PROPOSED REGIONAL DISTRIBUTION CENTRE
RINKER AUSTRALIA PTY LTD
ROOTY HILL NSW
ENVIRONMENTAL ASSESSMENT REPORT

1. INTRODUCTION

The proponent, Rinker Australia Pty Ltd (Readymix), is a division of the Rinker Group Limited, which is an Australian owned, international construction materials group of companies. It is one of the leading producers of aggregate, ready mixed concrete, concrete pipe and other concrete products through its Humes businesses. Readymix also holds substantial joint venture interests in cement and asphalt operations. Readymix operates 14 concrete batching plants and 2 quarries in Sydney, being a major supplier of concrete and aggregates within Sydney, New South Wales (NSW) and Australia.

Readymix proposes to construct and operate a Regional Distribution Centre (RDC) at Kellogg Road, Rooty Hill. Construction materials such as sand and aggregate would be transported by rail to the RDC from quarries outside of the Sydney Basin. These materials would be blended by equipment at the RDC as required to suit customer specifications, and distributed by road to the Sydney market. The proposed RDC would be capable of handling up to 4 million tonnes per annum (Mtpa) of product. It would commence operation handling 2 to 2.5 Mtpa increasing to a projected full capacity of about 4 Mtpa as dictated by the construction materials market. The materials are typically used for the manufacture of concrete and asphalt. They also have a variety of other uses in civil and construction industries.

Readymix currently supplies the bulk of these materials through the company's Penrith Lakes Development Corporation (PLDC) operations. The resource at the PLDC is nearly depleted and the facility will wind down with closure by 2010-2012.

The proposed development site is located at Kellogg Road and Woodstock Avenue, Rooty Hill within the Blacktown Local Government Area (LGA) (refer Figure 1). The development site is bounded by the Main Western Railway Line to the south, the Nurragingy Reserve to the east, the OneSteel Mini Mill and other industrial developments to the west and industrial land including Humes to the north.

2. APPROVAL REQUIREMENTS

On 1 August the *Environmental Planning and Assessment Act 1979* (*EP&A Act*) was amended by adding a new Part 3A which established a new approval process for major infrastructure and other projects including the RDC.

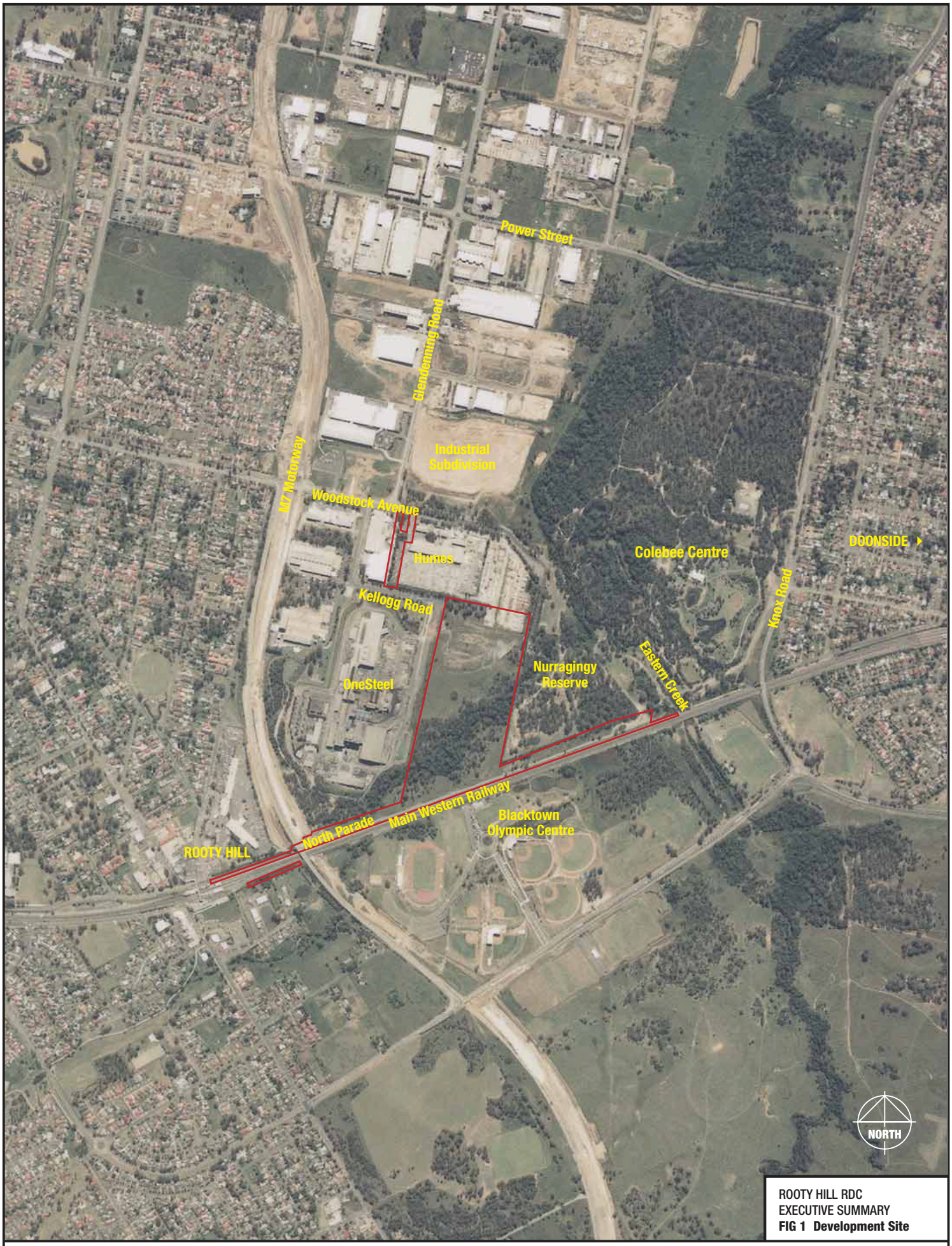
The RDC is classified as a Project to which Part 3A of the *EP&A Act* applies because it is identified in Schedule 1 of State Environmental Planning Policy (SEPP) (Major Projects) 2005 as a project to which Part 3A of the *EP&A Act* would apply because it is development for the purpose of extractive industry related works that have a capital investment value of more than $30 Million. The approval of the Minister for Planning is required before a Project to which Part 3A applies can be carried out. Projects which are the subject of an approval under Part 3A no longer require the preparation of an Environmental Impact Statement (EIS) and Readymix is now required to prepare an Environmental Assessment Report (EAR) based on requirements issued by the Director General of the Department of Planning (DOP).

