and
- Current operations which have resulted in spillage on Old Wallgrove Road.

Government agencies

Key issues raised were:

- Suitable measures are implemented to minimise vehicle tracking of mud/clay
- Concern regarding road safety at bends along Old Wallgrove Road and at the Old Wallgrove Road/Wallgrove Road intersection
- Blacktown City Council has requested a S96 contribution from the haulage of material along Old Wallgrove Road

Fairfield City Council provided general terms of approval in regards to the construction of the underpass beneath Old Wallgrove Road to Austral Brick Plant 3.

Department's Position

Traffic Volumes

The Applicant intends to transport a maximum of 150,000 tonnes per annum of raw material to Austral Brick Plants 1 and 2. The Department understands that this will result in a

- minimal net increase in truck movements along Wallgrove Road due to the concurrent scale down of truck movements from "The Vineyard"; and
- an increase in truck movements along Old Wallgrove Road (maximum of 180 truck movements per day over 75 days).

The Applicant calculates the current traffic levels along Old Wallgrove Road as 1110 traffic movements per day. Thus the proposal will result in a maximum 16% increase in truck movements per day. However due to the campaign nature of the haulage, this will result in an overall increase of 13 500 truck movements per annum or less than a 5% increase in truck movements per annum along Old Wallgrove Road.

The Department understands that Old Wallgrove Road terminates at the PGH Brick Plant to the south of Austral Brick Plant 3. Current usage consists largely of truck and employee traffic, with no residential or through traffic. The Department considers that the proposed development is in keeping with the current usage of Old Wallgrove Road.

The Department thus considers that the impact to Old Wallgrove Road due to the proposed increased truck movements is not significant and concurs with the Applicant's position that the proposal is within the design capacity.

Blacktown City Council has requested a road maintenance levy due to the haulage of raw material along the portion of Old Wallgrove Road that is maintained by Blacktown City Council. However due to the absence of an approved Section 94 Contribution Plan, coupled with the Department's assessment that the increase in traffic volume is not significant, the Department does not support the request by Blacktown City Council.

Fairfield City Council has a Section 94 Contribution Plan that applies to the area that includes Old Wallgrove Road. However this plan is linked to subdivision of rural lands rather than extractive activities and is therefore not applicable to the proposed development.

Traffic Safety

The Applicant proposes to implement safety measures to reduce the chance of material being tracked or spilt onto Old Wallgrove Road and Wallgrove Road. The Department recommends that these safety measures be incorporated into a Traffic Management Plan and that the Applicant is responsible for the removal of spillage and that vehicles be clean of clay or shale deposits prior to entry to all public roads. The Department also supports the EPA general term of approval that requires the Applicant to install an automatic tyre and vehicle underbody wash or other suitable alternative method, to prevent vehicles departing the premises carrying clay/shale onto Wallgrove Road.

The Applicant has stated that transport of extracted material to Austral Brick Plants 1 and 2 will not commence until completion of the WSO. The WSO includes the upgrade of the Old Wallgrove Road/Wallgrove Road intersection. The Department is satisfied that no further upgrades of this intersection are required.

Transgrid and private submissions raised concern regarding traffic safety along Old Wallgrove Road, recommending traffic safety devices such as a reduction in speed and the installation of traffic bollards along the centre of the road. Due to the current heavy truck movements along this road, from the Applicant's and other operations, and as the increase in truck movements is not significant, the Department concludes that an upgrade of traffic safety devices along Old Wallgrove Road is beyond the scope of this development. However the Department considers that the Applicant can modify the hours of trucking to minimise the number of trucks during peak employee commuter hours along Old Wallgrove Road, thereby reducing the potential traffic hazard.

Recommendations
If the Minister determines to approve the Development Application the Applicant should be required to:

- *Prepare and implement a traffic management plan to ensure that no material is tracked or spilt onto the transport route along Old Wallgrove Road and Wallgrove Road and to minimise truck movements during peak employee commuter hours;*
- *Install an automatic tyre and vehicle underbody wash or other suitable alternative method to prevent vehicles departing the premises carrying clay/shale off the premises onto Old Wallgrove Road; and*
- *In the event of Blacktown City Council preparing a Section 94 contribution plan, the Council is to negotiate with the Applicant in regards to a road maintenance levy for the transport of material along Old Wallgrove Road.*

5.10 LANDSCAPE AND VISUAL AMENITY IMPACTS

Applicant's Position

The Applicant has provided an assessment of the visual impact of the proposal. Vantage points surrounding the proposed site were selected based on distance from the proposed site and height. The view from the vantage points was found to be partially restricted by existing remnant vegetation located within the proposed site. An additional assessment of the visual impact was undertaken during the community consultation door knock, where the Applicant concluded that the Proposed site was either not visible or indistinguishable from its background of the Austral Brick Plant 3 and PGH Horsley Park operations.