In accordance with the savings and transitional provisions at Clause 8J of the *Environmental Planning and Assessment Amendment (Infrastructure and other Planning Reform) Regulation 200*5, the environmental assessment requirements issued by the Director General on 26 May 2005 have been adopted as the environmental assessment requirements for the Project for the purposes of Section 75F of the *EP&A Act*.

3. CONSULTATION

Consultations were undertaken with all public authorities with an interest in the proposed development. These included Agility (a subsidiary of AGL), Blacktown City Council, Department of Environment and Conservation, the then Department of Infrastructure Planning and Natural Resources (DIPNR), Department of Primary Industries (DPI previously NSW Fisheries), Integral Energy, NSW Rural Fire Service, Railcorp, Roads and Traffic Authority (RTA) and Sydney Water.

A community consultation programme was initiated during preparation of the EAR. The programme was managed by Twyford Consulting for Readymix.



ROOTY HILL RDC
EXECUTIVE SUMMARY
FIG 1 Development Site

The objectives of the consultation programme were:

- To build positive relationships with key local stakeholders;
- To provide clear, accurate and objective information on the proposed RDC;
- To listen to issues and concerns expressed by the local community; and
- To encourage improved understanding of the project and the way Readymix intends to manage and minimise impacts to the local community.

Initially a newsletter was distributed by mail and letterbox drop to all residences and businesses within 1 km of the development site. This was undertaken in November 2004. Approximately 2000 newsletters were distributed. A second newsletter was distributed in February 2005. It was distributed to residences and businesses who received the first newsletter and in addition it was forwarded to other residents who had indicated an interest in the proposal.

A Community Information Office was established in Rooty Hill Plaza in the Rooty Hill Shopping Centre. The Community Information Office is staffed and is open during normal working hours each weekday. The office was opened in February 2005. A physical model of the proposed development site was on display in the office with maps, plans and diagrams.

4. NEED FOR THE PROPOSED DEVELOPMENT

Sydney's main local sources for construction materials, particularly the PLDC Scheme, are being rapidly depleted. The PLDC currently supplies the bulk of construction materials into the Sydney market. Production is expected to continue to gradually fall until closure of the operation in around 2010 -12. As construction material sources close to Sydney become exhausted it will be necessary to source construction materials from outside the Sydney Basin.

Consequently Readymix has been required to find alternate sources of quarry materials to meet existing and expected demand in the Sydney Region. Readymix is looking to source material from outside of the Sydney Basin, and transport that material into the Sydney market place. Quarry sites outside the Sydney Basin have been identified and planning to develop these sites is underway.

The proposed RDC at Rooty Hill would receive construction materials sourced from quarries outside the Sydney Basin, store and blend these materials and distribute them to customers in the Sydney market on a longterm basis. The development would include a Concrete Batching Plant to supply concrete to the local region.

In reviewing the location of source materials, Readymix also reviewed alternative modes of transport for delivery of these materials to the Sydney market. Delivery of materials will require long haul transportation from country regions to the Sydney Metropolitan area and the distribution of the materials to customers including Concrete Batching Plants and Asphalt Plants. The use of rail and the corresponding reduction in truck kilometres travelled has significant socio-economic and environmental benefits. The development of the proposed RDC including the transportation of construction materials into the Sydney Region by rail and the distribution of those materials to the market from the RDC by truck would be consistent with Government Policy.

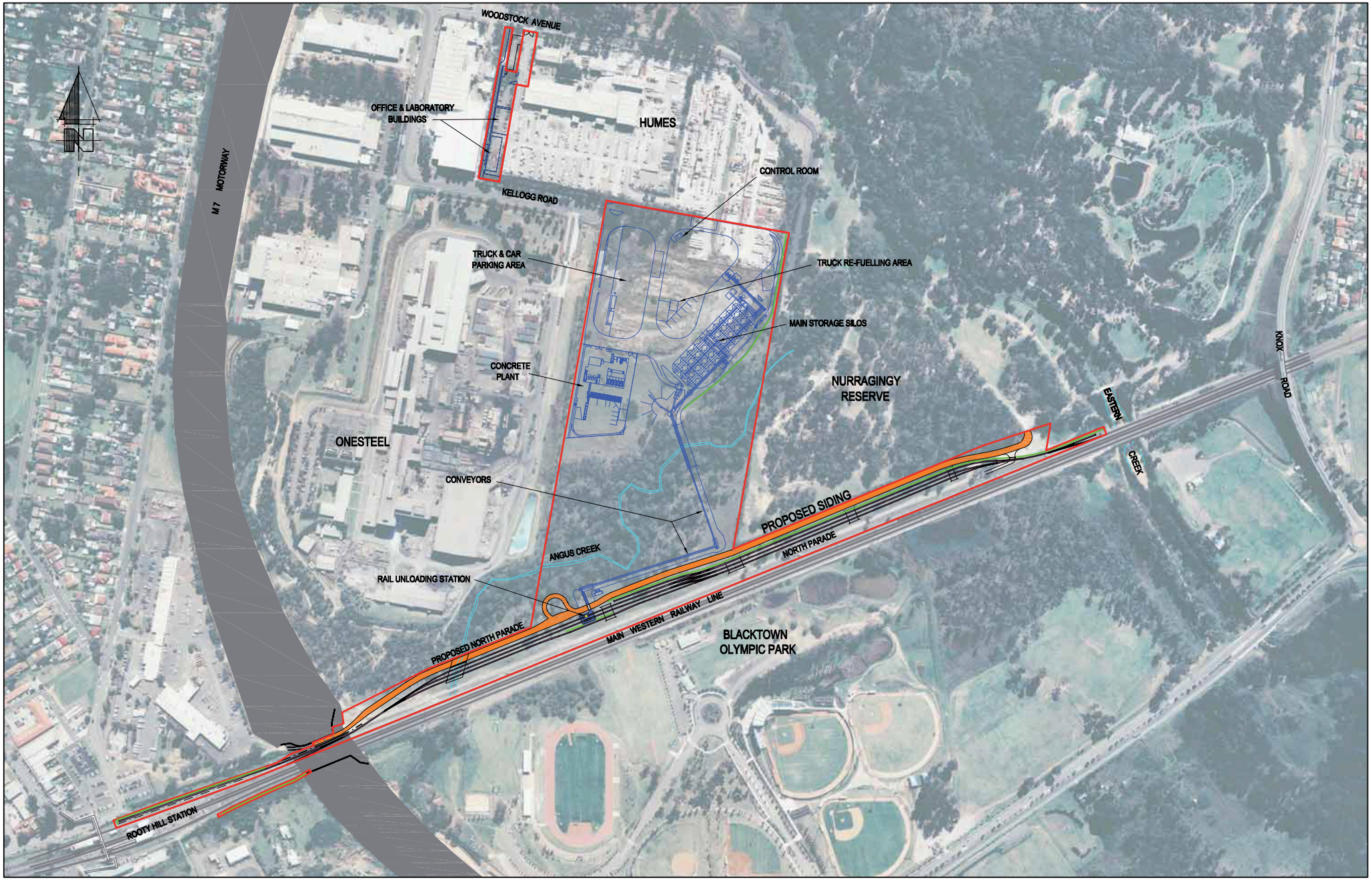
The proposed development site at Kellogg Road, Rooty Hill was identified as the preferred site for the RDC due to its unique access opportunities in relation to the road and rail system. The site is located adjacent to the main western Sydney rail system and provides direct ready truck access onto the M7 Motorway system, through an industrial area, for highly efficient distribution of materials around the Sydney road network.

5. THE PROPOSED DEVELOPMENT

Figure 2 shows the site development plan.

The RDC site will be developed to include:

- A regional office building and quarry materials and concrete testing laboratory;
- A rail siding with aggregate unloading facility;
- Storage Bin Area and Load out facilities;
- Ground storage and reclaim facilities;
- Blending Plant/Pug Mill;
- A conveyor system linking the unloading station to the storage and truck load out facilities;
- Workshop, stores, site offices and amenities facilities, truck wash down facilities, truck refuelling, weighbridges, truck and car parking;
- Concrete Batching Plant;
- Bridges at two locations over Angus Creek; and
- Realignment of North Parade.



LEGEND:-

- SITE DEVELOPMENT AREA
- PROJECT INFRASTRUCTURE
- PROPOSED RAIL SIDING
- PROPOSED NOISE WALL
- PROPOSED NORTH PARADE

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CONCEPT ONLY

ROOTY HILL R.D.C.
EXECUTIVE SUMMARY

FIG. 2 – SITE DEVELOPMENT PLAN

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The proposed RDC would operate 24 hours per day, seven days a week. Because it is listed as a *scheduled activity* in Schedule 1 of the *POEO Act* the proposed development must have an Environment Protection Licence (EPL) to be issued by the DEC. Section 75V of the *EP&A Act* provides that if a Part 3A approval is granted for the development the Licence under the *POEO Act* cannot be refused if it is necessary for the carrying out of the approval.

A Site Environmental Management Plan (EMP) would be developed for the management of activities on the site. The EMP would identify the processes and actions causing, or that have the potential to cause, disturbance to, and degradation of, the environmental quality of the RDC site and its surrounds. The EMP would be prepared to address both the construction and operational phases of the project. It will include measures to be undertaken in order to minimise or mitigate these potential impacts. A monitoring programme would be undertaken as part of the EMP. The EMP would be updated periodically in the light of monitoring results, site audits and the requirements of the Readymix Safety, Health and Environmental (SHE) Management System.

6. ENVIRONMENTAL ASSESSMENT

Topography, Geology and Soils

The proposed development site comprises an irregular shaped area bounded by Humes and Woodstock Avenue to the north, the Nurragingy Reserve to the east, the Main Western Railway line to the south and OneSteel to the west.

The site has a gentle undulating slope from the north west corner of the site (40 m AHD), to the southern section of the site (32.5 m AHD). Angus Creek, a tributary of Eastern Creek, flows from the south west to the north east across the site and lies at approximately 30 m AHD. Angus Creek meets with Eastern Creek in Nurragingy Reserve to the north of the eastern end of the proposed rail siding.

Construction of the proposed RDC would take place over an approximate two year period. The initial stages of construction activities would include earthworks on the northern section of the site to create the landform/levels required for the storage and distribution area and construction of the road/conveyor bridge across Angus Creek. Once these works are completed construction of the associated structures could commence.

The construction activities on the northern portion of the development site would result in some changes in the topography as a result of removal of existing stockpiles and the provision for uniform gradients for drainage, access and the location of structures. The landform resulting from the changes would not be inconsistent with the topography of the adjoining areas.

The construction of the conveyor system, rail unloading facilities, the road providing access to the southern section of the site and the associated road bridge over Angus Creek would not alter the overall topography of the site.

There would be some excavation during construction of the RDC. There would be excavation under the site of the proposed office and laboratory buildings to enable the car park and laboratory buildings to be constructed. There would also be excavations under the reclaim hopper, transfer house, the aggregate storage bins and the rail unloading station. Otherwise only minor excavations would be required for building and structure foundations. The extent of the sub-surface activity would have a localised impact which is unavoidable given the topography of the development site and the nature of the components of the RDC.

Initial earthworks would involve levelling of excavated material on the northern portion of the site. The earthworks involve moving materials from the stockpiles to create the platform for the Concrete Batching Plant. The remaining stockpile materials would be levelled, and reshaped to provide uniform gradients for drainage and access or removed from the site. Other earthworks would involve site preparation and excavation for other components of the RDC and the construction of roadways and paved areas.

The Site EMP will include measures that would be implemented in order to minimise sediment movement during levelling activities. The Angus Creek Corridor would be protected from damage during construction activities as protection measures will be implemented and managed through the Site EMP. A riparian buffer of 40 m from the Creek would be maintained wherever possible except for the two creek crossings and portions of the rail unloading and conveyor system south of the creek. Revegetation of cleared and disturbed areas on the site outside the development footprint and areas disturbed by construction would be undertaken using endemic native species.