To further mitigate visual impacts, the Applicant proposes to construct 4m high bunds along the northern and southern boundary of both excavation pits and the eastern boundary of the Eastern Pit. Flood mitigation bunds of 0.5m high are proposed on the western boundary of the Eastern Pit and the eastern boundary of the Western Pit, to mitigate against flood impacts from the unnamed tributary. A 1m high flood mitigation bund is also proposed on the western boundary of the Western Pit, to mitigate against flood impacts from Ropes Creek. In addition existing remnant vegetation within the buffer zones on the perimeter of the proposed site will be preserved and enhanced, providing screening.

Department's Position

The Department is satisfied with this assessment as:

- All current vantage points are greater than 1.5km from the proposed site;
- Remnant vegetation currently provides screening to the proposed site. This screening will be further enhanced by the Applicant's proposed preservation and rehabilitation of remnant vegetation;
- The proposed visual and flood mitigation bunds will provide additional visual protection; and
- The proposal does not include any prominent features.

A number of submissions raised concern that the proposal was not in keeping with the rural residential nature of the area. As discussed in section 3.5 of this report, the proposal is a permissible activity in accordance with SREP 9 – Extractive Industries and Fairfield LEP 1994. The Penrith Rural Lands Study proposes rural residential development on a site over 1.5km to the south of the proposed site, with the intervening land zoned rural conservation. The Department is satisfied that the 4m high visual bund on the southern boundary of the proposed site will provide adequate screening to this area. The Department is also satisfied that mechanisms are in place to ensure that visual screening is enhanced and maintained, through the proposed Vegetation Management Plan which includes annual reporting of the progress and success of the revegetation program.

5.11 WASTE MANAGEMENT IMPACTS

The Applicant proposes that all waste producing activities such as the servicing of equipment and employee amenities are located in the existing Austral Brick Plant 3.

The Applicant states that the sandstone may be extracted from the pits. Some of the sandstone can be utilised in brick manufacture, however the remainder will be regarded as waste and be disposed as backfill within the eastern pit.

A number of submissions raised concern of the potential for a landfill site for putrescible waste to the established within the excavated pits. The final landform and final landuse does not form part of this proposed development. Further approval will be required to establish the excavated pits as a landfill site.

5.12 HAZARDS

The Applicant proposes that all equipment will be stored and maintained at the existing Austral Brick Plant 3. Thus the Department does not envisage that hazardous materials will be used or stored on the proposed site. Therefore the development is not classified as a potentially hazardous development.

The Department is satisfied that the proposal would not have any significant off-site risk impacts and that the requirements of SEPP 33 have been complied with.

5.13 SOCIO-ECONOMIC IMPACTS

The proposal would not result in any immediate changes to employment or investment in the area, however it would provide for continuation of current direct employment of approximately 300 people associated with the Austral's existing Horsley Park operations. The development is likely to continue to supply the same markets at similar rates, providing ongoing economic activity in the locality.

The Department is satisfied that the proposal is unlikely to have significant adverse socio-economic impacts and that the local community would continue to experience some flow-on benefits.

The Department notes that over 61 objections were received during the exhibition period of the proposal. The Department has assessed the key environmental issues relating to the proposal and considers that all relevant criteria and performance standards would be met. On this basis, it is considered that the extraction of this important strategic clay/shale resource is justified and necessary for the orderly development of the State. Given this conclusion and the community opposition identified, the Department

considers that a strategy should be developed by the Applicant to improve community relations and information exchange during the life of the development. This strategy would be in addition to an expanded Community Consultative Committee for the whole site. The strategy would be developed in conjunction with community groups and aim to facilitate communication and education through exchange of expertise in:

1. Bush regeneration;
2. Land management (Landcare);
3. Water quality (Streamwatch)
4. Environmental education;
5. Threatened species identification and management; and
6. Environmental monitoring and management.

The Department considers that such an approach would assist in developing better understanding of community concerns and improve communication between the Applicant and the community.