SURFACE WATER

The proposed development site is located within the catchment of Eastern Creek. The site is drained by Angus Creek which enters Eastern Creek to the east of the site. Eastern Creek flows into South Creek at Vineyard, which then flows into the Hawkesbury River at Windsor.

The main portion of the proposed development site is undeveloped. The exceptions are the site of the proposed office and laboratory, North Parade and the Main Western Railway line. The entire site drains to Eastern Creek. The main portion of the site and part of North Parade and the Railway land drain directly to Angus Creek a tributary of Eastern Creek. The area of the proposed office and laboratory drains via the Humes site water management system to Eastern Creek or towards Kellogg Road and into Council's stormwater collection system.

The proposed RDC would not materially change the drainage patterns on the site. At present there is no runoff entering the site from the west because OneSteel has a stormwater swale along the entire length of its eastern boundary. Runoff from other areas external to the site would be diverted by cut-off drains around the site into either Angus Creek or Eastern Creek. Water storage tanks would collect water from a number of buildings and enclosures on site for reuse.

The proposed site drainage system for the storage and distribution area on the northern section of the site reflects the existing conditions on site and would flow towards Angus Creek. The office and laboratory building would use the existing water management system on the Humes site. The lower section of the site has been designed to replicate existing conditions with site drainage having been designed accordingly.

FLOODING

The major portion of the proposed development site is elevated and slopes in a general southeasterly direction towards Angus Creek (which flows in an easterly direction through the southern portion of the site). While much of the project infrastructure is proposed to be located on the elevated northern portion of the proposed development site, some elements principally the rail siding, rail unloading station, rail unloading transfer conveyor system (and related access road), the two bridges over Angus Creek and the realigned North Parade will be within the Angus Creek 100 year ARI floodplain. Bewsher Consulting was commissioned to undertake a flood study to assess the project's potential impact on the local Angus Creek flood regime.

The modelling undertaken for this study indicates only minor changes to flood levels as a result of the proposed development. Impacts would be primarily restricted to within the site of the proposed development with minimal effect on adjacent or upstream land uses. The modelling also shows the proposed RDC would not have a major adverse impact on the passage of an extreme flood event.

WATER QUALITY

A water quality monitoring programme has identified the existing conditions for the site and this programme would be continued during construction and operation of the RDC. Due to the location of adjacent industry and the disturbed surroundings, Angus Creek has been assessed as being a slightly disturbed lowland freshwater waterway. Monitoring of Angus Creek upstream and downstream of the proposed development site would give an indication of impacts associated with the activities being undertaken on the RDC.

The potential sources of surface water contamination from the site are cementitous materials from the Concrete Batching Plant and Blending Plant / Pug Mill, sediment materials arising from the construction material brought to the site and distributed from it and spill and leakage of oils, fuels and other chemicals stored on site.

The water management system on site involves collection of rainfall, collection and management of process water and stormwater flows. The efficiency of the proposed water management system would influence the water quality downstream in Angus Creek. External stormwater flows would be captured and diverted around the development area where applicable. Stormwater discharging from paved areas on the site would pass through silt traps and Humeceptors (hydrodynamic source control devices) for capture and retention of a range of contaminants from stormwater runoff including oils, greases and sediments. The stormwater drainage systems would discharge into dispersal basins. After filling the basins would overflow into the Angus Creek corridor as sheet flow. The basins would be regularly inspected and cleaned as required.

Water from areas classified as "dirty" in the RDC would be segregated from water from "clean" areas. The "dirty' areas are where there is the potential for spills of cementitous materials, fuels and other chemicals. Where possible "dirty" water would be

reused on site. As required it would be disposed of to a licenced contractor or to sewer. Where a first flush system is in place, as in the Concrete Batching Plant, water would flow through the site drainage system before being released. The first flush system would remove sediment and other temporarily suspended materials from the first flush water. Subsequent flows would be clean of these materials.

Implementation of the proposed water management system would ensure no negative impact on Angus Creek as a result of the construction or operation of the RDC.

GROUNDWATER

Potential sources of groundwater contamination are from any existing contamination on site and spills and leakages into the soil of oils, fuel and other chemicals stored on site. The construction materials brought onto the site and distributed from it do not contain materials which could pollute the groundwater system. No contaminated soil areas have been identified on the site so surface disturbance and excavation would not result in any release of contaminants which could be transported to the groundwater system.

All areas where potential contamination could occur during RDC operations would be sealed. These include areas on which oils, fuels and other chemicals are stored, the areas in the Concrete Batching Plant and Blending Plant / Pug Mill where spills of cement and other input materials are possible and the truck refuelling area and workshop. "Dirty" water would be reused and any which cannot be reused would be taken from the site for treatment or disposal. Only "clean" water would be discharged to adjoining areas where there is the potential to infiltrate to groundwater.

On this basis the proposed construction and operation of the proposed RDC do not have the potential to lead to groundwater contamination.

The local flow and level of groundwater in the general area of the site could be impacted by activities on the site. While the buildings, structures and paving on the site would result in lower infiltration of stormwater into the soil and potentially to groundwater, this would be small in comparison to other inputs to local and regional groundwater. As groundwater is not used locally for any purpose and is rarely used regionally, there would be no local impact.

FLORA AND FAUNA

Three vegetation communities have been identified within the proposed development site:

- Riparian forest;
- Woodland; and
- Cleared/disturbed areas.

The vegetation within the study area has been mapped by the DEC (2003) as Sydney Coastal River-flat Forest (Alluvial Woodland) along Angus Creek, with scattered patches of Cumberland Plain Woodland (Shale Plains Woodland). Cumberland Plain Woodland is listed as an Endangered Ecological Community (EEC) under Schedule 3 of the *Threatened Species Conservation* (*TSC) Act* and the Commonwealth *Environment Protection and Biodiversity Conservation* (*EPBC) Act*. Sydney Coastal River-flat Forest was previously listed as an endangered ecological community under the TSC Act but has since been replaced by a number of listings, including River-flat Eucalypt Forest.

One significant plant species was recorded on the site during the field surveys. This was *Grevillea juniperina subsp. juniperina* which is listed as vulnerable under the *TSC Act*. During fieldwork, the Cumberland Plain Land Snail and Latham's Snipe were recorded at the site. These species are both significant as the Cumberland Plain Land Snail is listed as endangered under the *TSC Act* and Latham's Snipe is listed as a migratory species in the *EPBC Act*.

The proposed development site comprises an area of cleared/disturbed grassland directly north of the Main Western Rail line, an area of native woodland along Angus Creek, which crosses the site and a large area of cleared/disturbed land and scattered section of native vegetation bordering the adjacent Humes site. The woodland is comprised of moderate and poor quality Cumberland Plain Woodland and poor quality River-flat Eucalypt Forest both listed as Endangered Ecological Communities in Schedule 1 of the Threatened Species Conservation Act 1995.

The proposed development would remove areas of approximately 1.6 ha of native vegetation. This includes 0.5 ha of moderate quality and 0.9 ha of poor quality Cumberland Plain Woodland and 0.2 ha of poor quality River-flat Eucalypt Forest.

Grevillea juniperina ssp. juniperina and the Cumberland Plain Land Snail were recorded on the study area. These are both listed as threatened species under the TSC Act. Both locations where these species were identified are outside the development area and would be protected as part of site management measures.

Eight Part Tests have been undertaken to determine whether the RDC will have a significant impact on threatened species, populations or ecological communities listed under the *TSC Act*. The results from these tests determined that no Species Impact Statement is required.

Cumberland Plain Woodland, *Acacia pubescens* and Latham's Snipe were assessed under the *EPBC Act* Assessment of Significance as they are listed as Endangered, Vulnerable and Migratory respectively under this Act. A Referral was made to the Australian Department of Environment and Heritage and it was determined the proposed development was not a Controlled Action.

AQUATIC ECOLOGY

An aquatic ecological survey of the site was undertaken in 2005. The study assessed the conservation significance of the site in terms of threatened aquatic species, populations (and their habitats) or ecological communities that occur, or have the potential to occur on the site. The study concentrated on the potential impact on Angus Creek and downstream impacts on Eastern Creek.

The aquatic habitats within the site were consistent with a disturbed lowland creek. Within the site, the dominant riparian species along Angus Creek included native species, for example *Casuarina glauca*, *Bursaria spinulosa*, *Angophera* sp. and *Eucalyptus* sp. Exotic species were common such as *Lingustrum* sp. and groundcover plants including *Commelina cyanea*, *Tradescantia flumensis* and *Microlaena stipoides.*

No threatened aquatic species, populations or endangered aquatic ecological communities were recorded during the aquatic assessment.

AIR QUALITY

An air quality assessment has been conducted by Holmes Air Sciences to assess air quality impacts associated with the operation of the proposed RDC. The assessment undertaken by Holmes Air Sciences is based on the procedures outlined in the New South Wales DEC (formerly NSW EPA) document titled "Approved Methods and Guidance for the Modelling and Assessment in NSW" (NSW EPA, 2001). Dispersion modelling has been used for the air quality assessment. The computer model used for the assessment, AUSPLUME, requires information about the dispersion characteristics of the area including wind speed, wind direction, atmospheric stability and mixing height.

Dust emissions would arise from a range of activities associated with the RDC. Total dust emissions due to the project have been estimated by analysing the activities taking place at the site.

Air quality impacts during construction would largely result from dust generated during earthworks and other engineering activities associated with the facilities construction. The total amount of dust generated would depend on the silt and moisture content of the soil, the types of operations being carried out, exposed area, frequency of water spraying and speed of machinery. As construction is likely to continue for up to two years, it is important that exposed areas be stabilised as quickly as possible and that appropriate dust suppression methods be used to keep dust impacts to a minimum. It is proposed that monitoring be carried out during the construction phase of the project to assess compliance with DEC goals. A minimum of three deposition monitors would be required, ideally at the closest residences or other sensitive receptors.

The nearest residential areas are approximately 500 m from the proposed development site. The DEC guidelines require an assessment against 24-hour PM_{10} concentrations. This assessment adopts the approach that the predicted 24-hour average PM_{10} concentration from the development should be less than 50 $\mu g/m^3$ at the nearest residences.

Predicted concentrations are below the DEC 50 $\mu g/m^3$ goal at the nearest residential areas and the impact of the RDC is therefore considered to be acceptable.

Air quality impacts at the adjacent Nurragingy Reserve and Blacktown Olympic Centre have also been considered. These sites receive up to 2,000 visitors in one day and the critical assessment criteria will be short-term (24-hour) dust concentrations. Predicted maximum 24-hour average PM_{10} concentrations due to the RDC show that the 50 $\mu g/m^3$ contour level encroaches into some areas of the Nurragingy Reserve. These areas are on the western side of the reserve adjacent to the industrial area. An assessment of the likely frequency of the highest 24-hour average PM_{10} concentrations at the Nurragingy Reserve was conducted. There were two days in the modelled

year when the predicted 24-hour average PM_{10} concentrations were above 50 $\mu g/m^3$ at this location. Visitors to the sites could spend up to about 12 hours in the area however there is no air quality goal for PM_{10} in NSW for averaging times less than 24-hours. The dispersion model has been re-run to predict maximum 12-hour average PM_{10} concentrations. The purpose of these results is to show the likely concentrations during daytime hours when there would be visitors at the reserves. Although there is no 12-hour average PM_{10} goal the results show that concentrations are below 50 $\mu g/m^3$ during daytime hours. This level of impact is considered to be acceptable.

Associate Professor David McKenzie of the Chest and Sleep Centre prepared a report based on his professional experience in the diagnosis and management of respiratory disorders with a particular interest in Occupational Health problems. The report was also based on an assessment of the medical literature related to exposure to dusts of various kinds and urban pollution. Professor McKenzie's report concluded that there is no reason for concern about adverse health effects from the proposed RDC. The anticipated levels of respirable dust in the adjacent residential areas would be well below the criteria set by the DEC. In Associate Professor McKenzie's view, there is no reason for concern about the safety of even the most susceptible individuals living in the vicinity of the proposed RDC. There is also no reason for concern about the safety of people using or working in the adjacent recreational areas

NOISE

A noise impact assessment was undertaken by Heggies Australia Pty Ltd (Heggies). The objective of the noise assessment was to identify the potential impact of noise from the proposed development, including construction and operation of the facility and associated rail and road traffic movements and to provide advice with regard to effective mitigation strategies where necessary. The noise assessment was prepared with reference to Australian Standard AS 1055:1997 *Description and Measurement of Environmental Noise* Parts 1, 2 and 3 and in accordance with the DEC NSW Industrial Noise Policy (INP). Reference was also made to the NSW Environmental Criteria for Road Traffic Noise (ECRTN). Where issues relating to noise are not addressed in the INP, such as sleep disturbance, rail traffic noise and construction noise goals, reference has been made to the NSW Environmental Noise Control Manual (ENCM).