Recommendations
If the Minister determines to approve the Development Application the Applicant should be required to:

- *Establish a community consultative committee for the whole site; and,*
- *Develop a community relations strategy in consultation the local community.*

5.14 CUMULATIVE IMPACTS

The proposal would have potential cumulative impacts on the following environmental values when considered in conjunction with existing extractive industry operations and brick manufacturing facilities in the area:

- Air quality;
- Noise;
- Traffic;
- Groundwater;
- Surface water; and,
- Flora and Fauna

The Applicant integrated the assessment of these potential cumulative impacts into its assessment of each environmental issue. Ambient air quality and noise levels of all existing operations and land uses were monitored and the predicted increment of the proposed development added to those levels to provide a cumulative total impact. Groundwater and surface water quality is unlikely to be altered as a result of the proposal therefore no cumulative effect would occur. Similarly, traffic levels would not be significantly increased above existing approved truck movements and cumulative impacts with existing developments are unlikely. The flora and fauna assessment took into account the degree to which individual species and endangered ecological communities are protected in existing conservation reserves, considering existing levels of clearing, and concluded that the proposal is unlikely to have a significant effect on any threatened species or ecological community. The Department is therefore satisfied that potential cumulative impacts have been adequately addressed.

5.15 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Ecologically sustainable development (ESD) is one of the objects of the Act set out in section 5. The Regulation requires, under Schedule 2, that and EIS contain a justification for a development proposal considering the following principles of ESD:

a) the precautionary principle;
b) inter-generational equity;
c) conservation of biological diversity and ecological integrity; and,
d) improved valuation, pricing and incentive mechanisms.

The Department has considered and implemented the precautionary principle in its assessment of the proposal and its negotiations with the Applicant. The Applicant has designed the proposal to avoid potentially irreversible impacts to the local environment such as water quality, soil resources, air quality and flora and fauna.

The Department recognises that extractive industry operations deplete in situ resources and potentially restrict use of these resources by future generations. The proposal would result in the removal of 14.3 million tonnes of clay/shale resource which would contribute to the construction of buildings and infrastructure benefits for the local and wider population, now and into the future. In addition, the use of extractive materials in construction does not result in destruction of the material. The Department considers that future reuse of extractive materials used in construction is a reasonable eventuality that would not significantly restrict the wellbeing of future generations.

The Department considers that the Applicant has adequately considered the environmental and social costs of the proposal and is satisfied that, on balance, the value of the clay/shale resource to the community and the State justifies the proposal going ahead.

The Department is satisfied that the proposal is generally consistent with the principles of ESD.

6 Recommended Instrument of Consent

The Department has prepared a set of recommended conditions of consent for the proposal. These conditions include General Terms of Approval from the EPA, DSNR, NPWS and Fairfield City Council.

The conditions are required to:

a) to minimise any adverse environmental impacts associated with the development;

b) provide for environmental monitoring, reporting, and independent review; and

c) to ensure consistency of the development with the existing development consent applying to the site.

The Applicant has been consulted and has agreed with the conditions in the recommended instrument of consent.

7 Conclusions

The Department is of the opinion that the proposed development is consistent with State and regional planning objectives relating to environmental management, sustainable development and resource utilisation. It is further considered that the potential environmental impacts of the proposal can be suitably managed such that they do not preclude the granting of development consent. The proposal would also provide socio-economic benefits to the locality and the region. It is therefore concluded that the proposal should be approved, subject to the conditions of consent designed to manage and mitigate potential environmental impacts.

8 Recommendations

It is RECOMMENDED that the Minister:

(i) Consider the findings and recommendations of this report;
(ii) Approve the DA subject to conditions under Section 80 of the Act; and
(iii) Sign the attached Instrument of Consent.

Nick Agapides
Manager – Mining and Extractive Industries
Major Development Assessment Branch

ENDORSED:

Sam Haddad
Executive Director
Sustainable Development

Report Prepared by Jeanine Hill

APPENDIX A – SUMMARY OF SUBMISSIONS

GOVERNMENT AUTHORITIES

1. NSW Agriculture Mr Andrew Docking Locked Bag 11 WINDSOR NSW 2756	▪ Final land use is partially consistent with objectives of the zone. ▪ Replacement of topsoil/overburden for rehabilitation may result in the need for sub-surface drainage in backfill material creates impervious layer. A topsoil depth of at least 300mm or more required for maintenance of good quality pasture. ▪ Proposes progressive consent (ie. Less than 40 years) to ensure progressive stages of adequate rehabilitation. ▪ Need for weed management plan ▪ Determine salinity level of excess water prior to use for irrigation purposes.
2. SRDA Mr Charles Wiafe PO Box 558 Blacktown NSW 2148	▪ Ensure proposal does not conflict with Penrith Council's proposal for transport link to Erskine Park. ▪ Requests that suitable measures are implemented to minimise vehicle tracking of mud/clay. ▪ Associated road works are to be conducted at NO cost to the RTA. ▪ Under SEPP 11 conditions of consent are to be forwarded to SRDA.
3. Mineral Resources NSW Mr IBL Paterson PO Box 536 St Leonards NSW 2065	▪ Requests condition of consent for operator to provide annual production data to Mineral Resources NSW
4. Transgrid Mr Graham Hobbs PO Box 87 Horsley Park NSW 2164	▪ Satisfied that dust and noise issues have been addressed ▪ Requests that concrete bollards be located in the centre of the road on two bends in Old Wallgrove Road to reduce traffic accident risk ▪ Requests consideration for options to improve traffic safety (eg. Traffic lights, merging lanes) at the Old Wallgrove Road/Wallgrove Road intersection.
5. Transgrid Mr Richard Johnson PO Box 87 Horsley Park NSW 2164	▪ EIS does not adequately address traffic impacts along Old Wallgrove Road ▪ Concerned regarding noise impacts of increased traffic at Transgrid owned property. ▪ Concerned regarding dust impacts at Transgrid owned property. ▪ Requests Transgrid involvement in any community consultation forum.
6. Blacktown City Council Mr Ian Reynolds PO Box 63 Blacktown NSW 2148	▪ Concerned regarding the proximity of the site to SEPP 59 lands, particularly the transport of material along Old Wallgrove Road through SEPP 59 lands and the resultant dust and water quality impacts(from dust deposition). Requests alternative transport route be considered. ▪ Concern regarding the potential reduction in the quantity of water in the Ropes Creek Catchment Area ▪ Concern regarding impacts to heritage item “Southridge” located on Old Wallgrove Road. ▪ Notes lack of consultation with Durag Custodians Aboriginal Corporation and Darug Tribal Association Incorporated. ▪ Requests EMP be reviewed in consultation with Blacktown City Council ▪ Requests that noise monitoring be undertaken at 5 year intervals. ▪ Requests that water and air quality monitoring be undertaken on a 12 month basis. ▪ Requests a road maintenance levy towards the maintenance of Neville Road, Burfitt Road and Carnarvon Road.

GOVERNMENT AUTHORITIES (cont)