Potential noise sensitive areas that surrounded the proposed RDC were identified and were noted to be industrial, recreation and residential areas. Industrial properties are adjacent to the proposed RDC site to the west and north.

Proposed construction equipment was modelled at potential worst case locations on the subject site including the eastern, western and southern boundaries of the site and at either extremity of the rail siding. Construction noise levels have been predicted assuming noise barriers are in place adjacent to the rail siding and along the eastern boundary of the site are in place.

It is anticipated that construction of the RDC would take approximately two years to complete. Construction noise levels are predicted to be below the relevant noise goals at each of the residential areas considered once the relevant noise barriers are in place. There may be short periods of time, while noise barriers are being constructed or when multiple pieces of construction equipment are in use, where construction noise levels exceed the relevant noise goals at residential areas.

Sections of the Nurragingy Reserve are likely to experience noise levels greater than the relevant noise goal when heavy construction equipment is operating on the eastern boundary of the Readymix site. Similar noise levels can be expected in sections of the Reserve adjacent to the proposed siding when works are being conducted for the construction of the siding. The noise impact in the Reserve would obviously decrease as works move away from the Readymix/Nurragingy Reserve boundary or the eastern end of the proposed rail siding.

Heggies has conducted a noise and vibration impact assessment for the proposed RDC including consideration of construction, road and rail traffic and operational noise from the proposed development. Operational noise levels are predicted to meet the project specific noise criteria at all residential locations under both calm and prevailing weather conditions. In addition, predicted operational noise levels from the subject site do not exceed the acceptable noise levels at the Colebee function centre and the Blacktown Olympic Centre and do not exceed the recommended maximum noise amenity level in any areas of the Nurragingy Reserve.

Predicted maximum noise levels from operation of the proposed RDC during the night-time period are also predicted to meet the recommended sleep disturbance noise goal. The increase in rail traffic generated by the RDC is predicted to result in a negligible increase in rail traffic noise along the Main Western Railway corridor. Road traffic noise levels are predicted to satisfy the requirements of the ECRTN.

VISUAL

Context Landscape Design was commissioned to undertake a visual assessment of the proposed RDC. The assessment included recommendations for mitigative measures to ameliorate visual impacts and preparation of a Landscape Master Plan for the site.

Five distinct character precincts were identified within the proposed development site:

- Existing facilities and storage areas including the car park in the northern part of the site currently occupied by Humes;
- Predominantly open cleared area, dominated by weed infested stockpiles, in the central part of the site;
- Tall native vegetation following the line of Angus Creek. The vegetation consists of SCRFF and CPW of high, medium and low conservation value;
- Predominantly open grassed area adjacent to the railway tracks east of the M7; and
- Grassed area/drainage swale with woody weeds adjacent to the railway tracks west of the M7.

Some visual impacts would occur in Nurragingy Reserve, Blacktown Olympic Centre, Rooty Hill Reserve, Rooty Hill Town Centre and from North Parade, the M7 Motorway, the Main Western Railway Line and Eastern road. Lesser impacts would occur in the surrounding and more distant residential areas. Mitigation measures to ameliorate the visual impacts include the provision of screen planting around the boundary of the proposed development site, painting components of the proposed RDC in a colour sympathetic to the surrounding native vegetation and limiting the spill of night time lighting from the site.

The Landscape Master Plan addressed these recommendations by increasing the density of plantings around the boundaries of the site, both inside and potentially outside the site.

The design also addresses the visual amenity within the site including provision for tree and shrub plantings and turfed areas.

TRAFFIC

A traffic impact assessment of the proposed RDC has been carried out by Irwinconsult Pty Ltd. Traffic modelling was undertaken to assess the potential traffic impact of the RDC in both the construction and operational phases. The study was undertaken in accordance with the methodology outlined in the RTAs Guide to Traffic Generating Developments – Traffic Impact Studies.

The proposed development site is located along the south-eastern boundary of Kellogg Road, Rooty Hill. The primary access point to the development site located on Kellogg Road is approximately:

- 3.6 km north of the M4 motorway interchange;
- 600m from the planned half diamond M7 Motorway interchange with Woodstock Ave; and
- 2 km south of the proposed half diamond M7 Motorway interchange with Power St.

Access to the development site is also available from North Parade however Angus Creek traverses the southern section of the site restricting main access to the northern section of the proposed development site.

The local roads that would be used by traffic associated with the proposed RDC include Phillip Parkway, Woodstock Ave, Glendenning Rd, Power St and Kellogg St. The M7 Motorway, which will incorporate sections of Phillip Parkway, is currently under construction and is due to be opened in 2006.

There are four intersections that will be affected by the proposal which are:

- Woodstock Avenue/Phillip Parkway (M7 Motorway);
- Woodstock Avenue/Kellogg Road;
- Woodstock Avenue/Glendenning Road; and
- Power Street/Glendenning Road.

Surveys were conducted at these intersections by Irwinconsult Pty Ltd in 2004. The surveys included assessment of characteristics of each intersection such as traffic control devices, layout, queue length and potential vehicle conflicts. Traffic counts were also conducted at these intersections.

The construction of the proposed RDC, including earthworks would occur over an approximate 2 year period. During this period access would be required to the site for both light and heavy vehicles. The initial period of construction (the first 6 months) would involve the completion of the internal bridge over Angus Creek. In order for materials to be delivered to this site, limited heavy vehicular access would be required through parts of the Nurragingy Reserve via North Parade and Knox Rd. This would follow the same route used by Blacktown City Council, RailCorp and other service providers that use North Parade. Upon completion of the Angus Creek road bridge all construction traffic would enter via Kellogg Rd and use the bridge to access the southern portion of the site, therefore eliminating the need to enter via Knox Rd.