7. Penrith City Council Mr Anthony Price PO Box 60 Penrith NSW 2751	▪ Implement adequate environmental management practices/controls to prevent unacceptable noise, dust, amenity and traffic impacts on neighbouring properties. ▪ Concern regarding impact on water flow and ecology in Ropes Creek ▪ Proposal is inconsistent with the existing and future land uses within the Penrith LGA. ▪ Requests that future land use of pit be determined. ▪ Proposal is to be consistent with SREP 9 – Extractive Industries.
9. Sydney Water Mr John Stevens PO Box A53 Sydney South NSW 1232	▪ No "in-principle" objection to the development ▪ Applicant required to obtain Section 73 Compliance Certificate if additional or modification of existing Sydney Water services are required. ▪ Water mains located to the northern border of subject land is owned by Sydney Catchment Authority.
10. NSW Heritage Office Mr Vincent Sicari Locked Bag 5020 Parrramatta NSW 2124	▪ Site not listed under the State Heritage Register; however the site is affected by the relics provision of the Heritage Act. Excavation permits are required under s140 of the Act. EIS inadequate in addressing history of occupation and potential for archaeological relics. ▪ Proposal is in close proximity to "Horsley" heritage home. However the home was assessed by NSW Heritage to be unaffected by proposal. ▪ Warragamba-Prospect pipeline is listed under s170 of Heritage Act. Concern regarding potential damage to pipeline. Sydney Catchment Authority should be consulted ▪ NPWS should be consulted in regards to impacts to Cumberland Plain Woodland and Sydney Coastal River-flat Forest and aboriginal heritage.
11. NSW Fisheries Mr Lesley Diver PO Box 21	▪ No objection to the development ▪ Road constructions subject to their Policy and Guidelines for Bridges, Road, Culverts, Causeways and Similar Structures. No drops caused by the culvert in the unnamed waterway greater than 100mm. Implement Riparian setbacks as outlined in the EIS. No "in-waterway" works other than the road crossing.
12. Sydney Catchment Authority Ms Elizabeth Hanlon PO Box 323 Penrith NSW 2751	▪ EIS inadequate in addressing SCA concerns regarding impact on the structural integrity of pipelines adjacent to the Western Pit as a result of the proposal. Requests a geotechnical investigation in consultation with SCA ▪ Supports the requirement of an EMP. Requests that it be prepared in consultation with the SCA.
13. Fairfield City Council Mr Andrew Mooney PO Box 21 Fairfield NSW 2165	▪ No specific issues raised in respect to the construction of the underpass beneath Old Wallgrove Road. Provides GTA in regards to design and construction of underpass. Road works are to be undertaken with NO cost to Fairfield City Council. ▪ Proposal is permissible development under Fairfield City LEP 1994 ▪ Request GTA that future filling of the land will not involve fill material containing putrescible waste or hazardous material. ▪ Requests additional information in regards to noise impact assessment, drill and blasting, and SEPP 55. ▪ Requests that conditions of consent address the need for EMP, flood bund high priority in construction schedule, dust suppression including timely revegetation. ▪ Raised concern regarding flood management issues, erosion, water quality, acid sulphate soils, contaminated soils, groundwater, deep soil fractures and salinity in the context of water catchment management. Requests an Annual Monitoring Programme.
14. Department of Land and Water Conservation Ms Nikki Alwood PO Box 3935 Parramatta NSW 2124	▪ Requests that the extraction of the Western Pit be deferred and subject to future assessment. ▪ Provides GTA in regards to revegetation of riparian zones, requests hydraulic and hydrologic study of the unnamed tributary, a Riverine and Ecological Flow Maintenance Plan, groundwater monitoring program, and Soil and Water Management Plan. ▪ Requirement for a Part 3A Permit as proposed works is likely to significantly reduce the catchment area of the unnamed tributary.

GOVERNMENT AUTHORITIES (cont)

15. Environment Protection Authority Mr Keiran Horkan PO Box 668 Parramatta NSW 2124	▪ Requests that the extraction of the Western Pit be deferred and subject to future assessment ▪ Requests that any proposed filling of the eastern pit be assessed at the time of filling. ▪ Requests that the Western Pit not be filled with putrescible waste. ▪ EPA is able to make a variation to the existing licence ▪ General Terms of Conditions in relation to water, air and noise quality, waste, erosion and sediment control and monitoring program. ▪ Raised other issues concerning impacts on traffic; greenhouse gas emissions and potential Sydney air shed air impacts arising from extractive and brick manufacturing operations; rezoning of land in the vicinity of the premises in relation to noise and air emissions. ▪ Filling of the eastern pit should be subject to a separate consent.
16. NPWS Ms Teresa Gay PO Box 1967 Hurstville NSW 2220	▪ Notes that consultation is required with the Durag Tribal Aboriginal Corporation and Durag Custodian Aboriginal Corporation in regards to Aboriginal heritage ▪ Provided general terms of approval: ○ Section 90 Consent to destroy to be issued for Known Aboriginal Archaeological sites “HP2”, “DTAC 1”, “DTAC 2” and “DTAC 3” ○ Known Aboriginal Archaeological Site “HP1” to be fenced during construction to prevent impact.