The existing Woodstock Ave / Kellogg Rd give-way intersection would perform as the 'main' entry/exit point for heavy vehicles access to the site throughout the entire construction stage of development. Construction staff over the course of the project is expected to peak at approximately 150 people for any one day.
Intersection analysis identifies that the existing configuration for the Woodstock Ave / Kellogg Rd intersection is capable of accommodating the additional heavy vehicle traffic during the construction stages (ie. 150 trucks entering and exiting the site per average construction day). If the Concrete Batching Plant was to become operational during the construction phase of the proposed RDC a recommended roundabout at the intersection of Kellogg Road and Woodstock Avenue would be required.

This operational assessment examined the expected traffic impacts of the proposed Readymix RDC upon the existing surrounding road network, in particular the intersections of Kellogg Rd / Woodstock Ave, Glendenning Rd / Woodstock Ave and Glendenning Rd / Power St. The existing Woodstock Ave / Phillip Parkway intersection was not examined as it will be updated as part of the M7 project.

Aggregate distribution would be made from the site to the Sydney market by road via the M7 Motorway. All of these heavy vehicle distribution routes would utilise the M7 Motorway. Therefore the trucks would either access the southbound lanes of the motorway directly from Woodstock Ave, or travel via Glendenning Rd and Power St to access the northbound lanes. The opposite would occur for distribution trucks returning to the site.

The four most predominant vehicle movements at the site would be:

- Employee's cars;
- Laboratory and other deliveries (light vehicles);
- Concrete delivery trucks (agitators); and
- Trucks distributing aggregate to other Readymix sites and customers (heavy vehicle).

For this site the AM peak hour would be the most critical, as this will be the busiest time in terms of concrete and aggregate distribution and also exhibits the highest levels of background traffic throughout the day. As a result, more delivery trucks would leave and return to the RDC site in this period compared to the 'average hour' during the day. RDC staff shifts would be staggered, with the first of the day shift employees arriving at approximately 5.00 am. The majority of the employees would be on-site prior to 7.00 am, therefore outside of the defined 'peak hour' for the surrounding network

The critical extra traffic volumes are those associated with the heavy vehicles, as they exhibit much slower acceleration and deceleration characteristics than cars and their movements would correspond with the AM traffic peak in the area.

This proposed development would involve the construction of a rail siding area, from which construction materials would be delivered to the site. Concrete distribution would be via concrete agitators out of Kellogg Rd. Under normal operating conditions aggregates would be distributed from the site to the Sydney market via heavy vehicles.

This proposed RDC would generate traffic due to the employee movements and the distribution of aggregates and concrete from the site. All heavy vehicle access to the facility would be via Kellogg Road.

With the exception of concrete agitators servicing local customers and employee vehicles, all other RDC traffic would be restricted to roads through the industrial area only in accessing the M7 Motorway.

The existing pavement design is considered adequate for this purpose. Pedestrian safety is not expected to be affected by traffic associated with the proposed development.

The RDC would increase traffic circulating around the area, but analysis shows that the nearby intersections are expected to operate satisfactorily when the development becomes operational, however some upgrades may be required.

The Kellogg Rd / Woodstock Ave intersection is the critical junction in terms of traffic impact associated with the proposed RDC. A two-lane roundabout option is recommended to be constructed prior to the RDC becoming operational, as it would provide additional amenity and safety for all vehicles at the intersection. The implementation of a two-lane roundabout at this intersection would improve the performance of the right turn out of Kellogg Rd.

Subject to the installation of the recommended two lane roundabout, the analysis undertaken demonstrates that the road network could accommodate traffic generated by the proposed RDC and would not result in adverse traffic conditions from a safety or performance perspective.

ECONOMICS

Readymix plans to employ a total of approximately 230-270 workers at the proposed RDC. Impact Ecofin Australia was commissioned to undertake an economic impact study for the proposed RDC.

On the basis of 230-270 positions established when the RDC is in full operation and taking into account the transfer of positions from elsewhere to the RDC, the analysis found that based on an estimated 60 new positions, an additional 220 jobs would be created within the Greater Western Sydney Region. In addition the transfer of employees from the PLDC, as operations there wind down, to the proposed RDC would retain this employment in the Greater Western Sydney Region.

During the construction phase approximately 220 persons would be employed over the life of the construction period peaking at approximately 150 at any one time.

It has been calculated that this would generate additional income of approximately $9 million for Blacktown and a further approximately $10.5 million within the broader Greater Western Sydney Region.

During the operation of the proposed RDC, the analysis assumed that Readymix annual wages for RDC employees would be $3.6 million. On this basis it was concluded that these employees would spend approximately $1.3 million annually in the regional economy.

The proposed RDC development would have a range of social impacts affecting the local and regional communities. Social impacts are likely to be related primarily to changes in amenity and changes to income and employment.

The results of the technical investigations indicate that there would be no adverse impacts resulting from the proposed development on the surrounding community. In general terms, the community living in the area in proximity to the development site would experience no noticeable change in environmental characteristics and quality resulting from the construction and operation of the proposed RDC.

The local community within the Blacktown City Council LGA and the broader community within the Greater Western Sydney Region would experience employment and economic benefits, including the retention of jobs currently associated with Readymix operations at the PLDC and the creation of additional employment at the RDC.

To further ameliorate the impacts and improve the amenity of the western and south western portions of the Reserve, Readymix has sought to consult with Blacktown City Council in relation to additional landscape plantings and other works within the Reserve which would complement the works proposed within the development site.

HERITAGE

Background literature research was undertaken to determine if known Aboriginal sites were located within the proposed development site. This research included use of literature sources such as the NSW NPWS Register of Aboriginal Sites, associated files and catalogues of archaeological reports and academic theses. Field surveys were undertaken where methods included systematic and opportunistic survey traverses with all areas of ground disturbance and surface visibility being inspected. Angus Creek was systematically surveyed and old growth eucalypt trees were inspected for the possible presence of Aboriginal scars. A member of the Darug Custodians Aboriginal Corporation and a member of the Darug Tribal Aboriginal Corporation accompanied the field team during the course of the fieldwork. The Deerubbin Local Aboriginal Land Council visited the site in June 2005 and no further sites were located.