PRIVATE INDIVIDUALS

1. MOUNT VERNON NSW 2759	• Object to the Project due to impact on noise; rural/residential landscape; resident’s amenities; and natural landscape. • Expressed concern that rehabilitation work on existing facilities is not satisfactory.
2. HORSLEY PARK NSW 2164	• Object to the Project due to impact on noise; dust; resident’s amenities; and land value. • Potential smell if pit is utilised as a waste disposal site.
4. SYDNEY NSW 2000	▪ Concerned regarding co-ordination of future land uses within the region, particularly in relation to future residential and industrial development and the Western Sydney Orbital.
5. HORSLEY PARK NSW 2164	• Concerned that the excavated pit will be utilised as a waste disposal site • Objects to the Project due to impact on land value, dust, noise, water quality and increase in heavy traffic
6. HORSLEY PARK NSW 2164	▪ Details placed on petition objecting to the Project
7. HORSLEY PARK NSW 2164	▪ Details placed on petition objecting to the Project
8. HORSLEY PARK NSW 2164	▪ Details placed on petition objecting to the Project
9. HORSLEY PARK NSW 2164	▪ Details placed on petition objecting to the Project
10. HORSLEY PARK NSW 2164	▪ Details placed on petition objecting to the Project
11. HORSLEY PARK NSW 2164	▪ Details placed on petition objecting to the Project
12. HORSLEY PARK NSW 2164	▪ Details placed on petition objecting to the Project
13. CECIL PARK NSW 2171	▪ Details placed on petition objecting to the Project
14. CECIL PARK NSW 2171	▪ Details placed on petition objecting to the Project
15. CECIL PARK NSW 2171	▪ Details placed on petition objecting to the Project
16. CECIL PARK NSW 2171	▪ Details placed on petition objecting to the Project
17. HORSLEY PARK NSW 2164	▪ Objects to the Project due to noise and dust impacts, devaluation of land, and impact to health
18. HORSLEY PARK NSW 2164	▪ Objects to the Project due to noise and dust impacts, devaluation of land, and impact to health

PRIVATE INDIVIDUALS (cont)

19. MOUNT VERNON NSW 2759	▪ Objects to the Project due to odour, noise and dust impacts. ▪ EIS inadequate. ▪ Potential risks unacceptable to the Community. ▪ Strict environmental guidelines and conditions should be imposed. ▪ Earth mound wall should be build around whole perimeter of the site. ▪ Entire site should be extensively landscape with screening trees, irrigation and sprinklers. ▪ Ensure integrity of the adjacent SCA pipeline. ▪ Impose strict Environmental Control and monitoring.
20. ERSKINE PARK NSW 2759	▪ Objects to impact on semi-rural environment, dust, visual (stockpile) and potential use of pit as landfill.
21. KEMPS CREEK NSW 2171	▪ Objects to dust impacts, potential future use of pit for tip, development not consistent with surrounding rural residential developments / community.
22. HORSLEY PARK NSW 2164	▪ Objects to dust and noise impacts and transport hazards.
23. HORSLEY PARK NSW 2164	▪ Objects to impact on dust, noise, property devaluation and future use of pit.
24. HORSLEY PARK NSW 2164	▪ Objects to impact on dust, noise, property devaluation and future use of pit.
25. HORSLEY PARK NSW 2164	▪ Concern regarding dust and odour from existing operations. Concerned regarding dust, odour and property value impacts and future use of pit.
26. HORSLEY PARK NSW 2164	▪ Requests that landowners be compensated if buffer zone encroaches upon adjacent land. Concerned regarding dust, transport and noise impacts, property values and future use of pit.
27. KEMPS CREEK NSW 2171	▪ Concerned regarding dust, visual and property values. ▪ Requests that landowners be compensated if buffer zone encroaches upon adjacent land. ▪ Concerned regarding future use of pit, requests that trust be established for rehabilitation of site.
28. HORSLEY PARK NSW 2164	▪ Raised concern regarding existing operations, and impact of Project on dust, noise and property values.
29. HORSLEY PARK NSW 2164	▪ Concern regarding existing operations, and impact of Project on dust, health impacts and traffic.
30. HORSLEY PARK NSW 2164	▪ Concern regarding existing operation and impact of Project on dust, noise, health and property value.
31. HORSLEY PARK NSW 2164	▪ Objects to the Project due to noise, dust, water quality, flora and fauna, property value and traffic impacts
32. HORSLEY PARK NSW 2164	▪ Objects to Project due to existing industrial operations in the area
33. HORSLEY PARK NSW 2164	▪ Concern regarding existing operations and objects to noise and dust impacts of the Project. ▪ Concerned regarding future use of the pit
34. HORSLEY PARK NSW 2164	▪ Concern regarding existing operations and objects to noise and dust impacts of the Project.
35. HORSLEY PARK NSW 2164	▪ Concern regarding existing operations and dust, health and water quality impacts of the Project. ▪ Concerned regarding future use of the pit.
36. HORSLEY PARK NSW 2164	▪ Objects to the Project due to visual, dust and noise impacts. ▪ Concerned regarding future use of pit.
37. BOSSLEY PARK NSW 2176	▪ Objects to the Project due to traffic, dust and noise impacts. ▪ Concerned regarding future use of pit and the 40 year length of the Project.
38. HORSLEY PARK NSW 2164	▪ Objects to the Project due to traffic, property value, dust and noise impacts. ▪ Concerned regarding future use of pit.
39. HORSLEY PARK NSW 2164	▪ Objects to the Project due to traffic, dust and noise impacts. ▪ Concerned regarding future use of pit.
40. HORSLEY PARK NSW 2164	▪ Objects to the Project due to traffic, dust and noise impacts. ▪ Concerned regarding future use of pit.
41. HORSLEY PARK NSW 2164	▪ Objects to the Project due to property value, dust and noise impacts.
42. HORSLEY PARK NSW 2164	▪ Objects to the Project due to traffic, dust and noise impacts.