No Aboriginal sites have previously been recorded within the proposed development site and Aboriginal sites, relics or areas of potential archaeological deposits were not located during the

field surveys. The archaeological sensitivity of the site was considered low, based on the level of disturbance that currently exists within the site and the results of previous archaeological surveys in the local area. An unrecorded site may have existed on the creek margins close to the western boundary of the site. This site was not relocated during the study.

There are no Aboriginal archaeological constraints on the proposed development site due to the lack of Aboriginal sites located within the site. It is proposed that during the construction phase if any Aboriginal sites or relics are uncovered the NSW NPWS should be informed. Work in the area of such a find should cease until it is assessed for significance and an appropriate management strategy is devised if necessary.

A desktop search of the NSW Heritage Office – State Inventory and the Blacktown City Council LEP was undertaken. There have been no items of Non Indigenous heritage value located on or near the RDC site.

As no items of archaeological significance were found on the RDC site there are no archaeological constraints associated with the construction or operation of the RDC.

HAZARDS

In order to determine whether the proposed development is potentially offensive development under State Environmental Planning Policy No 33 - Hazardous and Offensive Development it is necessary to determine if the proposal is hazardous and/or offensive.

The environmental assessment undertaken indicates that there would be the potential to emit polluting discharges from the proposed RDC in terms of water, air and noise emissions. The assessment shows that the measures proposed to be incorporated in the design of the RDC would ensure that there would not be polluted water discharged from the development site during either the construction or operation phases of the proposed development. The assessment demonstrates that there is the potential for dust emissions from the RDC operations which could impact on adjacent areas. The design of the RDC and the mitigation measures would control dust emissions from the site so as to minimise the impact on adjacent areas. The dispersion modelling demonstrates that the DEC air quality goals would be met on these areas. The assessment by Associate Professor McKenzie found that at the predicted emission levels there would be no adverse effects on the health of people using these areas including the Nurragingy Reserve and Blacktown Olympic Centre.

Results of noise modelling predictions for the construction and operational phases of the proposed RDC conclude that noise levels in areas adjacent to the development site and within the local area would be within the goals adopted by the DEC. In addition rail and road traffic noise associated with the operation of the proposed RDC were found to be within the DEC criteria.

On the basis of the assessments undertaken it is considered that having regard to the sensitivity of the receiving environment the proposed development is not a potentially offensive industry and would not result in a significant off-site risk and is not potentially hazardous. As such SEPP 33 does not apply and a Preliminary Hazard Analysis is not required.

CUMULATIVE IMPACT ASSESSMENT

Cumulative impacts can result from the interaction between impacts arising from activities associated with other projects or developments with impacts resulting from the construction and operation of the proposed RDC.
The impacts are both time and location dependent, i.e the timing of the impacts must be such that they are cumulative and the area on which they impact must be such that they are cumulative.

In terms of current activities, the impacts resulting from other projects and developments in the vicinity of the proposed development site have in most instances been incorporated in the environmental investigations undertaken in the definition of existing and baseline conditions. This has been done in the flooding, air quality, noise, traffic and visual impact studies. In addition the Angus Creek water quality monitoring provides an assessment of the current conditions of the Creek catchment in terms of water pollution and erosion/sediment movement.

In terms of future developments, with the exception of traffic and noise there are no known proposed activities which would impact on the same areas on which RDC impacts are predicted. In the case of traffic, the completion of construction of the M7 Motorway and the subsequent operation of the Motorway will result in changes to local and regional traffic movements. The operation of the proposed RDC would commence after opening of the M7 Motorway. The cessation of motorway construction activities and traffic and the impact of the Motorway

on local traffic patterns have been incorporated into the traffic analysis. The noise assessment undertaken incorporates the noise impacts associated with operation of the Motorway including the acoustic barriers to be erected on the Motorway and approach ramps.

Current and proposed developments in the Greater Western Sydney Region are impacting upon the remnant areas of native vegetation on the Cumberland Plain. The proposed RDC has been designed to minimise impact on the native vegetation on and adjacent to the site. The vegetation management plan to be incorporated in the Site EMP would include measures to protect and restore the woodland vegetation on the site and as a result to facilitate maintenance of the community within the adjacent Nurragingy Reserve.

Readymix is aware of the proposed future development in the Blacktown Olympic Centre and of proposals to upgrade the Rooty Hill Commercial Precinct. The environmental controls proposed for the RDC would ensure there is no impact from the RDC on these areas. The proposed acoustic screening at the rail siding and associated landscaping has been designed to minimise noise and visual impacts on these areas.

The relocation of North Parade would include provision for a bike path consistent with proposals to establish a regional cycle way.

7. ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The environmental assessment requirements issued by the Director-General for the Project require the environmental assessment have regard to biophysical, economic and social considerations, including the principles of Ecological Sustainable Development (ESD).

The requirements issued by the Director General identify four principles of ESD which must be considered. The objective of these requirements is to determine whether a proposed development can be sustained by the environment. The four principles which are to some extent inter-related:

- The Precautionary Principle;
- Inter-Generational Equity;
- Conservation of Biological Diversity and Ecological Integrity; and
- Improved Valuation and Pricing of Environmental Resources.

The site has been designed to comply with the principles of ESD to minimise adverse or irreversible environmental damage resulting from the proposed development. The development would comply with the principles of ESD in the short and long term. The proposed RDC design includes best practice procedures and will use the latest technology to provide efficient water and energy use and minimise environmental impacts

8. PROJECT JUSTIFICATION

The establishment of the proposed RDC is considered to be justified based on the strategic need for construction materials within the Sydney Metropolitan Area and its location with respect to the rail and Sydney Metropolitan road interface. In addition the location of the proposed development site is consistent with State, regional and local planning objectives.

The development of the proposed RDC would result in substantial local and regional economic benefits. The environmental assessment of the proposed development is presented in this EAR. The analysis undertaken has been purposefully conservative in its approach to ensure consistency with the ESD Precautionary Principle. The assessment has demonstrated that the local environmental effects of the proposed development would be adequately ameliorated by the mitigation measures proposed in the EAR.

Overall it is concluded that the proposed RDC would not result in unacceptable environmental impacts on the local area and would create social and economic benefits for the local, regional and State communities while ensuring the long term efficient and sustainable supply of construction materials to the Sydney Metropolitan Area.