	▪ Concerned regarding potential for future brick plants.

PRIVATE INDIVIDUALS (cont)

43. HORSLEY PARK NSW 2164	▪ Objects to the Project due to traffic, dust and noise impacts and loss of heritage home on Old Wallgrove Road
44. HORSLEY PARK NSW 2164	▪ Objects to the Project due to loss of heritage home on Old Wallgrove Road
45. HORSLEY PARK NSW 2164	▪ Objects to the Project due to traffic, dust and noise impacts and loss of heritage home on Old Wallgrove Road
46. BOSSLEY PARK NSW 2176	▪ Objects to the Project due to impacts on heritage home on Old Wallgrove Road
47. HORSLEY PARK NSW 2164	▪ Objects to the Project due to impact on rural/residential nature of the area
48. BOSSLEY PARK NSW 2176	▪ Objects to the Project due to impacts on heritage home on Old Wallgrove Road as well as dust and traffic impacts. ▪ Concerned regarding future use of pit.
49. HORSLEY PARK NSW 2164	▪ Objects to the Project due to dust impacts. ▪ Concerned regarding future use of pit.
50. HORSLEY PARK NSW 2164	▪ Objects to the Project due to dust and property value impacts. ▪ Concerned regarding future use of pit, impacts to existing Sydney Water pipeline and appropriate remuneration for buffer zones.
51. HORSLEY PARK NSW 2164	▪ Objects to the Project due to dust and property value impacts. ▪ Concerned regarding future use of pit, impacts to existing Sydney Water pipeline and appropriate remuneration for buffer zones.
52. HORSLEY PARK NSW 2164	▪ Objects to the Project due to dust and property value impacts. ▪ Concerned regarding future use of pit, impacts to existing Sydney Water pipeline and appropriate remuneration for buffer zones.
53. HORSLEY PARK NSW 2164	▪ Objects to the Project due to dust and property value impacts. ▪ Concerned regarding future use of pit, impacts to existing Sydney Water pipeline and appropriate remuneration for buffer zones.
54. HORSLEY PARK NSW 2164	▪ Objects to the Project due to dust and property value impacts. ▪ Concerned regarding future use of pit, impacts to existing Sydney Water pipeline and appropriate remuneration for buffer zones.
55. HORSLEY PARK NSW 2164	▪ Concern regarding non compliance of existing operation. ▪ Objects to Project due to noise and dust impacts. ▪ Concerned regarding future use of pit. ▪ Requests that if the project is approved that strict guidelines are imposed with penalties for non-compliance.
56. HORSLEY PARK NSW 2164	▪ Objects to the Project due to impact on property devaluation, smoke, dust, noise, water quality, traffic and smell.
57. HORSLEY PARK NSW 2164	▪ Objects to the Project due to impact on property value, dust, noise, traffic and smell. Concerned regarding future use of pit.
58. HORSLEY PARK NSW 2164	▪ Objects to the Project due to impact on fauna & flora, noise, pollution, traffic, property devaluation.
59. HORSLEY PARK NSW 2164	▪ Concerned regarding smoke, noise, smell, water contamination and fauna & flora impacts of Project and property devaluation.
60. HORSLEY PARK NSW 2164	▪ Objects to the Project due to impact on noise, dirt, property devaluation, traffic, smoke, water contamination and wildlife. Concerned regarding future use of the pit.
61. HORSLEY PARK NSW 2164	▪ Concerned regarding dust impacts from the Project resulting in human health impacts
62. HORSLEY PARK NSW 2164	▪ Concerned regarding dust impacts from the Project resulting in human health impacts. ▪ Concerned regarding future use of pit.

SPECIAL INTEREST GROUPS

The Horsley Park & Cecil Park Community Group	▪ Objects to the Project due to noise, dust, property value and traffic impacts. ▪ Concerned regarding future use of pit.